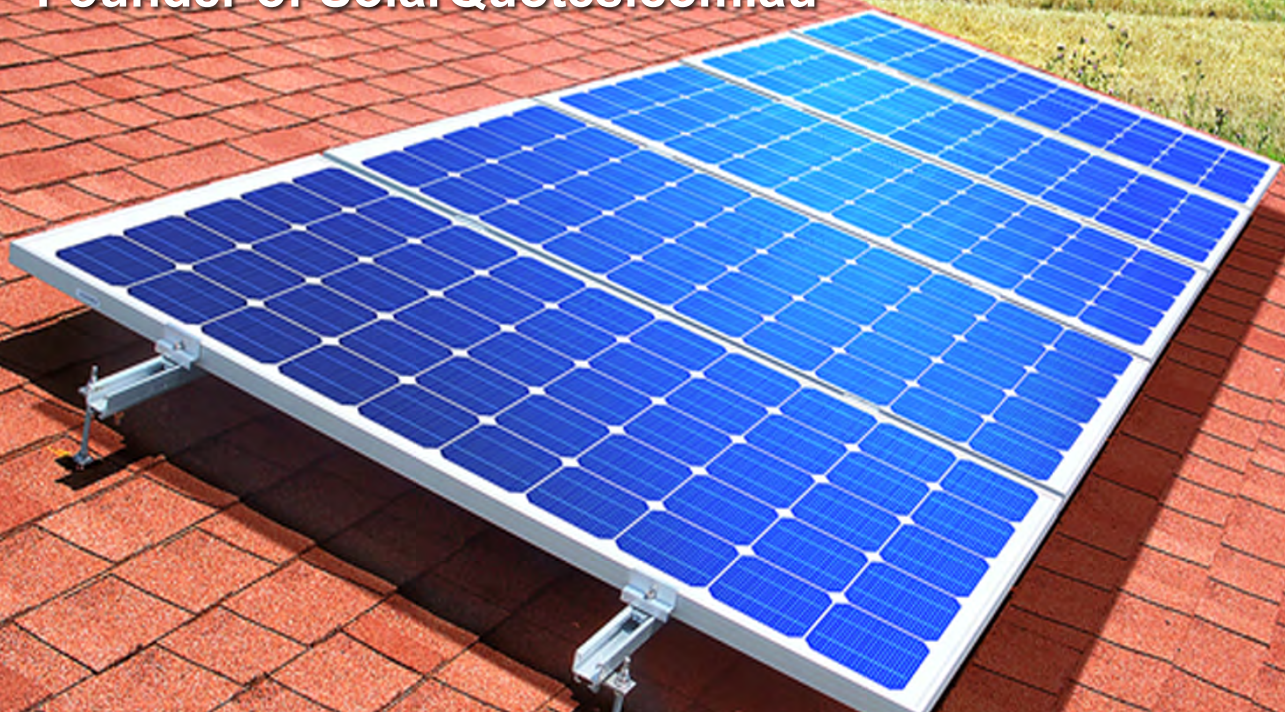


7 THINGS YOU MUST KNOW BEFORE GETTING A SOLAR QUOTE

*Learn the questions you MUST ask
before buying a solar power system*

By Finn Peacock
Founder of SolarQuotes.com.au



1

The truth about roof direction and angle.

Imagine you walk into a shoe shop and the assistant immediately starts measuring your head with a tape measure. You'd think she was mad, wouldn't you? And you'd be right, of course. Sometimes the basics are just self-evident.

If you need shoes, all the information you need is right there at the bottom of your legs. Same with solar power. No reason to start anywhere but right up there on your roof.

And there are **2 questions about your roof** that you have to answer right away before we move on to anything more advanced. And you'll soon see why...

Which direction does your roof face?

North facing roofs will give you the most power output. So, given the choice, most installers will recommend north facing panels.

But increasingly, people are starting to put some or all of the panels on west facing roofs too. A west facing panel will produce about 15% less power than if it faced north - so what's their logic?

They do it because west facing panels will generate their electricity later in the day (because the sun sets in the west). Most folks use more electricity later in the day, after the family arrives home from school or work. So for a majority of Aussie homes, west facing panels will make their solar production more in sync with their usage habits. This means the householders will consume more of their solar electricity in their home and export less to the grid.

Self-consumed solar electricity is generally more valuable than exported electricity. This is because your greedy electricity retailer will charge you about 35c per kWh to import (buy) electricity, but only pay you 6-10c per kWh to export (sell) it.

So naturally you want to maximise self-consumption of your solar. No one enjoys making electricity companies rich! And the benefit of more self-consumption often outweighs the 15% power loss. I discuss west-facing panels in more detail on the blog here:

<http://www.solarquotes.com.au/blog/solar-panel-orientation-is-west-the-new-north/>

Of course, some families may use more electricity in the morning. If this is the case, they should consider east facing panels – or, even better, they could be really smart and put some panels facing east, some facing north and some facing west to really spread the electricity generation out over the day.

