



SIZE, SAFETY & KNOWLEDGE



NINO NIZIC

MANAGING DIRECTOR | SOLARWATT AUSTRALIA
AUSTRALIA@SOLARWATT.COM

SOLARWATT Australia

- Launched in 2016; parent company is from dresden Germany established in 1993
- Award-winning, German made, premium products focused on Energy Generation and Energy Management ie. Glass-Glass panels (since 1998) and MyReserve Matrix battery storage product
- Global Fronius partnership, June 2017
- Distribution partner - BayWa r.e

SOLARWATT[®]
power to the people

Made in Germany

SOLARWATT MYRESERVE DC - Coupled Storage System



What will be covered in todays discussion:

- Perceptions of the industry
- How the energy market is changing
- Solarwatt experience so far
- Why size matters
- Overcome the challenges
- Safety
- Knowledge is power

Solar industry in Australia seems to make mainstream news...but not always for the right reasons

The Sydney Morning Herald

The great solar power scam

Ellen Sandell Show cc

[f SHARE](#) [TWEET](#) [✉](#) [MORE](#)

Most of us have had the nasty experience of opening up a power bill that's more expensive than you expected. But imagine how bizarre and frustrating this is for those people who've spent the money and effort to put solar on their roof – only to find out their power bill is just as expensive as ever.

Over the past several years, Victorians have installed solar panels in droves. This is great for the energy market, as solar customers create energy just at the time when demand is at its peak (hot, sunny afternoons when people need airconditioning, for example).

The growing number of Australians moving to renewable energy solutions to combat growing costs

AS CRIPPLING energy price hikes begin sweeping across the nation this month, one business believes we have reached the tipping point.

THE AGE

Revolutionary changes to how much you get paid for your solar power

Marc Moncrief

[f SHARE](#) [TWEET](#) [✉](#) [MORE](#)

The effort to price carbon emissions has unseated prime ministers and stymied economists, but such a figure might be needed to decide how much Victorians should be paid for the electricity generated by their solar panels.

A draft report from the Essential Services Commission recommends "a monetary value for greenhouse gas emissions" be established in order to calculate the "environmental and social benefits" of changing the way energy is generated and distributed across the state.



