



Residential electricity prices and energy bills 2011/12 – Sydney vs Melbourne Updated with 1 January 2012 Victorian price rises

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Overview

This paper summarises the results of energy bill modelling for typical household scenarios in Sydney and Melbourne and has been updated from a previous version, to include effects of the Victorian price rise information released on 1 January 2012.

The modelling shows that for the financial year 2011/2012, residential electricity customers who use a small to medium amount of electricity would pay around the same to 6% less on their electricity bills in Sydney than Melbourne (for the same amount of electricity). However, for large electricity users with a high amount of usage on the second inclining block tariff, the electricity bill would be higher in Sydney than Melbourne.

When total energy costs (electricity and gas) are taken into consideration, it is estimated that a typical residential dual fuel customer in Melbourne pays more on their energy bills, by about \$100 per year, than a typical dual fuel customer in Sydney. This is mainly due to the higher average gas consumption in Melbourne. The ABS estimates that 92% of Melbourne households and 46% of Sydney households are connected to mains gas supply. A typical electric-only household with a controlled load tariff for their hot water system had the lowest total energy bills due to the cheaper tariff and not having to pay the service charges for a gas connection.

In all cases, gas energy bills were lower in Melbourne than Sydney for the same gas consumption due to the gas energy prices being over 30% more expensive in Sydney than Melbourne.

Some of the main points to consider when comparing electricity prices and customer energy bills between Australia's two major cities are;

- The average Victorian household (5,700 kWh pa) uses less electricity on average than in NSW (7,300 to 7,400kWh pa), mainly due to a higher penetration and consumption of natural gas in Victoria.
- The average dual fuel household in Sydney consumes around 20,000 MJ per year of gas, where as in Melbourne the figure is estimated to be 52,000 MJ per year of gas consumption.
- There is a higher number of controlled load electric hot water systems in NSW when compared to Victoria. The cheaper controlled load tariffs decrease the average electricity price paid below the standard electricity tariff rates.
- Residential customers in Victoria pay higher yearly service charges for electricity than in NSW leading to potentially misleading comparisons if only energy charges are considered.
- Regulated retail/ standing offer prices for the three electricity distribution areas in Melbourne (CitiPower, United Energy and Jemena) vary more than the two Sydney electricity distribution areas (Ausgrid, Endeavour).
- Energy price rises occur on 1 January each year for Victoria and 1 July each year for NSW. For this analysis, NSW energy prices for FY2011/12 were compared to an average of Victorian prices for 2011 and 2012.
- On an 'all energy' basis a typical dual fuel household in Melbourne consumes 70,360 MJ compared to 41,240 MJ in Sydney (1kWh = 3.6MJ).

Average electricity consumption by state

According to data published by the ESAA in the *Electricity Gas Australia 2010* report, the average electricity consumption per residential customer in NSW and the ACT is 30% higher than in Victoria. For the financial year FY2008-09 the average residential consumption for Victoria was 5,708 kWh compared to 7,381 kWh in NSW and ACT¹.



Average residential gas consumption

The lower electricity consumption in Victoria is due to the higher usage of gas appliances for heating and hot water (and to a lesser extent cooking). The following table derived from ABS data² summarises the penetration of mains gas and gas appliances for Sydney/NSW and Melbourne/VIC.

