



RESIDENTIAL & COMMERCIAL SOLUTIONS

SOLAR PV SYSTEMS

2018



BROCHURE

Core Product Line and Services.

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WHO ARE WE?

Green Efficient Living is a young, vibrant company looking to improve the way that domestic and commercial air conditioning, solar and electrical services are carried out.

Our knowledgeable and experienced team are driven by the desire to provide our customers with products and services that significantly reduce their energy bills and impact on the environment.

Our core focus is to supply you with honest and accurate information and to provide a service in which you are truly happy with the end result.

We are a family operated business who work hard for each other and pride ourselves on our word-of-mouth references.

“We will not sell you an inferior product just to get your business. The products that we offer to you are those that we have installed in our own homes and business. This is our guarantee to providing quality goods, service and workmanship.”

THE TEAM

MITCH TOEROEK

**DIRECTOR
AIR CONDITIONING MANAGER**

Mitch is a qualified refrigeration mechanic who is passionate about designing and installing systems for both residential and commercial dwellings.

He is continuously seeking new products and systems that ensure value for money, whilst also maintaining aesthetics and sustainability for the future.

He has a keen interest in the engineering of all things air conditioning, electrical and solar.

KODY TOEROEK

**DIRECTOR
SOLAR/ELECTRICAL MANAGER**

Kody is a qualified electrician and Clean Energy Regulator solar inspector.

He has an open registration data licence and has completed a solar grid and off-grid connection design and installation course.

He is passionate about energy management and is always looking to improve the way homes and businesses utilise their electricity to ensure that it is as energy efficient as possible.





WHY CHOOSE US?

IN HOUSE INSTALLERS

We believe that consistency is key. We have built an experienced and knowledgeable team that is qualified for every job to ensure that all work is carried out to the highest standard set by Green Efficient Living. We will be with you from the start of the process until the end and you can trust us to deliver exactly what you want.

FACTORY TRAINED

All of our tradesmen are not only qualified but have also been educated on the manufacturers that we use. This ensures that they have a complete understanding of the systems and products in order to provide you with the very best service.

JOB AUDITS

It is compulsory that all of our tradespeople complete personal job audits at every stage of the process. We have created these audits as an indepth safety checklist to ensure that the job is carried out as it should be and that your product is safe, reliable and operating at the highest quality.

EASE

We are not a sales company that uses contractors to carry out our work - we provide you with a complete package from start to completion to ensure that nothing gets lost in translation. If you have any queries or questions after your installation is complete, don't hesitate to contact us. Just because the job is finished, doesn't mean that our service is.

PHOTO LOGS

We make sure that our tradespeople document every stage of the process with photographs, for both our peace of mind and yours. By doing this, we can ensure that every part of the installation was completed to the highest standards and followed all safety regulations.

OUR COMMITMENT TO YOU

Choosing to have a solar PV system installed in your home or business can sometimes be a tricky decision. South Australia has almost perfect solar weather but there are so many brands and systems to choose from.

Our experienced tradespeople are here to help you with any queries or questions that you may have.

OUR GUARANTEES:

- Highest level of service and care.
- Highly trained technicians and tradespeople.
- Only the highest quality components used.
- For any issues relating to your solar system, just notify us and we contact the manufacturer directly.
- We organise the whole process for you, from approvals, paperwork and retailers, to booking your electricity meter changeover.
- Full manufacturers warranty on all products.
- Five year workmanship warranty.
- We only use companies with an Australian office for our core product line.
- We tailor a solution to you that addresses your individual needs. *We won't sell you 100 solar panels, just because you have the space for 100 solar panels.*

OUR SUPPLIERS:



WHAT WE OFFER

At Green Efficient Living, we aim to make every decision easier for you when it comes to solar energy. We lay all of your options out in front of you in relation to your solar goals, budget and current environment. We work closely with you to design a system that will best meet all of your needs.

No home is too difficult for us and we pride ourselves on maintaining consistent communication with you to make the installation process easier.

WHAT WE DO:

- The very latest in solar system design.
- Both single-phase and three-phase inverters.
 - Micro or string inverters.
 - Battery/back up systems.
 - System upgrades/redesigns.
 - Free monitoring.
- Existing solar installation audits.
 - Service and maintenance.
 - New and existing dwellings.

