



Exemplary Advances

2017 April “Exemplary Advances” is the newsletter for Exemplary Energy Partners, Canberra. Feel free to forward it to friends and colleagues. Click here to [subscribe](#) or [unsubscribe](#). Feedback is most welcome.

Past editions of “Exemplary Advances” are available on our [website](#).

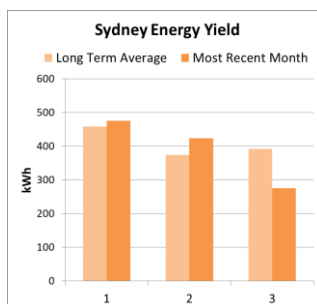
Exemplary Weather and Energy (EWE) Indexⁱ - March 2017

Monthly tabulation and commentary relative to the climatic norm – the Reference Meteorological Years

2017 March	Canberra		Perth		Sydney	
	Heat	Cool	Heat	Cool	Heat	Cool
10-Storey	N.A.	-4%	N.A.	-14%	N.A.	-18%
3-Storey	N.A.	-3%	N.A.	-16%	N.A.	-20%
Supermarket	N.A.	18%	N.A.	-25%	N.A.	-1%
Solar PV	-13.9%		4.0%		-29.7%	

Canberra had a slightly warmer than average weather in March. It was the fifth consecutive month to be warmer (since Nov 2016). The mean maximum, minimum and average temperatures were higher by 0.6°C, 0.4°C and 1.0°C respectively. It was cloudier as well. The two office building models had cooling consumptions less than the averages due to less solar heat. The East, North and West facing zones of the 10-storey office had around 6-11% less cooling than the norm due to the cloudier weather. Only the supermarket with longer operating hours consumed more cooling energy due to the warmer than average temperatures after sunset. The PV array energy yield was -13.9% lower.

Perth had cooler than average weather in March. The mean maximum, minimum and average temperatures were lower by 2.7°C, 4.0°C and 2.3°C respectively. The 10-storey office South facing zone had cooling consumption less than the average by around 22% due to the lower air temperature. It was slightly sunnier as well. The north facing zone also had less cooling consumption, around 15% due to the cooler but sunnier weather. The PV array efficiency benefitted from this weather and hence the energy yield was higher by 4.0%.



Sydney had cooler than average weather in March. The mean maximum was lower by 3.1°C, and, the minimum and average were both lower by 1.6°C. It was much cloudier than the average as well, hence the PV energy yield was 29.7% lower. The cooling consumptions of our 10-storey and 3-storey office building models were lower by 18-20%. Only the supermarket was about the same as the average. All 4 outward-facing zones of the 10-storey office had cooling consumptions over 30% less than the norm under this cool and cloudy weather.

Bureau of Meteorology switches to Himawari for Solar Data

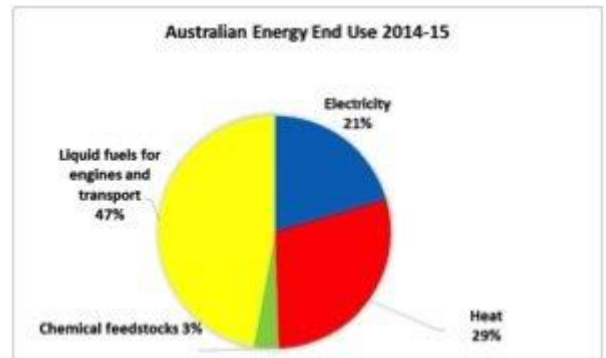
Himawari, Japanese for sunflower, is the name of 2 new geostationary weather satellites operated by the Japan Meteorological Agency ([JMA](#)) offering significant improvements in frequency, resolution and precision. As reported in our August 2016 edition, they came into service for our Bureau of Meteorology ([BOM](#)) in March 2016. Once calibrated against the BOM ground-stations, that full year data will be published and used by our team in all future weather and climate data products.

What do we sell when they don't want our coal?

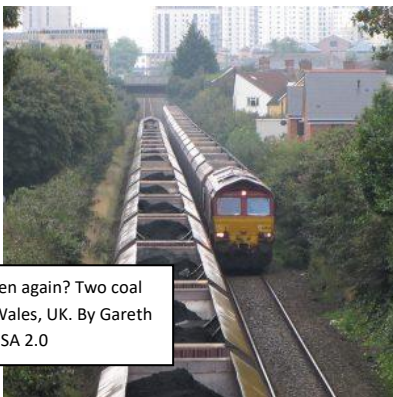
By Keith Lovegrove (Head of Solar Thermal, [ITP Energised Group](#)) on 27 April 2017

To meet the Paris climate goals of limiting global warming to 2°C requires a complete global decarbonisation of all energy use by around 2050. Of recent times one could almost be excused for thinking that electricity is the only way we use energy. It has reached the point that in common discourse the word 'Energy' has started to be used when the meaning is 'Electricity'. Many references to 'Energy Storage' for example turn out to mean exclusively 'Electricity Storage'. To put things in perspective, it is interesting to examine Australia's energy 'end use' by type. 2014-15 Australian Energy Statistics data by sector and end use fuel type gives the following picture:

To read more, go to [Renew Economy](#).



Britain's first coal free day in 135 years



Never to be seen again? Two coal trains pass in Wales, UK. By Gareth James / CC-BY-SA 2.0

As Australia was debating a \$900m subsidised coal train for export to India, National Grid UK was recording its first day since 1880 without [coal fired electricity](#). With increased gas turbine power to support new variable wind and solar, the longer spring sunlight meant that it just wasn't necessary for Britain to burn coal on Friday 21 April. About a quarter of Britain's power was nuclear that week.

Meanwhile, in Australia, AGL announced 'The Plan' to 'get out of coal' by 2050 and invited customers to join their vision for a low carbon future at home. And as the Prime Minister has announced a willingness for the Federal Government to intervene in east coast gas export,

CSIRO and Energy Networks Australia have issued their final [Roadmap](#) report outlining how the nation can deliver electricity needed while achieving zero net carbon emissions by 2050. (with thanks to the [Warren Centre](#), University of Sydney)

Mandatory Home Energy Rating in the ACT for 217 Months

Mandatory [rating](#) and disclosure of the energy efficiency of existing homes at the time of sale has been [law](#) in the ACT since April 1999 and we have tracked the \$/star value correlation since then. Recently, we have disaggregated the data by housing type and will be publishing those results soon.

PV_OptiMizer – enhanced and available for free

The latest version of our solar PhotoVoltaic (PV) evaluation app is now available without charge. The free download holds data for a tropical, an arid and a southern location. In-app purchases allow access to data for 100 locations and for editing the system components, making it a design tool for anywhere in Australia. Use the following links for your free trial of the [Android](#) or [iOS](#) version now.

ⁱ Exemplary publishes the [EWE](#) for three archetypal buildings and a residential solar PV system each month; applying the RTYS to [EnergyPlus](#) models developed using [DesignBuilder](#) for a 10-storey office, a 3-storey office and a single level supermarket as well as an [SAM](#) model of a typical 3 kW_{peak} solar PV system designed by [GSES](#). All values are % increase/decrease of energy demand/output relative to climatically typical weather. Especially during the mild seasons, large % changes can occur from small absolute differences.