Exemplary Advances

2017 May ***"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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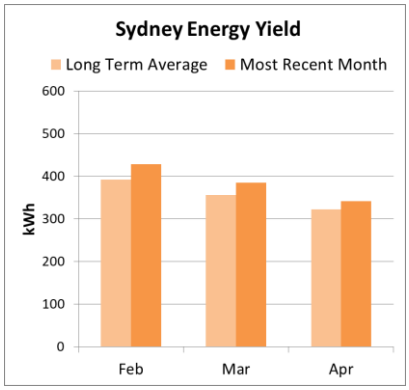
Exemplary Weather and Energy (EWE) Index[i] - April 2017

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

2017 April	Canberra		Perth		Sydney	
	Heat	Cool	Heat	Cool	Heat	Cool
10-Storey	9%	-6%	N.A.	-1%	N.A.	-10%
3-Storey	6%	-7%	N.A.	0%	N.A.	-13%
Supermarket	1%	-79%	N.A.	12%	N.A.	-57%
Solar PV	3.1%		8.7%		5.4%	

Canberra had cooler and sunnier than average weather in April. It was the first cooler month after five consecutive warmer months (since November 2016). The mean maximum, minimum and average temperatures were lower by 2.3°C, 0.8°C and 0.7°C respectively. All our commercial building models have less cooling consumptions due to the cooler weather. The 10-storey office South-facing zone had over 24% less cooling consumption than the average due primarily to the cooler air temperature. The North-facing zone also consumed less cooling energy but by a lesser amount due to the cooler but sunnier weather. The PV array energy yield was 3.1% higher.

Perth had slightly cooler and sunnier than average weather in April. The mean maximum, minimum and average temperatures were lower by 2.7°C, 0.5°C and 0.3°C respectively. The 10-storey office South-facing zone had cooling consumption less than the average by around 3% due to the lower air temperatures. In contrast, the North-facing zone had higher cooling consumption than the average, by 13.5% due to the sunnier weather. The cooling consumption of the supermarket was 12% higher as the glazing is North-facing which allows more solar heat. The PV panel efficiency benefitted from this weather and hence the energy yield was higher by 8.7%.



Sydney also had cooler and sunnier than average weather in April. The mean maximum and average were lower by 3.6°C and 1.5°C respectively. Only the minimum was higher by 0.5°C. The solar PV energy yield was 5.4% higher. All 4 outward-facing zones of the 10-storey office had cooling consumptions less than the average. The South-facing zone had over 29% less cooling due to the cooler air temperatures. The North zone also consumed less cooling energy but by the lesser amount of 17% due to the sunnier weather.

[i] 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_{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.