

Consumer trends and energy user expectations

The Changing Approach to Electricity

Mike Swanston

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U3A Winter Programme, Brisbane, July 2018

Important note:

This presentation contains photographs and annotations to provide examples and illustrations of the capability and market impacts of energy storage.

All information is sourced from publicly-available data, and the sources referenced wherever possible.

This presentation is general in nature, and there is no intention to infer or implicate the business plans or the particular technical capability of specific suppliers, manufacturers or applications that may be mentioned or depicted in this document.

Anyone intending to change their energy use or change energy retailers is advised to seek specific advice.

Energy price cap needed before next winter to protect UK customers from 'rip-off' tariffs, say MPs

Competition in the sector is not working for 12 million customers stuck on poor-value tariffs, say MPs

Ben Chapman | @b_c_chapman | Tuesday 13 February 2018 01:10 | 38 comments

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WB2

Electricity switching: How households can save at least \$400 per year

CONSUMERS are losing \$2.4 billion a year in not switching energy providers. Within seconds, they could be much better off.

 news.com.au MAY 7, 2018 12:10PM

 news.com.au MAY 7, 2018 12:10PM

Australia's high electricity prices are only set to get worse

WITH power bills expected to soar for households throughout Australia over the next two years, many families are now embracing an alternative.

 news.com.au APRIL 4, 2018 4:38PM

Energy is still in the News

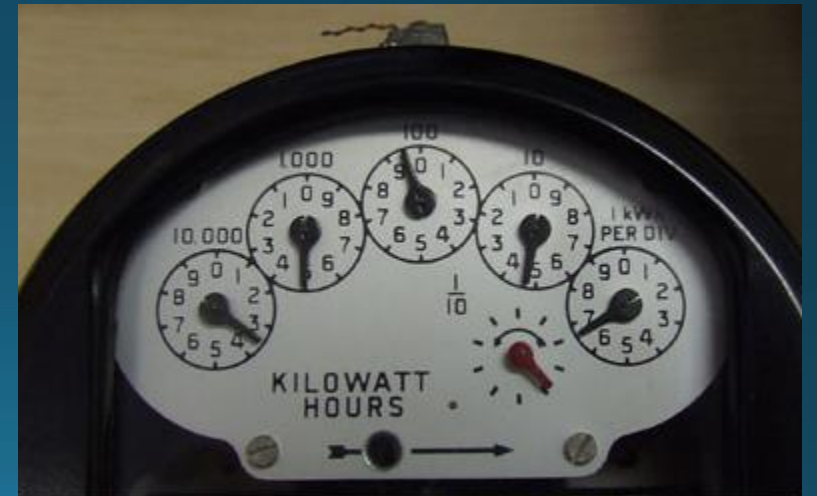
What is
influencing
prices ?



Let's look at
the bill



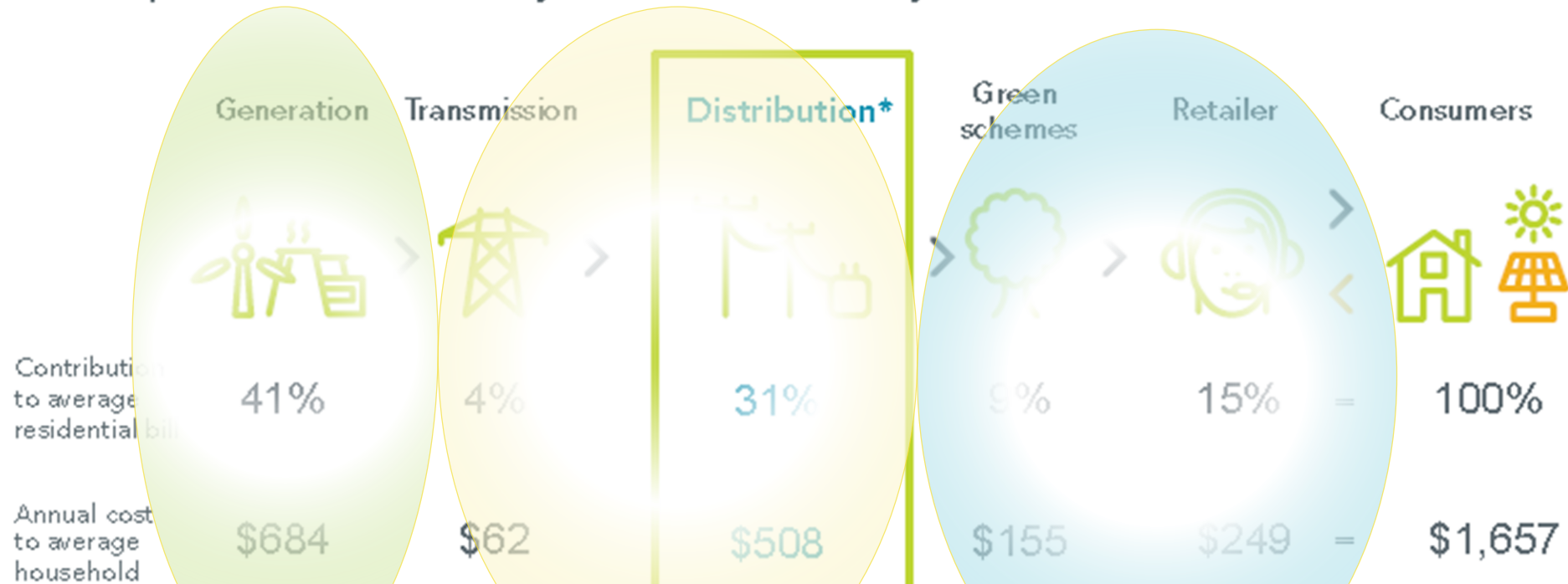
What can we
do about it



What's influencing prices ?

There are 3 main components of our electricity cost

The components of the electricity network and how they contribute to customers' bills:



Generation
(Wholesale)

Network Charges
(Energex or Ergon
in Qld)