but mainstream news is bringing awareness to the end customer

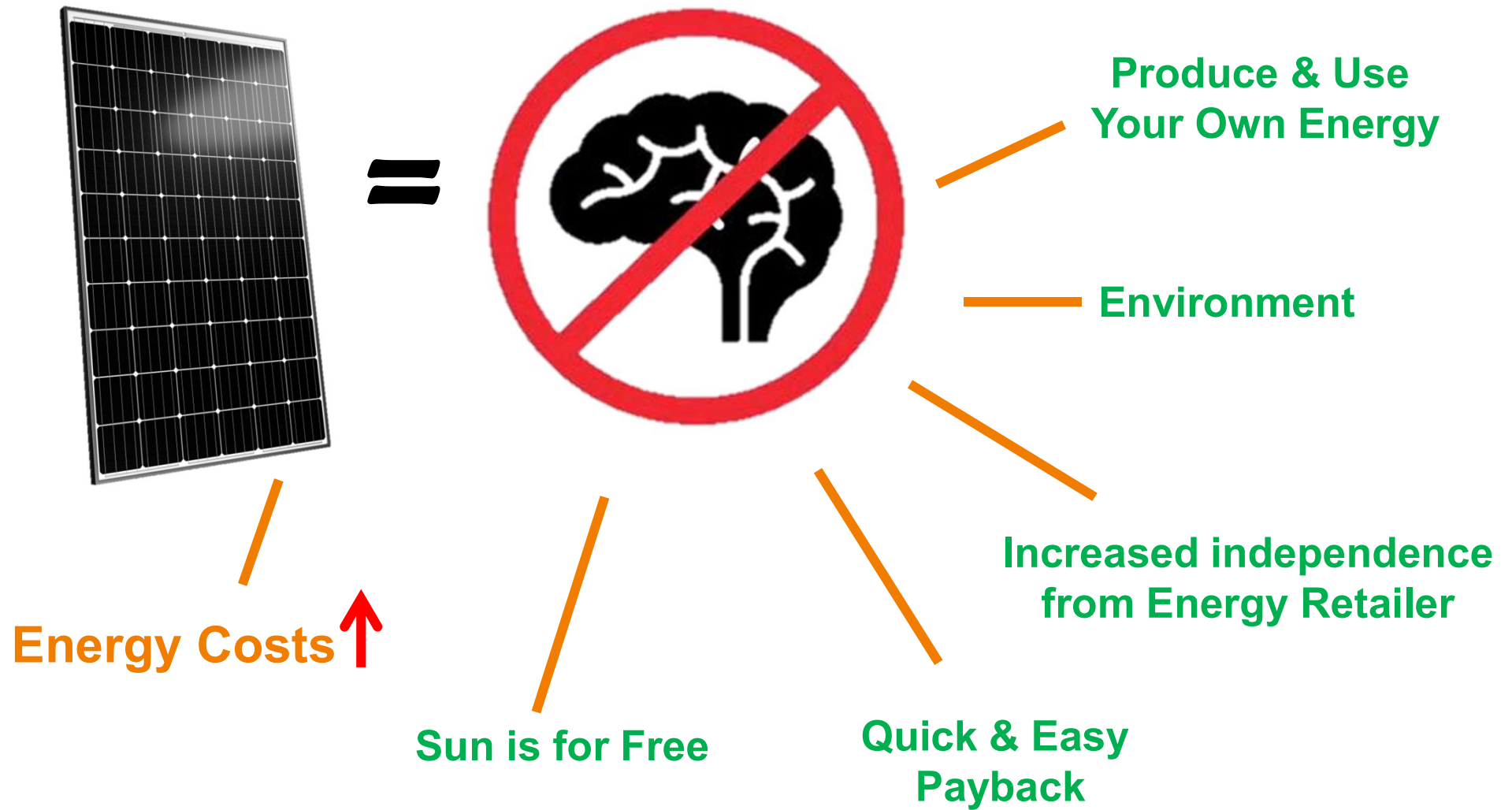
INCREASED MARKET AWARENESS BY THE END CUSTOMER

Customer awareness is up is due to:

- the trend of rising electricity costs
- greater focus on environmental impact
- mainstream media
- falling costs of battery storage

This growth in awareness is great for the industry because it keeps the inquiries steadily flowing...there is plenty of interest out there!

INSTALLING SOLAR.....



THE ELECTRICITY MARKET IS CHANGING

- The monopoly of the centralised utilities is on the decline as the global trend is towards a decentralised energy system
- With or without the support of the federal politicians, change is already happening in Australia ie. utilities (e.g. AGL), state governments etc
- For 1 in 5 Australian homes who already have PV installed, they will soon be looking to add battery storage
- For new customers to PV, fitting a battery will definitely be on their minds sooner rather than later

Battery storage will play a major role in establishing decentralised systems

OUR EXPERIENCE SO FAR

- Education is needed to help the end customer make informed decisions ie. customers generally lack detailed knowledge

- Consumers often ask:

How big is your battery..?

Is it scalable..?

How much does it cost..?

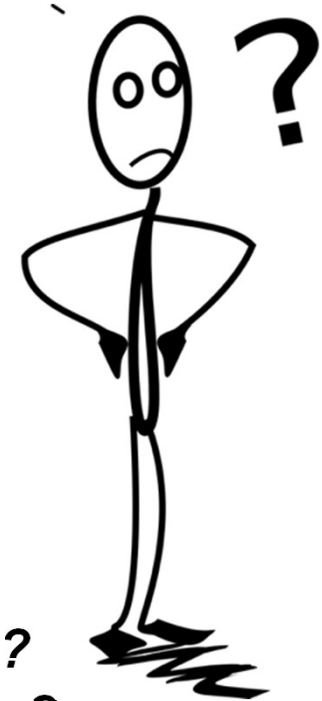
Will I have to pay for electricity again..?

.....rather than questions like:

What size battery suits my household consumption..?

How much energy throughput will the battery deliver..?

How will a battery improve my self consumption..?



