Solar home electricity data - notes (August 2014)
Three years of half-hour electricity data for 300 solar homes (1 July 2010 to 30 June 2013)

Purpose

We are releasing this data for use by organisations and individuals for a variety of purposes, including research, policy-making and providing information about solar photovoltaic system performance. We intend for the data to help with analysis, including by research organisations, the solar industry, government departments and regulators.

Data overview

The data has been sourced from 300 randomly selected solar customers in Ausgrid's electricity network area that were billed on a domestic tariff and had a gross metered solar system installed for the whole of the period from 1 July 2010 to 30 June 2013. The customers chosen had a full set of actual data for the period from 1 July 2010 to 30 June 2011, gathered through our meter reading processes. We also undertook some data quality checking and excluded customers on the high and low ends of household consumption and solar generation performance during the first year.

Disclaimers and use of data

Ausgrid accepts no liability for the use of this data by any organisation. The customers in this dataset may not represent a statistically relevant sample of residential customers in the Ausgrid network area, and have not been surveyed to collect household characteristics. Typically, households that install solar systems own their home and live in separate houses with the available roof space needed to install a solar power system.

Further inquiries

If you have further inquiries about this data or would like to provide feedback, including how the data is being used by your organisation and how useful it is, please email sharinginformation@ausgrid.com.au.

Data format

The solar household data is contained in a zipped file and each year of data is in a separate file in a csv file format. It contains five description columns for each line of data, followed by 48 columns of half-hour electricity meter data. The time format for the 48 columns of interval data is Eastern Standard Time (EST) and Eastern Daylight Savings Time (EDT) during the summer period.

Column	Field	Description
1	Customer	Customer ID from 1 to 300
2	Postcode	Postcode location of customer
3	Generator Capacity	Solar panel capacity recorded on the application for connection for each customer. Units are Kilowatt Peak (kWp), which is the solar panels peak power under full solar radiation and tested under standard conditions.

4	Consumption Category	Two letter code each meaning the following:
		GC = General Consumption for electricity supplied all the time (primary tariff, either inclining block or time of use rates), excluding solar generation and controlled load supply
		CL = Controlled Load Consumption (Off peak 1 or 2 tariffs)
		GG = Gross Generation for electricity generated by the solar system with a gross metering configuration, measured separately to household loads
5	Date	Date in DDMMMYYYY format.
6	0:30	Kilowatt hours (kWh) of electrical energy consumed or generated in the half hour ending at 0:30 (eg. between 0:00 and 0:30). The value is positive regardless of whether it is consumption or generation.
7 to 53	1:00……0:00	As above, covering every half hour of the day up until the last half hour of the day at 0:00, (eg. between 23:30 to 0:00).
54	Row Quality	(Blank) = every half hour value in the row is the actual electricity recorded by the meter in the half hour
		NA = Non-Actual where some or all of the half hour values in the row are estimates or substitutes of the electricity consumed or generated

Summary statistics

The table below shows some summary statistics of the dataset over the year. It is provided as a basis for comparison and checking purposes.

Year	2010-11		2011-12		2012-13	
Description	**Mean**	**Median**	**Mean**	**Median**	**Mean**	**Median**
Solar home customers – summary (300 sample)						
Annual consumption; kWh per year	6,980	6,362	6,596	6,017	6,387	5,862
Annual gross generation; kWh per year	2,119	1,764	2,083	1,708	2,181	1,814
Solar system size (kWp)	1.68	1.50	1.68	1.50	1.68	1.50
Annual gross generation; kWh/kWp	1,253	1,280	1,231	1,253	1,297	1,326
Ausgrid residential customers – summary* (>1.4 million)						
Annual consumption; kWh per year	6,611	-	6,224		5,954	

*Ausgrid residential customer electricity data can be found at on our website.

IPART report on solar feed-in tariffs in NSW

The solar homes in this dataset were part of a sample of data supplied by Ausgrid to the NSW Independent Pricing and Regulatory Tribunal (IPART) for their review into a fair and reasonable solar feed in tariff in NSW. The final IPART report was published in March 2012 and can be found at:

http://www.ipart.nsw.gov.au/Home/Industries/Electricity/Reviews/Retail_Pricing/Solar_feed-in_tariffs/14_Mar_2012_-_Final_Report/Final_Report_-_Solar_feed-in_tariffs_-_March_2012