



# Greenbank

## SOLAR

We Are The Business September 7th

Solar, Solar Air conditioning, Batteries, Energex regs, Tax, ROI and why every business needs it.

# **SOLAR**

- Budget
- Good
- Better
- Best

# Budget

- Heavily marketed
- Mainly sold by sales companies
- High pressure sales
- Sold on premise of removing your bill and huge warranties.
- Price driven 50c / watt average



# Good

- Absolute minimum suggested
- Does support their warranty somewhat
- Price range marketed 80c / watt average

**LONGI**  
**Solar**



**CanadianSolar**

**SUNGROW**

# Better

- Well warranted products
- Sold by reputable businesses
- Not price driven \$1.10 a watt average



# Best

- Top of the market
- Great back end
- Well warranted
- Retailer must have strong knowledge to sell and back the products  
\$1.40 /watt average



# Solar Air Conditioning

- Another great option is solar air conditioning
- Turns on when sun up, turns off when sun down
- A Larger power user can do solar and solar air conditioning and cut their power costs way down.
- Huge marketing benefit for your business with net zero 2030 on the horizon
- Check out or working model in the car park

# Batteries

Batteries are a hot topic at the moment

Do you, don't you?

Are they viable?

Cost vs ROI vs Quality and expectations

What to look for in a battery solution.


Ac coupled dc hybrid

What does round trip efficiency mean



# Tesla Powerwall specs...

## PERFORMANCE SPECIFICATIONS

AC Voltage (Nominal)	230 V
Feed-In Type	Single Phase
Grid Frequency	50 Hz
Total Energy <sup>1</sup>	14 kWh
Usable Energy <sup>1</sup>	13.5 kWh
Real Power, max continuous <sup>2</sup>	5 kW (charge and discharge)
Apparent Power, max continuous	5 kVA (charge and discharge)
Maximum Supply Fault Current	10 kA
Maximum Output Fault Current	32 A
Power Factor Output Range	+/- 1.0 adjustable
Internal Battery DC Voltage	50 V
Round Trip Efficiency <sup>1,3</sup>	90% 
Warranty	10 years

<sup>1</sup>Values provided for 25°C, 3.3 kW charge/discharge power.

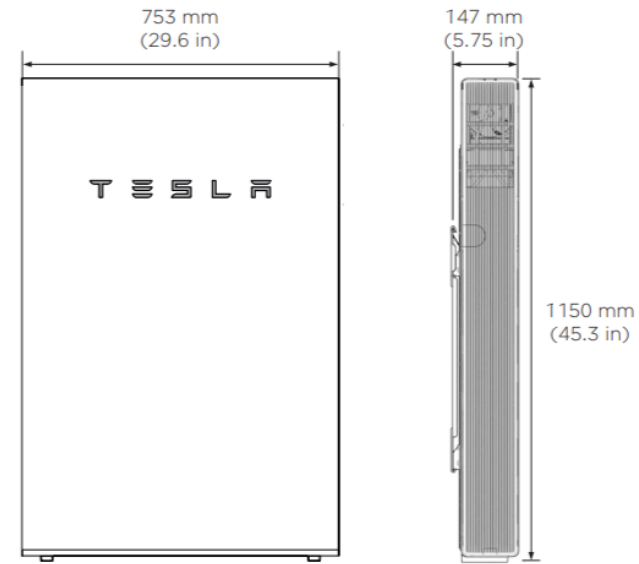
<sup>2</sup>In Backup mode, grid charge power is limited to 3.3 kW.

<sup>3</sup>AC to battery to AC, at beginning of life.

## MECHANICAL SPECIFICATIONS

Dimensions <sup>1</sup>	1150 mm x 753 mm x 147 mm
Weight	114 kg
Mounting options	Floor or wall mount

<sup>1</sup>Dimensions and weight differ slightly if manufactured before March 2019. Contact Tesla for additional information.



# ENERGEX

- What are the rules with export?
- What is a GSD?
- Demand pricing

# Export Rules

- Put simply 5kw per phase
- Single phase up to 5kW
- 3 Phase up to 15kW
- CAN BE LIMITED FROM 0 to 5kW depending on site and transformer capacity.

