



# BUYING SOLAR?

The **TOP 10 TRICKS** of the solar trade you need to know, before you spend money on “cheap” solar

Poor quality solar panels and inverter on their way to the tip.

Close to

**1 MILLION**

local panels have already taken this path in Australia over the past 10 years.



NOW with 4 pages on  
**How To Find  
A QUALITY  
INSTALLER**

The fundamental flaws in the Australian solar industry, leading to significantly reduced environmental benefits, compared to what the public expects and pays for via higher electricity prices

## PART 1

Also look for Part 2, 3 and 4 on  
<https://solarscams.com.au/>

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# Is our solar industry broken?

**Buy quality solar equipment from local companies that sell on long term and environmental benefits, rather than on price only. Also check that the company have been in business for a at least 5 years, and preferably a decade.**

When one works in the renewable industry and believes there is an issue with climate change and sees the political reality without clear policy then one could start to feel a bit down.

Instead of coal versus renewable, why do we not recognise that coal in the past has done some of the economic heavy lifting for Australia, and that there has to be a transition – just like steam power gave way to the combustion engine - coal over time will need to be replaced by cleaner technologies. But it does not need to be one or the other or right now, it might have to be for now – Coal becoming less over time as Renewables grow.

Some aspects of politics makes a lot of positive noise about renewables, solar in particular. Over 2 million households have installed solar, but there are some fundamental flaws in the way the solar business is conducted in Australia today. Often leading regularly to poor outcomes.

**Australia is not alone with solar scams – here is what happens in the US.**

**<https://www.youtube.com/embed/GL8N5-T9IKs>**

After you read all the various ways cheap, poorly built renewable energy product has managed to earn millions from unsuspecting Australian consumers; you have to remember that some of the cheap solar proprietors moved straight over from the Insulation Rebate debacle after it was closed down.

Solar attracts a healthy subsidy and it is perceived as “free money”. This can attract a certain type of unscrupulous operator, when it comes to mass marketing solar. I am not taking about the hardworking local quality focused installation companies, but the mass marketing operators selling “Tier 1” and long sounding - but worthless warranties.



## PROPOSED SOLUTION

The solar industry urgently needs a round table of industry leaders forum from manufacturers through to installation companies and government bodies to come together soon and fix a renewable industry that has been getting invaded by scammers.

# Misleading & Worthless 25 Year Performance Warranties

All Solar panels come with a standard product warranty (often 10 years ) and a performance warranty (usually 25 years). The performance warranty gives the customer the false impression they have a meaningful long-term product-related warranty, and is often confused with the significantly shorter product replacement warranty.

**The performance warranty offers no protection when the panel completely fails,** as this is a product warranty matter. The onus of proof rests with the customer to claim & prove a performance warranty at their own expense, which is often more than the warranty pay out. The reality is that this diminishes it to a sales tool that can ultimately mislead customers.



Customers are made to believe they actually have a solid proper 25 year warranty via the performance warranty – but this is not the case.



Verdict: **Highly Misleading**



## PROPOSED SOLUTION

Call it a performance guide and not a warranty to avoid confusion with the real product replacement warranty – which is a separate warranty for solar panels.

# 2

## Tier 1 Label Sales Lies

A term developed by Bloomberg \*NEF to rate panels which have been used in at least 6 solar farms with different banks in the past 2 years. The term has no relation to the building quality of product or financial stability of the manufacturer. Bloomberg itself says: ***“(Tier 1) classification is purely a measure of industry acceptance and there are many documented examples of bankruptcy of Tier 1 manufacturers.”***



Here is what Bloomberg actually says:

**We strongly recommend that module purchasers and banks do not use this Tier 1 list from Bloomberg as a measure of quality, but instead consult a technical due diligence firm on whether the modules will perform as expected.**



Verdict: **Highly Misleading**



### PROPOSED SOLUTION

If Tier 1 is to be used in marketing a mandatory asterix (\*) is to be inserted that states – \*Tier 1 is not a label of build quality or financial stability of the manufacturer. Tier 1 is a reference to solar farm activities of this manufacturer.



