



SOLAR 101

A comprehensive guide
to the confusing world of solar

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INTRODUCTION

The purpose of this guide is to give you some general information about the solar industry, the products we provide and how it will ultimately save you money in the long run.

In my 13 years within this industry, I have learnt a lot. I have seen the landscape change and solar become much more affordable for homeowners across Australia. This is undoubtedly a great thing, and I believe every home should be powered by solar in some capacity.

However, in my years of speaking to customers, I have noticed an increasing amount of distrust towards the solar industry as a whole. I chalk this up to dodgy companies with pushy sales-tactics, installing cheap products with no form of after-sales care or follow-up in mind. If you have done your research in this industry, I am sure you have heard the horror stories.

The purpose of this guide is to offer some credibility to my industry. To give you insight into the products we install, and why we recommend them. And ultimately, to make the confusing process of buying solar easier for homeowners and businesses across Australia.

If there is something I skim over in here, don't worry - either myself or one of our energy management consultants will be happy to provide any and all the information you need to make an informed purchase.

If you have a burning question to ask before we reach out, feel free to contact us via email or phone.

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BRETT ADAMS

SEM GROUP CO-FOUNDING DIRECTOR



SOLAR MISCONCEPTIONS

GOVERNMENT REBATES

Chances are you have heard of these, and it is a determining factor in why you are looking at getting solar. While these are still existent, there are common misconceptions about how much they work and how much cash you receive back on solar.

Small-scale Technology Certificates (STCs) are what people are referring to when they talk about a “solar rebate”.

STCs are calculated on how much energy your system will produce over a year and 99.9% of the time are given as a discount on your system by your installer at the point of sale and then claimed post-install.

For a standard **6.6kW system**, the claimable STCs (and thus your rebate) will be around **\$3500** - with larger systems claiming larger discounts.

Despite what you may have seen in pushy advertising, these government rebates aren't disappearing until the end of 2030. However, as they are getting phased out, they are **reducing by 10% every year** - so the earlier you buy solar, the more you will save in rebates.



I'M RENTING, CAN I GET SOLAR?

Short answer, YES. If you are renting or own a property in a complex, you can get solar but it may come with a few extra steps. This includes contacting body corporate for approval.

WHAT QUESTIONS YOU SHOULD ANSWER

There is no “one-size-fits-all” approach to solar. That makes it hard to sell without asking a bunch of questions. **If a site inspection isn't conducted or these questions aren't asked by someone trying to sell to you solar, alarm bells should start ringing.**

- **How much do you spend on power quarterly and what tariff are you on?**
(ideally they will ask for a power bill to best suit a system to you)
- **What is your roof made of?**
- **Can I get a photo of your meter box (and sub-board?)** (this is to view cable runs, and to determine if you need a meter-box upgrade)
- **Are you one single-phase or 3-phase power?**
- **How long are you planning on living in the house?**
- **Where would you like the inverter located?** (photos should be taken from around this area to view cable run)

CHOOSING AN INSTALLER

If you have come across this guide, chances are you are in the final stages of research and are in the process of choosing an installer.

Depending on your location, you could have 100s to choose from - and picking one is the most difficult part of the solar journey. When you've got 3 companies with 3 different quotes, on 3 different products, it can be hard to know who to go with.

There are some checklists you can mark off to make sure you don't become another statistic:

ACCREDITATIONS

It goes without saying, but you should check that the company you are dealing with is accredited to undertake the work they are quoting you on.

Check to make sure they are **Approved Solar Retailers**, hold an **electrical contracting licence** in your state/territory and are **certified installers/partners for the products** they are quoting.



WARRANTIES

Read the fine print! Warranties are the main reason the solar industry has gotten a bad name in the past 10+ years.

Sales companies sell a cheap system, it gets installed by a sub-contractor and when the system inevitably fails the customers are left in between two companies finger pointing without anyone fixing the leak in your roof.

Be sure the company you are dealing with has been around for a decent amount of time and have a sizable warranty. **SEM Group** have a installation warranty of **12 years**.

REVIEWS

Part of your research should be reading independent reviews from past customers of a business. This is the easiest way to learn from others mistakes.