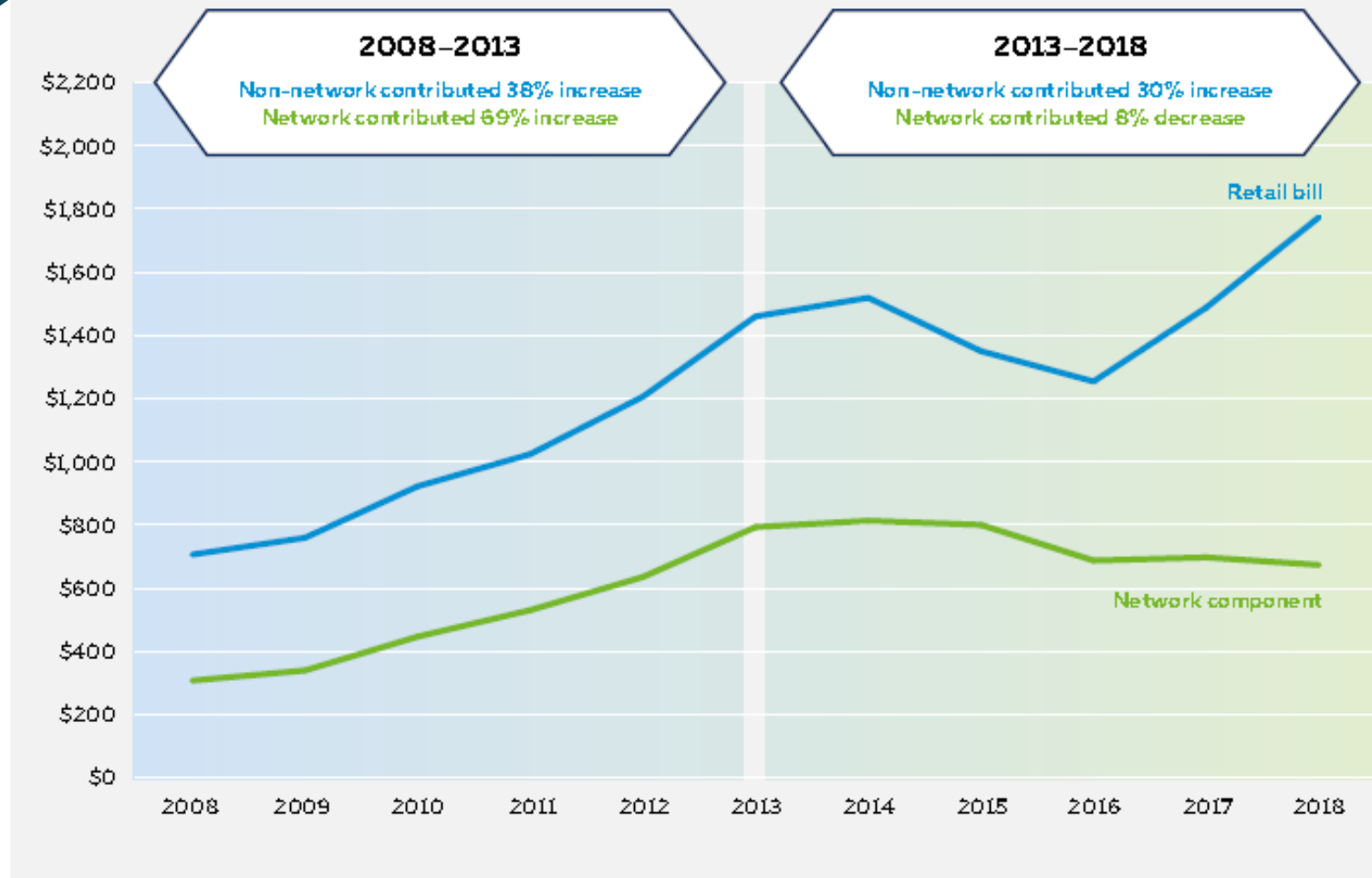
Retail Charges
(13 retailers in Qld)

Source: Endeavour Energy, NSW, 2018

Electricity costs

The network (transport) share has stabilised.

Yet the overall cost of electricity has increased around 50% since 2015



Source: Ausgrid analysis, based on regulated or standing offer retail prices. Non-network contribution includes electricity generation, green schemes and retailer margin.

Source: Ausgrid, NSW

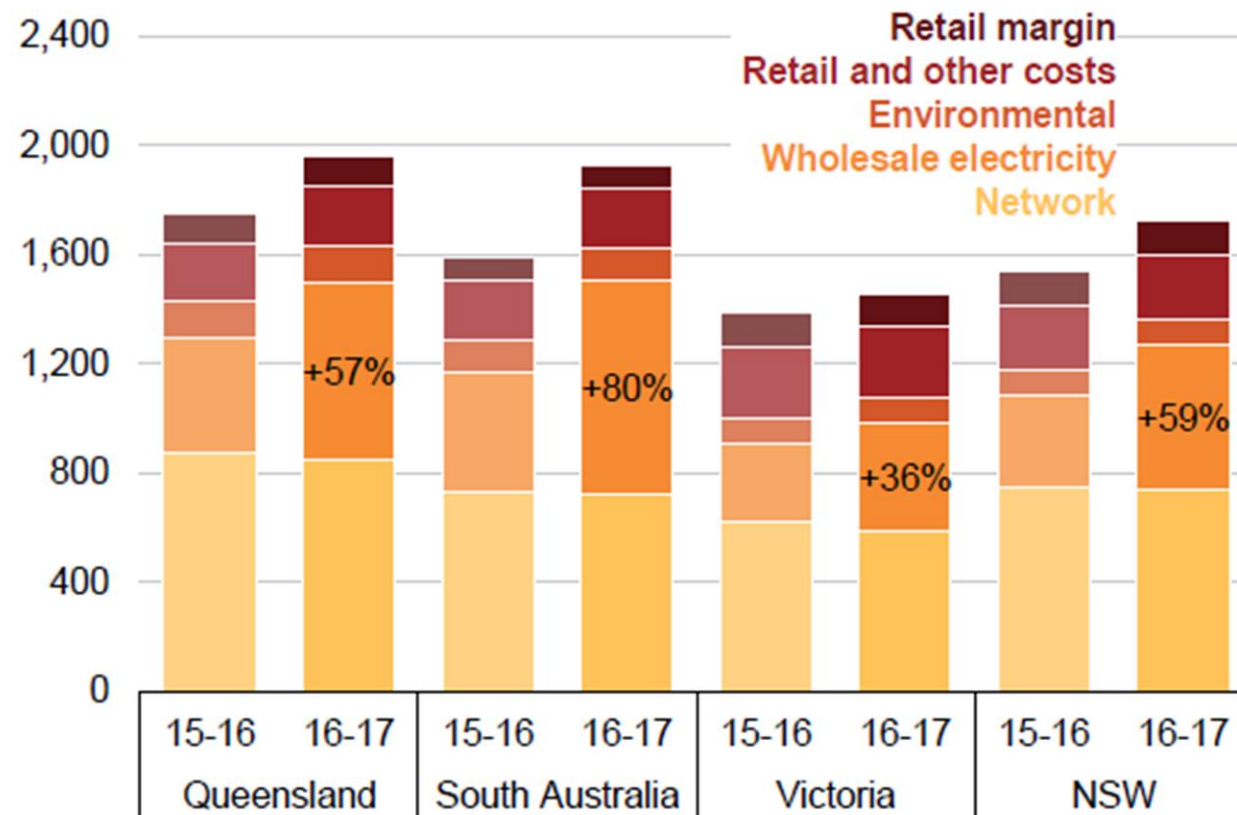
Electricity costs

Wholesale (generation) cost is growing sharply.

