



# Exemplary Advances

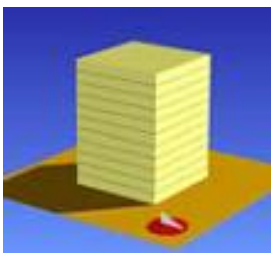
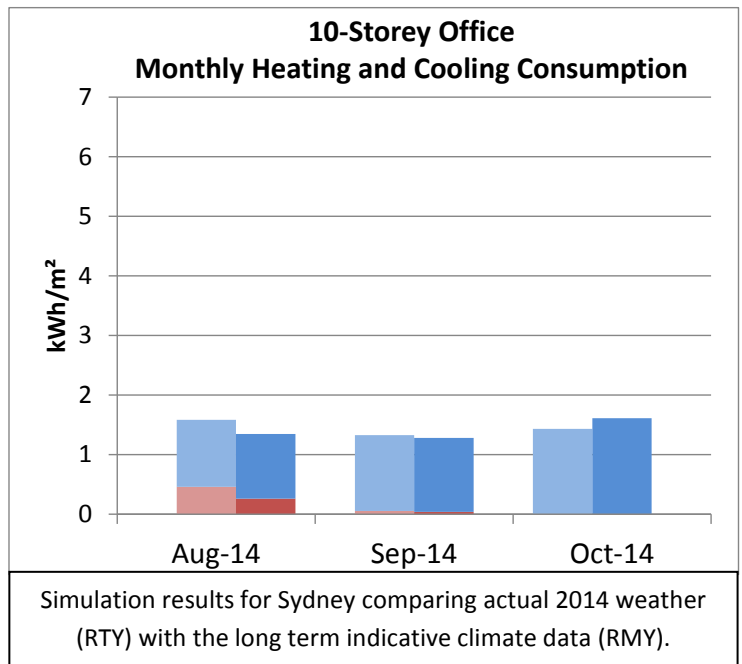
**2014 November** Exemplary Advances is the newsletter for Exemplary Energy Partners, Canberra. Feel free to forward it to friends and colleagues. Click here to [subscribe](#) or [unsubscribe](#).

## Latest Real Time Year (RTY)

The RTYs to the end of October 2014 are now available for CBR, PER and SYD. Click [here](#) for details. Superseded RTYs are available at a discount of 10% per month past (20% for student, academic and other non-commercial use). So please [enquire](#) about formats and delivery times.

## Exemplary Weather and Energy (EWE) Index

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](#). During October 2014, both Canberra and Sydney were uncommonly cloudy so that the solar PV systems produced 6.9% and 13.8% less respectively than the same time last year but the buildings needed more than usual cooling energy to maintain comfort, probably as a result of higher than usual humidity. Perth, by contrast, had little difference between this October and the long term average.



It is worth noting that this is the first time that our EWE has been calculated using **EnergyPlus Version 8.2.0** which is the first version since the rewrite from FORTRAN to C++. DOE tells us it incorporates "new and enhanced modeling features" including improved HVAC equipment auto-sizing routines, improved models for ground heat exchange, new models for natural ventilation, and control options for radiant and cooling systems.

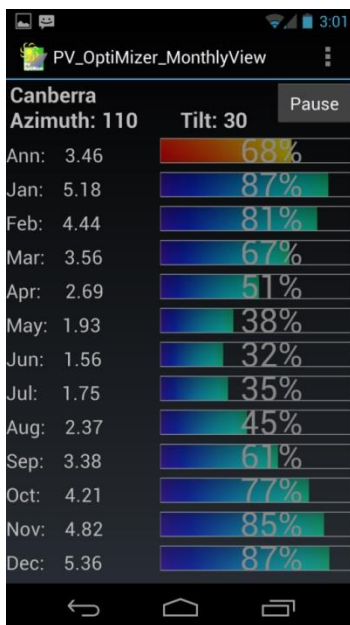
Next edition of "Exemplary Advances" we will report on the impact that these might have on the continuity of our EWE and its relationship to the years of past simulated performance.

## Rating OptiMizer launch

Rating OptiMizer is a bureau service for rapidly computing a wide range of options and combinations of options for a dwelling design and construction to establish the highest performance level within a budget or the cheapest way of attaining BCA compliance (6-Star [EER](#) except NSW where [BASIX](#) sets separate heating and cooling caps). Accredited [NatHERS](#) assessors click [here](#) to see how this can be of use in enhancing your EER service to clients.

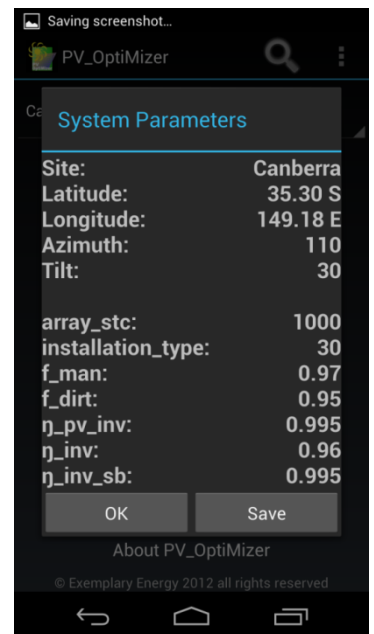
The batch simulator technique was used to generate the data behind the [Smarter Renovations](#) website recently published by [Sustainability Victoria](#). If you are interested to develop a version for other states or territories, please contact [Trevor Lee](#).

## PV\_OptiMizer



Our solar PhotoVoltaic (PV) evaluation app for small to medium sized installations is now being replicated on iOS and the prototype is now undergoing beta testing before release. The tool responds dynamically to the orientation and tilt of the phone (or other device) to calculate in accordance with the [CEC Guidelines](#) the solar PV output of panels installed with that same geometry. Lay it on 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.

As for the Android original, it will be **available for free** take-up with data for a tropical, an arid and a southern location with in-app purchase of data for other locations



and for editing the system components to allow it to be used as a design tool. Click for your own free trial of the [Android](#) version or for the [iOS](#) version as soon as it is available.

## Exemplary Interns

The Science Faculty of Macquarie University ([MQ](#)) in Sydney actively requires its undergraduates to engage with business and/or the community as part of their degrees (see [PACE](#) for details). Exemplary has again accepted a PACE placement: this year the environmental scientist **Joshua de Botton**. Joshua has been engaged in exploring the correlations between weather measurements at MQ and simultaneous measurements by the Bureau of Meteorology ([BOM](#)) in nearby locations. He will then apply the technique he developed under the guidance of **Trevor Lee** to similar data feeds from the CSIRO in Canberra and Newcastle.

## Government-Provided Climate Data

Climate files prepared for use in house energy rating (NatHERS) nationwide have recently been made available in other formats notionally for use in non-housing simulation work like JV3 analyses for BCA Section J compliance and for NABERS Energy commitment agreements. A critique of the data for these other applications appeared in ["Megnus"](#) Vol 35 No 8 in September and identifies significant failings in that context. Next edition of **"Exemplary Advances"** we will report on the impact these might have on such applications.