Solar monster
GENERATE YOUR OWN POWER

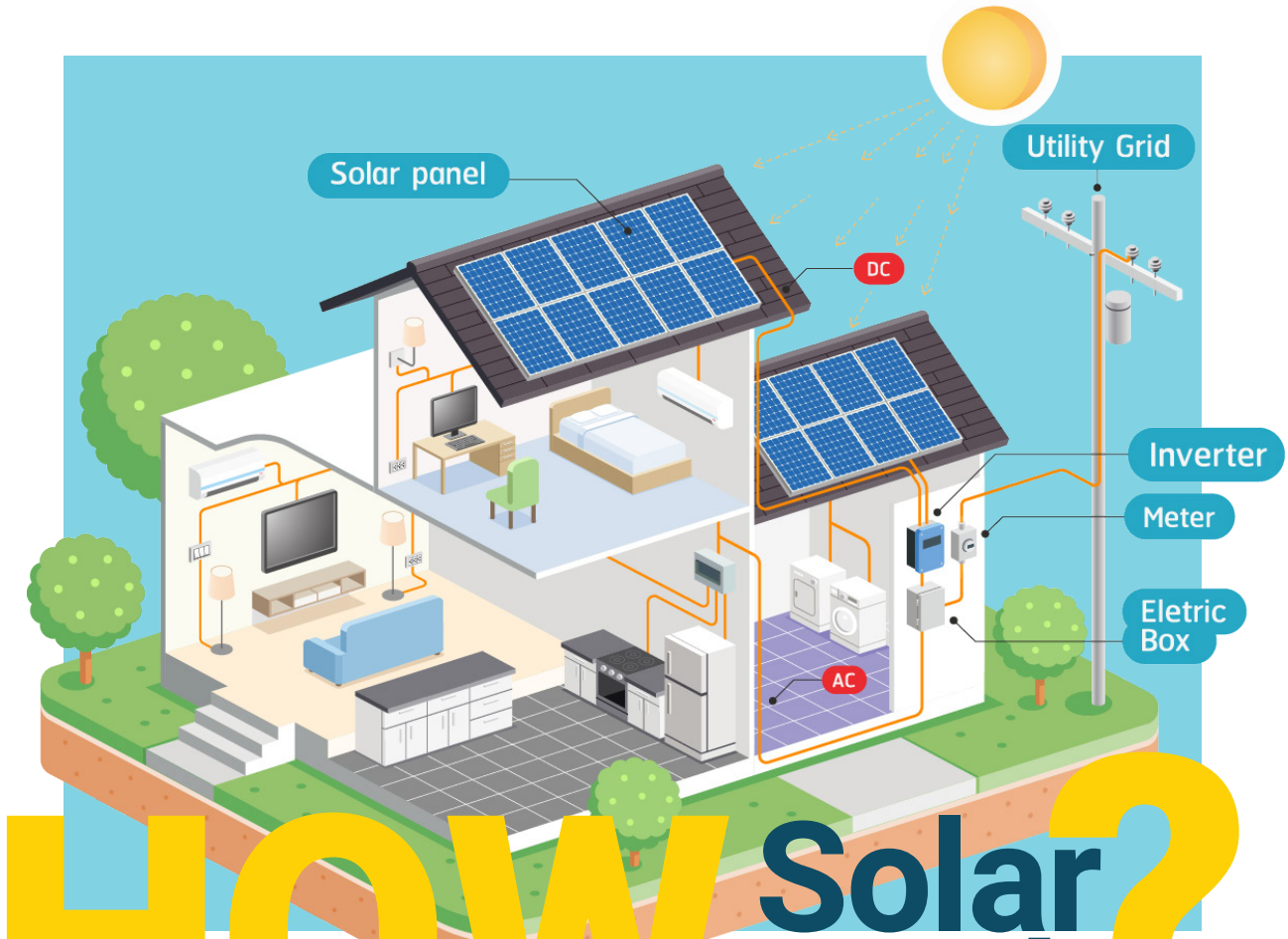
SOLAR EXPLAINED

FREE eBook

CALL US 1300 383 031

solarmonster.com.au

Contents



HOW Solar Works?

