Exemplary Advances

2016 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.

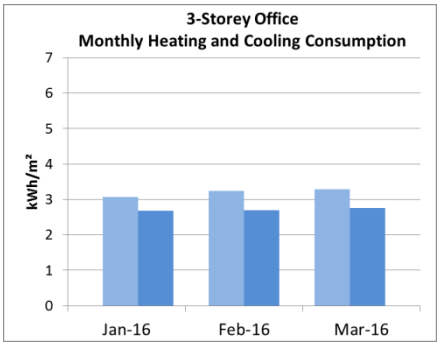
Exemplary Weather and Energy (EWE) Index[i] - March 2016

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

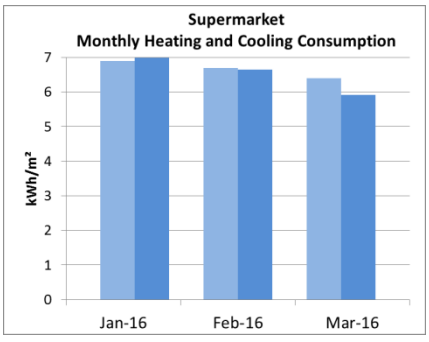
2016 March	Canberra		Perth		Sydney	
	Heat	Cool	Heat	Cool	Heat	Cool
10-Storey	-	14%	-	-9%	-	-14%
3-Storey	-	17%	-	-9%	-	-16%
Supermarket	-	36%	-	-7%	-	-8%
Solar PV	-1.4%		4.9%		6.3%	

Canberra had warmer than average weather in March. The mean maximum, minimum and average temperatures were higher by 3.6°C, 1.3°C and 2.1°C respectively. The cooling consumptions of our office buildings were all higher, especially the long-operating supermarket which had a 36% higher cooling consumption. The cooling consumption of the 10-storey office West perimeter zone was around 12% higher. The cooling consumptions in the North and East perimeter zones were higher by a greater amount, around 19% due to the higher than average air temperature during the morning and early afternoon. Although it was windier than the average which is beneficial to the PV panel efficiency by cooling the panels, it was only marginally sunnier and the air temperature was higher. The PV array is therefore warmer and less efficient and the energy yield was 1.4% lower than average.

Perth had cooler than average weather in March. Although the mean maximum temperature was higher by 1.7°C, the minimum and average temperatures were lower by 0.8°C and 0.9°C respectively. The 10-storey office North and East perimeter zones were 5-7% lower in cooling consumptions The cooling in the West permitter zones was around 12% lower due to the lower than average air temperature after sunset. It was also slightly sunnier and windier. The PV panel efficiency benefited from this weather and had an energy yield that was 4.9% higher than the average.



Sydney has been cooler than average since January this year and the cool weather has continued through March. The mean maximum, minimum and average temperatures were lower by 4.4°C, 1.4°C and 1.8°C respectively. The cooling consumption of the 10-storey office East perimeter zones was over 26% lower due to the lower than average air temperature in the early morning. The cooling consumptions in the North and West perimeter zones were also lower by over 17%. It was only slightly sunnier than the average but the cooler air temperature is beneficial to the PV panel efficiency and therefore the PV model had an encouraging energy yield that was 6.3% higher than the average.

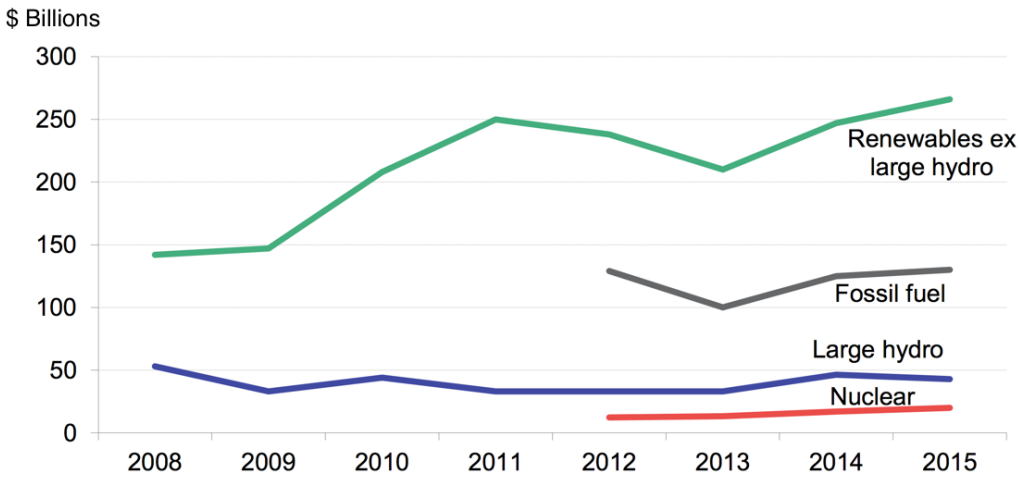


Wind and solar are crushing fossil fuels despite falling prices

Tom Randall, April 7 2016

Wind and solar have grown seemingly unstoppable.

While two years of crashing prices for oil, natural gas, and coal triggered dramatic downsizing in those industries, renewables have been thriving. Clean energy investment broke new records in 2015 and is now seeing twice as much global funding as fossil fuels.



Investment in Power Capacity, 2008-2015 Source: BNEF, UNEP

Malcolm Turnbull's big spend on clean energy

One billion dollars will be spent by the Government on clean and renewable energy.

One reason is that renewable energy is becoming ever cheaper to produce. Recent solar and wind auctions in Mexico and Morocco ended with winning bids from companies that promised to produce electricity at the cheapest rate, from any source, anywhere in the world, said Michael Liebreich, chairman of the advisory board for Bloomberg New Energy Finance (BNEF).

"We're in a low-cost-of-oil environment for the foreseeable future," Liebreich said during his keynote address at the BNEF Summit in New York recently. *"Did that stop renewable energy investment? Not at all."*

Investment in renewables is outpacing fossil fuel investment by a significant margin. Photo: Supplied

PV_OptiMizer – enhanced and available 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 own free trial of the Android or iOS version now.

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[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.