COMMUNITY POWER HUB METROPOLITAN MELBOURNE

Powered By

YARRA ENERGY FOUNDATION

Supported by

Sustainability Victoria

VICTORIA State Government

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Follow us

information@yef.org.au | 03 9429 6070

Yarra Energy Foundation

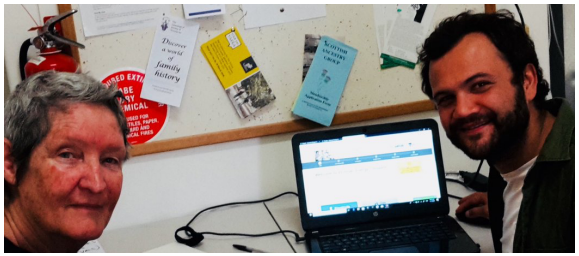
We are an independent, not-for-profit organisation that exists to engage and inspire people to take practical steps towards a zero-carbon future.

Connecting people to better energy for a zero-carbon future.

Our role is to support you throughout your personal transition now and into the future.

YARRA ENERGY FOUNDATION

Work with schools to install LEDs, solar & energy efficiency measures



Provide community organisations with solar donations as part of our solar programs through Council.

Help vulnerable community members reduce their electric costs through bill assistance, solar, & energy efficiency retrofits.

Assist residents with rooftop solar pv through our solar programs, provide energy billing advice, & energy efficiency assessments.

Work with businesses to provide energy analysis, install solar pv, energy efficiency assessments & retrofit LED lighting.

Metro Community Power Hub

Foundation Projects

A Community Power Hub is a collective of groups and organisations working together to develop and deliver community energy projects across a region.

Each CPH works collaboratively to:

Develop and deliver a pipeline of socially acceptable, financially feasible and technically viable projects across the CPH region

Provide local, trusted advice to the community on clean energy solutions

Deliver Implementation Ready community energy projects

Roundtable Partners

BCCAG
Bayside Climate Crisis Action Group

GECAN

YARRA ENERGY FOUNDATION

Jewish Climate Network

PORT PHILLIP EMERGENCY CLIMATE ACTION NETWORK

lighter footprints

darebin climate action now
alphington - fairfield - northcote - preston - reservoir - thornbury

YCAN

seam
Empowering Sustainability Journeys

Foundation Projects

The Metro Community Power Hub Foundation Projects includes:

- Solar PV and battery solutions
- Split Systems (Heating and Cooling)
- Heat Pump Hot Water
- Induction Preparedness
- Energy Literacy – Utility Bill Review

All-Electric Program

YEF has engaged with commercial providers to deliver and install solar pv, heat pumps, reverse cycle split systems and induction cooktop preparedness (pending).

As part of this, a comprehensive due diligence process designed to de-risk the program for the MCPH and all stakeholders.

YEF negotiates up to 20% off solar systems for program participants through our commercial partnerships.

YEF's existing solar programs with Council partners, has delivered about 2.5 MW with 1100 participating households since 2017.

Energy Literacy – Bill Review

Victoria currently has around 25 energy retailers.

Some of these retailers offer 10% - 50% renewable energy plans.

Assisting CALD, low-income and pensioners, with understanding their electric bills and providing advice on how to switch to simpler, more affordable and ideally ‘greener’ plans.

COMMUNITY POWER HUB

All Electric Home

Back to the Future

PREPARATION CENTER is chock-full of Westinghouse wonders. ...n in the Westinghouse Total Electric Home is the refrigera- ...f the future, the Island Refrigerator, with doors that open front and back. Built-into the handsome appliance wall are Westinghouse electronic and electric ovens. And crisp, clean Westinghouse Heirloom Maple Wood Cabinets unify the design.

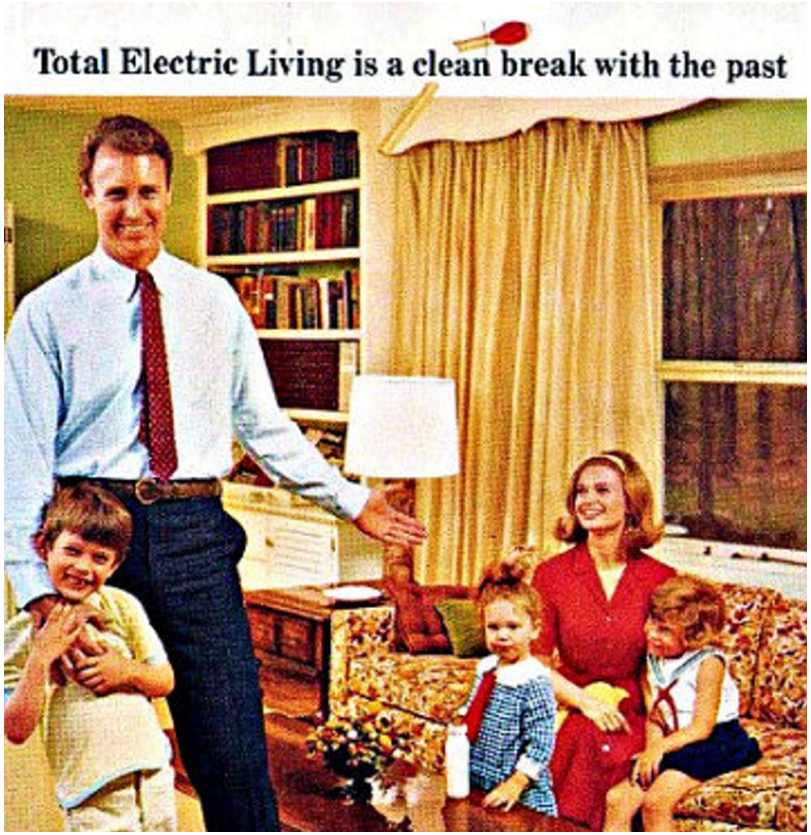
WESTINGHOUSE HAS ALL THE THINGS YOU NEED FOR