WHY CHOOSE SOLAR?

There is more than one reason why installing a solar PV system on your home or business is beneficial to both you and the earth.

With a renewable energy source like solar, you only have to draw electricity from the grid when you need it and since you only pay for what you use, you will save on your electricity bill.

When your panels make more electricity than what you are using, the excess can be sold back to the electricity grid or stored, if you have batteries installed.

Installing a solar power system can reduce your household's greenhouse gas emissions and therefore your carbon footprint. Unlike traditional sources of electricity, solar is green, clean and renewable.



Good quality solar panels usually offset their CO2 emissions from their manufacturing process in 3-5 years.



Some companies will leave you in charge of organising a meter change after having solar installed, but at Green Efficient Living we do this for you.

WHAT EQUIPMENT IS INVOLVED?

There are a few terms and pieces of equipment that you'll need to know about, so that you understand exactly how to maintain an efficient solar PV system.

PHOTOVOLTAIC MODULES

Photovoltaic modules (PV modules) are commonly known as solar panels and are usually sitting on top of your roof. PV modules convert light energy (sunlight) into direct current (DC) or electrical energy.

INVERTER

An inverter converts the DC power into 240V alternating current (AC). Inverters can come in the form of a micro inverter or a string inverter and depending on your situation and location, your system may prefer one over the other.

A string inverter is one that sits on your wall on the outside of your home and accepts DC input from multiple panels or a 'string' of panels. A micro inverter is one that sits underneath each individual panel and converts the electricity from that panel only.

DISTRIBUTION BOX/SWITCHBOARD

Although the AC power is ready to use, it needs to be fed into your home's current electricity supply. The distribution box/switchboard feeds the energy from the inverter through the switchboard for use in your home.

METER

Your electricity meter is upgraded to an import/export meter which records both the electricity taken from the street and solar exported back to the grid.

WHAT IS AVAILABLE?

30-40% of homes in Adelaide have solar PV systems installed on their homes and that's because South Australia has an almost perfect climate for producing solar energy.

Solar isn't just solar - there are a range of different options on the market currently, offering competitive prices.

Choosing a solar system that suits you can be somewhat challenging, but our experienced team are here to make the whole process easier for you.

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Green Efficient Living installing a commercial solar system.



Fronius comes with a 5 year parts and labour warranty.

STRING INVERTERS

A string inverter is a large box that sits on the wall outside of your home and is most commonly used in residential systems. Green Efficient Living choose Fronius when it comes to string inverters and for more reasons than one.

Their products are reliable, easy-to-install and configure, and are extremely user friendly.

As a company, Fronius are innovating and actively engage their installers to understand more about their products. Customers can have peace of mind knowing that they have Australian offices, and an Australian tech-support team.

Fronius comes with a DC isolator for a neater installation and the production monitoring lets you see how much your panels are producing.

SINGLE PHASE - PRIMO

The Fronius Primo single phase inverter is the perfect choice for residential systems. Its innovative SuperFlex design provides maximum flexibility in system configuration, while the SnapINverter mounting system makes installation and maintenance easier than ever before.

The included communication package with WLAN, energy management, several interfaces and much more allows the Primo to communicate with the user, the PV system and the grid.

THREE PHASE - SYMO

The Fronius Symo three phase inverter has been labelled as one of the smartest inverters available, and the wide input voltage range and two MPP trackers ensure super design flexibility.

With power categories ranging from 3.0kWh to 20.0kWh, it is an inverter for systems of every size.



One of Green Efficient Living's installations demonstrating what your system is meant to look like beneath the panels with no loose or sagging wiring.

 ENPHASE



Image courtesy of Enphase Energy

MICROINVERTERS

Microinverters essentially perform the same job as string inverters, but are a much smaller version. They are designed to suit individual solar panels rather than an array of panels. As they operate individually, each panel is able to perform to its fullest, ensuring that your solar system produces the most energy that it can. This also makes them more reliable - if one panel fails, it doesn't decrease the efficiency of the entire system.