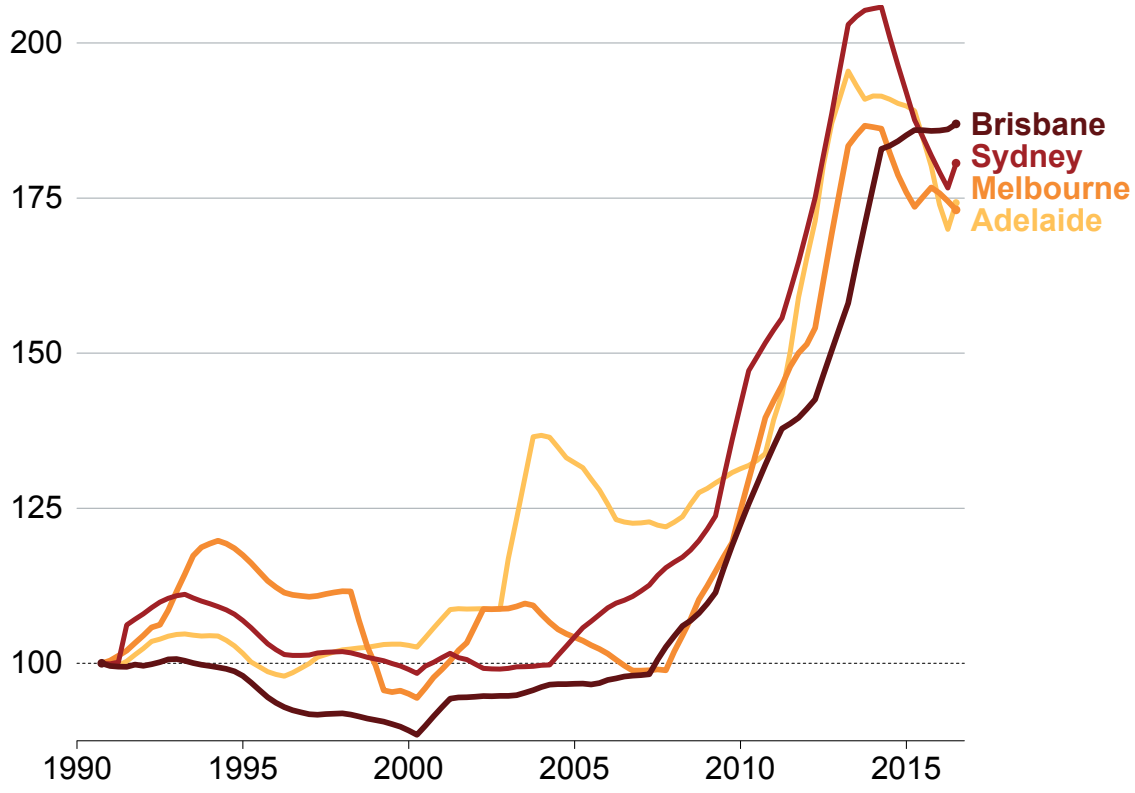
A solar system is made of 2 main components. The first is the panels which normally sit on your roof. What these panels do in simple terms is convert photons from the sun into direct current (DC) electricity.

The second is the inverter which is normally stored inside your garage or home. The inverter converts the DC (Direct Current) to AC (Alternating Current) which is what your home is powered by.

The DC current flows from your panels to your inverter and is then converted into AC and flows into your home. Any excess energy that is not needed by your home can be stowed in batteries or can be exported to the grid in return for what is called a feedin credit which is applied to your electricty bill.

Rising Power Prices

Retail electricity prices rose sharply from the late2000s
Index of real retail electricity prices, rolling four-quarter average 100 = December 1990



Source: Grattan analysis of ABS (2017)

Notes: The retail electricity price index is calculated from the ABS CPI figures.
The CPI calculates electricitiy prices using retailers' standing offers.

Electricity price have doubled in Australia over the last few years, and there is no sign of price increases stopping anytime soon. With the deregulation of electricity in many states of Australia, yes competition has increased on a retailer level with high discounts and attractive offers, but the base price of electricity continues to increase year on year. With energy prices increasing on average year on year, the question now is not can I afford to go solar, but can I afford not to go solar?

Rebates

Currently there are several rebates available for Solar Systems in Australia with the announcements that there are more to come in the future. The main rebate that has been around since 2011 is based around Small Scale Technologies Certificates, and varies based on the size of system you install and the zone that your property falls into. Additional rebates have been launched in Victoria, Queensland and South Australia.

Feed-In Tariffs

Most retailers now offer credit for surplus electricity generated from your system which can be exported to the grid. In return you will receive what is called a Solar Feed in Credit. This credit is paid by your electricity retailer and can be used to offset your night time usage when your solar system has stopped generating electricity. It pays to make sure that you go with a retailer that has a high feed in tariff if you are exporting a high amount of electricity to the grid.

Understanding Your Power Usage

You may think you only use electricity when you are home, but unfortunately in most cases this is not true. Homes generally have a consistent daily base load which powers such things as your fridge & freezer, hot water heater and other appliances left on standby.

Additionally, most people complete their heavy electrical chores on the weekend such as cleaning, using the washing machine, tv and air conditioning which account for a major part of your electricity consumption.

Understanding how you use your power and how you could change your usage habits is big factor when considering to go solar.