More info can be found here:

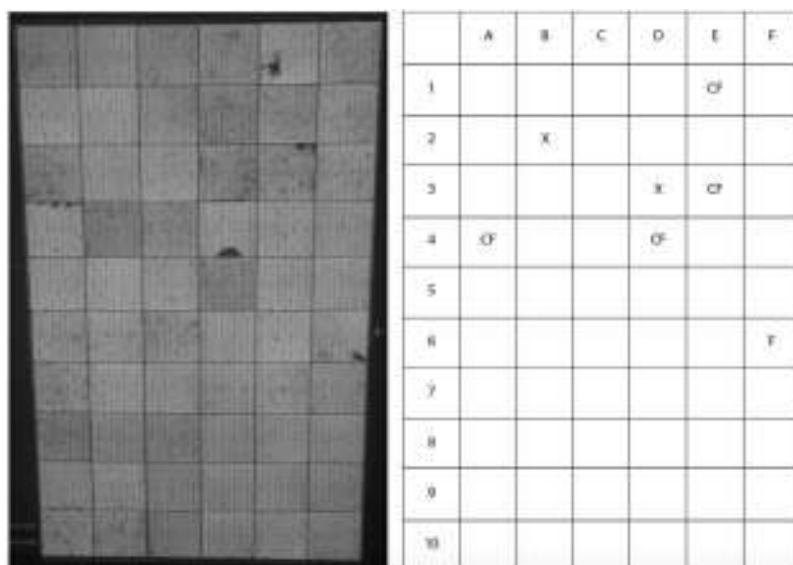
<https://review.solar/tier-1-solar-panels/>

# 3

## Poor Quality Panels



Not all panels are the same. Below is the Electro Magnetic (EL) image by PV Lab Canberra of a new panel purchased recently from the industry, prior to install. The brand new panel came off a pallet and panel was found to be full of micro cracks, which were identified as critical failure points for the future. Overall the quality of cheap solar panels is patchy at best and consumers regularly do not get what they expect or pay for.



**CF** in the image means **CRITICAL FAILURE** in this particular solar cell.



### PROPOSED SOLUTION

Regular in the field testing of new product destined for the consumer and deregistration of poor quality equipment.



# 4

## The “Golden” Panel Issue

Some solar panel manufacturers create limited high quality panel and inverter models with the only purpose being to pass industry standards in long term testing. However the quality of the product imported by third parties, and sometimes even by the manufacturer sold under the same brand and model, has significantly diminished in quality, which can significantly diminished in quality, which can lead to early failure.



**Verdict: Potential low generation, rapid degradation & early failure. Customer disappointment with solar in general.**



### PROPOSED SOLUTION

Mandatory random quarterly “blind” purchase of panels across all brands. Where a manufacturer is found to have supplied panels at a different quality level to what was approved by the Clean Energy Council, the manufacturer is to be penalised with permanent deregistration of this panel model for sale in Australia.

The Clean Energy Council (CEC) in late 2017, during panel testing found that:



**78%**

were under powered and did not produce the watts that they were rated for



**45%**

had substituted components different or inferior to what manufacturers claimed they were made from



Out of 30 manufacturers tested, **5 averaged over 20 micro-cracks per panel.** A quality solar panel should have zero micro-cracks, micro-cracks will over time lead to panel failure.

Read more via: <https://www.solarquotes.com.au/blog/solar-panel-quality/>

<https://www.solarquotes.com.au/blog/sse-inverter-delisting-mb0927/>

# 5

## Fake Panels

In the past, there have been issues in Australia with counterfeit solar modules. When these modules failed on the roof not long after installation, the real manufacturer identified these products as fakes.

As a Australian distributor of solar panels one can ring solar panel factories and just like fake handbags or Sunglasses you can be asked to nominate a brand that you seek to purchase. These factories will then generate this “brand” even with fake labels and brand insignia. The cheap “fake” panels will be purchased by unsuspecting customers, who will get far less than they expected.