We choose Enphase as our microinverter supplier because of their commitment to providing the very best products for their customers. Enphase were the first to develop the microinverter, and being invested in innovation, have continued to update their products. Their knowledgeable Australian tech-support team are ready to answer any questions, and their 10-year parts and labour warranty can give you peace of mind knowing that their products will last.

WHY ENPHASE MICRO INVERTERS?

Unlike traditional string inverters, Enphase micro inverters convert the power from each solar module directly to AC electricity, removing the need for additional hardware and reducing the risks posed by higher DC voltages.

Its design, flexibility and pre-wired connectors promote accelerated installation time and supports easy in-field reconfiguration when required.

The Envoy Communication Gateway connects easily to your broadband router, sending performance information to both you and your installer via WiFi.

The modules now have even greater energy yield in low-light conditions and safer extra low voltage wiring.

Enphase comes with consumption and production monitoring so you can see not only how much your panels are producing, but also how much your home is consuming.

ENPHASE MONITORING

With MyEnlighten, system owners can track their energy production, monitor their system's health and share their data with family and friends.

The system status indicator provides a quick confirmation that all is well. If there is an issue, the indicator pinpoints the source of the problem and offers troubleshooting tips.

The user can see an overview of the day's current energy production as well as their historical production (monthly, daily, or hourly).

It also allows the user to see historical weather data to better understand their performance variations, day to day and season to season.

