



# Exemplary Advances

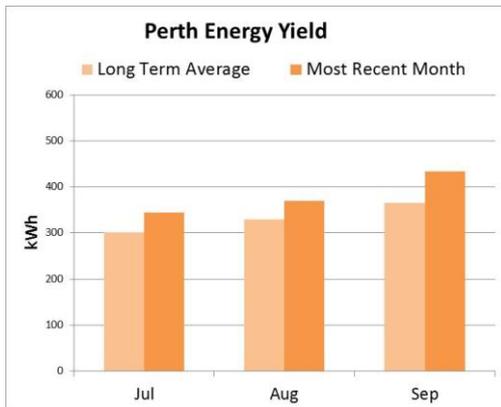
2016 October "Exemplary Advances" is the newsletter for Exemplary Energy Partners, Canberra. Feel free to forward it to friends and colleagues. Click here to [subscribe](#) or [unsubscribe](#). Feedback is most welcome. Past editions of "Exemplary Advances" are available on our [website](#).

## Exemplary Weather and Energy (EWE) Index<sup>i</sup> - September 2016

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

2016 September	Canberra		Perth		Sydney	
	Heat	Cool	Heat	Cool	Heat	Cool
10-Storey	57%	-26%	73%	-4%	-29%	-1%
3-Storey	54%	-25%	72%	-7%	-19%	-3%
Supermarket	15%	-100%	124%	-100%	-58%	-86%
Solar PV	-20.6%		4.8%		7.1%	

**Canberra** had cooler and much cloudier than average weather in September. The PV panel had an energy yield that was over 20% less in this weather. The mean maximum and average temperatures were lower by 4.0°C and 1.0°C respectively. Only the minimum was higher by 0.9°C. The heating consumptions of our 3 commercial building models were higher than the average as a result. The 10-storey office East facing zone had over 460% excess heating consumption over the long term average due to the cold and cloudy weather. The heating consumption in the North facing zone exceeded the average by 85% mostly because the weather was cloudier than average. The South and West facing zones had around 41% to 48% excess to the norm in heating consumptions due primarily to the lower air temperatures. The supermarket cooling consumption had dropped to nil due to this unseasonably cold and cloudy weather.



**Perth** also had cooler but sunnier than average weather in September. The mean maximum and average temperatures were lower by 5.6°C and 1.7°C respectively. Only the minimum was higher than average by 1.0°C. All the commercial building models had higher than average heating consumptions under this weather. The 10-storey office East facing zone had over 120% more than average heating due to the cold and cloudy weather. The North facing zone also consumed over 85% more heating than the climatic norm. The PV panel efficiency benefited from this weather and therefore the energy yield was 4.8% higher. As happened in Canberra, the supermarket cooling consumption had dropped to nil due the cold weather.

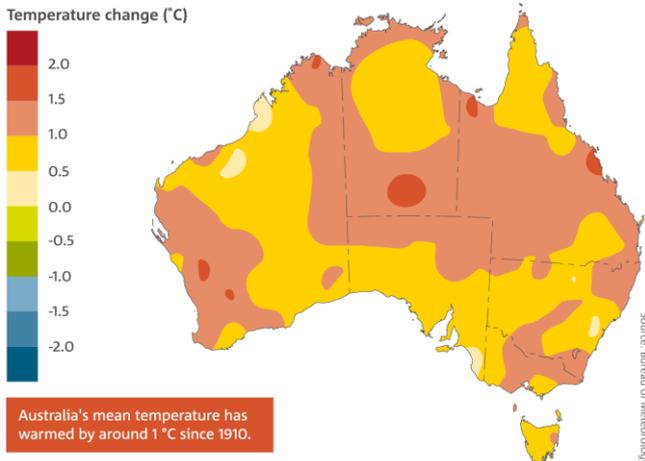
**Sydney** had slightly cooler than average weather in September after four consecutive months of warmer weather since May. Although the mean minimum was higher by 0.9°C, the maximum and average temperatures were lower by 2.1°C and 0.1°C respectively. Despite the cooler temperatures it was sunnier than average so the solar PV panel energy yield was 7.1% higher. The cooler time of the day was mostly during the early morning so the 10-storey office East facing zone required 11.7% less cooling consumption than average, while the North and West facing zones were 1.0% and 4.6% higher in cooling consumption respectively due to the warmer temperature and sunnier weather during the afternoons. The heating consumptions of all the commercial building models were lower than the average but the actual values were negligible.

## Market-Based Energy-Efficiency Schemes Operating in Australia

The Energy Efficiency Certificate Creators Association ([EECCA](#)) has launched a national website for the latest information on all market-based energy-efficiency schemes operating in Australia.

It includes 10 focused pages that allow easy searching: 6 states, 2 territories, national and international. Members of the EECCA include Energy Makeovers, Green Energy Trading, Greenbank Environmental, and publishes the [EECCA Bulletin](#).

## The CSIRO and BoM released a State of Climate report



The Bureau of Meteorology and CSIRO play an important role in monitoring, analysing and communicating observed changes in Australia's climate.

This fourth, biennial State of the Climate report draws on the latest monitoring, science and projection information to describe variability and changes in Australia's climate, and how it is likely to change in the future. Observations and climate modelling paint a consistent picture of ongoing, long-term climate change interacting with underlying natural variability. Here is a brief summary.

- Australia's climate has warmed in both mean surface air temperature and surrounding sea surface temperature by around 1 °C since 1910.
- The duration, frequency and intensity of extreme heat events have increased across large parts of Australia.
- There has been an increase in extreme fire weather, and a longer fire season, across large parts of Australia since the 1970s.
- May–July rainfall has reduced by around 19 per cent since 1970 in the southwest of Australia.
- There has been a decline of around 11 per cent since the mid-1990s in the April–October growing season rainfall in the continental southeast.
- Rainfall has increased across parts of northern Australia since the 1970s.
- Oceans around Australia have warmed and ocean acidity levels have increased.
- Sea levels have risen around Australia. The rise in mean sea level amplifies the effects of high tides and storm surges.

For more detail, click [here](#).

## Mandatory Home Energy Rating in the ACT for 211 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.

## Home Energy Rating OptiMizer – HERO - available for free trial

The service is now available for AccuRate and BERS Pro files with a version to handle FirstRate5 files under advanced development. [Contact us](#) for your free trial.

<sup>1</sup> Exemplary publishes the [EWE](#) for three archetypical 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<sub>peak</sub> 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.