# GSD – General Signalling Device

- A GSD must be fitted to ANY site with an inverter capacity over 9.9 kW
- The general signalling device is a pulse controlled on off switch for your solar
- The GSD is designed to shut down solar if the DNSP has an over supply in power.

# Demand pricing

- Demand is being introduced as meters are being upgraded
- Demand is a charge ON TOP of existing usage
- Demand is a snapshot of your power between 5pm and 9pm taken at half hourly increments
- The largest amount of usage in any half hour increment over a month becomes that months demand amount. It is then multiplied by 2 – to give hourly, then multiplied by how many days in that month.
- Say 3kW x2 x31 183kWh demand, pricing say 20c \$36.60 that month!

# TAX

- TALK TO YOUR ACCOUNTANT
- Solar is a tax deduction for your business
- Chattel mortgage – claim your payments

# Now the fun bits! Return on investment

- Businesses run 9 to 5 Monday to Friday – Through sunshine hours!!
- Say your bill is \$1000 a quarter
- \$140 of it is service charge \$860 is usage
- That's about 40kW a day weekdays – 12kW system say \$14000 buy price or roughly \$50 a week over 7 years – power at 30c is \$66 a week
- \$16 a week in savings straight up, plus tax deduction.
- Solar makes sense

# What you see is not always as good as it looks

- Because you don't install solar every day, you see nice clean photos and think it must be good.
- The problem is, there are a lot of standards to be met when installing solar.
- Exclusion zones
- Clamping zones
- Compliance



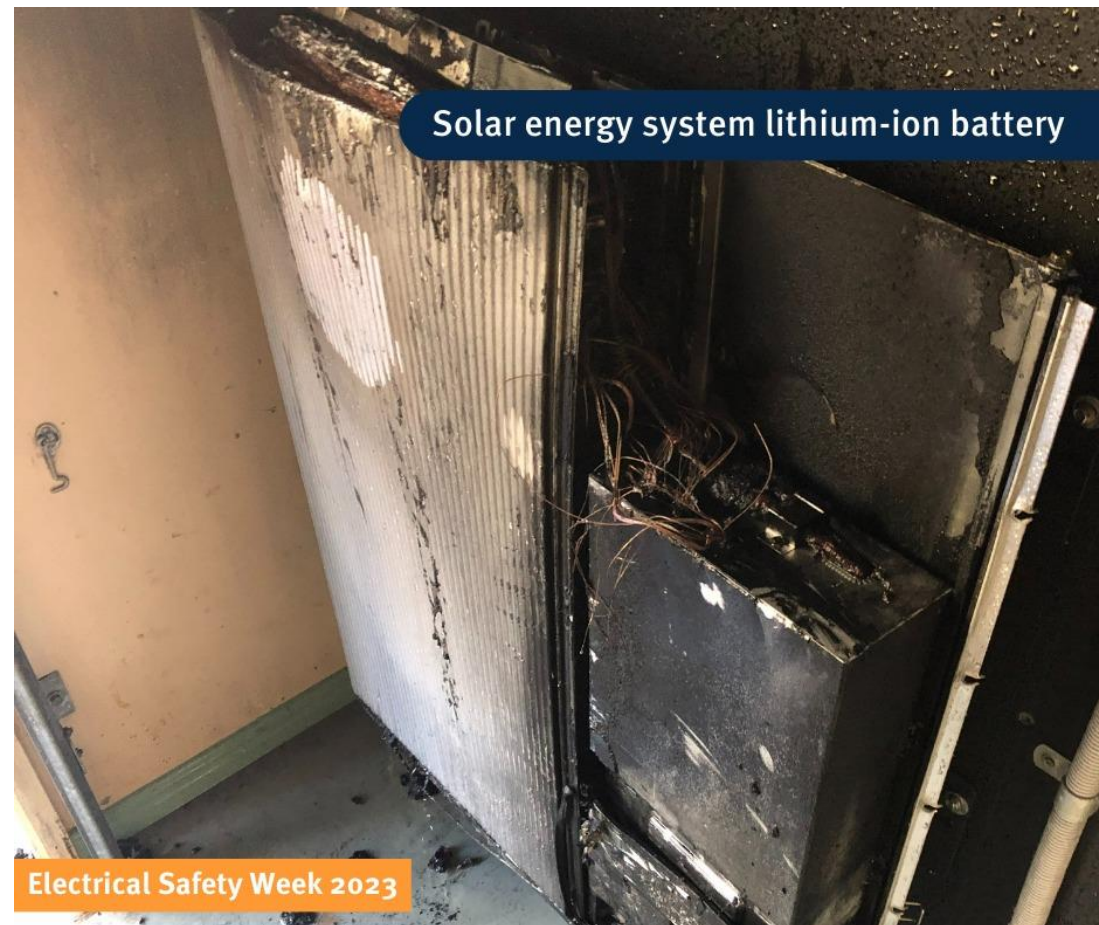
A beautiful day to be installing systems out at Darlington in the Scenic Rim region today!