Why is Quality so important when buying solar?

Below we've collected some reasons why installing a high quality system is so important. These findings are not our own, but from Choice Consumer Group, The Clean Energy Council & Electrical Safety Victoria. We hope this helps you understand why quality is so important when getting solar installed.

Clean Energy Council

In an audit by The Clean Energy Council, an industry association representing Australia's clean energy sector, they report the quality of installation has declined. Their findings are below:

- Only 7% of systems were of a high quality
- 29% required attention or were substandard

Energy Safe Victoria

Independent safety and technical regulator Energy Safe Victoria also had similar findings in an audit they commissioned in which 1-in-3 systems were below basic standard, stating:

- 21% were non-compliant with Australian standards
- 11% had serious safety concerns with the potential to ignite and cause fire

What did their solar survey find?

It uncovered many interesting issues around solar panel ownership, including:

- A quarter of solar PV system owners have had issues since installation.
- The inverter is the component most likely to have a problem.

What was the average size system installed?

- Most systems installed were below 3.0kW's
- Larger systems have gained in popularity in recent years.
- The majority of systems installed generate less than 20kWh per day.
- 20kWh per day is often not enough to power your house.

How much did people pay for their solar system?

On average, people paid $8783 to buy and install their solar PV system.

- 31% paid $5000 or less.
- 38% spent between $5001 and $10,000.
- 30% spent $10,001 or more.
- 15% of all owners surveyed said that their system had already paid for itself
- With an average payback period of three years and two months.

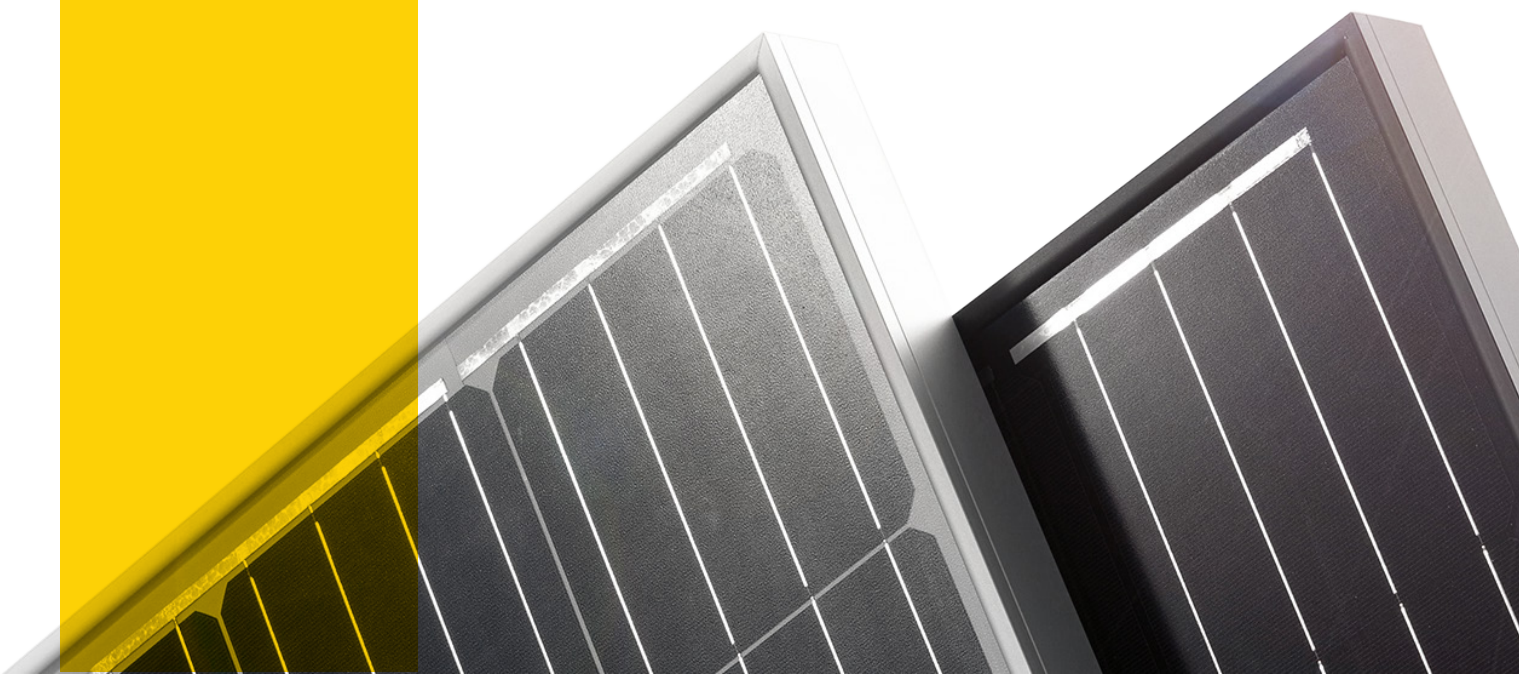
Panels

Mono & PERC

Solar panels are made up of a several solar cells sandwiched together in protective glass and a backing plate, the whole panel is then surrounded by a metal frame. The solar cells are mostly made of silicon, and is produced in 2 different forms to give monocrystalline and multicrystalline (or polycrystalline) panels. Both panel types perform well in the Australian climate with mono panels being know for slightly better efficiencies and multi being know to before better in higher temperatures.