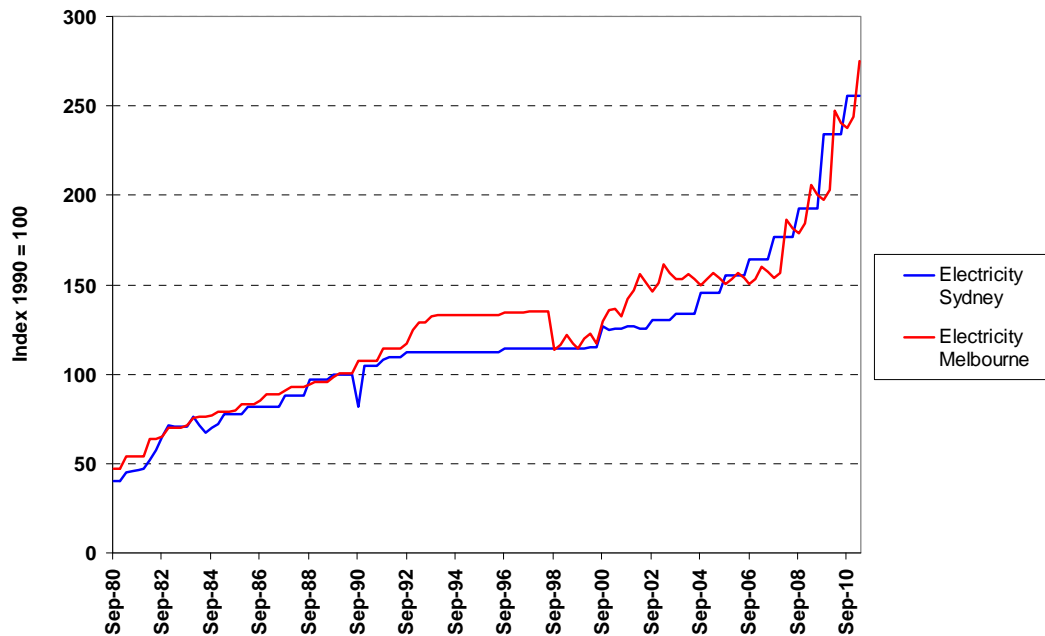
Region	Households connected to mains gas	Households with a hot water system that uses mains gas	Main source of energy used for heating is mains gas	Main source of energy for cooktop is mains gas
NSW (Sydney)	45.7%	31.0%	16.7%	36.4%
VIC (Melbourne)	92.4%	75.6%	74.9%	73.1%
NSW (total)	37.5%	25.5%	17.2%	27.9%
VIC (total)	81.1%	65.7%	66.5%	63.1%

The average gas consumption in NSW and Victoria can be estimated using ESAA and ABARE data³. Using ABARE data for FY2007-08, it is estimated that the average consumption for residential gas customers in NSW was 19,000 MJ per year, but much higher in Victoria, with an average of 52,000 MJ per year for residential gas customers.

Residential energy price history

Over the longer term official measures of consumer electricity prices in Sydney and Melbourne have been generally consistent. The ABS Consumer Price Index statistics for electricity prices, shown over the page, indicate a broadly similar trend of price rises over the longer term, interspersed with periods of divergence. Long term rises in gas prices, both in Sydney and Melbourne, are now broadly in line with rises in electricity prices having risen faster for most of the period 1990-2010.

Sydney and Melbourne Electricity CPI



Residential electricity prices in 2011/2012 (Sydney and Melbourne)

Electricity prices can vary significantly between and within states depending on which electricity distribution area a customer is located in, and local retail competition. The average price paid by a customer can also vary depending on their price plan (inclining block, time-of-use and controlled load), whether they are on a market contract and the amount of usage in various tariff categories. Another consideration in any comparison between Sydney and Melbourne electricity prices is that yearly increases occur at different times of the year. In NSW, price rises occur on the 1 July each year, whereas price rises in Victoria occur on the 1 January each year. In order to make a fair comparison of electricity prices for a common year, the NSW electricity prices for the FY2011/12 year were compared to the average Victorian electricity prices for calendar year 2011 and 2012.

Electricity Network Service Provider	Inclining Block Rates (cents/kWh)		Controlled load hot water rates (cents/kWh)		Yearly service charges (\$ pa)
	Block 1	Remainder	Controlled Load 1	Controlled Load 2	
Ausgrid[^] Eastern Sydney, Central Coast and the Hunter	22.66	32.01	9.02	11.88	\$193
Endeavour^{^^} Western Sydney, Illawarra and Blue Mountains	24.035	26.609	8.008	12.738	\$240
CitiPower[*] Central Melbourne	20.196	21.153	12.342		\$322
Jemena[*] Northern Melbourne	22.748		14.333		\$383
United Energy[*] South Eastern Melbourne	21.835		12.953		\$308

[^] Published EnergyAustralia regulated rates for FY2011/12 were used for the Ausgrid network area (including GST)⁵

^{^^}Published Integral Energy regulated retail rates for FY2011/12 were used for the Endeavour network area (including GST)⁶

^{*}AGL standing offer rates for the Victorian electricity distribution areas were used, by averaging the published 2011 and 2012 tariffs for each Victorian network area (including GST)⁷