Not all platforms are the same though and Google reviews can be bought from third parties - which is why I recommend SolarQuotes



To read our reviews:

[SolarQuotes](#)

Google: [QLD](#) / [NT](#) / [SA](#)



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SOLAR PANELS



solar**edge**

Q**CELLS**



Canadian**Solar**

When people think about solar, the panels is what they envision. Solar modules are responsible for capturing sunlight and turning it into DC electricity.

With so many different types of modules, manufacturers and sizes - choosing the right solar panel for your system can be difficult.

The main things you should be considering:

- Performance Warranties
- Product Warranties
- Possible Shading Issues



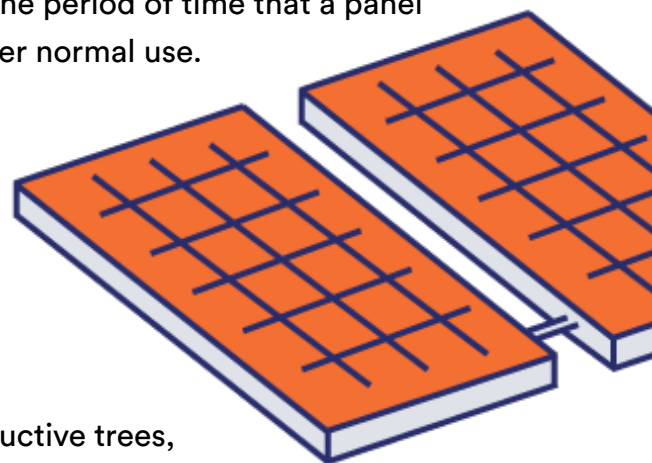
These should all be covered clearly in your quote and/or attached datasheet of the panel.

WARRANTIES

Performance Warranties - ensures a base level of electricity production is maintained during the panel's lifetime. Panel degradation is expected, and each panel's performance after 25 years differs greatly. For instance, **Canadian Solar** panels have a **83.1%** performance warranty after 25 years, while **LG's NeON H** has **90.6%**.

Product Warranties - a standard warranty that covers the period of time that a panel is covered from defects, malfunctioning or damage under normal use.

Home Insurance - if you live in a place that is susceptible to hail, it may be worthwhile notifying your home insurer to make sure your solar panels are covered in the case of damages .



SHADING ISSUES

If your home has considerable shading issues, like obstructive trees, the solar solution for your home should consider this.

The fix of this is either **power-optimisers** or **micro-inverters**. Unlike traditional string systems, if 1 panel is affected by shading losses, it doesn't impact the remaining panels' performance in that string.



INVERTERS

solar**edge**

Fronius

ENPHASE

SUNGROW

SMA

Often thought of as the “brain” of the solar system, the inverter is responsible for converting the DC electricity produced by the solar panels, into AC electricity that your home can use.

The main things you should be considering:

- Product Warranties
- Placement of Inverter
- Roof Orientation



SolarEdge
Energy Hub

WARRANTIES

Similar to solar panels, inverter manufacturers all have different warranty periods and terms. It is important that you are aware of all specifics of warranty periods.

For instance, **SolarEdge** inverters have a general warranty of 12 years, while **Fronius** have a 5 year warranty that is extended to 10 (5+5), but only if registered on Solar.web

PLACEMENT OF INVERTER

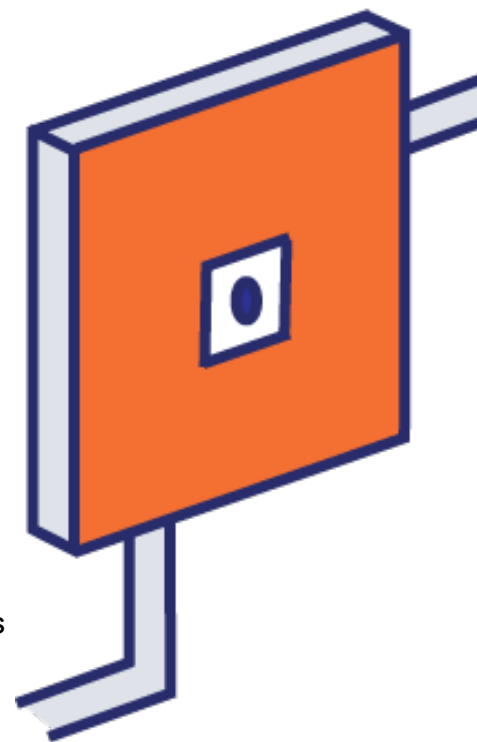
While the sun seems necessary in the solar installation process, one thing you don't want is your inverter placed like it is a panel. That means, you want to keep it out of direct sunlight. The inverter should be placed on a wall where it is kept shaded for the majority of the day.

