



# Exemplary Advances

2016 March “*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.

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

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

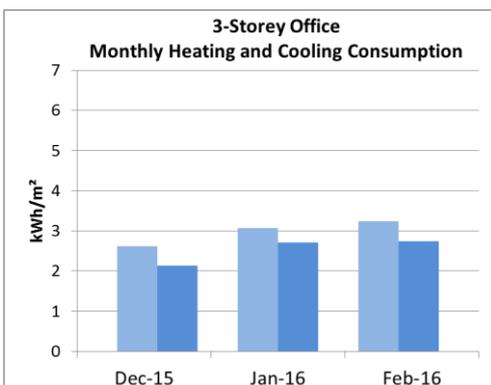
2016 February	Canberra		Perth		Sydney	
	Heat	Cool	Heat		Heat	Cool
10-Storey	-	16%	-	-5%	-	-14%
3-Storey	-	18%	-	-7%	-	-15%
Supermarket	-	31%	-	-16%	-	-1%
Solar PV	-5.3%		8.4%		8.4	

**Note: the extra day in February of this leap year is not included in the simulations to keep the total number of days in February consistent with the climatic average for comparison purposes. Users of our Real Time Year (RTY) weather files will use the 29-day February so that the simulations can be compared with the field measurements and meter readings of buildings in operation.**

**Canberra** had a warmer and sunnier than average weather in February. The mean maximum, minimum and average were higher by 2.9°C, 5.5°C and 2.4°C respectively. The cooling consumptions of our office buildings were all higher, especially the long-operating supermarket which had a 31% higher cooling consumption. The cooling consumptions of the 10-storey office North, East and West perimeter zones were around 30% higher due to the higher in air temperature and sunnier weather. It was also less windy than the average. The PV panel is less efficient due to the warmer temperature and the energy yield was 5.3% lower despite more sun.

**Perth** had a cooler and sunnier than average February. The mean maximum, minimum and average were lower by 0.3°C, 3.3°C and 1.0°C respectively. The 10-storey office North perimeter zones had 8% lower in cooling consumptions. The cooling in the East and West perimeter zones were lowered by a lesser amount, 3.7% and 5.5% respectively due to the higher than average air temperature in the early morning and after sunset. The PV model had an energy yield of 8.4% higher than the average.

**Sydney** had a cooler and slightly sunnier than average February. The PV model had an energy yield of 8.4% higher than the average. The mean maximum and average temperatures were lower by 3.7°C and 1.7°C respectively. Only the minimum was higher by 0.7°C. The cooling consumptions of our two office building models were lower than the average by 14% to 15%. The supermarket model also had a lower cooling consumption, by a lesser amount due to the warmer than average temperature after sunset. The cooling consumptions of the 10-storey office North, East and West perimeter zones were about 15% lower. The cooling in South perimeter zones were also lowered by over 20% due to the cooler air temperature.



## Mandatory Home Energy Rating in the ACT for 202 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.

## 2015 is the Hottest Year on Record for a Second Successive Year

See more at: [http://www.envirotech-online.com/news/environmental-laboratory/7/breaking\\_news/2015\\_is\\_hottest\\_year\\_on\\_record\\_for\\_second\\_successive\\_year/37951/?utm\\_source=iet&utm\\_medium=ebulletin&utm\\_term=environmental-laboratory&utm\\_content=march&utm\\_campaign=breaking\\_news#sthash.wckw2wO7.dpuf](http://www.envirotech-online.com/news/environmental-laboratory/7/breaking_news/2015_is_hottest_year_on_record_for_second_successive_year/37951/?utm_source=iet&utm_medium=ebulletin&utm_term=environmental-laboratory&utm_content=march&utm_campaign=breaking_news#sthash.wckw2wO7.dpuf)

### By the Numbers

Last month we reported the general outcome encompassed in the term Hottest Year. Below are some of the statistical specifics of this global trend.

When translated into cold, hard facts, the temperature data makes for some uncomfortable reading. Here's an outline of the major figures that can be gleaned from the collated data for the planet as a whole:

- The average temperature all across the planet was 0.75°C higher than the total average of the years 1961-1990, breaking the record for the second successive year.
- 2014 had shown a 0.57°C hike, substantial increase, itself a record.
- 2016 is predicted to be even warmer again. If it is, it will be breaking the record for three years in a row for the first time.
- 10 out of 12 months of the year were the hottest on record in 2015 for their respective calendar months.
- In the UK, December had the highest rainfall ever.
- 2015 was the first time that the global temperature had crept to 1°C above the pre-industrial average (for your information, climate experts have earmarked an increase of 2°C as the absolute limit of global warming to avoid catastrophe and would prefer the conservative limit of keeping any rise to just 1.5°C).
- 15 of the 16 hottest years since records began have occurred in the last 15 years.

## Why Australia Should NOT Abandon Solar Boost Technology

Several Prime Ministers and two Queensland Premiers ago, the Kogan Creek Solar Boost project commenced near Chinchilla in Queensland. This was to be a 200,000 m<sup>2</sup> array of Linear Fresnel concentrators providing extra steam to the Kogan Creek coal-fired power station and thereby generating up to a 44 MW component of solar electricity from the turbines.

In doing so it would become Australia's first utility scale Concentrating Solar Power Plant, only the third utility scale Linear Fresnel system globally and the biggest ever solar boost configuration. The project received a major grant commitment from the Federal Government that was subsequently administered by [ARENA](#).

However, the project has been stalled for some time and recently, CS Energy, the state owned power station and project owners, announced they would not finish the project. To continue, click [here](#).

## 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.

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<sup>i</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.