

Why Installing A Solar PV System Still Makes Sense & Reduces Electricity Costs

History & Current Situation Of Solar PV In NSW

Around a year ago the NSW State Government's, 60 cent gross feed solar pv program, was reduced to 20 cents per kW. In June this year that 20 cent gross feed program, further ceased for new applicants. Both of these programs finish December end 2016.

With both of these investment style programs, the design of any solar pv system, did not take into account a home's electricity use. It's important to realise though as electricity costs rise, any proposed profit from such a system will be in effect, paying for these rising electricity costs.

Currently in NSW [October 2011] there is only a net feed tariff of 8 cents per kW, for power exported back to the grid. This tariff is available from AGL.

When the following are taken into account, a solar pv system's payback time is quite flexible:

- The system's costs.
- The price for imported power.
- Any revenue for exported power [net feed tariff].

Typically a solar pv system will take six to eight years to pay off. It is rising electricity costs, which now make solar pv systems, so attractive. As electricity costs rise, the system in effect pays for itself quicker. Any system should be designed primarily to match daytime usage, maximising the offsetting of any electricity costs.

Working Out Whether A Solar PV System Is A Good Choice For You?

With the current situation, a solar pv system makes more financial sense, when you use it to reduce your demand on the electricity grid, during the daytime. When your solar pv system is generating electricity, you use this power first in your home. Normally when no solar pv is installed, you would have to pay for this power. Currently this electricity is worth around 30 cents per kWh. Remember this, as electricity prices rise, you will be saving a lot more. So where possible, it will pay to use as much of the power generated above your roof, to supply your needs under it at that time.

It therefore pays to think about what other appliances you could have on, during the daytime, when electricity being generated by your solar pv system, needs to be consumed. Where you have the choice, it does not pay to purchase electricity later on in the evening, when you could have offset the cost during the daytime. Timers and such devices may be able to activate certain appliances, during the daytime.

With the current net feed tariff of only 8 cents, it's therefore not financially beneficial, to export power back to the grid. Especially when you're buying it back at 30 cents. If the price per unit of net feed is increased in the future, this would change the argument. Currently though, as there are no plans set in concrete for this to happen, it is not beneficial.

If a 1:1 deal is offered, where every kW you export, you receive 1kW back, this would be advantageous. It is questionable though whether this will be offered, due to the required



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funding from a Government body. The energy retailer also has charges for the import & export of electricity [the transfer of energy over the wires], yet again making this 1:1 deal less likely to materialise, in the near future.

As an example we will use a 20kWh per day home, where a large proportion of the power used, is for off-peak water heating at night. During the daytime, electricity is charged at on-peak & shoulder rates, currently around 30 cents per kWh.

With an installed 2 kW solar pv system, this would produce an average of 8kW per day, allowing for any inefficiencies. This generated electricity is thus saving \$2.40 per day or \$876 per year. The maths being $8 \times 0.30 = 2.40$. As already stated, you would need to be using this electricity at the time of generation, otherwise it's fed back to the grid at only 8 cents per kW. Any smart / grid interactive meters will be checking this power difference, between imported & exported power, every half hour. To an extent with the 8 cents taken into account, you are still buying back power at $30 - 8 = 22$ cents. So there is still a saving, but not as much as the 30 cents, where you offset your usage costs 100% in real-time. As electricity prices rise, the savings per year become greater:

2kW System : @ 40 cents you save \$1168 : @ 60 cents you save \$1752

Should our example home install a 4kW solar pv system, during the daytime this would produce around 16 kW. Where the home's daytime usage is closer to this figure, then the savings are considerably greater. Thus saving as much as \$4.80 per day or \$1752 per year. The maths being $16 \times 0.30 = 4.80$. As you can see, the more power you can use at the time of generation, saves you more. It really does not pay to export power to the grid, at only 8 cents per kW. So a larger than needed system does little, except cost you more!

Selecting A Correctly Sized Solar PV System To Match Your Usage

It's important to note the following:

- A solar pv system offsetting your electricity costs, will save you more, as electricity costs rise and the system pays for itself quicker.
- It makes more sense to either use more power in the day, when your solar system is generating it, or to use electricity during any off-peak periods, when it's cheaper.
- Installing a solar pv system larger than your needs will result in electricity being fed back into the grid, at the net feed price of 8 cents per kW. If the net feed tariff were to increase, or the 1:1 net feed were to materialise, then net feed could make more financial sense.

Some homes in the past have installed larger solar pv inverters, with the idea of installing additional panels at a later date. We would argue that by doing this you will be creating a system that is less balanced. A system having more inefficiencies due this in-balance. Our recommendation would be to install another system, should things change in the future, such as net feed being more viable. In the meantime, your solar system from day one, will be running at maximum efficiency.



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Knowing the daytime usage of electricity in your home, can involve guess work and 'rule of thumb' calculations. The most accurate way though to work out your daytime electricity usage, is to install a [HOME ELECTRICITY REDUCTION MONITOR](#). With a monitor installed in your home, prior to any decision on a solar pv system. One thing is for sure and that is you'll have learned all about electricity reduction, thus maximising your savings from current electricity costs and any future generated solar electricity.

The home electricity monitor further allows you to accurately analyse your electricity usage, during those sun up hours. Allowing you to make the correct choice of size and investment on any solar system. A system tailored to maximise the offsetting of electricity costs, in your home.

So What Do You Do Now?

Well [HOME ELECTRICITY REDUCTION](#) is our speciality. We know every little trick to maximising the savings under the roof, whilst not throwing away the investment above it, due to a bad decision.

To summarise again, what you need to know before installing a solar pv system, is the amount of electricity you're using during the daytime, if you're intending to offset electricity costs. And you further need to understand 100%, all the differences of a solar pv systems components. Not forgetting warranties etc.

YES we can do all of that for you! **CALL US TODAY** for a [SOLAR ASSESSMENT](#) of your home. If your outside of our direct service area, we can advise you over the phone.

**A Solar System Designed To Offset Electricity
Will Save You More As Electricity Costs Rise!**