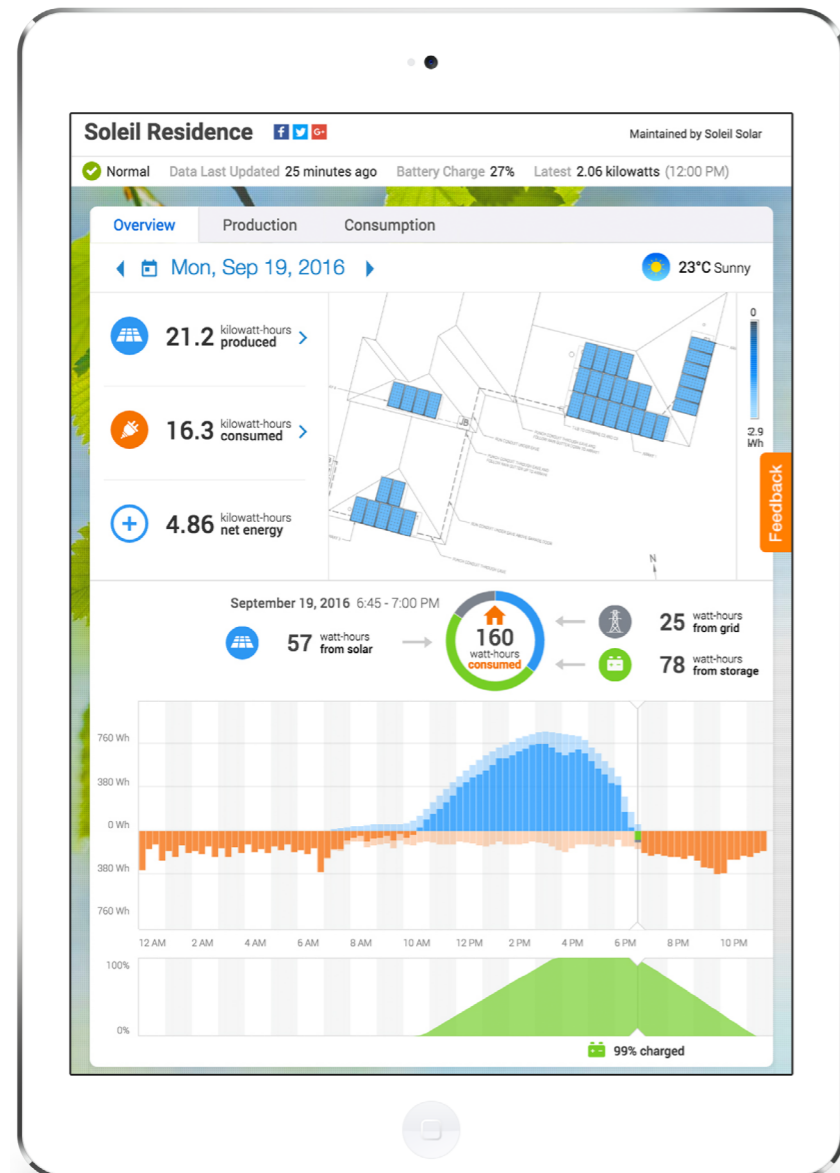


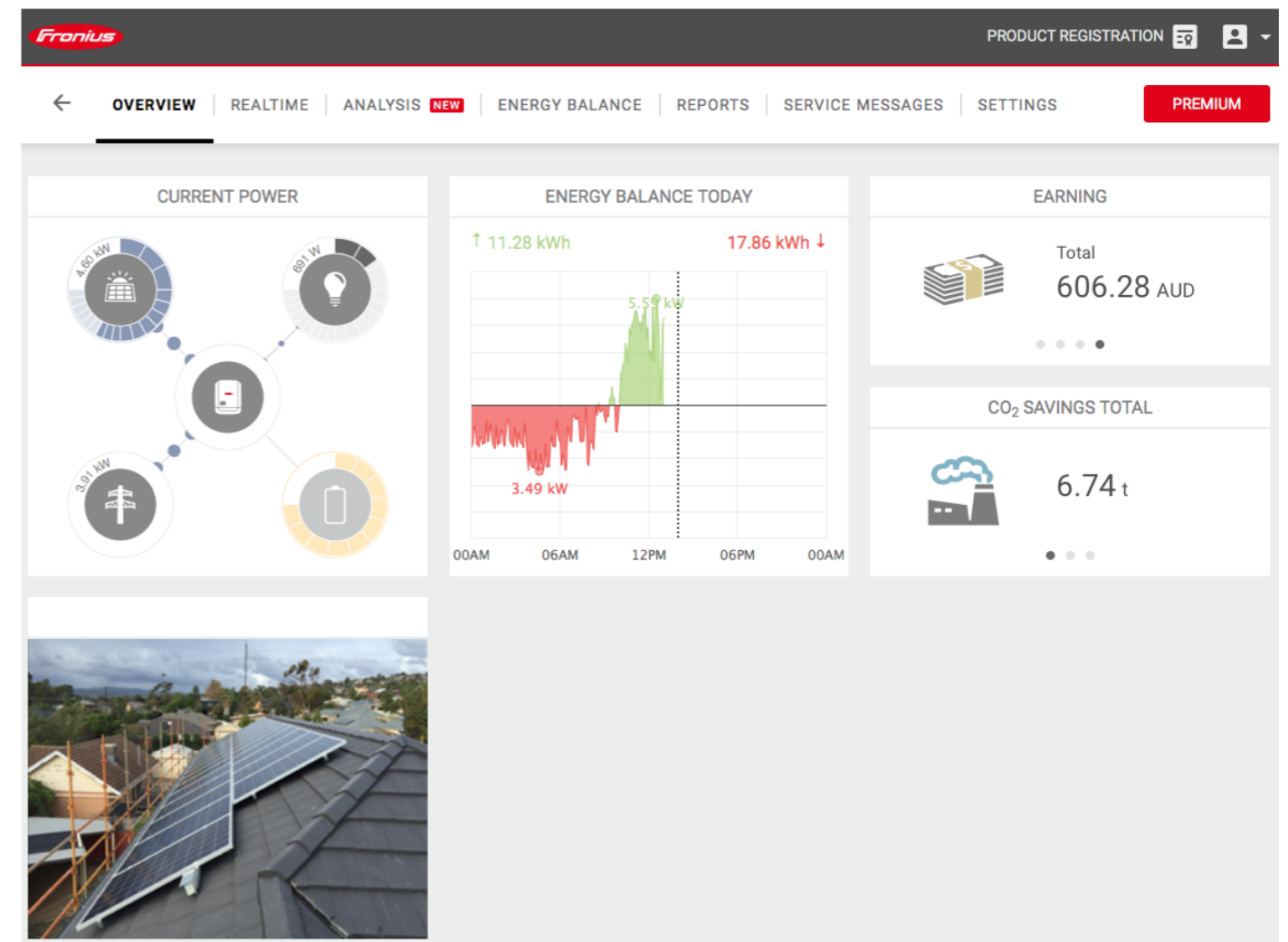
Image courtesy of Enphase Energy

FRONIUS MONITORING

The Fronius Solar.Web App allows for easy remote internet monitoring. It is the all-in-one internet portal for configuring, monitoring, analysing and visualising photovoltaic systems.

