



Denman Prospect

Solar fact sheet

December 2017, Issue 4

Solar Overview

Denman Prospect will be the first Australian suburb to have a minimum requirement for solar power for every home. On the average home in Canberra a 3kW system will generate about 4,000kWh of clean electricity, reducing emissions from fossil fuel power by approximately 3.7 tonnes a year, which is about the same as taking one average Australian car off the road. Based on a typical annual electricity consumption of 7,000 kWh for new, six-star homes, and based on current residential tariffs, a 3kW solar system will reduce a homeowner's annual electricity bill from approximately \$1500 to \$1000, which equates to a saving of a third, noting it will vary from year to year and from home to home.

Home Design

When designing your home you should consider the layout of the solar panels and incorporate it in your home design. PV arrays are to be shown on design drawings which are submitted for building and siting drawings. Efficiency of solar panels can vary significantly, depending on the tilt angle, the orientation, adjacent overshadowing elements and yearly weather conditions. Please refer to the design and siting guidelines for more information.

Solar Irradiation Guide

For clarity the maximum efficiency (100%) for the solar panels is facing north and the panels are placed on a roof with a 30 degree pitch. This table should be used as a guide only where it shows the yield as a percentage (%) as a proportion to the ideal installation for combinations to be installed.

Plane Azimuth is orientation of the PV Panels (0 =North, 90 = East, 180 = South, 270 = West) and Plane Inclination is the angle of the PV panels (0 = flat, 30 = standard roof pitch, 90 = vertical like a window).

ANNUAL DAILY IRRADIATION ON AN INCLINED PLANE EXPRESSED AS % OF MAXIMUM VALUE FOR CANBERRA

Plane Azimuth (degrees)	Plane Inclination (degrees)									
	0	10	20	30	40	50	60	70	80	90
0	87%	94%	98%	100%	99%	96%	91%	83%	74%	64%
10	87%	94%	98%	99%	99%	96%	91%	83%	74%	64%
20	87%	93%	97%	99%	98%	95%	90%	83%	74%	64%
30	87%	93%	96%	98%	97%	94%	89%	82%	73%	64%
40	87%	92%	95%	96%	95%	92%	87%	80%	72%	63%
50	87%	92%	94%	94%	93%	89%	84%	78%	70%	62%
60	87%	91%	92%	92%	90%	86%	81%	75%	68%	61%
70	87%	90%	90%	89%	87%	83%	78%	72%	66%	59%
80	87%	89%	88%	87%	84%	80%	75%	69%	63%	56%
90	87%	88%	86%	84%	80%	76%	71%	65%	59%	53%
100	87%	87%	84%	81%	77%	72%	67%	61%	56%	50%
110	87%	86%	82%	78%	73%	68%	62%	57%	51%	46%
120	87%	85%	80%	75%	69%	63%	58%	52%	47%	42%
130	87%	84%	78%	72%	66%	59%	53%	48%	43%	38%
140	87%	83%	77%	70%	62%	55%	49%	44%	39%	35%
150	87%	82%	76%	68%	60%	52%	45%	40%	35%	32%
160	87%	82%	75%	66%	57%	50%	42%	36%	33%	29%
170	87%	82%	74%	65%	56%	48%	41%	35%	30%	28%
180	87%	81%	74%	65%	56%	48%	40%	34%	30%	27%
190	87%	81%	74%	65%	56%	48%	41%	35%	30%	28%
200	87%	82%	74%	66%	57%	50%	42%	36%	32%	29%
210	87%	82%	75%	67%	59%	52%	45%	40%	35%	32%
220	87%	83%	77%	69%	62%	55%	49%	43%	39%	35%
230	87%	84%	78%	72%	65%	59%	53%	48%	43%	38%
240	87%	84%	80%	74%	68%	63%	57%	52%	47%	41%
250	87%	85%	82%	77%	72%	67%	62%	56%	51%	45%
260	87%	86%	84%	80%	76%	71%	66%	61%	55%	49%
270	87%	87%	86%	83%	79%	75%	70%	65%	59%	52%
280	87%	89%	88%	86%	83%	79%	74%	68%	62%	55%
290	87%	90%	90%	89%	86%	82%	77%	71%	65%	58%
300	87%	91%	92%	91%	89%	85%	81%	74%	67%	60%
310	87%	91%	93%	94%	92%	88%	83%	77%	70%	61%
320	87%	92%	95%	96%	94%	91%	86%	79%	71%	63%
330	87%	93%	96%	97%	96%	93%	88%	81%	73%	63%
340	87%	93%	97%	98%	98%	95%	89%	82%	74%	64%
350	87%	94%	98%	99%	99%	95%	90%	83%	74%	64%

