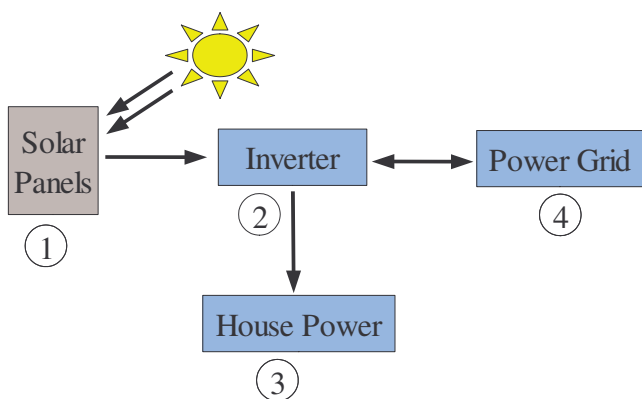


Grid Connected Solar – Info Sheet

What is a Grid Connected (or Grid Interactive – GI) solar system?

This is a solar system with solar panels and an inverter, which is connected to the main power supply grid. There are no batteries or other components found in a stand alone solar power system. The diagram below explains the basic working concept:-



1. Sunlight shines on solar panels producing DC electricity.
2. The DC is converted to 240 volt AC by the Inverter.
3. The 240 volt AC is used in the house.
4. Unused power is fed back to the power grid and credited to the customer. If more power is required than the system can produce, it is drawn from the power grid.

Why would someone install a Grid Connected (GI) Power System?

There are several good reason:-

- To reduce your power bills.
- To help solve the issues of global warming and pollution.
- To reduce the carbon footprints of products which you make. (Especially wine exporters).

Can you explain in more detail what you mean?

Reducing your Power Bill

The smallest practical GI system is 1000W or 1kW. In full sunlight such a system will produce close to 1000 watts. For every hour that the system is producing this, it generates what is called a kilo watt hour.(kWh). The costs to buy this much power varies greatly depending on when you buy it. Off peak power (normally available at night time) can be as low as 5 cents for this much power. Peak power could be in excess of 25 cents for the same power.

A 1kW system will produce on average around 5 kW hours per day. This doesn't sound like much, however there are other things to consider.

1. The cost of electricity is expected to double in the next two(2) years due to higher costs of production and due to the introduction of a carbon trading system.
2. The government is talking about introducing higher buy back rate incentives. This means that for every one(1) kWh you put back into the power grid, you are credited with more than one(1) kWh of credit. Rates of up to 3.8 are being talked about. Such rates exist in other states of Australia. You can see that with incentives like this and rising power costs, GI solar systems will become more cost effective and popular.

Help Reduce The Global Warming and Pollution Problem

There are many factors which are causing pollution and global warming. One problem is reported to be the pollution produced by power generation. The amount of carbon emission produced to generate the power you personally use is shown on your power bill.

By installing a Grid Connected power system and working to lower your households power consumption it is possible to have a net power consumption of Zero(0) or less.

With a net power consumption of zero(0) this means that you have generated, with your solar system, as much power as you have used.

It is possible to generate more power than you have used. Under a Carbon Trading scheme it is anticipated that you will in some way be able to sell off the excess power you have generated.

Reduce Your Carbon Footprint

This is very important if you are an exporter of products such a wine etc. The European community are starting to look seriously at the carbon footprint of exported goods. **Australian wine exporters** are at a disadvantage as almost all of the electricity used is from coal fired generation. Currently a bottle of Australian wine has a **Carbon Footprint** which is around **400% higher** than a similar bottle from Europe. It is expected that this will be a serious problem for exporters of wine and other goods from Australia.

A GI power system can solve this problem as the system can be sized such that you could show that all of your power for production comes from your RE (renewable energy) source.

*Remember that power generated by a GI system is **GREEN POWER**.*

How long can such a system last for?

Current solar panels have a warranty of 25 years, with a design life reported to be more than 100 years. Inverters can have warranties up to five(5) years. Quality inverters will generally perform well beyond the warranty period with no problems.

Are there any Government grants for these kinds of systems?

Yes there are. At the time of writing this sheet there is a \$8000 grant available from the Federal Government. There are also other incentives available and being considered. For full details of current incentives and schemes it is best to talk to a Renewable Energy Professional such as us at SolarSat or other similar companies.



0404 021 866
www.solarsat.com.au

The information in this sheet is intended as a guide only. Please contact us or another renewable energy professional for latest data and incentive information.