Up 57% in Qld between 2015 and 2017.

Figure 1.1: Wholesale electricity costs are a rising share of the average household bill

Estimated contribution to residential customers' annual electricity costs, 2015–16 dollars



Notes: Tasmania, the other state in the NEM, is excluded from charts where data are unavailable. The wholesale electricity component of the household bill reflects household usage and retailer-generator contracts in each state. Some states use less electricity, and more gas, and have lower wholesale electricity costs.

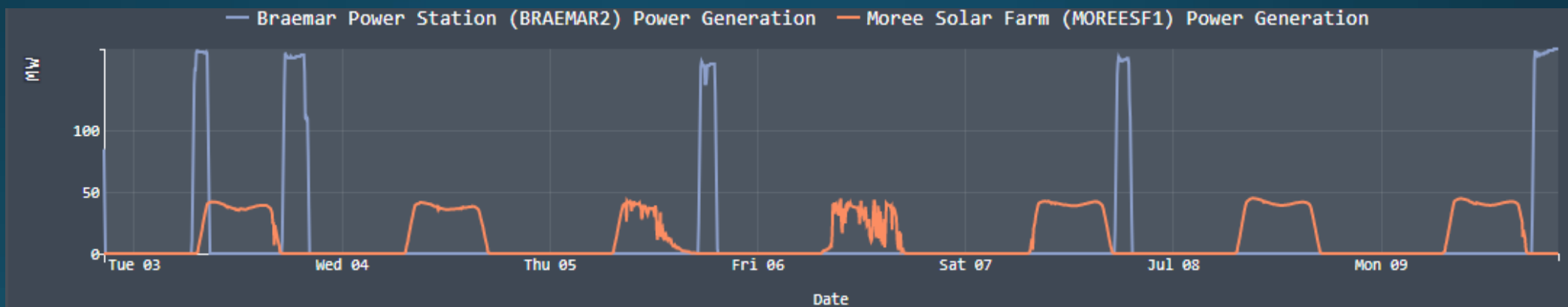
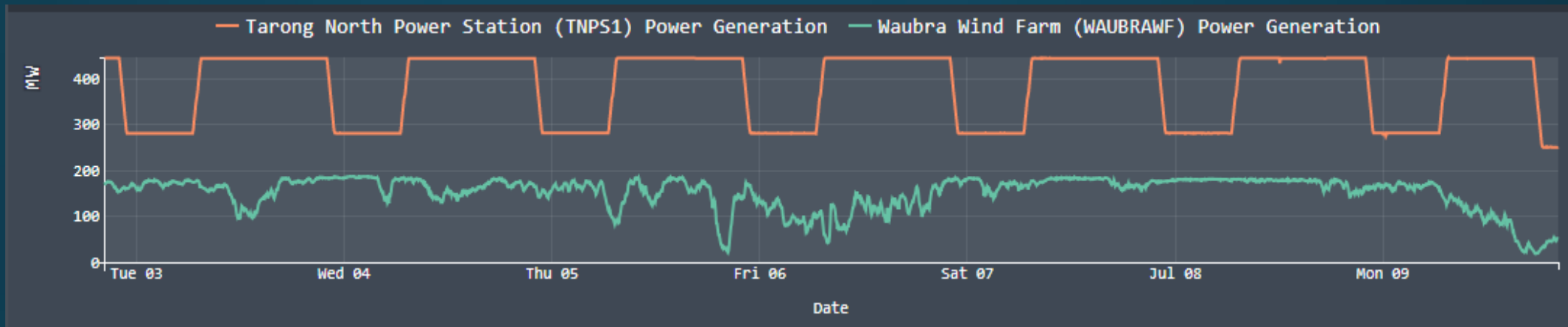
Source: Grattan analysis of ACCC (2017).



Electricity costs

Coal – prefer stability

Wind – cyclic over days



Solar – daytime !

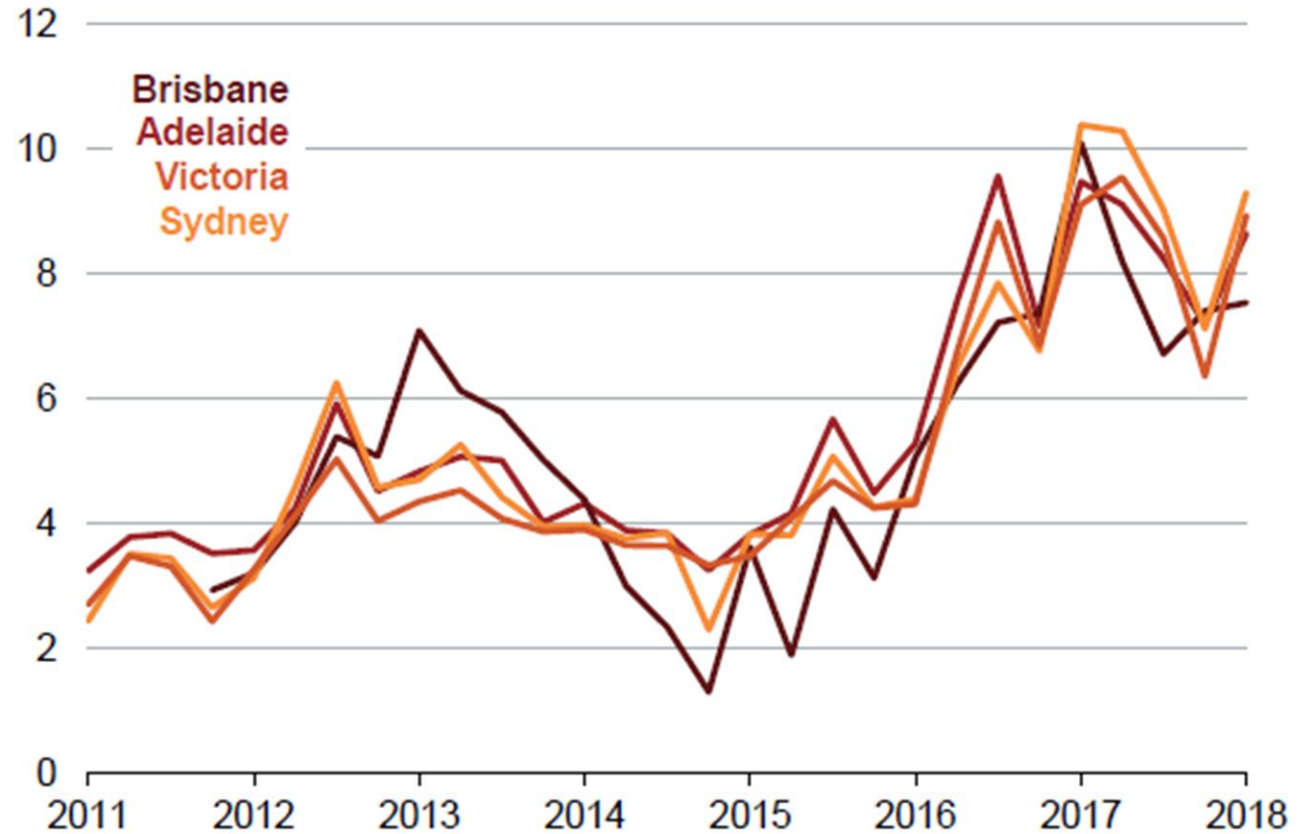
Gas – morning & evening

Electricity costs

Gas is the fuel for power stations needed to cover when solar and wind is not available.

