



Exemplary Advances

2018 July “*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.

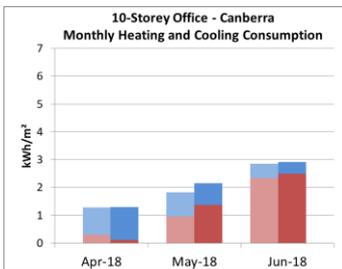
Past editions of “*Exemplary Advances*” are available on our [website](#).

Exemplary Weather and Energy (EWE) Indexⁱ - June 2018

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

2018 June	Canberra		Perth		Sydney	
	Heat	Cool	Heat	Cool	Heat	Cool
10-Storey	7%	-19%	-15%	2%	-13%	-1%
3-Storey	6%	-14%	-14%	4%	-16%	-2%
Supermarket	27%	-100%	3%	-80%	N.A.	-5%
Solar PV	-5.6%		-16.1%		13.5%	

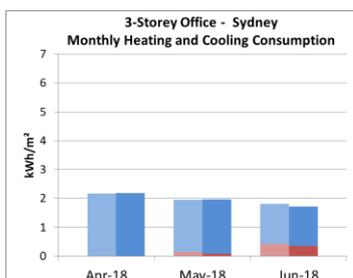
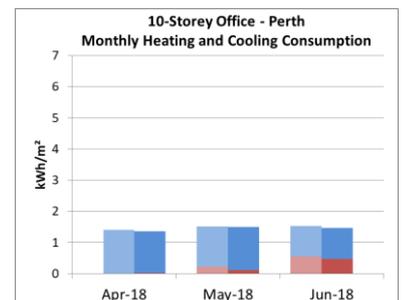
The Exemplary Real Time Year weather files ([RTYs](#)) used for these monthly simulations are available for [purchase](#) to allow clients to simulate their own designs for energy budgeting and monitoring rather than rely on analogy with the performance of these archetypical buildings and systems.



Canberra had slightly cooler than average weather in June. The mean maximum and average temperatures were lower by 2.9°C and 0.4°C respectively (mean minimum temperature was the same). The two office building models had heating consumptions higher than the averages by 6%-7%, but the Supermarket had 27% higher heating due to its longer operating hours (cooling consumption was nil). It was cloudier as well. The 10-storey office North facing zone had over 12% more heating than the norm due to the cooler air temperature and less sunlight. The South facing zone had 4.7% more heating consumption due primarily to the lower air temperatures. The PV system

energy yield was 5.6% lower in this weather.

Perth had slightly warmer than average weather in June. The mean minimum and average temperatures were higher by 1.7°C and 0.6°C respectively. Only the mean maximum temperature was lower: by 2.6°C. All the commercial building models had heating consumptions lower than average, except a 3% increase in Supermarket heating (80% lower in cooling but the actual amount is negligible) due to the cooler weather after sunset. The 10-storey office South facing zones had heating consumption less than the average by around 17% due to the lower air temperature. West facing zones also had around 17% less heating consumption. It was substantially cloudier as well. The solar PV system energy yield was lower by 16.1%.



Sydney had slightly warmer than average weather in June. The mean average and maximum temperatures were lower by 0.2°C and 1.2%, but the mean minimum temperature was higher by 1.7°C. The heating consumption of the 10-storey office South facing zones was over 11% less than the norm due primarily to the warmer air temperatures. It was sunnier as well. The other 3 zones of the 10-storey office model also had heating consumption around 9%-12% less due to the warmer and sunnier weather. The solar PV system efficiency benefited from this weather and hence the energy yield was 13.5% higher.

Book on Building Performance Analysis just published

“*Building Performance Analysis*” by Pieter de Wilde, Professor of Building Performance Analysis at [Plymouth University](#), United Kingdom, has now been [published](#) by Wiley.

As Pieter describes:

The book is a single-authored work that presents a comprehensive and systematic overview of the subject of building performance analysis. It consists of three parts. *Part I: Foundations* reviews the context, background and theory of the subject. *Part II: Assessment* explores operationalisation and how to quantify building performance. *Part III: Impact* discusses how building performance analysis features in design, construction and operation of buildings. An epilogue presents the emerging theory in this area. Each main chapter contains the discussion of a case study building that represents the state-of-the-art in the field but also demonstrates remaining challenges. The book is not limited to building simulation only; it also discusses experimental methods to analyse building performance, as well as expert judgment and stakeholder surveys.

The book is the second book endorsed by IBPSA. A [webinar](#) introducing the book is available on the IBPSA University YouTube channel at. Prof de Wilde’s lecture on the same subject is also [accessible](#).

Mandatory Home Energy Rating in the ACT for 231 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.

BlueScope Turns to Solar with Major PPA Deal

By [Giles Parkinson](#) on 20 July 2018 for [RenewEconomy](#).

Australian steel giant [BlueScope](#) is turning to solar to help power its Port Kembla Steelworks, signing a 7-year power purchase agreement (PPA) to take the bulk of the output from the 133 MW_(AC) Finley Solar Farm to be located 100 km west of Albury, NSW. The landmark deal with ESCO Pacific and Schneider Electric continues the rush of major corporate buyers toward solar technologies, with Finley expected to supply the equivalent of 20 per cent of BlueScope’s Australian electricity purchases, “significantly” reducing costs and providing price certainty.

“This PPA is one of Australia’s largest corporate offtake agreements, and is the largest with a solar farm to date,” BlueScope’s head of Australian Steel Products John Nolan said in a statement.

It also follows a commitment by UK billionaire Sanjeev Gupta to power his steelworks in Whyalla with solar and storage, a commitment that will result in more than 1 GW of large-scale solar and storage.

Another major energy user, [Sun Metals](#), has also switched on a 124 MW solar plant in north Queensland to supply one-third of the power needs of its zinc refiner and to underpin a major expansion of its operations.

Numerous other major corporate buyers have also turned to wind and solar, with the likes of [CUB](#) aiming to go 100 per cent, and packaging giant [Orora](#) sourcing wind and solar for 80 per cent of its electricity needs, accentuating the vast chasm between economic reality and Canberra political rhetoric. To read on, click [here](#).

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. RTYs are available for purchase for your own simulations.