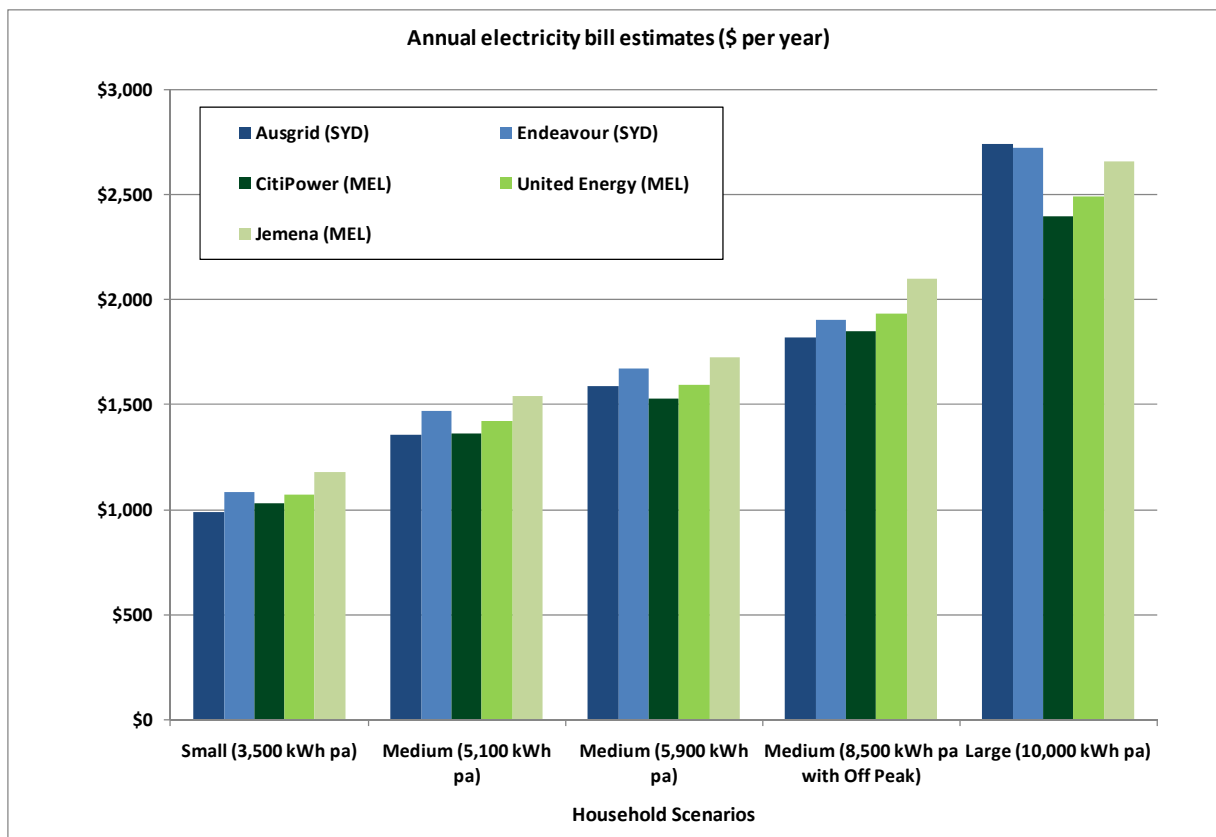
It is worth noting that the service availability charges for electricity are up to twice as expensive for some electricity network areas in Victoria, when compared to EnergyAustralia regulated retail tariffs for the Ausgrid network area.

Average customer costs for energy bills

Using data from the broad-based average figures outlined above, and other references including the IPART household survey 2010⁴, several Sydney and Melbourne scenarios were modelled to compare the likely energy costs for typical households. For each scenario, the electricity and gas costs were estimated using the regulated retail prices for each electricity network area for Sydney (Ausgrid and Endeavour) and Melbourne (CitiPower, Jemena, United Energy). Below are the descriptions of the household scenarios;