Gas prices have more than doubled since 2015.

Figure 2.1: Wholesale gas prices have more than doubled
Quarterly weighted average wholesale gas spot market price, \$ per gigajoule

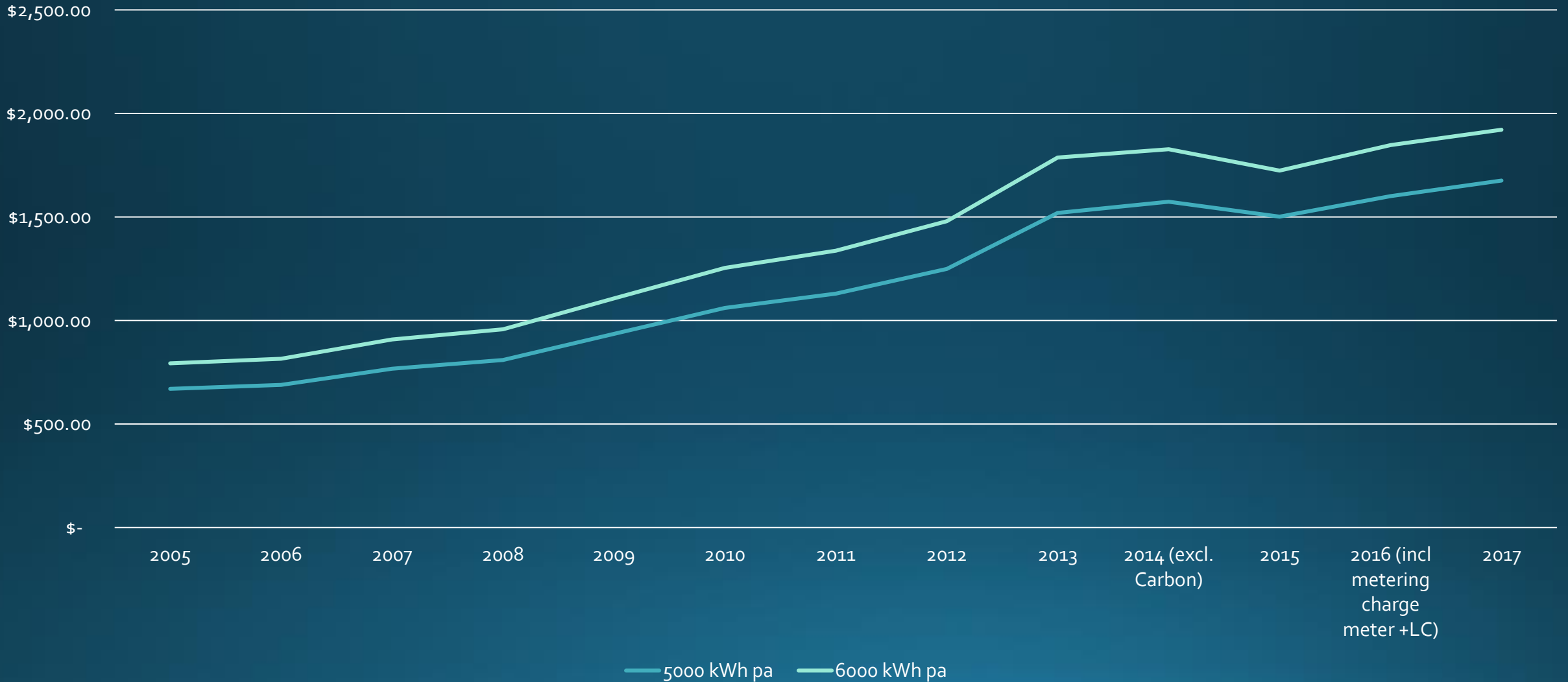


Note: Victorian gas market average daily weighted prices by quarter are shown with the average daily ex ante gas prices by quarter for each Short Term Trading Market hub (Brisbane, Sydney and Adelaide).

Sources: AER (2018a) and AER (2018b).

Annual electricity bill

5000 kWh pa, standing offer, all T11



Let's look at the electricity bill

The electricity bill

Customer Number: [REDACTED]

For electricity supply at [REDACTED]

Next read date within two days of: 24 October 2017

Page 2 of 2

Current Transactions

Electricity Charges Charges based on actual read

Your Plan	Two Rate Solar (Ref:C2 & B4)			NMI	[REDACTED]	
From 25 April 2017 to 30 June 2017 (67 days)						
Tariff Description	Meter Number	Previous Reading	Current Reading	Usage kWh	Rate c/kWh	Charges
Total Anytime	1547794:01	33159	34170	1011	26.700	\$269.94
Total Solar*	1547794:02	19559	20381	822	-50.000	\$411.10 C
Total CL2	467481:01	86564	87968	1404	20.390	\$286.28
Service to Property Charge				67 days	49.910 c/day	\$33.44

Electricity Charges Charges based on actual read

Your Plan	Two Rate Solar (Ref:C2 & B4)			NMI	QB042253508	
From 01 July 2017 to 25 July 2017 (25 days)						
Total Solar*	1547794:02	20381	20688	307	-50.000	\$153.40 C
Total Anytime	1547794:01	34170	34547	377	30.150	\$113.67
Total CL2	467481:01	87968	88492	524	23.590	\$123.61
Service to Property Charge				25 days	51.900 c/day	\$12.98
GST						\$83.99
Total Electricity Charges						\$359.41

- Consumption apportioned evenly over number of days

*Solar rate & charges are inclusive of GST if any. Recipient Created Tax Invoice (if applicable).

Payment Assistance

Call 131 806

Help us to help you. If you are having difficulty paying your account, please contact us to discuss payment assistance such as State Government Concessions, HEEAS Home Energy Emergency Assistance Scheme, extended time to pay or other payment frequency options.

Interpreter Service (ezispeak™)
Call 1300 171 762

传译服务

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Dịch vụ thông dịch.

خدمات ترجمه

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Hearing or Speech Impaired?

Call the National Relay Service on 133 677

Moving House ?

Please notify us three working days before you move so that we can arrange a final meter reading at your old house plus arrange the connection to your new house

Concession Information

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The electricity bill

For most homes & businesses, the charge in cents per kilowatt hour is for *all energy*, not time varying.