It doesn't really matter if you buy mono or multi, what is important that you buy good module brand that will last 25+ years on your roof. You can buy panels from a range of budget to premium which will have different cost implications but you generally get what you pay for. When buying panels, installers will talk to you about the efficiencies, and this comes down to how much roof space is available on your roof. More efficient panels will produces more watts based on the area of the panel and as a result you will need less of these panels to get the same output from a system with lower efficient panels.

When looking for panels it is important to buy from a reputable manufacture that provides a minimum of a 10 year warranty on the product and also a 25 year warranty on the performance. It's important to remember your warranties are only as good as the company that stand behind them, 10 – 25 years can be a long time, so its important you go with a reputable manufacture that will be around to back the warranties provided.



Inverters

When looking at inverter just like panels there are a range of brands you can go for and they generally do vary in quality. Your inverter is generally the first thing that will fail on your solar system, so it is important to make sure you get at least a 10-year warranty backed by reputable manufacture.

With inverters you can either go for a simple string inverter or separate micro inverters for each of your panels. Micro inverters allow each panel to operate as its own unit not being affected by other panels as can occur in string inverters. These are used to maximise the efficiency of each panel especially in shaded areas, but can be seen as over engineering in areas where not needed.

Power optimisers (or voltage optimiser) can also be used to give the same effect as micro inverters, and can be used as an alternative solution if your property suffers from shade created by adjacent building or trees.

When looking to go solar it is important to think about where you will place your inverter. Inverters should not be stowed in direct sunlight as they do not perform well in high temperatures, they should be place in a garage or under a carport for protection.

If you are considering getting batteries in the near future but don't want to invest right now, you can go for a battery ready inverter, otherwise known as a hybrid inverter which allows you to plug batteries in a later date without having to replace the inverter unit.

Installer

When looking for an installer the most important thing is to make sure they are Clean Energy Accredited. This is important as one theses installers have been trained in how to install a system safely and two in order be eligible to claim the STC rebate your system must be installed by a Clean Energy Accredited installer.

By now, you will understand that not all solar systems are the same and you really get what you pay for. If installer A quotes a 6kW system that is $2,000 cheaper than a 6kW system quoted from installer B there more than likely is a difference in terms of the quality of the system or the quality of workmanship and warranties that go with that system. If a price sounds too good to be true, that means in normally is!

At the end of the day you do not want to go cheap installing a high functioning electrical appliance that will sit on the roof of your family.

As you will of read above both the panels and inverters come with warranties provided from the manufacture. But when searching for an installer there are two types of warranties you should look out for. One is a warranty on the workmanship which covers that the installation of the system has been completed correctly and the second is and guarantee or warranty on the performance of the system. A good installer will normally back the performance of the system up to 10 years. This means that if anything goes wrong with the performance of the system the installer will come out and fix or replace the defective part at no cost to yourself. If your installer does not have this, it could cost you hundreds of dollars in call out and labour fees to get our system up and running to its designed performance.

4 easy steps to get your solar installed

Step 01

We qualify what you are looking for in your solar system

Step 02

We design your solar system and locate installers that can deliver

Step 03

We send you your system design & walk you through the facts and figures

Step 04

We organise the paperwork & connect you with the recommended installer

HOW Solar Monster Works

Solar Monster works as a broker between you and several solar installers. We qualify your needs and present you with a range of solutions from individual installer in your area. We work with the Solar Installer directly to design your system and also negotiate a fair price. Solar Monster will help you make an educated decision on your solar power system, so you get a solar system that adequately services your electricity usage.

Our difference is we explain everything to you in simply English to give you the peace of mind you need when going solar.

Solar Monster also can help pair you up with an electricity retailer that fits your solar configuration, making sure you are get a great feedin rate and sharp electricity rates if you need to buy from the grid.

The Solar Monster Team

Find out if solar is right for you?

Finding out if solar is right for you is very simple. Submit your details above to receive a pricing guide or give one of our brokers a call on **1300 383 031**. Our brokers will be happy to discuss all your needs along with providing a custom design for your home or business