The PV System

The 3kW PV system to be installed by ActewAGL will consist of:

- SolaX SL-TL3000 inverter * <http://solaxpower.com/products/x1-single-tech/>
- 12 x Eco Future 250W panels * http://www.madeneco.co.uk/wp-content/uploads/2014/11/Eco_Future.pdf
- Includes 2 year warranty provided by ActewAGL on installation workmanship, 10 year manufacturer's warranty on the Solax inverter and 20 year performance warranty on the Eco Future panels

*If any of the components become unavailable for any reason ActewAGL will use reasonable endeavours to replace the unavailable component with a component of like quality, functionality and cost.

Inclusions are:

- Installation but only where panels are installed as single array (6 x 2, 4 x 3 or 3 x 4) on a single storey Premises with Colorbond roof with a pitch of 25 degrees (Standard Installation)
- ACTPLA inspection fee which is subject to variation in line with any change to the inspection fee
- Small-scale technology certificates (STC) remain with ActewAGL and are fully assigned to ActewAGL or additional costs will apply
- Extra Costs may also apply if additional work is required — this will be quoted on a case by case basis prior to the rough-in stage

Installation Process Overview

Installation of a PV System in a new residential Premises is best done in three stages: electrical cable rough-in followed by panel and inverter fit-off then final certification.

Stage 1 - Rough-in electrical cables

- Rough-ins are completed by ActewAGL before houses are sheeted, usually at the same time as a typical electrical rough-in.
- The builder and/or land owner are to provide ActewAGL no less than 3 weeks' notice that a rough-in is required to be completed at particular Premises.
- Estimated time for ActewAGL to rough-in is 2 business days.

Stage 2 - Fit-off panels and inverter

- Fit-offs are completed by ActewAGL towards the end of a build, once the roof is completely installed and switchboard work completed. This needs to be at lock up stage so that inverters are secure after install.
- The builder and/or land owner are to provide ActewAGL no less than 3 weeks' notification that a fit-off is required to be completed at particular Premises.
- The builder and/or land owner shall ensure that ActewAGL's STC assignment form are signed and returned to ActewAGL at fit-off.
- Estimated time for ActewAGL to fit-off is 2 business days.

Stage 3 - Final Inspections and Certifications

- The builder and/or land owner are to advise ActewAGL no less than 3 weeks' notification when a Certificate of Occupancy has been obtained for each Premises.
- ActewAGL will book ACTPLA solar inspection and advise inspection date to the builder and/or land owner.
- ACTPLA complete solar inspection and copies of certification will be provided to the builder and/or land owner.
- Should a larger sized system is selected the builder or land owner will be required to pay ActewAGL the difference between ActewAGL's quoted price of the larger system and the contract cost of the Denman 3kW system (please note that the STCs from the larger system will still remain with ActewAGL and are fully assigned to ActewAGL or further additional costs will apply).

Alternative Solar Installation

Although there is a minimum 3kW solar requirement for each home in Denman Prospect, you may elect to purchase and install your own system instead of purchasing the standard solar installation from Capital Estate Developments.

For more information, and to ensure your home will be compliant, please contact us by phone on 02 6175 3300 or send an email to sales@capitalestate.com.au