

# **What is a typical Energy Consumption?**

- **Information in the public domain about 'average' consumption**
- **Averages are made from many different variations!**

# The Australian Energy Market Commission

Comparison of 'typical' residential consumption	Provided by jurisdictional governments /regulators	Provided by the Australian Energy Regulator	ACIL Tasman <i>Electricity bill benchmarks for residential customers, 2011</i> (persons per household)
Queensland	• 5,370kWh	• 6-7,000kWh	• 1/hh 4,030kWh • 2/hh 5,331kWh • 3/hh 6,633kWh • 4/hh 7,934kWh
New South Wales	• 7,000kWh	• 5-6,000kWh	• 1/hh 4,422kWh • 2/hh 5,548kWh • 3/hh 6,673kWh • 4/hh 7,799kWh
Australian Capital Territory	• 8,162kWh	• 7,000kWh	• 1/hh 5,939kWh • 2/hh 7,219kWh • 3/hh 8,500kWh • 4/hh 9,780kWh
Victoria	• 5,000kWh	• 4.5-5,000kWh	• 1/hh 4,028kWh • 2/hh 4,835kWh • 3/hh 5,642kWh • 4/hh 6,449kWh
South Australia	• 5,000kWh	• 5,000kWh	• 1/hh 4,398kWh • 2/hh 5,306kWh • 3/hh 6,213kWh • 4/hh 7,121kWh
Tasmania	• 7,841kWh	• 9,000kWh	• 1/hh 6,862kWh • 2/hh 8,733kWh • 3/hh 10,064kWh • 4/hh 12,475kWh
Western Australia	• 5,801kWh	• n/a	• 1/hh 4,107kWh • 2/hh 5,140kWh • 3/hh 6,173kWh • 4/hh 7,206kWh
Northern Territory	• 8,904kWh	• n/a	• 1/hh 6,266kWh • 2/hh 7,806kWh • 3/hh 9,345kWh • 4/hh 10,885kWh

# **The Victorian Government**

**Typical energy consumption depends on:**

- The number of people**
- The type of housing**
- The energy mix**
- The lifestyle**
- Information in the following graphics is supplied by [switchon.gov.vic.au](http://switchon.gov.vic.au)**

# Household 1

**Occupants**



**Energy Type**



**All Electric**

**Dwelling Type**



**House**

**Household includes:**

- ✓ Electric hot water
- ✓ Electric heating and cooling
- ✓ Electric cooking
- ✓ Swimming pool
- ✓ 2 plasma TV
- ✓ 3 computers
- ✓ Dishwasher
- ✓ Clothes dryer