1. **Small size Sydney household – electricity only** consuming 3,500 kWh per year of electricity on the standard inclining block tariff (all in the first block).
2. **Medium size Melbourne household – dual fuel** consuming 5,100 kWh per year of electricity and 52,000 MJ of gas per year. The electricity consumption assumed to be on the inclining block tariff with 1,020 kWh on the second block for the CitiPower network area. For gas prices, the AGL standing offer for the Multinet gas distribution area was used. Gas consumption is assumed to be used for hot water and cooking and the main heater is assumed to be a ducted gas heating system (eg. 40% of homes in Victoria, according to ABS).
3. **Medium size Sydney household - dual fuel** consuming 5,900 kWh of electricity and 20,000 MJ of gas per year with a gas hot water system and a gas cooktop. The electricity consumption assumed to be on the standard inclining block tariff with 600 kWh in the second block due to a higher winter bill.
4. **Medium size Sydney household – all electric household with a controlled load hot water system;** consuming a total of 8,500 kWh of electricity per year with 2,600 kWh consumed by the hot water system on a controlled load 1 tariff. The remainder of the consumption (5,900 kWh) is on the standard inclining block tariff with 600 kWh in the second block due to a higher winter bill.
5. **Large size Sydney household – dual fuel** consuming 10,000 kWh per year of electricity and 20,000 MJ of gas per year. The electricity consumption assumed to be on the inclining block tariff with 3,000 kWh on the second block.

Estimates for electricity bills for the scenarios above vary significantly across the Sydney and Melbourne electricity network areas (see graph below).



The table below summarises the estimates of yearly energy costs for FY2011/12 for the five scenarios above, comparing the energy costs paid in Sydney and Melbourne for the same electricity and gas consumption amounts. These prices are estimated from the average of the two electricity distribution areas for Sydney (Ausgrid and Endeavour) and the average of the three electricity distribution areas for Melbourne (CitiPower, United Energy and Jemena).

Scenario	Electricity (\$ per year)		Gas (\$ per year)		Total energy bills (\$ per year)		Difference (\$ per year)
	Syd.	Mel.	Syd.	Mel.	Syd.	Mel.	
1. Small SYD – elec. only	\$1,034	\$1,093	0	0	\$1,034	\$1,093	\$61
2. Medium MEL – dual fuel	\$1,413	\$1,442	\$1,199	\$931	\$2,612	\$2,373	-\$239
3. Medium SYD – dual fuel	\$1,630	\$1,617	\$634	\$533	\$2,264	\$2,150	-\$114
4. Medium SYD – elec only	\$1,860	\$1,961	0	0	\$1,860	\$1,961	\$101
5. Large SYD – dual fuel	\$2,730	\$2,516	\$634	\$533	\$3,364	\$3,048	-\$316

Estimates of the energy costs for a medium size (or average) household in Sydney and Melbourne are highlighted in blue in the table for easier comparison. Comparing a typical dual fuel household in Sydney (5,900 kWh electricity and 20,000 MJ gas) to one in Melbourne (5,100 kWh electricity and 52,000 MJ gas), one would expect that the Melbourne household would spend around \$100 more on their energy bills in a year due to the higher gas consumption. The electric-only household with a controlled load hot water system (scenario 4) had the lowest total energy bills of the medium households due to the cheaper tariff paid for hot water and not having to pay for the service charges for a gas connection.

In all the small to medium scenarios (1 to 4), the electricity costs would be around the same to 6% less in Sydney than in Melbourne (for the same amount of electricity). For large electricity users with significant consumption in the second block of the inclining block tariff, electricity bills would be lower in Melbourne (Scenario 5).

In all cases, gas bills were lower in Melbourne than Sydney for the same gas consumption due to the gas energy prices being over 30% more expensive in Sydney than Melbourne.

References

¹Energy Supply Association of Australia (2010), Electricity Gas Australia 2010

²ABS 4602.0.55.001 (March 2008) – Environmental Issues: Energy Use and Conservation

³ABARE Energy Update 2009 (August 2009), Table F – Australian energy consumption, by industry and fuel type

⁴IPART (December 2010), Residential energy and water use in Sydney, the Blue Mountains and Illawarra – Results from the 2010 household survey

⁵Residential Energy Rates, effective 1 July 2011, EnergyAustralia, sourced from; http://www.energyaustralia.com.au/nsw/residential/products_and_services/electricity/pricing

⁶Energy Pricing Guide, effective 1 July 2011, Version 1, Integral Energy, sourced from; <http://www.integral.com.au/wps/wcm/connect/IE/NSW/NSW+Homepage/yourAccountNav/Your+bill+explained/Pri ce+Changes/>

⁷AGL standing offer prices 2011 and 2012 sourced from; <http://www.agl.com.au/home/pricing-and-tariffs/Pages/victoria-pricing.aspx>