Customer Number: [REDACTED]

Next read date within two days of: 24 October 2017

For electricity supply at [REDACTED]

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The electricity bill

1. The charge in cents per kilowatt hour is for all energy, not time varying.

2. Solar feed-in is still over 50c for those who got in early

Customer Number: [REDACTED]

For electricity supply at [REDACTED]

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Queensland Government Solar Feed-in Tariff



- 44 cents or more per kilowatt hour of energy exported
- scheme closed in 2014
- Remains until 2027

- Can't increase the size of the PV system
- Remain as the owner of the premises
- No batteries
- No second PV system
- <https://www.qld.gov.au/housing/buying-owning-home/energy-water-home/solar/feed-in-tariffs/solar-bonus-scheme-44c>

The electricity bill

3. Off peak energy is still cheaper, but not by as much as previous years

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Off peak energy

CONTROLLED ELECTRICITY TARIFF RELATIVE TO ANYTIME TARIFF - QUEENSLAND

T₃₁/T₁₁ (LHS) T₃₃/T₁₁ (LHS)



The electricity bill

4. Service to property charge is climbing quickly

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For electricity supply at [REDACTED]

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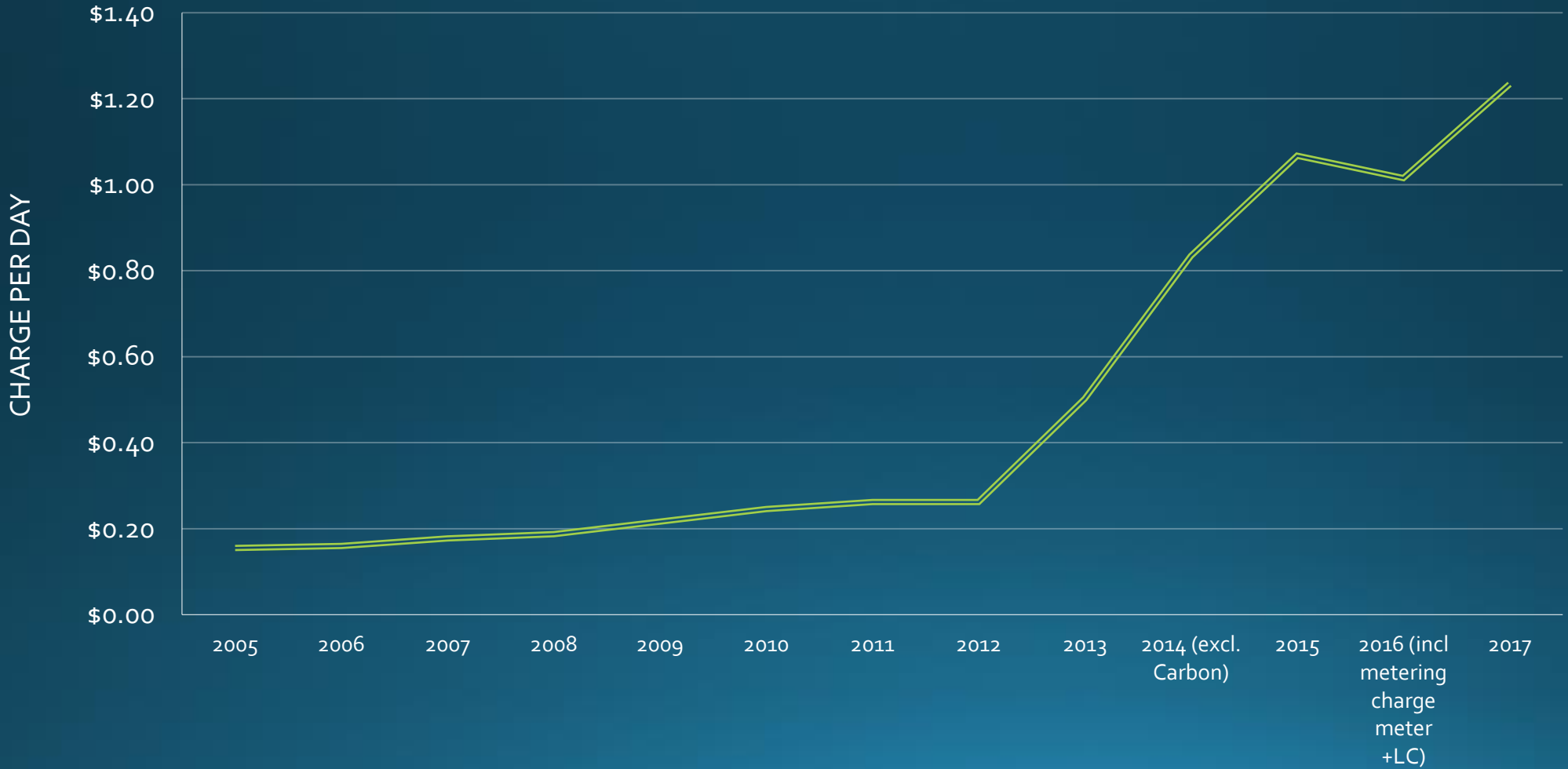
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Daily service fee