South Facing Panels

If the only option available to you is to place solar panels on a **south, south-east or south-west** facing roof, be very careful as these can miss out on a lot of sun!

Be sure your installer performs a scientific analysis, puts the results in writing and shows it to you before moving forward. It has traditionally been unusual for south facing roofs to be suitable for solar, but as solar panel prices come down, it can now make sense in some circumstances.

So now you understand roof direction. Great! But there are other considerations of even greater importance. Keep reading...

Is Your Roof Flat?

One of the most common questions I get asked is, "Does the slant or angle of my roof (and therefore the slant of the panels) matter?" And the short answer is "No, as long as your roof isn't flat."

Angled panels do perform better than flat panels, but variations in the angle (Australian roofs run from 15 to 22 degrees) make very little difference in energy absorption (usually less than 1%).

However, flat panels absorb as much as 9% less energy than angled panels. You also need a slight angle (at least 10°) for the rain to run off and clean the surface. So, if you have an absolutely flat roof, and your installer does not suggest angling the panels, it's a bad sign.

For everything you'd ever want to know about roof pitch and solar go here:

<http://www.solarquotes.com.au/panels/angle/>

2 Shade and Solar Power

Is Your Roof Shaded?

This is a big one. Nothing destroys the efficiency of a solar system like shade - Not roof pitch, not roof direction, not clouds, not anything.

When it comes to solar power, shade is evil.

If your roof experiences significant shade from 9am to 3pm, and you're not willing to chop down those lovely trees, I'm afraid you're out of luck.

And if an installer tells you any different, you, my friend, are in the presence of a cowboy – a con artist, a dodgy installer, the Lord Mayor of Shonkytown.

“But wait!” you say. “What about ‘shade tolerant panels’?” No such beast. There are “low light panels” that can pull in more energy in areas that experience weaker sunlight, but these have nothing to do with shade! Beware if your installer starts talking about “shade tolerant” panels.

What if you have shade that is not “substantial”? Keep a look out for a device called a ‘SunEye’ or a ‘Solar Pathfinder’.

These devices can be plonked on your roof and within a few seconds they will take a 360° photo capturing anything that may cast a shadow on your roof. But that's not all! They then use their GPS to work out where you are on the globe, and calculate how much shade your roof will be in every hour of the year based on the sun's position above your roof over time. Pretty smart huh? The result is a number that tells you how much the shade will affect your solar production.

Once you have that number **you** can decide if the panels will generate enough power to be worth buying because you'll have numbers in front of you that you can rely on. I simply don't understand how anyone can quote a system for a shaded roof without the numbers from a Suneye or equivalent device. How can you possibly be expected to make a decision based on a Wild Assed Guess from an installer or salesperson without the necessary gear?

So if you have shade on your roof, and if you don't see such a device in your installer's hand, and you don't get a report based on the readings from the ‘SunEye’, and your installer won't guarantee the findings in the report....find an installer that will. And please don't believe the BS that they can work it out from a Google Maps picture of your roof. They can't.

Oh, and if you can't find a local installer with a SunEye, I've got one. Shoot me an email and I'll send it out to you. All I ask is that you send it back. My contact details are here:

<http://www.solarquotes.com.au/contact/>

And for everything you wanted to know about shade and solar (and then some), go here:

<http://www.solarquotes.com.au/blog/?p=433>

3 From the Roof to the Panels...Solar Hardware Tips

As you may recall, this small booklet is titled “7 Things You Must Know Before Getting a Solar Quote”. It's not titled “EVERYTHING Everyone COULD Know Before...”

If you want to know EVERYTHING you could possibly know about solar power, a great place to start is my blog:

www.SolarQuotes.com.au/blog

But that's not my purpose in this booklet. My purpose here is to get you the essentials. The foundations.

And that's why today I'm not going to bore you with detailed descriptions of every brand and model of every piece of hardware involved in a solar system.

No, today I'm just going to give you my “A to F” of Hardware. Not my “A to Z”! Let's go!

A. Ignore the “power output warranty”. Pure puffery. Manufacturers know that silicon solar panels do not degrade much over 25/30 years. So, a “25-year power output warranty” is just empty talk. Big deal.

The *warranty that actually means something is the **manufacturer's warranty on the panels***. The absolute best panels offer 25 years. The cheaper ones only offer 5 years. There's a reason for that! Insist on at least 10 years!