OUR EXPERIENCE SO FAR



- Battery storage solutions vary
- Battery storage comes in different technology types
- There are many variations between products ie.
 - i. The amount of usable energy that a battery is warranted for over the life of the product
 - ii. Having the flexibility to handle the growing energy needs of the home over time
 - iii. Having the features to meet the customer needs

Each product has its place in the market

WHY SIZE MATTERS

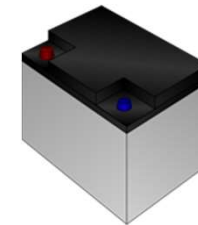
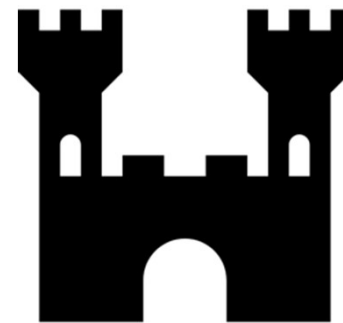


- Bigger batteries cost more, if they are not sized correctly, they will lay idle for longer periods, generate less revenue and reduce your ROI
- Smaller batteries cost less, if sized correctly, are fully utilised (charged/discharged daily...), generate greater revenue per dollar invested
- A correctly sized battery will increase both self consumption and self sufficiency and gives you the best ROI

The goal should always be to optimally size the battery

WHY SIZE MATTERS

The notion that one size fits all, does not apply to batteries. Every house, site and customer presents a unique opportunity to navigate.



A modular scalable battery solution can adapt to the customers needs

OVERCOME THE CHALLENGES

Know the parameters for sizing your battery

A) Export to the Grid

Take your time to evaluate the average export, as it will give you a better idea of the available excess for battery charging

**Remembering that export will vary due to load usage patterns, seasons etc.

B) Night-time consumption

One of the primary purposes of battery storage is to use it when the sun goes down. Hence, knowing the customer's average nightly consumption will indicate the maximum battery size needed.

**C.) The most optimal sized battery is a combination of a.) and b.)
ie. available export and night time load**

OVERCOME THE CHALLENGES

How do you source this information?

- i. PV systems already equipped with their own metering (e.g. Fronius Smart Meter)



- ii. Third-party metering (e.g. Solar Analytics)