Read more at: <http://www.cleanenergyregulator.gov.au/RET/greenbank>

<https://www.energymatters.com.au/renewable-news/cer-solar-panel-validation-initiative/>

<https://greenenergytrading.com.au/news/detail/fraudulent-creation-of-stcs>

**Fake panel - or real deal?** How do customers know they are purchasing a genuine branded solar panels and not a fake? A mandatory serial validation program can achieve this.



**Verdict: Potentially inferior solar panels and poor end customer outcome**



### PROPOSED SOLUTION

All solar panels imported into Australia to have unique serial numbers. The Clean Energy Regulator has started a voluntary scheme to register all genuine panels coming into Australia. As serial numbers are captured during the rebate registration process it would be straight forward to identify fake solar panels. As the Serial Number Validation Program is a voluntary program, fake panels currently slip through the net. **The program has to become mandatory immediately to reduce fake, low quality solar panels coming into Australia.**



# 6

## The “Go Bust” and Leave Your Customers Stuck Scam

The companies advertising cheap solar systems either via door knocking companies or the internet often follow a simple business model.

Sell cheaper quality equipment, for example inferior panels with higher rate of degradation with what appear to be long warranties for a cheap price. Make it sound like solar panels and inverters are all the same and then claim the solar rebate on the installed system.

Unfortunately, the cheaper equipment often does not pass the test of time as the Australian

sun is harsh and generates high temperatures in summer. So in a relatively short time, around year 4 and 5 the cheap systems may develop issues from delamination to hotspots or water ingress – despite a 25 year performance warranty.

So when the solar systems stops working and the customer calls up the company to get the warranty upheld, the customer unfortunately find that the initial installation company has closed their doors. This is often because the number of warranty related calls now overshadow new sales calls and declare the company

Since 2011, more than 700 solar companies have closed, that more than 600,000 homes solar systems unsupported. **Lesson: Use a local trustworthy company, who use high quality equipment.**



bankrupt. Companies like Euro Solar, True Value Solar, Beyond Building, Solar Shop at one time or another were the biggest installer of cheap solar and many are no longer in business.

Overall since early 2011, more than 700 solar installation companies have closed and left more than 600,000 homes solar systems hanging unsupported with no warranty. Often these systems have such poor equipment installed that they are beyond repair and end up in land fill.



### PROPOSED SOLUTION

Grant the rebate only once per household/home, therefore if one purchases poor quality - they do not get “rewarded” by being able to double or triple dip into the rebate program.



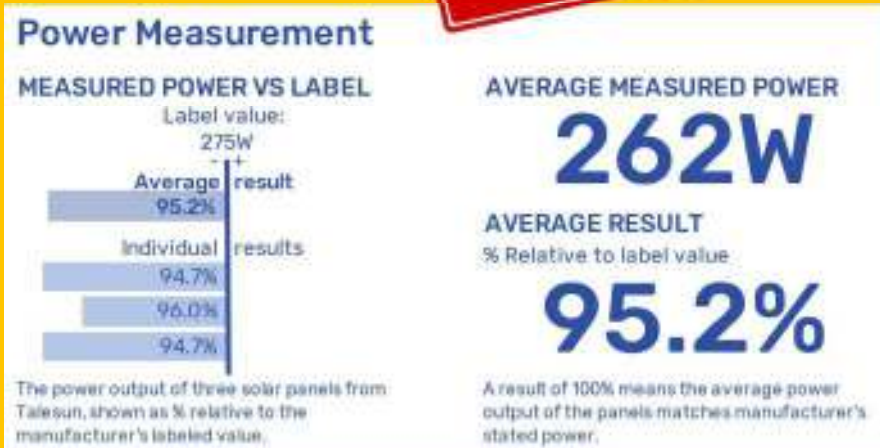
# Underperforming Solar Panels

**FALSE**

All solar panels come with a panel rating e.g. 310Watts. This rating means that a panel\* produces 310Watts if a 1000W per m2 light hits the panel. Unfortunately too often cheaper panels do not produce as per the name plate wattage and produce significantly less, meaning the customer's system will not produce the electricity that the customer expects. Such underperforming panels overtime are likely to degrade further producing increasingly a lower and lower output and reducing earning capacity of such systems.