If you want to learn about the ins and outs of warranties from an industry insider please read this:

<http://www.solarquotes.com.au/blog/your-solar-panel-warranty-what-you-need-to-know/>

B. Not all Chinese panels are crap.

You hear this occasionally, and frankly I find it borderline racist. You may have reasons for not buying Chinese products - I'm not going to get into a geo-politico-economic debate on it. But as far as quality is concerned, some Chinese brands are just fine. Some are crap. And if you think “Chinese” means “low quality”, what do you think about your iPad or your Macbook Pro? Yep, made in China...and they're both pretty high-quality, sophisticated devices, wouldn't you say?

C. If you're wondering about a particular brand, the safest way to ensure you get a reputable brand is to check it is a "Tier 1 panel".

There are thousands of solar panel manufacturers and about 2 dozen of them are Tier 1 manufacturers. The safest bet is to get a Tier 1 panel. I discuss panel tiers in great detail here:

<http://www.solarquotes.com.au/blog/tier-1-solar-panels-sold-pup/>

(And just to be clear - You can get some great panels from Tier 2 manufacturers, but you really need to know your stuff to identify them - so if you are unsure, Tier 1 is by far the safest way to go! Anything else is a lottery.)

If you want to know if a panel is a Tier 1, and don't want to take the salesperson's word for it, shoot me an email at finnp@solarquotes.com.au and I'll let you know if the brand you've been quoted is up to snuff. I'm not going to list them all here because a) it changes and b) the report that lists them in an Australian context cost me \$4,000! If I published the results the report's author would kill me. And I quite like being alive.

D. One more thing on brand/model: If the installer won't tell you the panel brand, run away!

E. The panel's efficiency rating isn't everything! Don't get me wrong, panel efficiency is very important, but buying the most efficient panels usually means buying the most expensive. If your main priority is to get the most electricity from your panels for the least cash outlay, then the number you should probably be looking at is "\$ per kWh per year".

Here's a simple outline for how to minimise initial cash outlay while maximising electricity:

<http://www.solarquotes.com.au/blog/how-important-is-efficiency-when-choosing-a-solar-panel/>

F. Finally, I'd just like to reiterate, if you want **my honest, personal opinion on a panel brand** that you have been quoted – email me (finnp@solarquotes.com.au). I may take a few days to get back to you but *I will get back to you*.

Note: You might be wondering about that other major piece of hardware, the inverter. Keep an ear open for this line: "You should buy a larger inverter so you can expand your system later". Inverter prices are dropping all the time. By

purchasing a larger one NOW you might actually be spending MORE money than if you just wait until the prices drop. Don't pay extra for a larger inverter than necessary unless you are confident you are really going to add panels in the short term. Go here to get the full scoop on all things inverter:

<http://www.solarquotes.com.au/inverters/>

Finally - you may be quoted on a new type of inverter called a "micro inverter". These are becoming more popular all the time. Like most things, they have pros and cons, which I go into in great detail here:

<http://www.solarquotes.com.au/inverters/micro/>

4 Let's Go Cowboy Hunting

From my experience of the Aussie solar industry (8 years and counting), I've discovered that most installers are very decent people who are very committed to solar energy and making sure that every installation they carry out is one that will perform for decades. But, as I mentioned earlier, wherever there are large sums of money you'll find a few cowboys looking to make a score. There aren't many of them out there, but the few bad apples make it harder for the honest majority. Here are a few tips to see them coming before they move in for the kill:

Check out how they've treated other customers...check their rating here:

<http://www.solarquotes.com.au/installers/>

Here at SolarQuotes we follow up with all our users who "Get 3 Quotes" for solar and ask them to rate their chosen solar installer if they went ahead and installed a Solar Power System - whether it was an installer they were referred to by SolarQuotes or not. Every installer worth his or her salt is listed and rated here. If you can't find the installer reviewed here, run away!

See if they've been "outed" as a cowboy on whirlpool.net.au. This is a great no holds barred solar forum.

Finally, an unbelievably low price is often the mark of a cowboy. Perhaps you've seen newspaper ads that say "\$[insert stupidly low price] Fully Installed". I've seen these. And if you've ever wondered how they do it...well, here's a quick list of some of the corner cutting and additional hidden fees they can (and do) use to get to that price.

- a) They don't arrange to connect the system to the grid. You have to do all the paperwork.
- b) They use dirt cheap, low-quality panels obtained on the "spot market" in China.
- c) They use dirt cheap, low quality inverters.
- d) They subcontract the installation at a rate that virtually ensures that corners are cut.
- e) They plan on installing loads of systems and then disappearing so they don't have to put any cash aside for warranty claims or customer support.

For a full analysis of all the tricks, read this post...