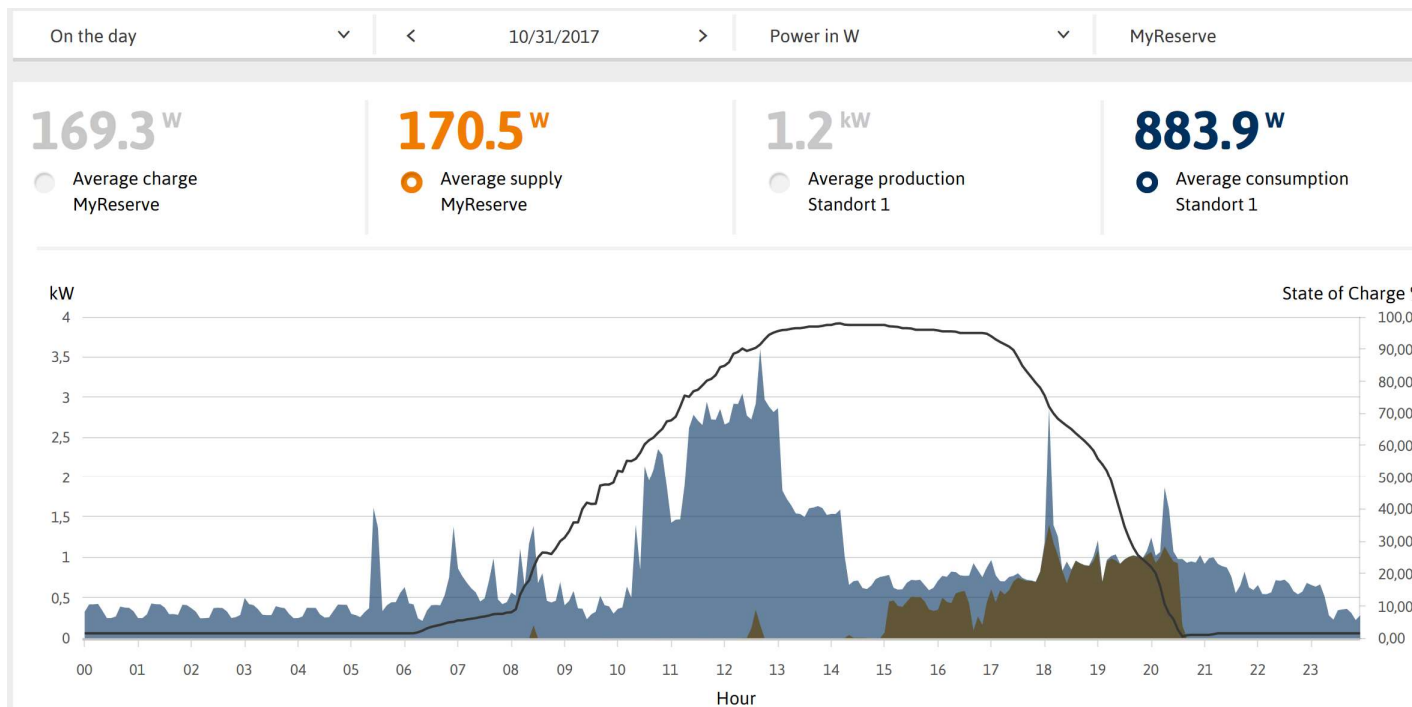
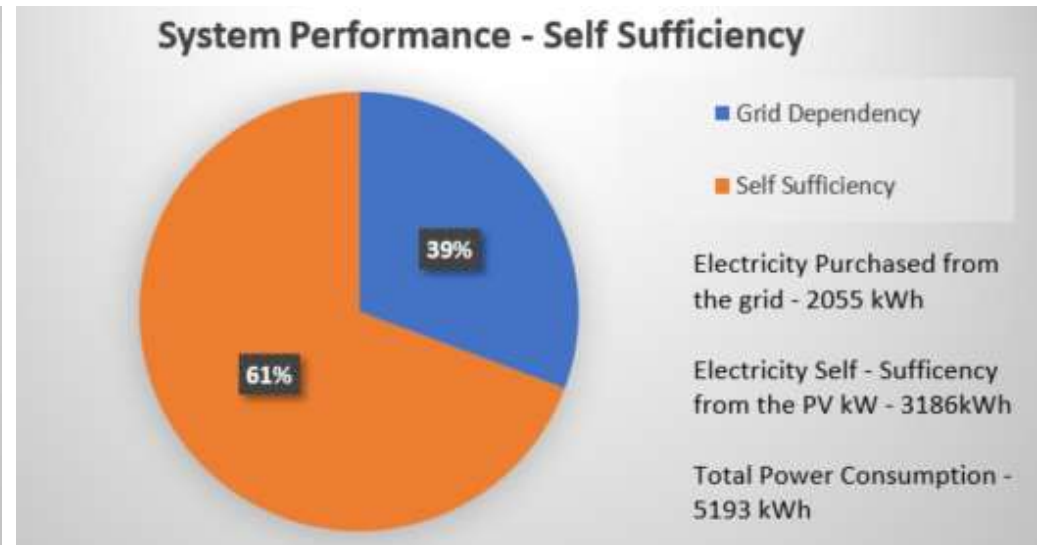