Our customer installed a SofarSolar Powerall All-in-One Solar and Battery storage system, with 15kWH of battery storage, on each of their 5 accommodation villa's to help them save on their electricity costs and provide power during blackouts (it happens frequently in this area).

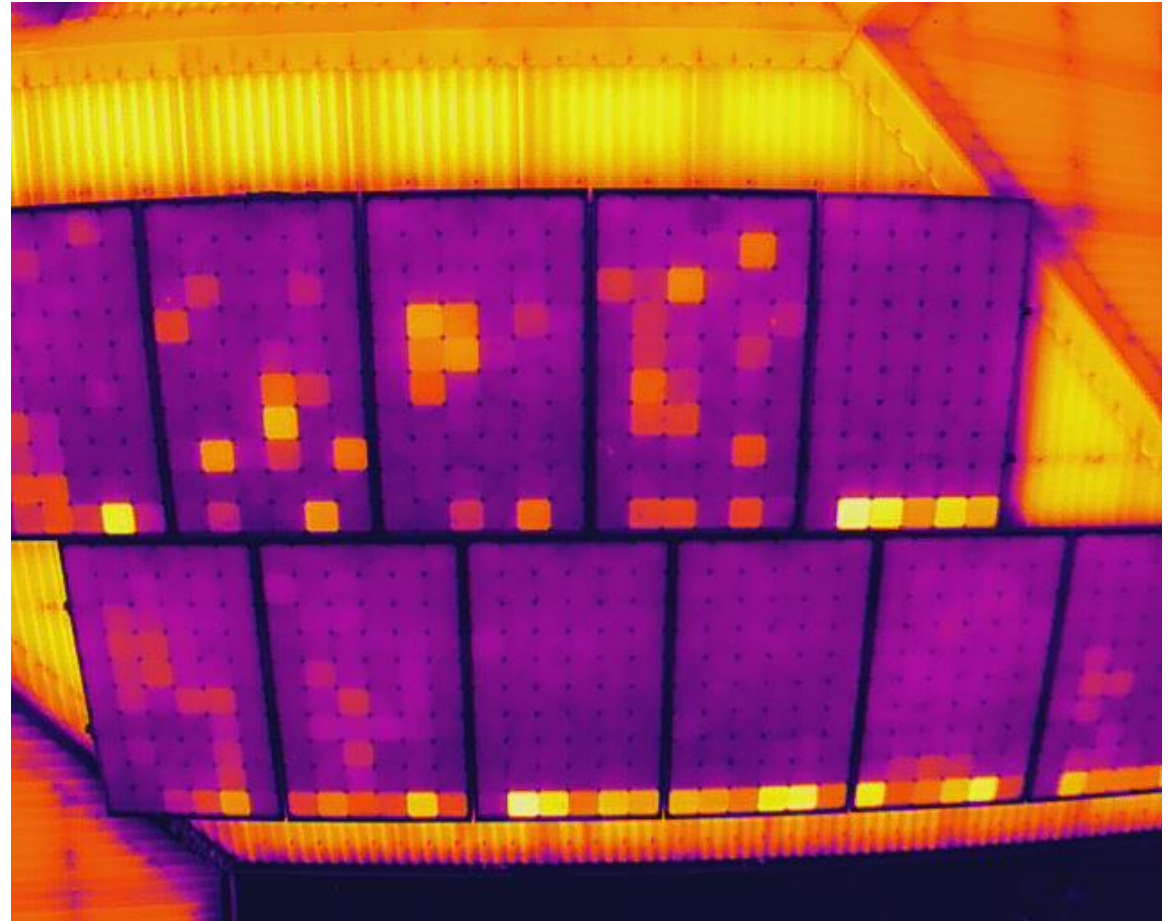
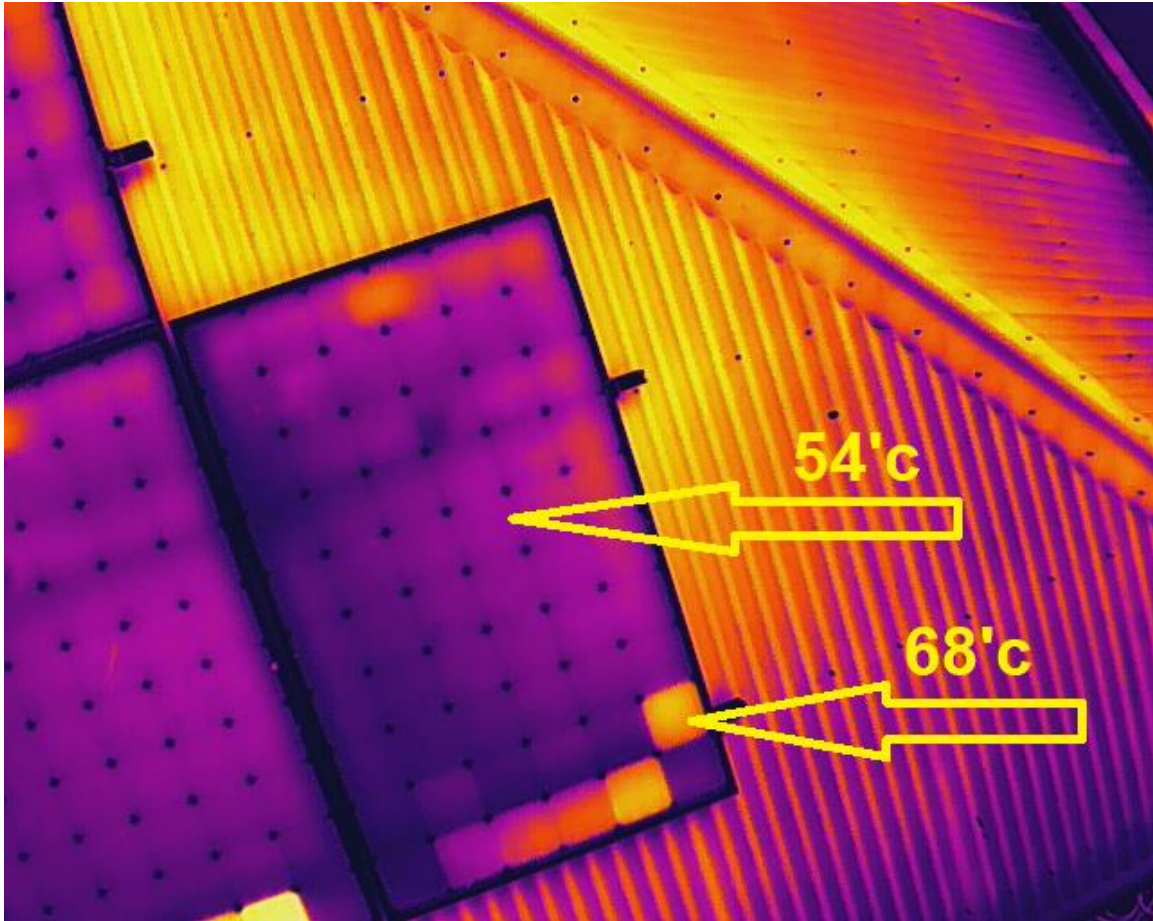


We are offering 6.64kW of TW Tier 1 Panels with a 25 year manufacturers warranty, Sofar Solar 5KTLM-G3 Inverter (with 10 years manufacturer's warranty), along with standard installation on a single story home for only \$3,450 after the Federal Government Rebate. We also have \$0 Upfront, Finance Options available, to allow you to install your system now.