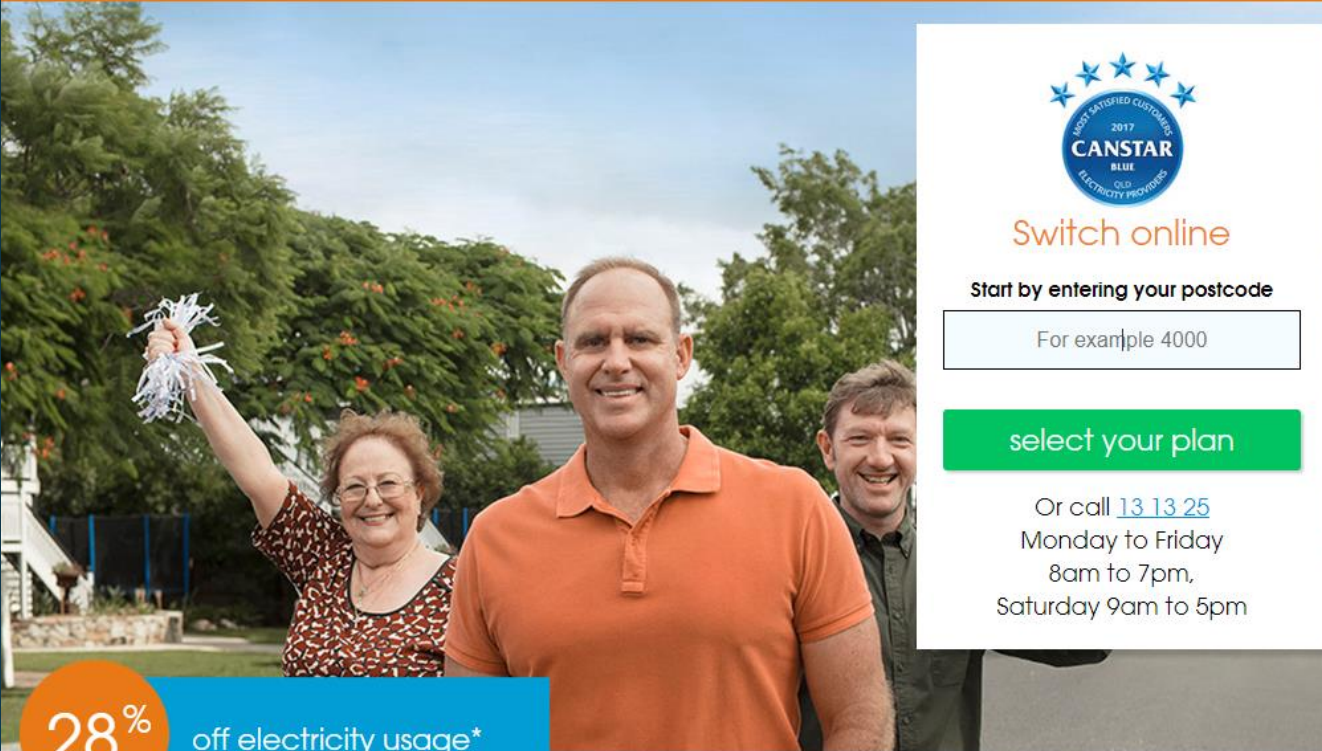
ELECTRICITY SUPPLY DAILY CHARGE - QUEENSLAND

Daily Service Fee (RHS)



What can I do to manage my energy bill?

Give them the flick. Switch your electricity to Alinta Energy today



Switch online

Start by entering your postcode

[select your plan](#)

Or call [13 13 25](tel:131325)
Monday to Friday
8am to 7pm,
Saturday 9am to 5pm

28% off electricity usage*

Unlike others we're giving all our customers our best deal. Does your current retailer treat you the same? Flick them and now get **28% off electricity usage charges when you pay on time***. Better still, we offer competitive rates, no lock-in contracts and no exit fees.

Origin Maximiser

Maximise your discount with eBilling and direct debit

Direct debit only +

eBilling and eCorrespondence only +

Electricity

16%

Off
Origin's usage charges when you pay by direct debit

\$136 i

inc. GST
Approx. monthly charges based on 489 kWh / monthly estimated usage

Company	Offer	Daily charge c/day	Tariff 11 anytime c/kWh	T33 Off Peak c/kWh	Solar feed-in c/kWh	
AGL	Standing	108.9	28.05	24.0 + 3.3 c/day	55	
AGL	2 year contract	108.9	28.05	23.98 + 3.3 c/day	55	12% pay on time discount on useage
Energy Australia	1 year market	131.56	27.72	22.33 + 0	60	28% pay on time off useage
Powershop	No contract	111.166	24.992	22.63 + 3.74c/day	Unknown	
Red Energy	Obsolete ?	57.09	33.165	25.95 + 0	55	13% pay on time

Search engines

Search engines:

- Beware, many are aligned with sales outlets
- Have past 2 bills on hand

www.energymadeeasy.gov.au

The screenshot shows the Energy Made Easy website interface. At the top, there is the Australian Government logo and the Energy Made Easy logo with the tagline 'The power to compare easy'. A search bar is located in the top right corner. Below the header, there are three main navigation buttons: 'Compare energy offers' (with a home icon), 'Get energy smart', and 'Control your costs'. The main content area displays 'Energy offer search results' and a warning message about demand charges. A summary bar indicates that 152 offers were found, ranging from \$2,048 to \$3,527. Below this, there are buttons for 'Compare offers' and 'Filter search'. The main part of the page is a table of energy offers with columns for Compare, Retailer, Offer name and ID, Fact Sheet, Contract term, Exit fee, Solar options, Estimated bill (incl. GST), and Estimated bill with all discounts (incl. GST). Three offers are visible in the table.

Compare up to three	Retailer	Offer name and ID	Fact Sheet	Contract term	Exit fee	Solar options	Estimated bill incl. GST	Estimated bill with all discounts incl. GST
<input type="checkbox"/>		AGL Essentials AGL536284MR		Ongoing contract with benefit period	\$0		\$2,048	\$2,048
<input type="checkbox"/>		Flexi Saver Home_Single Rate + Controlled Load QEN499077MR		2 years	\$0		\$2,073	\$2,073
<input type="checkbox"/>		Flexi Home_Single Rate + Controlled Load QEN499077MR		2 years	\$0		\$2,090	\$2,090

Fact sheets

Look for:

- Term
- Usage & supply charges
- Conditional discounts
- Contract terms
- Fees

Energy Price Fact Sheet



Red Energy
Qantas Red Saver - REDS23029MR

Customer type	Fuel type	Distributor(s)	Tariff type	Offer type	Release date
Residential	Electricity	Energex	Single rate with controlled load	Market offer	01-Jul-2018

Electricity offer

Contract term	No contract term
Contract expiry details	Your contract is ongoing until it is ended by you or us.
Bill frequency	Every 3 months

Electricity pricing information

1 Jul to 30 Jun	Price (exc. GST)	Price (inc. GST)
Anytime General usage		
All usage	23.30 cents per kWh	25.63 cents per kWh
Daily supply charge	97.99 cents per day	107.789 cents per day
Controlled Load 2 Generally available for a minimum of 18 hours per day.		
Price (exc. GST) Price (inc. GST)		
All usage	20.80 cents per kWh	22.88 cents per kWh
Daily supply charge	2.68 cents per day	2.948 cents per day

Daily supply charge: a charge that applies for supplying electricity to your property for each day of the billing period, regardless of how much electricity you use. kWh stands for kilowatt hour and is the unit of measurement for your electricity usage.

Conditional discounts

Pay on Time™	The 10% discount will be applied to the total billed amount when the bill is paid by the due date. Discount is off our market offer charges listed above.
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Price changes

Are these prices fixed?	No
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We may vary your rates or POTD in line with our Customer Charter at any time by written notice to you (which may be after the variation date). If we increase your rates, we will provide written notice at least 10 business days prior to the variation.

Electricity key contract features

Cooling off period	10 business days
Meter type	Type 6

Fees

Reconnection fee	Fixed rate - \$11.28 Reconnection fee (GST incl) generally applies for any move-in request
Disconnection fee	Fixed rate - \$0.00 Disconnection fee (GST incl) generally applies for any move-out request
Additional fee information	For more information on our additional fees and charges, please visit http://www.redenergy.com.au/additionalservicecharges

Solar feed-in tariff options

Solar Bonus Scheme - GST included if any (cents per kWh exported)	55.50
Red Energy FIT - GST included if any (cents per kWh exported)	11.50

GreenPower option	Charge type	Amount (inc. GST) / Percentage	Description
100%	Amount per unit of usage	\$0.0583 (inc. GST)	Red Energy offers 100% GreenPower for an extra 5.83 cents per kWh. Please contact us on 131 806 for more information.