If this isn't possible, a custom shade can be made to ensure your inverter operates efficiently. Certain models of inverters can also be noisy, so this should also be considered.

ROOF ORIENTATION

If you have a roof where panels will need multiple orientations, using the right inverter is essential. Without getting too technical, inverters use a device to get as much power from their panels as possible, known as a **Maximum Power Point Tracker (MPPT)**.

Panels that have different orientation (facing different directions) are absorbing different amounts of sunlight throughout the day. This means, to get the most out of your solar system, you require a **multi-string inverter** (inverter with multiple **MPPTs**).



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BATTERIES

TESLA

solar**edge**

What were once considered nothing more than a novelty or sign of status, **solar batteries** are becoming an increasingly viable option for people wanting to get more out of their solar.

The main things you should be considering:

- Incentives
- Future-Proofing
- Product Warranties

INCENTIVES

In addition to the federal solar rebates in the form of small-scale technology certificates (STCs), state governments can offer additional subsidies for solar batteries. The **Home and Business Battery Scheme** (HBSS) offers Northern Territorians up to \$6600 off the initial price of a battery, and SA's **Home Battery Scheme** offers up to \$2000 off. These are constantly changing and allocations are limited so it is best to speak to one of our consultants who can check your eligibility.

In addition to these government subsidies, several electricity retailers are offering incentives towards batteries for homeowners who join a **virtual-power-plant** (VPP). The idea is that retailers can discharge your battery several times per year during hours of grid instability to support local electricity networks. For a full breakdown of the VPPs on offer, [click here](#)

FUTURE-PROOFING

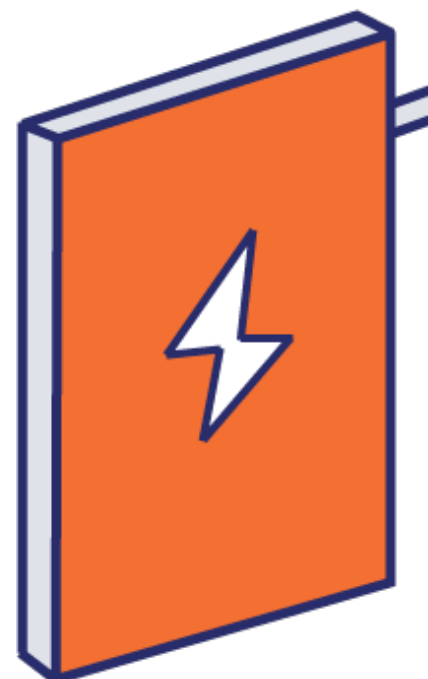
With changing peak-demand-charges, more and more households are looking to lock in what they pay for electricity. It is impossible to predict what you may be charged for power in 12 months time, but with a solar battery you can be locked in for at least 10 years.

WARRANTIES

As with every other component in a solar system, you should be aware of your battery's warranty period and ensure it falls outside of the payback period. In some cases, it may take longer to pay back the investment of a solar battery than the warranty is worth, and in this case it may be wise to reconsider.



TESLA
PowerWall2

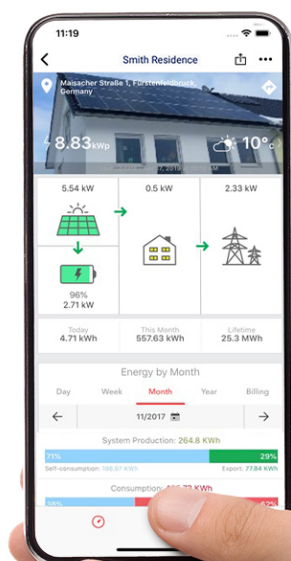


MONITORING



I recommend anyone that gets solar, gets monitoring. The ability to keep track of your consumption, how much energy your system is producing and how much you are exporting to the grid is a necessity in my eyes.

If no additional **smart meters** are added to your **SolarEdge** or **Fronius** systems, these apps only have limited use - not showcasing the 'nitty gritty' of your system's performance.



mySolarEdge

mySolarEdge

SolarEdge's smart monitoring platform, **mySolarEdge**, allows homeowners and businesses to view their system's production in real-time and compare it to past production. Not only does this allow for greater long-term tracking of trends, but the app can also be paired with smart home appliances which can be controlled on your phone.

