

**Is Solar Photovoltaic A Good Form Of Investment?  
Does It Really Save You Money Off Your Electricity Bill?**

No doubt like many other householders whom have connected a Solar Photovoltaic [PV] system to the grid, you have spent considerable time also looking into the efficiency of solar panels and inverters. Finalising your choice based on a mixture of efficiency, cost, warranties, feed tariff, installation time & financial return.

Did you ever think of what other ways, you may be able to increase the efficiency of your system. At the same time maximising the return of investment?

Aussie Home Energy's research, into households electricity usage with a grid connected Solar PV system, has revealed a lot of householders not being aware of their home's electricity usage, on a daily basis. One thing is for sure though, most householders are very clued into what they are generating on the roof!

A reason for this unawareness of electricity usage under the roof, could simply be householders in NSW, have rushed in the past to connect to gross feed rebates of 0.60 or 20 cents per kWh. Seeing these 'gross feed in tariffs' as a very attractive form of investment.

*Gross Feed Example: [2kW PV] x [4 hours of sun] x [\$0.60 gross feed tariff] = \$4.80 per day  
Annual Revenue \$1752*

What we would like to see is householders having clarity on generated electrical power above the roof, versus electricity used under the roof. Importantly the cost of that electricity purchased. This information needs to be known from the offset, otherwise the electricity usage under the roof is going to dramatically affect the return on investment. And thus your decision to install a Solar PV system, may be flawed and not necessarily provide you with the return you were expecting.

Most householders often want to know three things about a gross feed grid connected Solar PV system:

- *How many kWhs is it going to generate per day?*
- *How many dollars will it generate per day?*
- *How long will it take to pay off?*

After reading this document we hope you arrive at a clear decision as to whether a Solar Photovoltaic system is the right choice for you. Will this form of investment really help you in the long run, when electricity costs are said to rise dramatically?

Firstly you need to decide whether you're going to be connected to a gross feed or net feed system. A gross feed system pays you for all generated power on the roof. A net feed system exports excess power back to the grid, along with offsetting electricity costs, should you be able to use it, when it is being generated. The details of net feed will be discussed in another report.

In the past many homes in NSW have chosen to connect to a gross feed system. Therefore we'll base our example home on the same, whereby since November 2010 \$0.20 is paid for each kW generated by Solar PV. The NSW scheme is forecast to operate until at least the end of December 2016, giving you 6 years as from January 2011.

Standby electricity under the roof, is an issue for many homes around Australia. Most householders

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being unaware that even 100 watts of 24/7 standby [at 0.25 cents per kWh] will add \$55.00 to the quarterly electricity bill.

A typical standby electricity rating for a home occupied by a modern family, could be 200 watts 24/7. This energy cost is created primarily by entertainment & communication devices, large fridge / freezers and air conditioner units. Basically 200 watts adds up to 4.8kWh over a 24 hour period.

### **- Wasted Electricity Representing a staggering \$438 per year! -**

*Example home: 2kWh system ; \$6000 cost ; Average output 8kW per day ; \$0.20 gross tariff*

Generated \$ Per Year	Generated \$ Over 6 Years	Generated kW Per Year	Generated kW Over 6 Years	Time To Pay Off \$6K @\$584 per year
\$584.00	\$3,504.00	3650	17520	10.27 Years
4.8 kW Costs \$ Per 1st Year	4.8 kW Costs With Added 5% Yearly Price Rise 6 Years	Standby kW Per Year	Standby kW Over 6 Years	Time To Pay Off \$6K System Costs With Electricity Standby
\$438.00	\$2,958.00	1752	10512	A Long Time !!!!

From the table we can see:

- 1. Nearly 50% of the generated kWh power is used by the standby electricity.*
- 2. Even with no standby, you still have 10.27 years to pay off system costs.*
- 3. \$3504 - \$2958 = \$546 over 6 years versus System Costs \$6000*

### **24/7 Wasted Electricity = Non Effective Solar PV Investment!**

More startling facts on what 4.8 kW of standby electricity will power during the six years are:

- 1. A NSW 25 kWh per day home for 420 days.*
- 2. A 2.4 kW heater for 2 hours per day, everyday.*
- 3. A pool pump for 4.6 hours per day, everyday.*

Not reducing the standby electricity in your home, means once your gross feed Solar PV is installed:

*- You may never see any ROI as electricity costs rise! -*

When electricity usage under the roof is out of control, a gross feed [20c] Solar PV system simply does not make sense, for a quick financial return!

As electricity costs rise, the standby electricity dramatically reduces your Solar PV's financial gain. For more information see our web page [Maximising Solar PV Gain](#).

So before you rush out and connect to the grid think Aussie Home Energy. There are many ways

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we can help you reduce your electricity usage, firstly through education, awareness, 24/7 electricity monitoring and of course a [home electricity audit](#) which will highlight the areas of usage and waste.

Remember if you're thinking of connecting to the grid using a net feed meter, where there is a export tariff on offer, electricity reduction is even more important!

Some of the other costs you may need to think of are:

1. *Prices rises*
2. *Interest charged on any loan.*
3. *Solar array maintenance and repair costs.*
4. *Any reduction in the gross & net feed tariff rates.*

Please leave your comments on this report via our [Aussie Home Energy Blog](#) where we have a posting on [Maximising Solar PV Generation](#).

### So Is Solar Photovoltaic A Good Form Of Investment?

With a gross feed system, the formula for success relates to the size of the Solar system, the amount you are paid for per kWh generated, all over a period of time.

For a net feed system the maths is more complicated as you need to take into account the offsetting of electricity under the roof. You will need to know when you use the power, how much is used, when it's generated and how much.

With the recent changes [July 2011] in NSW, Solar is still a great way to reduce electricity costs, but is not suited to all homes, due to the varying electricity usage patterns and costs.

### Does It Really Save You Money Off Your Electricity Costs?

We would say firstly reduce usage and wasted electricity, secondly know how your billed and thirdly know how any feed in tariff works. Otherwise you may be disappointed!

#### Want To Be An Educated Shopper?

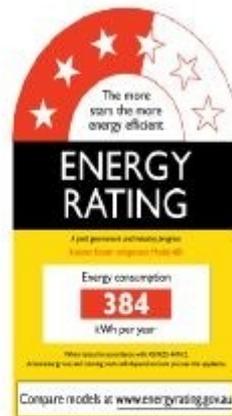
Shop smart by understanding the Aussie Energy Rating label, helping you make the best choice.

Most Aussies Only Shop By Stars Alone!

Did you know there is an easy trick to knowing any appliance's annual running costs?

Multiply the 'energy consumption' kWh per year, by your on-peak electricity supply, kWh rate.

Example:  $384 \times 0.2212 = \$84.94$



#### Shopping By Stars Alone, May Leave You In The Dark!

Home Electricity Reduction Services & Products  
[Aussie Home Energy](#)