Incentives

Qantas Points	10,000 bonus Qantas Points are applied once Red becomes responsible for the supply of your electricity and 2 Qantas Points per \$1 on your bill, when you pay on time. For full T&C see https://www.redenergy.com.au/terms-and-conditions
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Electricity offer terms and conditions

For full terms and conditions applicable to this offer, please visit <https://www.redenergy.com.au/termsandconditions>

Contact details and more information

Retailer	Phone number	Retailer's website
Red Energy	13 18 06	http://www.redenergy.com.au

Energy Made Easy

Energy Made Easy is an Australian Government website where you can compare energy offers. Visit Energy Made Easy at www.energymadeeasy.gov.au

This information is a guide only and does not recommend a particular offer. You should make your own enquiries with retailers on any offers that interest you.

Things to watch



Call your existing retailer, ask for the best deal



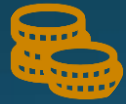
Direct debit / pay on time generally has a big discount



Use energymadeeasy.gov.au with your bill details



Watch the fixed price / variable charge trade-off & fees



Discounts may be off all usage charges, or just the energy



Make use of off peak if you already have it wired at your home



The best discount is the energy you don't use

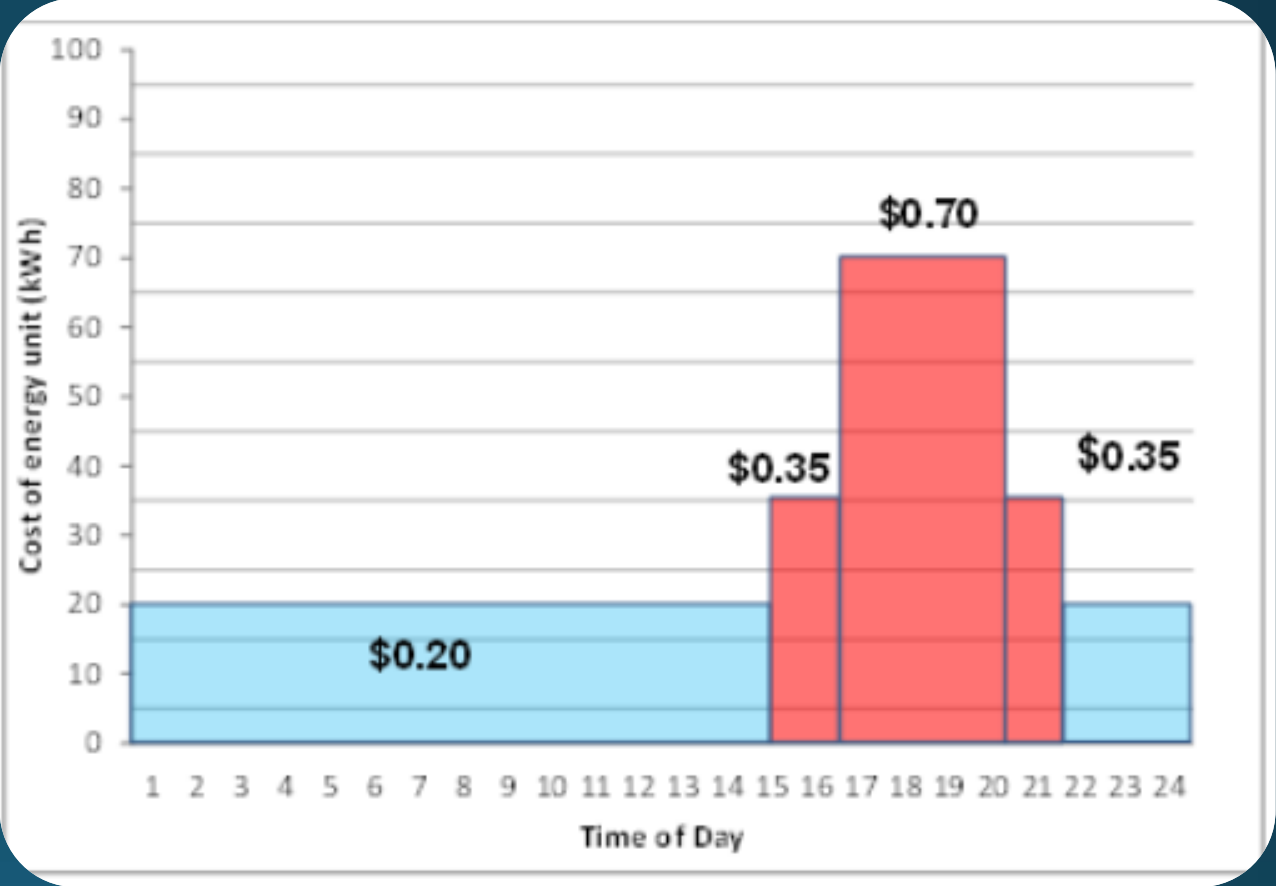
What's around the corner?

Many people are receiving smart meters



New energy tariffs are close ..