Solar Analytics

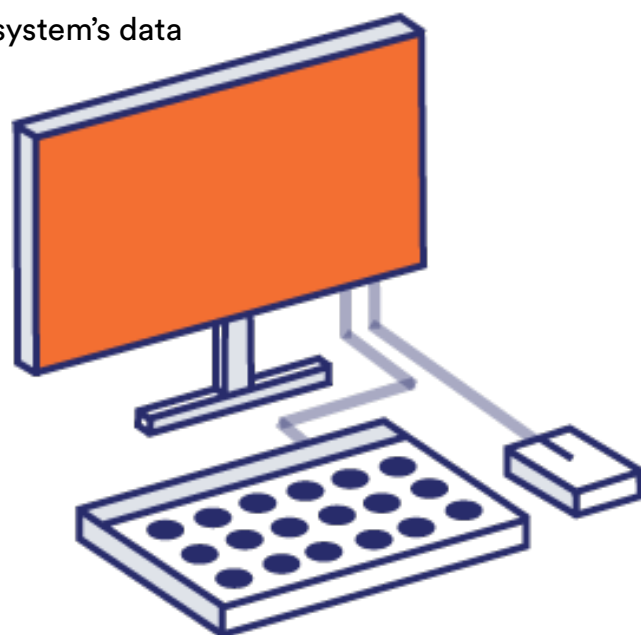
Unlike the two other options listed here, which are mere extensions of hardware from inverter manufacturers, **Solar Analytics** is a standalone product that doesn't operate on your home's Wi-Fi and comes with multiple subscription options.

Solar Analytics allows you to access insights into your system's data and presents it in ways that you care about - \$\$\$.

The app also comes with a feature that makes it easier to compare retailer's electricity plans based on your own household's latest electricity usage.

Fronius Solar.web

Getting a **Fronius Smart Meter** installed alongside one of their inverters will give you a more precise picture on your system's performance. This can help you target areas where you could be getting more savings - like running the dishwasher during the day.



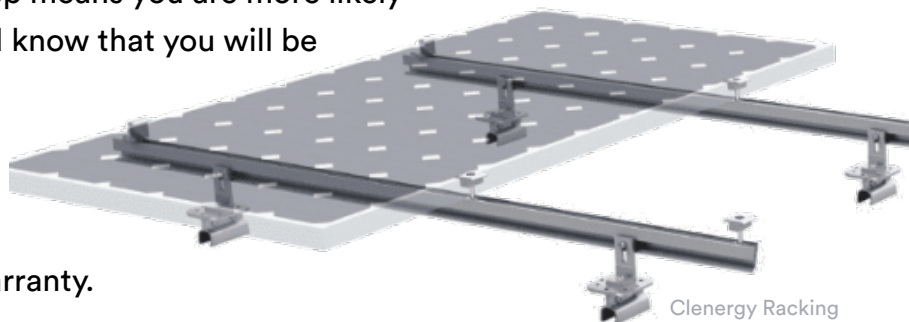
ADDITIONAL COMPONENTS



Easily the most overlooked parts of a system - both by customers and installers.
The rails, clamps, nuts and bolts that keep solar on your roof and not flying away with the wind.

Not skimping on quality at the last step means you are more likely to be protected from degradation and know that you will be covered during rough weather.

Clenergy PV Racking Systems are built to last as long as your panels produce power and have a 10-year warranty.



Clenergy Racking

WATCH AN INSTALLATION



We were chosen out of 100s of installers by SolarQuotes to showcase the process of a home solar installation. Click the video to watch it.



CONCLUSION

I hope this guide has given you some brief insight into the solar industry, it's products and where it is headed in the future.

The world of solar is constantly changing and we strive to always be on the cutting-edge through our partnerships. These better quality products allow us to give a better level of service and keep our customers happy for years to come.

The more companies and leaders in this industry can do to educate people about these topics, the more people will come to trust the solar industry again. To save on power, it isn't just as simple as putting panels on your roof anymore.

We look forward to working with you on whatever you have planned. Anything from a powerpoint to a complete a solar and ducted air-conditioning solution, we will be happy to help.



Presenting alongside TESLA at the **Build and Design Centre**



Kind Regards,
Brett Adams