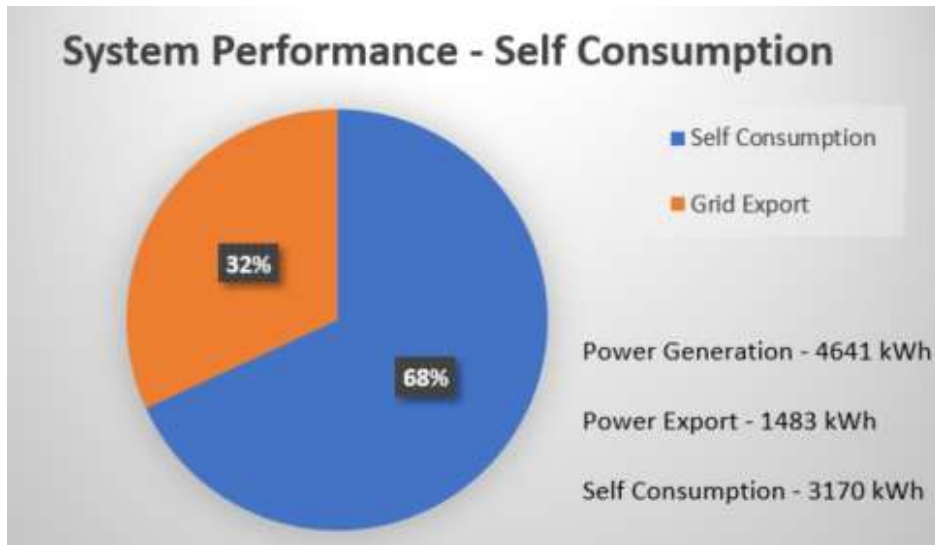