# Problems with technology



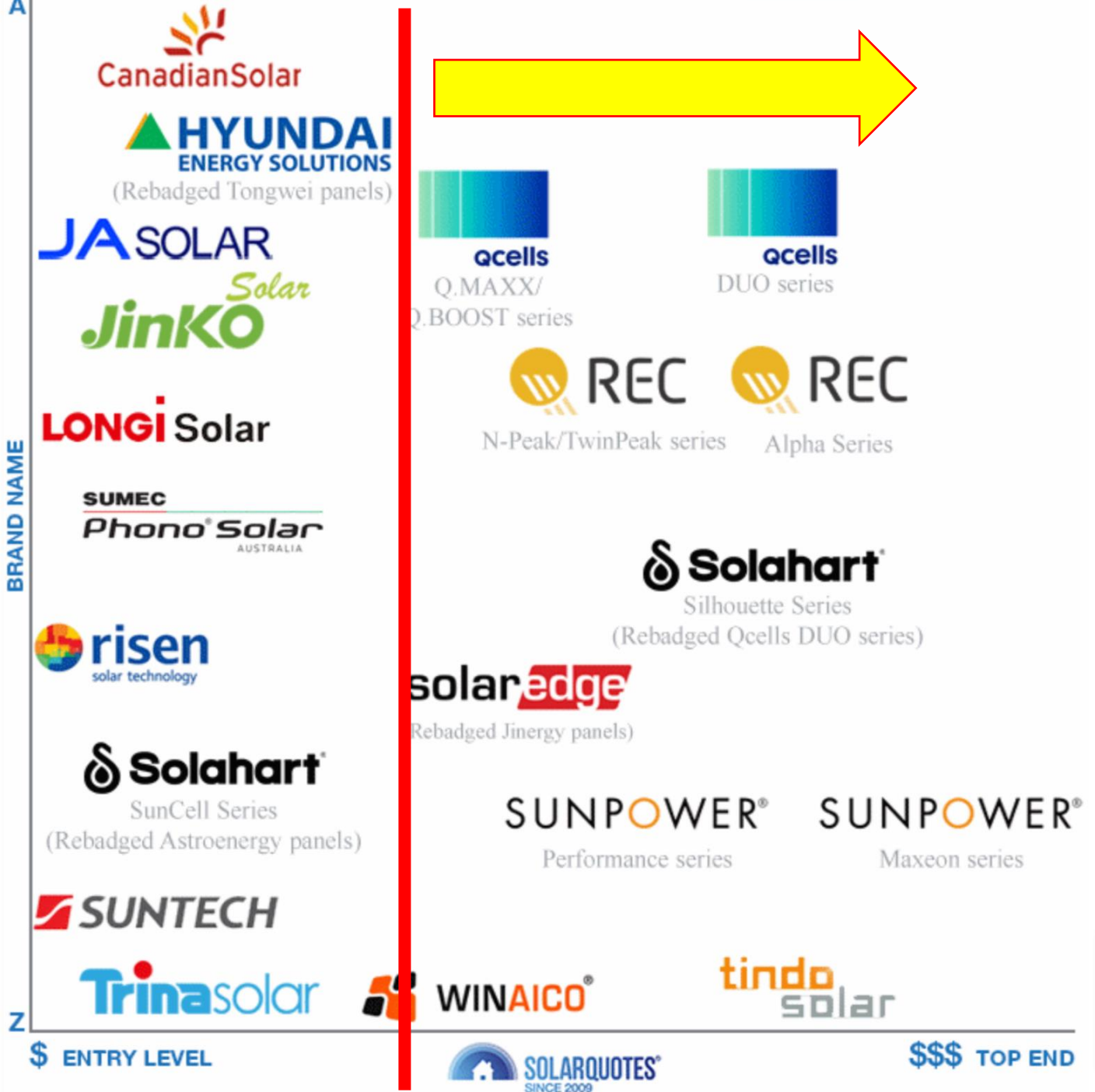
Problems – not all damage is visible to you.



# Conclusion

- Who ever you chose to have your solar installed. 3 things to remember.
- It's a long relationship with your installer
- Price is less important than longevity of installation
- Quality is paramount

Panels and inverter brand are what most people look for when buying solar, they miss the important part – it is a 500 to 600v power circuit running around on your roof. DC does not forgive, if a DC charge gets you it fries whatever it passes through, unlike AC.



Solar panels

Anything Left of the red line is based on price point

Longi is the only vertically integrated solar panel in that list

Hyundai is a rebadged budget panel ( tong wei )

If I were shopping for a price range panel, I would look at Longi, Phono, Suntech or Canadian.