



Exemplary Advances

2015 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.

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

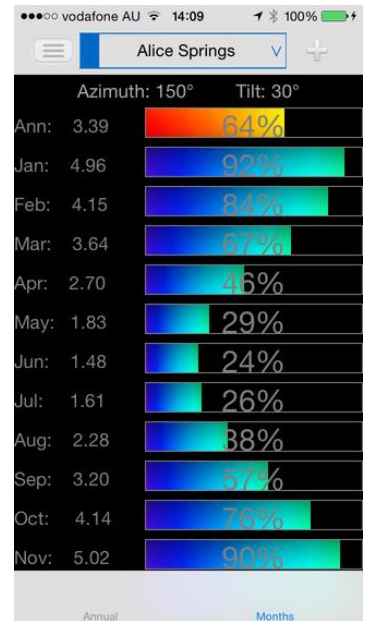
Android PV_OptiMizer V3.0 – June release



Our solar PhotoVoltaic (PV) evaluation app has now been enhanced. The tool responds dynamically to the orientation and tilt of your phone/pad to calculate in accordance with the [CEC Guidelines](#) the output of panels installed with that same geometry. Lay it on (or parallel with) your roof to see what you can expect with the lowest cost installation. Tilt and turn it to see how much more you can get by upgrading to a framed and optimised system.

Both versions available for free

The free download holds data for a tropical, an arid and a southern location. In-app purchase of data for other locations and for editing the system components allows it to be used as a design tool anywhere in Australia. Use the following links for your copy of the [Android](#) or [iOS](#) version.



Imminent Enhancements - Android version 3.0

- Dramatically enhanced user experience with updated graphic interface (sliding menu and Google map, re-designed action bars, dialogs, prompt notes, help notes etc.).
- More robust and better performance with optimized internal structure.
- Compatible test and support from Android 3.0 to the latest Android 5.0+.
- Fixed display issue on different screen sizes, especially on both high and low resolution screens.
- Fixed App crash on deleting 0 records.
- Fixed In-app purchased items to show up and be accessible immediately.
- Other bugs fixed (thanks for the feedback).

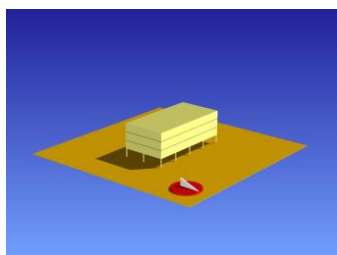


Exemplary computer programmer is now a father

Exemplary computer programmer, Zhongran (Talent) Deng, is now a father. His daughter Serena was born in Canberra early on Tuesday 21 April. After a little jaundice in the first couple of days, Serena and her mother are doing well and Talent is now back at work, currently focusing on PV_OptiMizer enhancements and then on further developing the [HEROⁱ](#) software and updating our website.

Exemplary Weather and Energy (EWE) Indexⁱⁱ - April 2015

Monthly tabulation and commentary [relative to the climatic norm](#) – the Reference Meteorological Years



2015 April	Canberra		Perth		Sydney	
	Heat	Cool	Heat	Cool	Heat	Cool
10-Storey	33%	-25%	-	-7%	-	-10%
3-Storey	30%	-25%	-	-7%	-	-12%
Supermarket	6%	-39%	-	5%	-	-20%
Solar PV	-25.4%		-1.5%		-18.2%	

Canberra had a cloudy month but was near average in terms of air temperature. The mean maximum is slightly higher by 1.4°C and the mean average is lower by 0.6°C. However, all our three commercial buildings have a lower cooling consumption by 25% to 39% due to the cloudiness. The lower solar heat also caused our 2 office models to have over 30% more heating consumption during the start-up hours in the morning. The 10-storey office cooling consumptions in the West and North facing zones are over 50% lower due to less solar heat. The PV model has an energy yield over 25% lower.

Perth also had a near average April in terms of air temperature – the mean maximum, minimum and average temperatures are different by -1.8°C, 0.5°C and 0.0°C respectively. It was also slightly cloudier. Our PV model has an energy yield 1.5% lower and the 10-storey office cooling consumptions in the Western and Northern zones are 16.4% and 4.5% lower, respectively.

Sydney had a slightly cooler and cloudier April – the mean maximum and average temperatures are lower by 1.4°C and 0.7°C respectively, but the minimum is 0.4°C higher. The average global horizontal radiation is 21% lower and our PV model has an energy yield 18.2% lower. The cooling consumptions from our building models are accordingly lower by 10% to 20%, and in the Western and Northern zones of the 10-storey office it is 30.7% and 22.2% lower.

Latest Real Time Year (RTY)

RTYs to the end of April 2015 are now available for CBR, PER and SYD. Click [here](#) for details. Superseded RTYs are available at a discount of 10% per month past publication date, with up to a 50% total discount available (20% per month past publication date for student, academic and other non-commercial use). So please [enquire](#) about formats and delivery times.

Exemplary director **Trevor Lee** will present on the building optimisation uses of RTY data at an [IBPSA](#) seminar in Sydney on 14 July: "*Weather Affects Building Performance - Simulation v Monitoring*".

Solar Radiation Data for over 100 Locations – impending publication

Wherever ground-measured solar radiation data is available, we use it. But for most places in Australia this data is estimated by the Bureau of Meteorology from off-the-hour satellite observations. Accordingly, enhancing the precision of the Bureau's techniques is of some importance. Exemplary director **Trevor Lee** and intern **Fangwei Ding** have been working in that direction with CSIRO's **Robert Davy** and will present the results at the [International Conference on Energy and Meteorology](#) in Boulder Colorado in June: "*Comparison of Satellite Estimated Hourly Solar Data with Coincident Ground Based Measurements and their Applications in Industry and Commerce*".

ⁱ HERO = [House Energy Rating](#) Optimiser which automatically adjusts key design and construction components.

ⁱⁱ 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.