The up-to-date system data can be accessed at any time and is clearly presented. It is user-friendly and offers a comprehensive range of analysis functions.

The page contains a monthly diagram with key system data, important user information, as well as any warning messages, and the interactive diagrams provide fast and easy navigation for the user.





PANELS

Jinko Solar are one of the industry's leading panel manufacturers worldwide and offer a wide range of panels to suit any environment. Their panels are both productive and reliable and are backed with a 10-year product warranty and 25-year performance guarantee.

There is less pressure to maintain complete sunlight as the optimised solar cell design allows for improved performance in low light conditions.

High coastal and agricultural areas can achieve full performance thanks to anti-salt mist resistance making them perfect for the Australian climate.

Green Efficient Living uses the Jinko Eagle panels for all of their standard installations.

UPGRADE - JINKO MAXIM PANELS

Jinko have recently partnered with chip manufacturer Maxim Integrated, to develop the Jinko Maxim panel. This Maxim chip is installed within the panel to replace each of the bypass diodes.

The benefits include :

- Performs better at higher temperatures and in more extreme conditions.
 - Works seamlessly with any inverter.
 - Has greater layout flexibility.
 - Has better management of panel degradation.
- Has a better output in lower light conditions, higher yields in shaded situations and many more.

WHY DO WE CHOOSE JINKO?

- JKS has passed the 60-point independent factory audit, ensuring that the company's modules comply with the Australian Solar Council's 'Positive Quality Programme' and are CEC approved.
- JKS are Tier 1 in Bankability according to Bloomberg New Energy Finance. The three tiers of bankability rate the ability of solar product related projects to acquire non-recourse debt financing from banks.
- JKS are number 1 in Cost Structure for both silicon and non-silicon costs.
- All of JKS modules are Class C Fire Rated by CEC in Australia.
 - All JKS modules are backed by industry leading 10-year product and 25-year performance guarantee insured by PowerGuard (an American listed insurance company).



A series of four Enphase batteries installed in a Green Efficient Living customer's home.



BATTERIES

Solar storage addresses the fundamental problem of solar energy: while solar production peaks during midday, energy consumption is highest in the morning and evening. Therefore with batteries, you can save the energy that you are producing for when you need it most.

Policies such as Feed-in Tariffs that used to make it a good deal for homeowners to sell their energy back to the grid are disappearing. These days it makes more financial sense to store your extra energy and use it yourself.

Green Efficient Living chooses Enphase as their solar battery supplier of choice.