- iii. Energy retailers' smart meters

Track your electricity usage details and gas bills

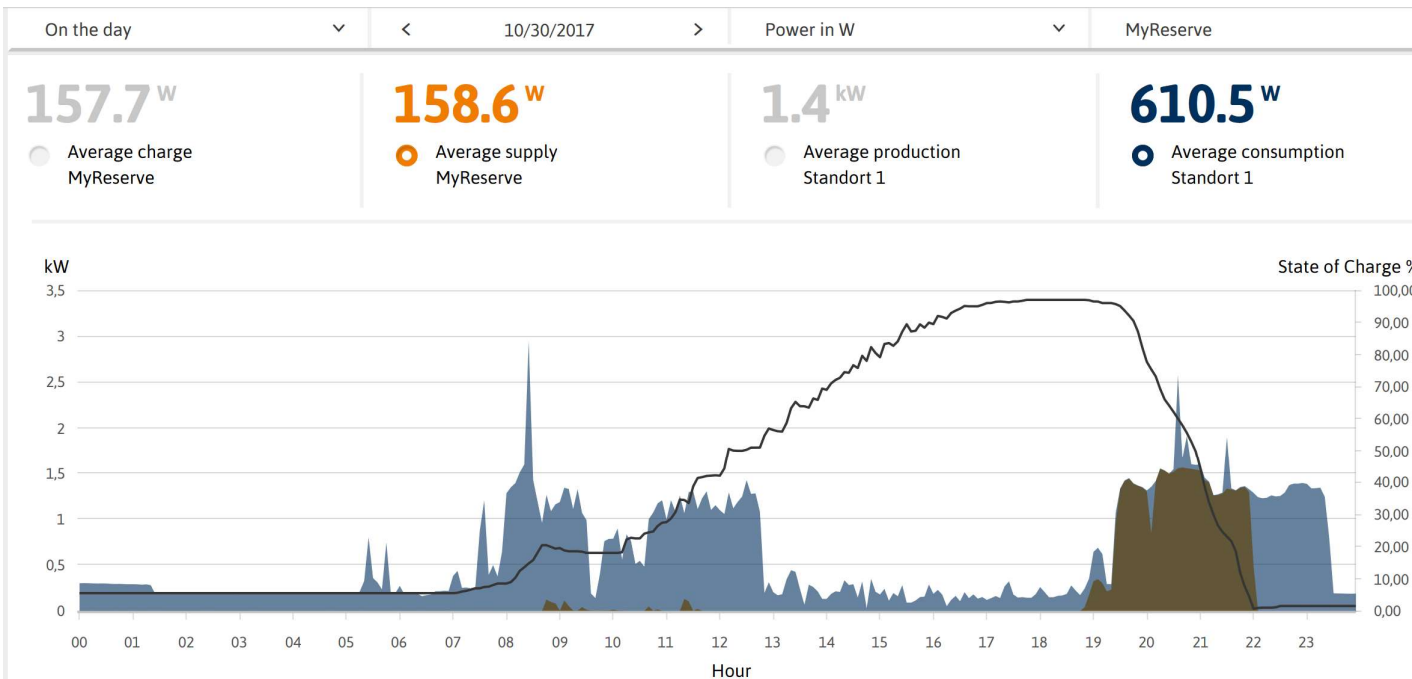
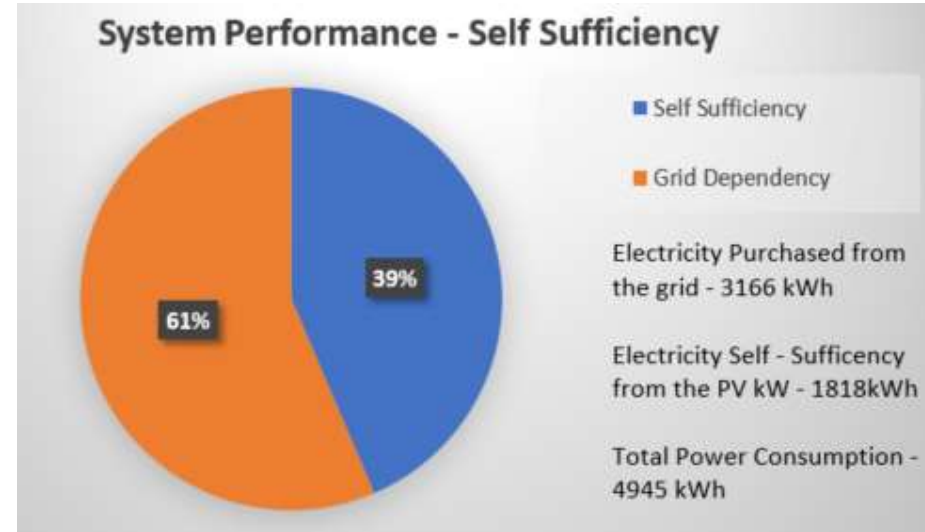
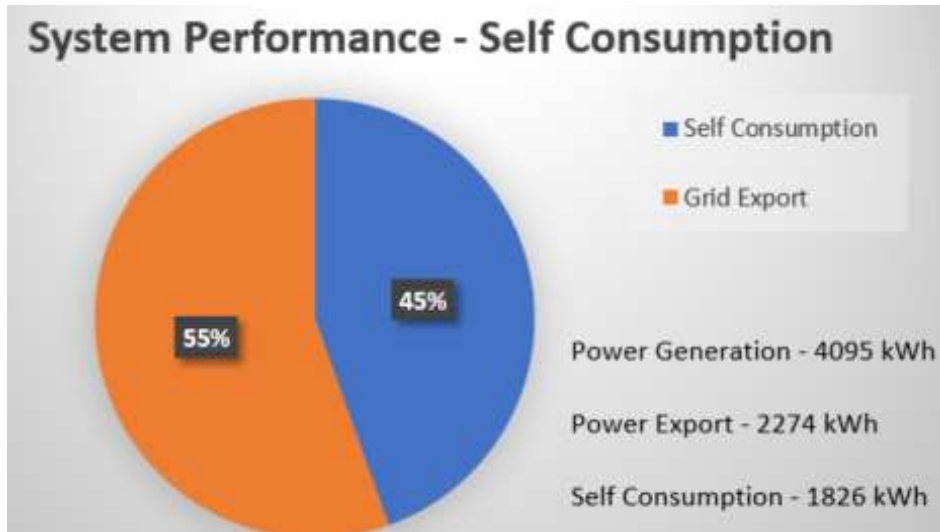