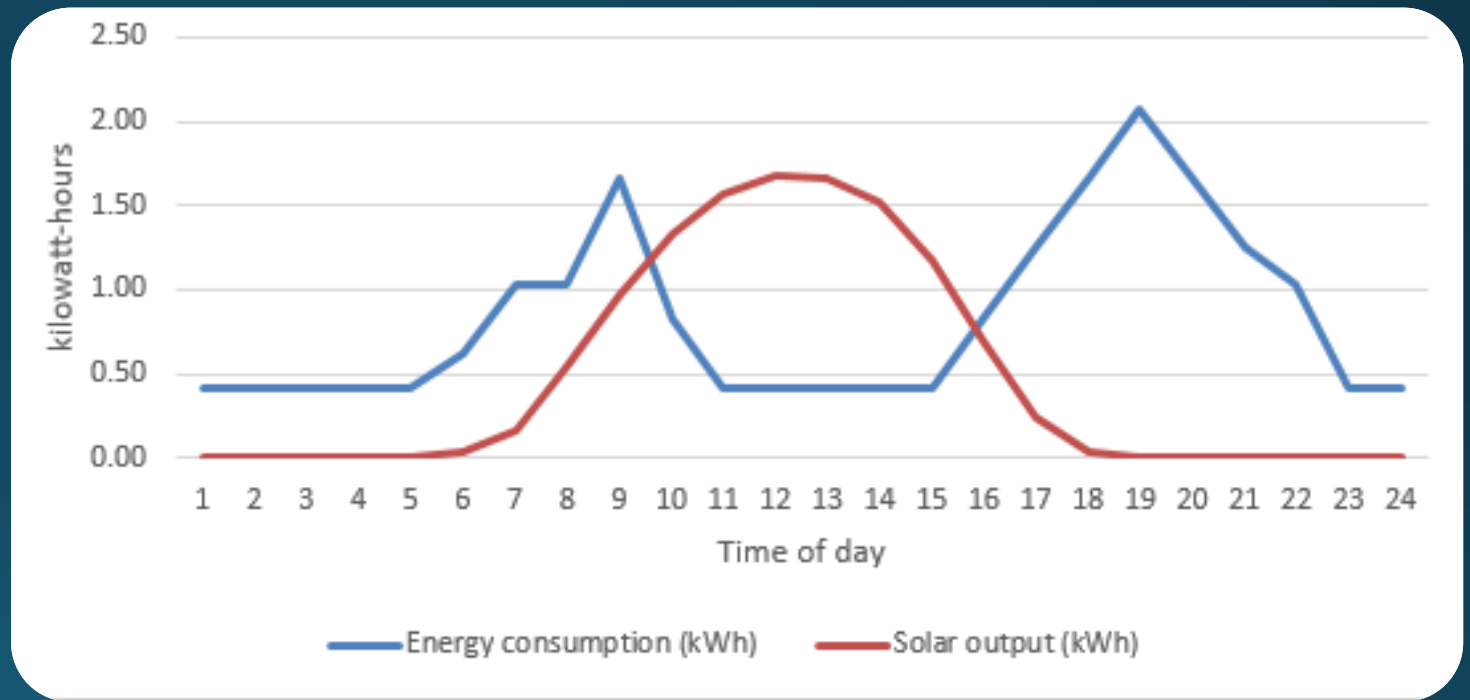
Time of use and peak demand tariffs will soon be offered.



Rooftop solar is still a good idea



- System prices are stable, say \$5000 for a good 5 kilowatt system
- Most cowboys have gone
- 4 or 5 kilowatts is a standard size
- Payback is still around 4 years, or \$1200 pa bill reduction
- Key is to 'self-consume'
- $5\text{KW} * 4.5 \text{ kWh/kW/d} * 280 \text{ days} = 6300 \text{ kwh pa} = 16\text{c} / \text{kWh}$ over 5 years



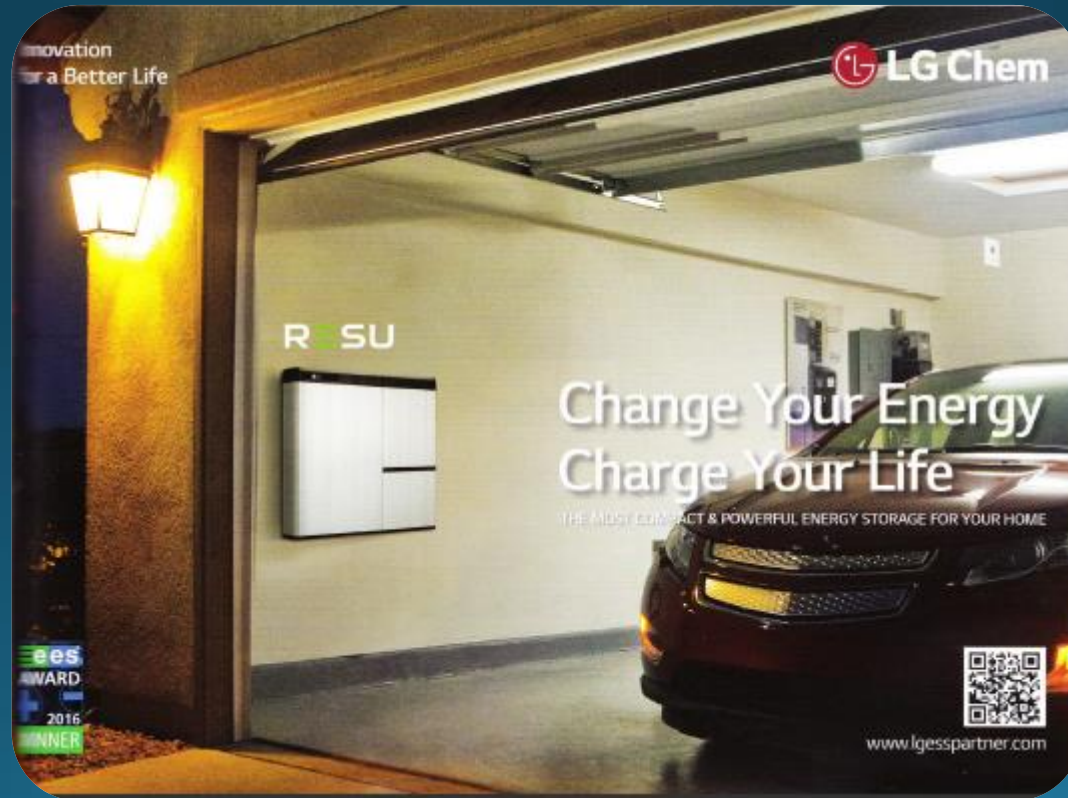
Source: Solar Choice
www.solarchoice.net.au

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Batteries are still too expensive ..

Unless you are offered a time-of-use energy package and use them to store your spare solar energy.

The best use for spare solar energy is water heating, pool pump, appliances – self consumption.



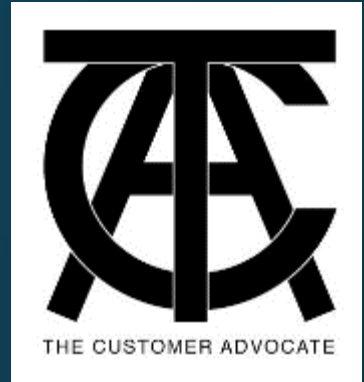
Batteries are still too expensive ..

Add-on to existing solar PV costs around \$12,000.

Even on a time of use tariff, payback is 8 years +

Solar Choice: Average Battery System Out-of-Pocket Costs` April 2018		
Battery storage capacity	Battery only*	Battery + inverter/charger**
3kWh	\$2,880	\$5,850
8kWh	\$8,000	\$12,000
13kWh	\$12,350	\$15,080
18kWh	\$15,660	\$21,240

**All prices indicative only, based on average \$/kWh costs for systems in each size range
*Includes installation of battery bank only - you must have a 'hybrid'/battery-ready inverter or charger for these prices to be applicable to you.
**These figures apply to 'complete' battery installations, which include an inverter/charger to manage the battery bank. This category includes both 'all-in-one' solutions (i.e. batteries+inverter in one box) as well as systems where batteries & inverter are physically separate but sold as a package*



Consumer trends and energy user expectations

The Changing Approach to Electricity

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