FLEXIBILITY

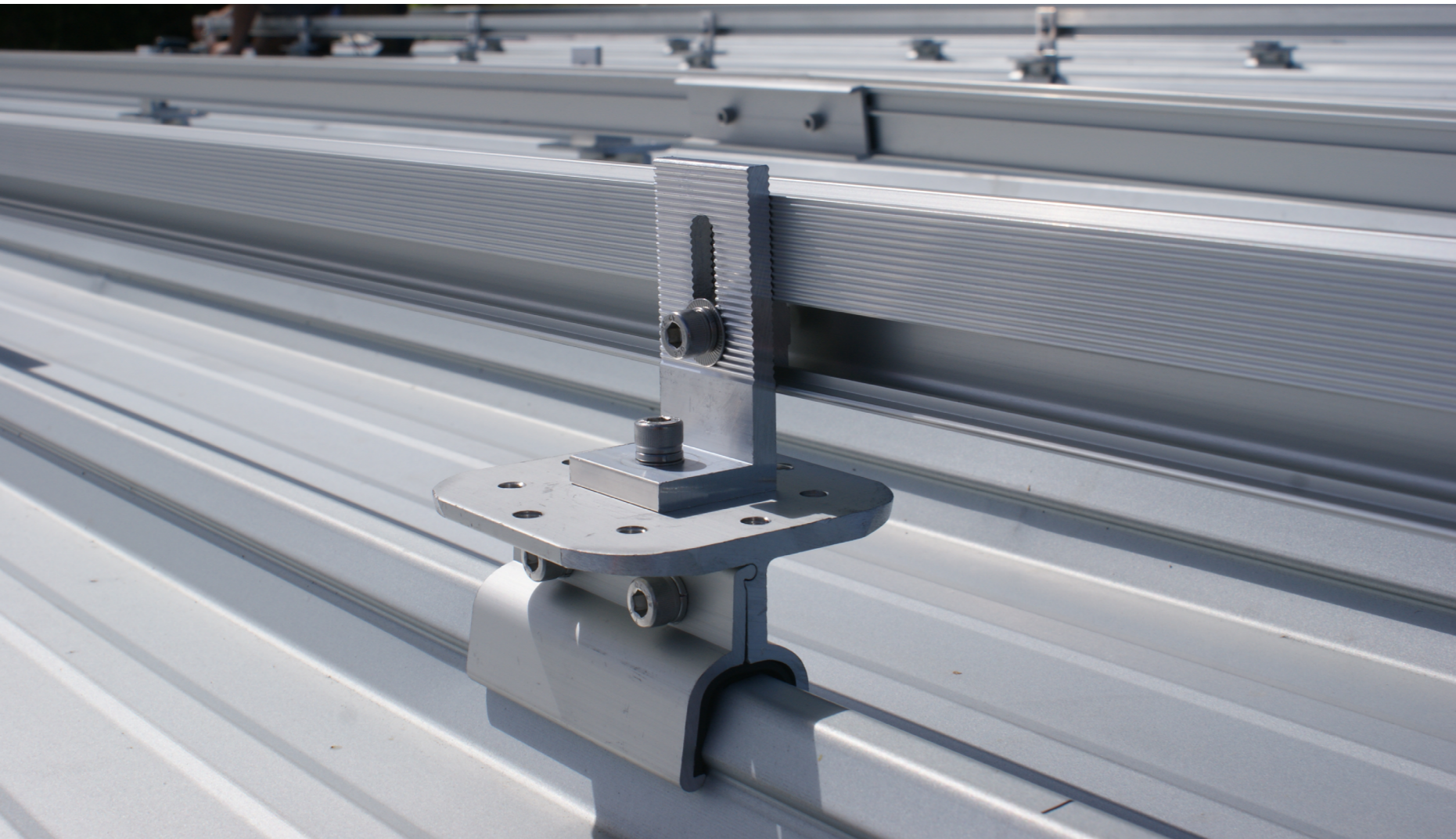
The Enphase storage system is a simple installation that keeps extra costs low. The battery's modular architecture means that you get a storage solution that is exactly what you need: no more, no less and no wasted costs. The system is easy to expand on as your needs change and flexible configurations can work for any home.

SAFETY AND RELIABILITY

All Enphase batteries are safety certified and have no high-voltage DC in the system. The prismatic cells within the batteries are proven to be highly stable over time with a minimum 10-year life expectancy.

LOWER COSTS

As the Enphase batteries can be designed to your exact needs and allow for a more quick and easy installation, they have proven to be more affordable than other storage options.



MOUNTING SYSTEMS/RAILING

Clenergy mounting systems are suitable for all types of solar panels and are designed to suit the majority of roofs, both domestic and commercial. They are certified for use in all Australian conditions, even highly corrosive areas.

Being made from stainless steel and aluminium ensures their long life and high quality, and their mounting clamps make them ideal for micro inverters.

WHY DO WE CHOOSE CLEENERGY?

- Clenergy come backed by a 10-year warranty.
- All products are manufactured with ISO accredited quality management system.
- All mounting systems designed to suit the majority of homes and suitable with all types of solar panels.
- All of their products can be fixed to your roof without damaging it.
- All of their products are fully compliant to relevant local standards.

OUR WORK

Whether it's residential or commercial, we take the same amount of care and pride in every service that we provide and every system that we install.

We have worked tirelessly to create a company that many individuals and businesses in South Australia trust and we are proud to have their continued support.

Our passion for what we do means that we are able to provide our customers with the very best products and the highest quality of service, so that *at the end of the day, we can sleep easy because our customers do.*



Image courtesy of Jarrod Knoblauch



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