In a test undertaken by Choice magazine and the CSIRO in Newcastle in 2016 out of 15 panels – 13 had lower wattage than stated in the nameplate. Only LG panels and one other brand had equal or higher wattage than stated in the name plate.

*\*in Australia light levels vary from 500W per m2 to 850W per m2 depending on area and season.*



Above is also a recent test result from PV Lab in Canberra showing a similar issue with three 275W labelled panels, producing an average output of only 262W only – being close to 5% less than the end customer expects and paid for.



**Verdict: Potential lower financial outcome for customer than expected**



## PROPOSED SOLUTION

Mandatory monthly in the field purchase of the key panels on offer and deregistration of panels for sale in Australia, where manufacturers have regularly supplied panels at lower nameplate than claimed on the product.

# 8

## Door Knocking Solar Sales Often Create Poor Consumer Outcomes

Some solar sales companies use aggressive door to door sales tactics targeting the vulnerable, such as pensioners. Solar appeals to retired Australians as it offer an opportunity to reduce the long term cost of living via reduced electricity bills. There are many documented incidents of pensioners having been sold low quality solar at vastly inflated prices via door knock tactics. This gives solar companies in general a bad name.



**Verdict: Door knocking solar sales target vulnerable Australians**



### PROPOSED SOLUTION

Ban door knocking sales opportunities for solar systems.



# 9

## One Qualified Solar Designer Signing Off For the Lot

Large volume budget solar companies invariably use cheaper, less qualified labour such as apprentices, backpackers, overseas visa holders and labourers to undertake installations.

One approved installer with the appropriate qualifications then signs off the paperwork as if he/she conducted all the work (sometimes not even having attended the site)



**Verdict: Poor quality, dangerous, unsafe and potentially underperforming solar installations**



### PROPOSED SOLUTION

Mandatory independent inspection and sign off on every installed system. Solar systems are an “electricity power station” on homes and businesses, which if installed poorly can generate risks. In Tasmania, Victoria and Northern Territory for example poor quality solar is anecdotally less prevalent. Both of these areas insist on a State Government regulated final system inspection for each installed solar system.



# 10

## Small Print Clause About The Chosen Equipment

Some less scrupulous solar companies have small clauses in lengthy contracts that allow solar panels and inverters to be switched to “similar equipment”. The best equipment is advertised in the marketing, but then switched prior to install to cheaper equipment under reasons such as: “We could not get the specified equipment from the distributor”.



**Verdict: Solar sales are not always conducted in good faith**



### PROPOSED SOLUTION

Develop a solar industry supported mandatory code of ethics, with stiff penalties for breaches.

The solar industry in Australia needs a mandatory industry code of conduct, regulated by the Clean Energy Regulator





# The Final Chapter

**Choice Consumer Magazine** recently wrote a number of articles about dodgy solar and also the **Victorian Consumer Law centre** prepared a 70 page report outlining consumer issues of the solar industry. **They key issues they identified were:**

- Early failings in cheap solar installations or grid connection;
- Inappropriate or unaffordable finance being offered to purchase solar systems;
- Misleading and high pressure sales tactics in the context of unsolicited sales;
- Cheap product developing product faults and poor performance;
- Lack of affordable and easy to access dispute resolution;
- Many business closures; avoiding warranty obligations;
- Poorly structured Solar Power Purchase Agreements

[https://consumeraction.org.au/wp-content/uploads/2019/04/1904\\_Sunny-Side-Up-Report\\_FINAL\\_WEB.pdf](https://consumeraction.org.au/wp-content/uploads/2019/04/1904_Sunny-Side-Up-Report_FINAL_WEB.pdf)