**Annual power cost:**

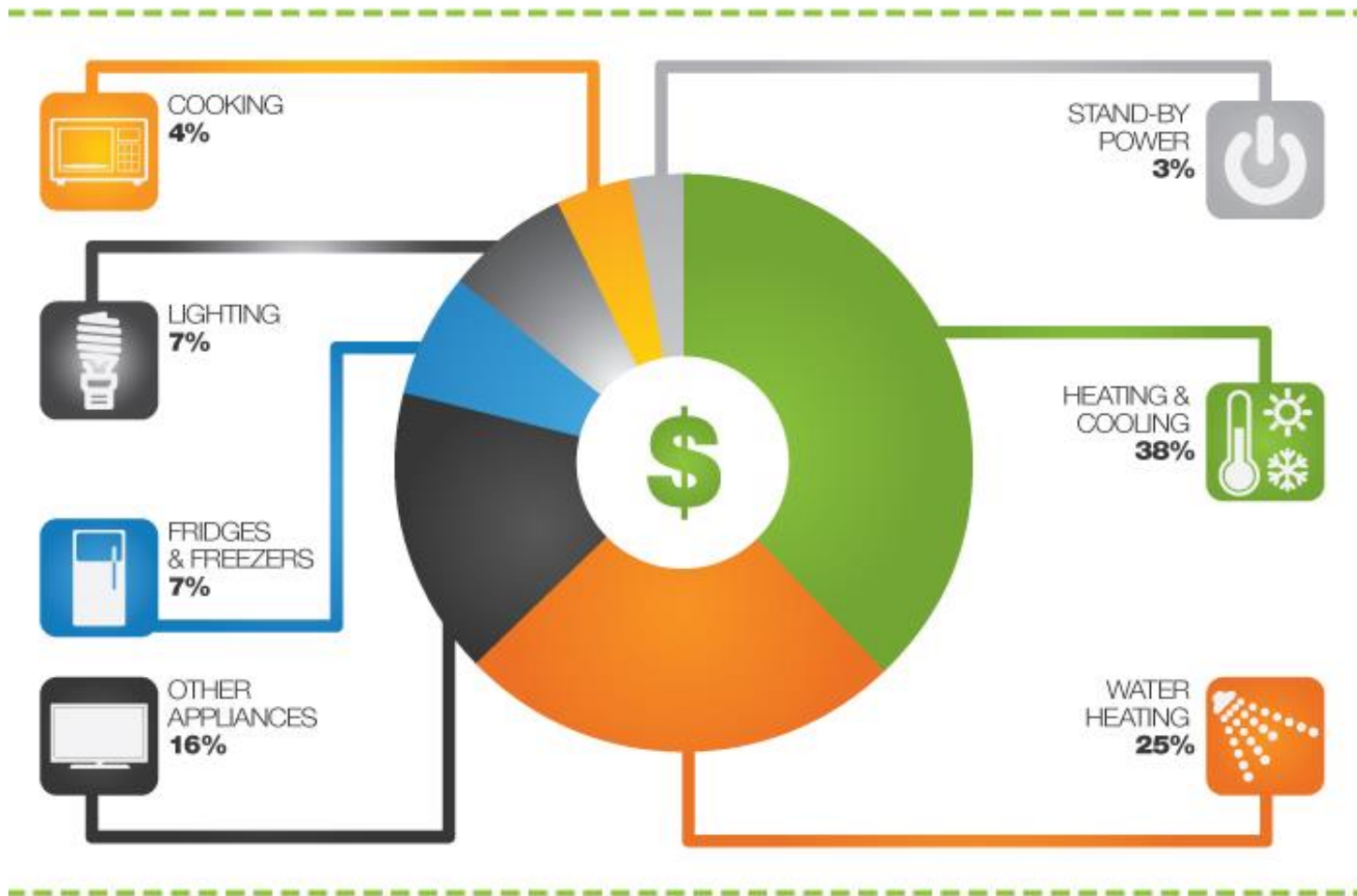
**\$3,289.64**

**15,014.8 kWh**

# What is the breakdown?

- Every household is different, but an 'average' gives a basic idea of where it could be consumed
- This household uses an average of 41 kWh per day, average cost = **\$9.01** per day
- Heating and cooling is not used all year round, so real 'daily' consumption is much higher

# A 'ball-park' break-down of energy use



Source: DPI Switch On website/Baseline Energy Estimates 2008, DEWHA

# 'Household 1'

Type of consumption	Percentage	Kilowatt-hours per day
Stand-by power	3	1.2
Heating and cooling	38	15.6
Water heating	25	10.3
Other appliances (including pool)	16	6.6
Fridges and freezers	7	2.9
Lighting	7	2.9
Cooking	4	1.6
<b>Total</b>	<b>100%</b>	<b>41.1 kWh/day</b>

## Household 2

Occupants



Energy Type



All Electric

Dwelling Type



House

Household includes:

- ✓ Electric hot water
- ✓ Electric heating and cooling
- ✓ Electric cooking
- ✓ Plasma TV
- ✓ Computer
- ✓ Dishwasher
- ✓ Clothes dryer

Annual power cost:

**\$1,808.54**

**8,269.5 kWh**



# 'Household 2'

- **Average daily use = 22.7 kWh per day**
- **Differences:**
- **Two less people**
- **No pool and associated pumps**
- **Less appliances – TV, computers**
- **Average cost = \$4.95 per day**

## Household 3

### Occupants



### Energy Type



Electric + Gas  
Heating,  
cooking and  
hot water

### Dwelling Type



Unit

### Household includes:

- ✓ Air conditioning
- ✓ LCD TV
- ✓ 3 computers
- ✓ Dishwasher
- ✓ Clothes dryer

**Annual power cost:**

**\$1,095.34**

Excludes cost of gas hot  
water, heating and cooking  
appliances

**5,008.4 kWh**

# Household 3

- Average daily use of electricity = 13.7 kWh
- Average cost = **\$3.00** per day
- Gas costs for heating, hot water and cooking need to be added.

## Household 4

**Occupants**



**Energy Type**



**Electric + Gas  
Heating,  
cooking and  
hot water**

**Dwelling Type**



**Flat**

**Household includes:**

- ✓ **Air conditioning**
- ✓ **Plasma TV**
- ✓ **Computer**
- ✓ **Dishwasher**
- ✓ **Clothes dryer**

**Annual power cost:**

**\$560.79**

Excludes cost of gas hot  
water, heating and cooking  
appliances

**2564.2 kWh**

# Household 4

- **Average use of electricity = 7.03 kWh per day**
- **Average cost of electricity = \$1.54 per day**
- **Gas costs for heating, hot water and cooking need to be added.**

# **Ways to find out your energy consumption:**

- **Look on your bill!**
- **Read your meter at regular intervals yourself**
- **Retailers are now offering web portals of your consumption online**
- **Individual appliances can be monitored**
- **Whole-of-house consumption can be displayed on In-House Displays**