<http://www.solarquotes.com.au/blog/?p=234>

5 What Will The Government Pay?

Note: The current government is threatening to scrap the rebate. This info is correct at time of writing (Nov 2014) - but for the latest info check my website at:

<http://www.solarquotes.com.au/panels/rebate/>

The most frequent question about solar that I hear is “How much will the Government pay?” Or, with a slight variation, “How much will a solar system cost me after the government rebates?”

Here's the quick and dirty answer (November 2014 Prices)...

Typical cost of an installed 5kW solar system:	\$10,000
Approx Government Rebate:	\$4,000
Cost to you for 5KW of solar power:	Approx \$6,000

The Rebate (AKA STC's) is worth approximately \$800 per kW.

That means that your rebate for every extra kW you buy will be about \$800. This rebate does change due to the price of things called STCs (which stands for ‘Small-scale Technology Certificate’) that, like shares, change value as demand for them rises or falls. \$600 per kW is based on a STC price of approx. \$30 per STC.

If you are interested in how and why the solar rebate scheme and STC pricing system works, then everything you need to know is here:

<http://www.solarquotes.com.au/panels/rebate/>

6 How to Spot the Landmines in Your Solar Contract

Albert Einstein once said that if you can't explain a complex concept in simple terms, you just don't understand it.

When it comes to solar contracts, if the installer can't write a contract that is simple to understand, then he's probably incompetent, trying to hide something, or both.

So, the first thing I ask when evaluating a solar contract is, "Is this simple and straightforward? Or is it a bunch of confusing legal-ese and gobbledegook that goes on for pages and pages?"

Don't be afraid to say, "I'm not signing this, it's too confusing".

3 Cockroaches and One Big Rat to Exterminate...

Cockroach 1: Contract requires a big fat deposit. **Don't pay it!** Pay a small deposit (5-10%) and don't pay the balance until the hardware is installed and you're completely satisfied.

Cockroach 2: Contract does not mention connecting you to the grid. Some installers include the 'new meter' fee in their quote, others don't. But either way they should be upfront about this from the beginning. If they don't include this cost then they should, at the very least, arrange it all for you (through your local electricity distribution company) and advise on the cost (usually \$300-\$500).

Cockroach 3: Contract does not guarantee a specific kWh production. Get it in writing!

THE BIG RABID RAT...

Here's one of my favourite cowboy tricks: They quote a jaw-droppingly low price in the newspaper then they use small print to continue to charge you for years to come....

Here's to spot them and stomp them...

How to Foil "Rat Method Numero Uno": The annual maintenance clause

Read the contract carefully to find out if they attach any conditions to their installation guarantee. Some of the big, cheap firms out there are telling their customers they have to pay an annual or bi-annual "maintenance fee" of hundreds of dollars to keep their warranty. Don't agree to this - it is not required. All warranties should stand without any extra cash from you down the track.

7 What Does a Professional Solar Install Look Like?

I'm guessing you've never watched a solar installation. No reason you ever should have. There's probably something a little odd about you if you have watched a solar installation, since a solar installation is not exactly "The Empire Strikes Back".

But, I filmed one for precisely that reason.

I filmed this video of a professional solar installation for you because, if you've never seen one, you won't know what to look for when they come and start crawling around on your roof. You won't know how to tell a good install from a shoddy one. So, even though you haven't made your final decision about solar power, or about the installer you'll use...if you watch this quick video now, and familiarise yourself with the 19 Quality Install Tips, then you can keep it on file to pull out if/when you do have solar installed.

The video is here:

<https://www.youtube.com/playlist?list=PLEBCA3F91F9A9A457>

8 Finally – be aware that the payback of your system depends on when you use your energy.

If your solar installer does not ask you how much energy you use and what times of the day you use it – then they cannot calculate the payback of your system with any accuracy. The reason why is quite longwinded – but I explain it all here:

http://www.solarquotes.com.au/how-does-solar-power-work/how-is-energy-used/?utm_source=facebook&utm_medium=ebook&utm_campaign=7things

And as a footnote - when you get your quotes for solar and have a good read, you'll notice mention of both kW and kWh. If you understand what these are - that's great, but I've noticed over the years that there is a lot of confusion out there about what these terms really mean, and in particular the difference between a kW and a kWh. You can't really understand a solar quote without knowing this, so I've explained it all here:

<http://www.solarquotes.com.au/blog/kw-and-kwh-what-is-the-difference/>

Trust me - understanding solar power and how it relates to your electricity bills will be a lot easier after reading that link!

So there you have the 8 things (I know I promised 7, but I got carried away!) you should know before getting a solar quote. Hopefully you now have enough

knowledge to choose the best quote for solar power from the bewildering array of solar companies out there!

If you want a quote from 3 local companies that I trust, then you can do so at my website:

www.SolarQuotes.com.au

Happy Solar Power Hunting!

Finn Peacock

Finn Peacock, Founder of www.SolarQuotes.com.au