EXAMPLES



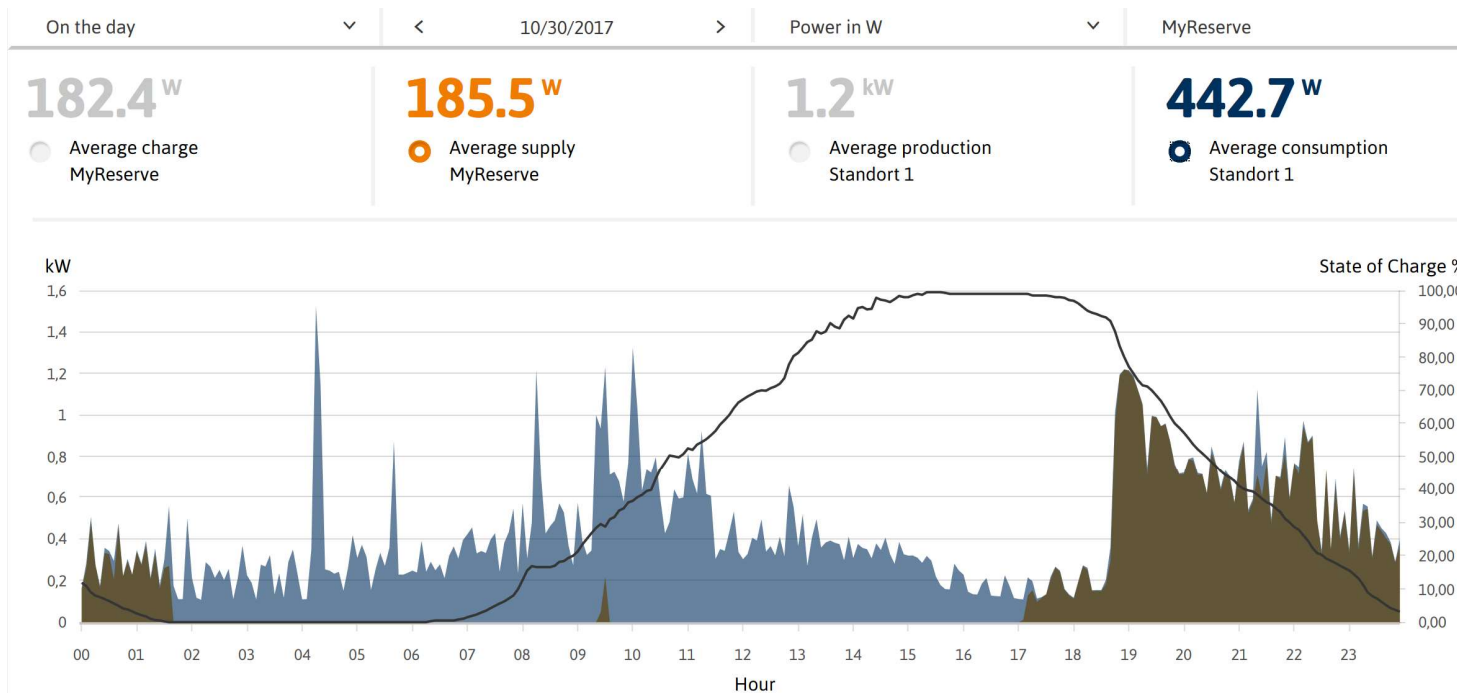
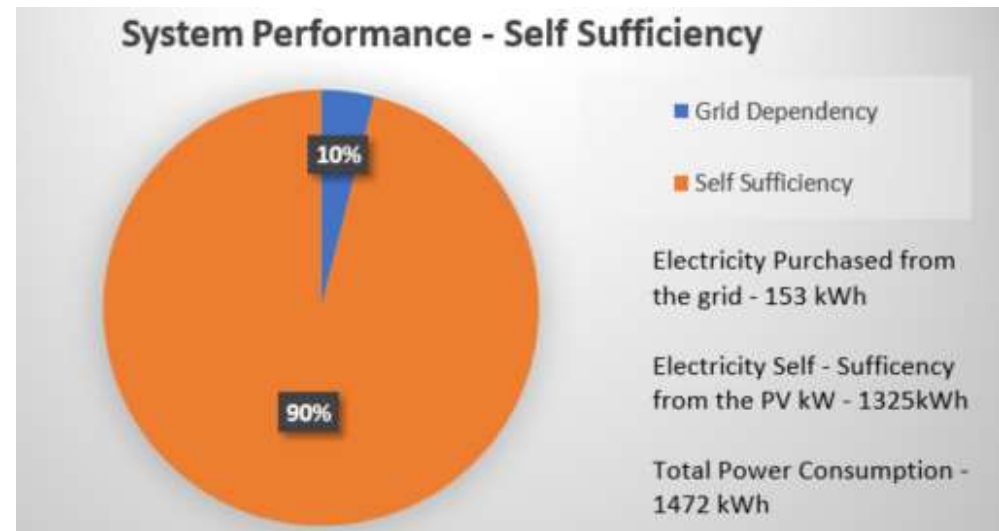
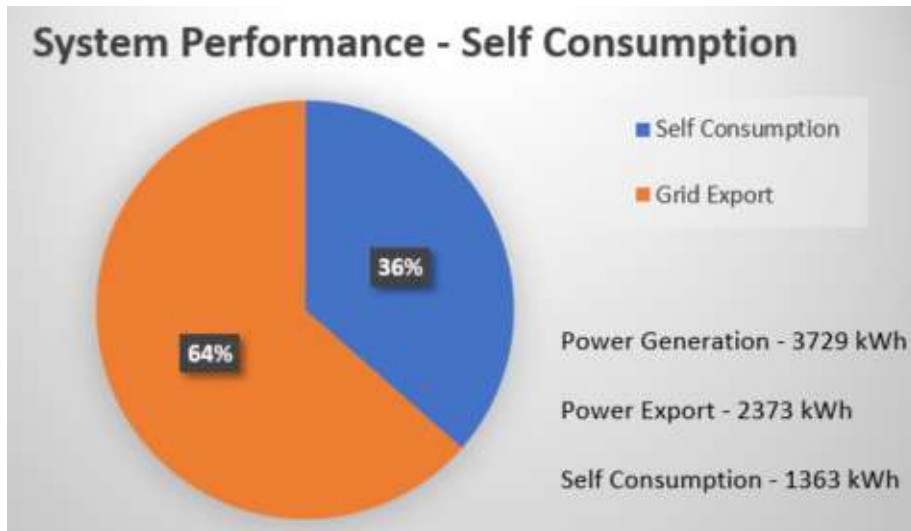
- Customer = Test site
- Location = Sunshine Coast
- Data = since Feb'17
- Family = 5 persons
- PV Array = 5kW
- Storage = 4.4kW (Solarwatt MR500)
- Avg Export/day = 5kWh