# The Solar Industry - A Final Snap Shot

- Residential solar systems installed - Over 2 million since 2007
- EST Solar Installation companies in Australia in 2019 - Over 3500
- Solar companies having gone bankrupt since 2011 – Over 700
- Solar systems with limited or no warranty - Over 600,000
- Solar panel manufacturers who left Australia after selling panels with 25 year performance warranty since 2013 - Over 350 different companies
- Solar panels not registered anymore on the Clean Energy Council approved panel list since 2014 - over 20,000
- No mandatory testing of solar panels installed in the field on a regular basis
- Rebates paid to solar since 2007 - via increased electricity prices - Over \$8 billion
- No significant solar panel and inverter recycling scheme operating in Australia

**Four year old failed panel  
with water ingress**





**Failed solar panels stripped of framing in warehouse waiting for disposal**



# How to Avoid Cheap Solar & Choose a Quality Solar Company

STEP  
01

Look for product with a 25 product replacement warranty for panels and a 10 year warranty minimum for the inverter solution.

STEP  
02

If it is very cheap eg less than \$6,000 for a 6.6kw you will be buying equipment with a serious risk in regards to long term support and longevity.

STEP  
03

Buy major brand equipment, from local companies, as these companies are more committed to the local market.

STEP  
04

Longer lasting systems give greater long term financial returns over the long term.

STEP  
05

Avoid door knockers and cold calling, avoid “interest free” finance, if you need finance the cheapest interest is often your mortgage redraw. Some state Governments also offer interest free loans.

STEP  
06

Set yourself a budget. Even with the rebate, a high quality system with 6.6kw of panels should not cost \$4000, but \$8,000 plus. Top quality systems will in usual electricity usage pattern for a family of approx. 60% self-consumption return \$1500 to \$1800 per annum, as long as inverter solutions are kept in working conditions.



STEP  
**07**

Pick a local company who has been around for at least 5 years. Clean Energy Council Accreditation alone is no guarantee for a quality install. Local companies will be quicker to fix issues in the future than sales companies who use subcontractors and have their head office far away.

STEP  
**08**

Do not pair a quality inverter with a cheap panel - both items should be high quality - to have low long-term issues.

STEP  
**09**

The LG Electronics dealer network has a reputation in the industry of only attracting the better installation companies to deal with direct. They can be found via <https://www.lgenergy.com.au>

STEP  
**10**

Ignore the free panels, long warranty, low cost advertising - too many companies offer this and then disappear soon after the install.

STEP  
**11**

If you have a friend who has had a system for 4-5 years with no issues - ask them for advice who they used;

STEP  
**12**

Ask for a site inspection. Often the slightly more expensive quote, will actually use the better gear, meaning you get a better outcome;

STEP  
**13**

If the quote is handwritten or only a few pages, then you are not getting enough information as to what you are buying. A solid solar quote mentions likely system output, where the product is made, major brands and product replacement warranty details and detailed panel advantage descriptions.

STEP  
**14**

Ask about the system handover - how long, what will you be shown, what paperwork will you get? Will the installer supply you with all the panel serial numbers - which can be useful for a claim.

STEP  
**15**

Read the small print and challenge clauses that you are not happy with - cross them out and initial.





**STEP  
16**

Where is the inverter solution being installed? Avoid direct sunlight as this can affect inverter life span.

**STEP  
17**

Do not give in to artificial deadlines or special offers, which are designed to get you to make a decision fast. Ask the company who does that to stop contacting you and give your business to the company that does not apply pressure sales tactics.

**STEP  
18**

Save roof space and buy higher efficient panels as in the future via batteries and electric vehicles - you might want to expand a solar system.

**STEP  
19**

Long term warranties on the panel and inverter are usually transferable, meaning you have after 10 years, still 15 year warranty on some high quality product, meaning you added value to your house with brand equipment, which can then be advertised in the “house for sale” advertising, together with the Blue Haven Pool, the extra bathroom or the Miele appliances. Quality solar adds value to your house.

**STEP  
20**

You quality system will make you money, so if you sell the house after 10 years and the system made you \$1600 per annum, you can promote a likely future income stream backed by warranty of at least: 15 year warranty remaining x \$1600 = \$24,000. That’s an additional income each year.





Choose **quality** for a **peace of mind solution** -  
pay a bit more and have a lot less hassle in years to come