# Web portals (AGL)

The screenshot displays the AGL Energy Online web portal. At the top, the 'Energy in action' logo is on the left, and navigation links for 'Home', 'Investor Centre', 'Help', and 'Contact AGL' are on the right. A search bar is also present. Below the header, a blue navigation bar contains 'YOUR HOME', 'YOUR BUSINESS', 'AGL SMARTER LIVING', 'ABOUT AGL', and 'QUICK LINKS'. The main content area is titled 'Features' and includes a sub-header 'Monitor your energy usage.' and a 'My Usage' section. The 'My Usage' section features a bar chart for 'Tue Feb 12, 2013' showing energy usage in kWh per hour. The chart shows a peak usage of approximately 1.4 kWh/h around 9am and 10am. Below the chart are several interactive buttons: 'Usage', 'Usage Charges\*', 'Similar Homes\*', 'Time Of Day', and 'Temp °C'. A 'Download usage data' button is also visible. On the left side, a 'YOUR HOME' sidebar lists various services like 'AGL Energy Plans', 'Billing and Payments', and 'My AGL IQ'. On the right side, a vertical menu offers options such as 'AGL ENERGY ONLINE', 'SIGN UP TO AGL', 'MOVING?', 'ENERGY PLANS', 'PAY MY BILL', 'PRICE INFORMATION', and 'HELP CENTRE'.

**Energy in action**

Home | Investor Centre | Help | Contact AGL | Search

**YOUR HOME** | YOUR BUSINESS | AGL SMARTER LIVING | ABOUT AGL | QUICK LINKS

Print this page

## Features

Home > Your Home > My AGL IQ > Features

**My AGL IQ™ features.**

**Monitor your energy usage.**

### My Usage

Tue Feb 12, 2013

Day | Week | Month | Year | Bill

Time	Usage (kWh)
12am	0.35
1am	0.35
2am	0.35
3am	0.35
4am	0.35
5am	0.35
6am	0.35
7am	0.65
8am	1.25
9am	0.65
10am	1.40
11am	0.65
12pm	0.35
1pm	0.35
2pm	0.35
3pm	0.35
4pm	0.35
5pm	0.65
6pm	1.15
7pm	1.35
8pm	0.65
9pm	0.65
10pm	0.35
11pm	0.35

Usage | Usage Charges\* | Similar Homes\* | Time Of Day | Temp °C | Download usage data

We've made it easy for you to see how much energy you're using and how this translates to dollars and cents for your household. You can compare your usage with previous bill periods and to Similar Homes™. Click on control bar.

**AGL ENERGY ONLINE**  
LOGIN Register

**SIGN UP TO AGL**  
Switch today

**MOVING?**  
Move in minutes

**ENERGY PLANS**  
Find the right plan

**PAY MY BILL**  
View payment options

**PRICE INFORMATION**  
View the latest price information

**HELP CENTRE**  
FAQs and information

# Web Portals (Origin)

The screenshot displays the Origin web portal interface. At the top left is the Origin logo. The top right shows a user greeting "Welcome Michael Reeves" and a "Logout" button. A left-hand navigation menu includes "Home", "My account", "My bills" (with sub-links for "Advise Origin of a payment", "Payment options", "Understanding my bills", and "My energy use"), and "Offers". The main content area features a grouped bar chart comparing "Peak consumption" (orange) and "Offpeak consumption" (dark orange) across seven dates: 19 JUL, 20 OCT, 20 JAN, 20 APR, 20 JUL, 18 OCT, and 21 JAN. The y-axis represents consumption in kWh, ranging from 0 to 200. Below the chart is a table titled "CONSUMPTION" with columns for "Period", "Days", "Peak", "Off-Peak", and "Average daily". The table shows data for the period 16/04/11 - 19/07/11, with 95 days, a peak of 207.00 kWh, an off-peak of 182.00 kWh, and an average daily consumption of 4.09 kWh. At the bottom, a Windows taskbar is visible with icons for various applications.

**CONSUMPTION**

Period	Days	Peak	Off-Peak	Average daily
16/04/11 - 19/07/11	95	207.00 kWh	182.00 kWh	4.09 kWh



# In-House Display types

Regular Monitor  
EW4008



Smart Monitor  
EW4030



Solar Monitor  
EW4009



# Clamp-type meters

- **Clamp-type meters measure emf fields which are proportional to current**
- **Data is transmitted to the display and converted to watts**
- **An electrician is required to install one**



# LED-flash counter types

- Interval meters have an LED which flashes for every watt-hour consumed
- Flash-rate is transmitted to the display and converted to watts
- No electrician required to install



# **Demonstration of energy meters**

- **Our presenter will show how to use commonly available meters to measure various appliances energy consumption**

**Thank you for your attention**