EXAMPLES



- Customer = Test site
- Location = Adelaide
- Data = since Feb'17
- Family = 5 persons
- PV Array = 5kW
- Storage = 4.4kW (Solarwatt MR500)
- Avg Export/day = 7kWh

EXAMPLES



- Customer = NEW
- Location = Gold Coast
- Data = since June'17
- Family = 2 persons
- PV Array = 5kW
- Storage = 4.4kW (Solarwatt MR500)
- Avg Export/day = 13kWh

SAFETY IN-HOUSE

The home already contains several potential sources of danger ie. oil heaters, mains gas supply, BBQ gas cylinders etc and battery storage can be added to the list.



However, there are quality products available that focus on safety and take this concern seriously. As an installer, be confident that the solution you offer takes your customer safety with the same priority you do.

Safety is paramount

SAFETY IN-HOUSE

Each manufacturer must prioritise and demonstrate high safety awareness and integration into their products along the entire chain of product development and manufacturing processes

- i. Having experts in the field as part of their R&D team
- ii. Following strict R&D processes
- iii. Thorough validation and verification testing
- iv. High production process standards
- v. Meeting and/or exceeding industry standards

Ensure the right materials and components are used

- a. The chemistry and physical type of battery cell used
- b. Environmental protection for all componentry

Safety is paramount

SAFETY IN THE FIELD

A daily system pre-operation check should be performed before the system goes live

Batteries must be kept well within their working window to ensure safety

- The Battery Management System monitors the storage system and ensures safe operation

Multiple independent error detection methods are needed to ensure that the battery is switched OFF in case of danger

- Numerous sensors providing data for thousands of instantaneous computations

Having a local support service you can rely on

Safety is paramount

KNOWLEDGE IS POWER

- When your customer says: ***I heard that x-brand is the best“ or w-brand are offering XYZ,*** listen and be able to assess suitability to make the right recommendation
- The key is knowing each product’s USP and identifying the right solution....
- Product, Quality and Support should be your key consideration

Do your research, remember a happy customer will bring you more business

KNOWLEDGE IS POWER

1. It's about product knowledge:

- Know about the products on the market
- Understand the product specifications
- Know the details of its application

2. Design your own method or tools for assessment:

- Devising feasibility tables, planning templates, flowcharts for assessing
- Include items like BOM's, price, labour effort, profit projection etc

3. Talk with your distributors and OEMs

- Go directly to the source
- Check product availability

Become the expert and be able to inform and influence the market

KNOWLEDGE IS POWER

4. Asking the right questions.....

- Is the customer looking for a retro-fit or is it a new install?
- Is an AC or DC storage solution more suited?
- What effort/labour is required to install the unit?
- Location dependent, is the customer looking for a back-up solution?
- Is the solution modular i.e. can you add to it in future and/or scale up?
- Is the customer informed? Do they come with questions/preferences?

5. Deliver good advice

- Where possible, help customers to review their own usage e.g. via their smart meter, electricity bills etc
- Suggest steps on how to improve their self consumption

CONCLUSION

- ❑ **The goal should always be to optimally size the battery...**
 - all it takes is a few simple steps
 - deliver the best outcome for the customer ie. self consumption, self sufficiency and ROI

- ❑ **Do your ground work on available products: become the expert and know the USP on each product in the market (strengths and weaknesses)**
 - As industry experts we need to be proactive in educating the customer and challenging incorrect preconceptions
 - If the market is well-informed on storage products and how they work, it delivers integrity and credibility to our industry.



NINO NIZIC

AUSTRALIA@SOLARWATT.COM



**Thank you for your time today.
For information on the SOLARWATT storage solution, head to www.solarwatt.com.au**