TOTAL ELECTRIC LIVING

...INGHOUSE 1000 LAUNDROMAT® Automatic

REFRIGERATOR-FREEZER IS TRIM AND TERRIFIC! Trim

DISHWASHER GUARANTEES 140° HOT WATER. That's the



All – Electric Home

The building blocks of an All-Electric Home

- Energy Efficiency - Insulation / Draught Proofing
- Solar PV and Battery
- Heat Pump Hot Water
- Reverse Cycle / Split Systems (Heating and Cooling)
- Induction Cooktop

Procurement Process

YEF facilitates a rigorous procurement process to select a provider for our Solar Programs.

Each preferred supplier are successful for numerous reasons:

- A solar leader
- Competitive and fair pricing structure
- Strong customer service record
- High-quality Tier 1 products
- Clean Energy Council Approved Solar Retailer & Accredited Installers
- Warranty – product, performance, workmanship

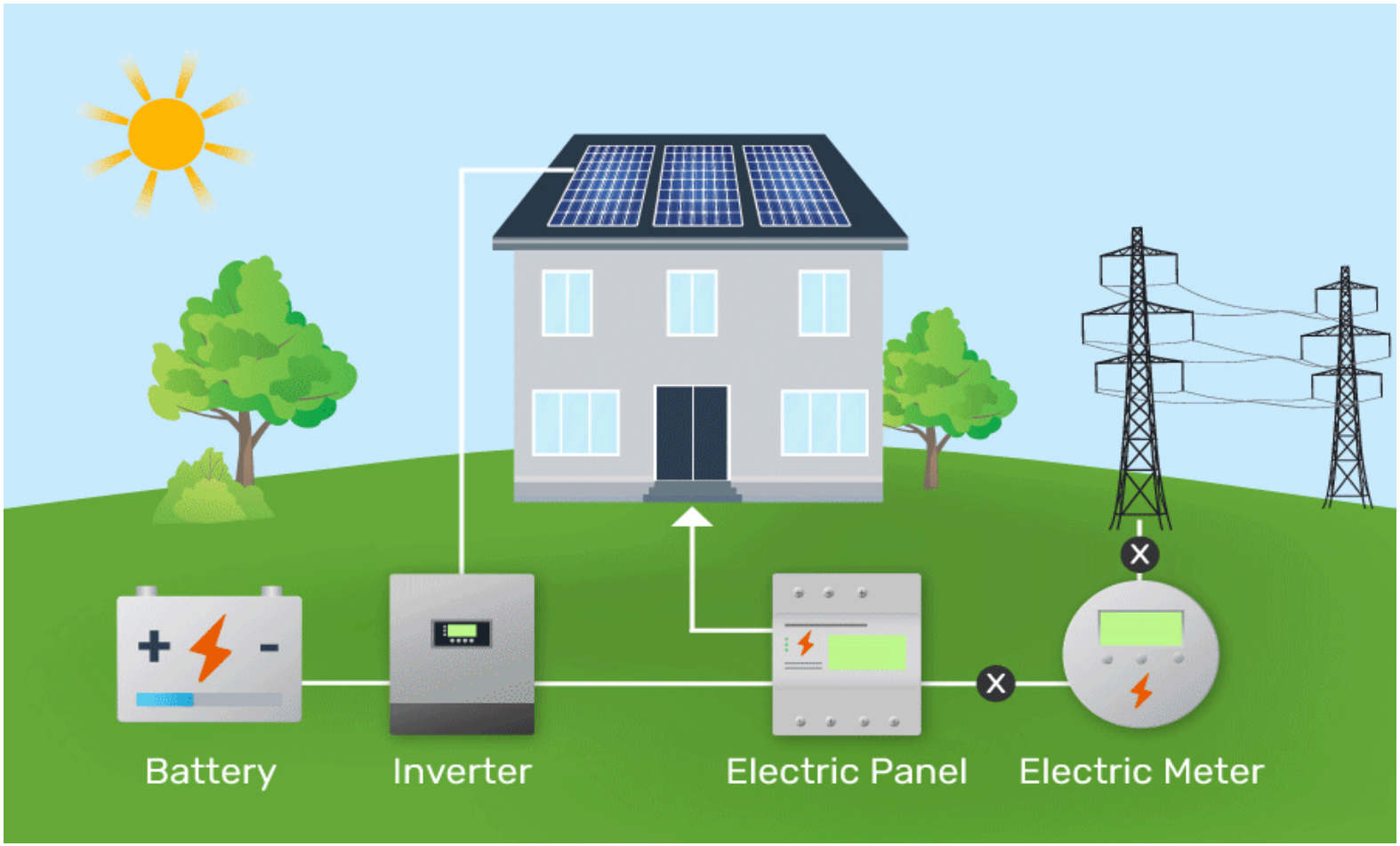
Preferred Suppliers

- ✓ Suppliers have been installing solar pv for over 10 years. This gives our customers peace of mind and assurance that we are going to be a strong, stable partner for them now and long into the future
- ✓ City of Yarra/YEF due diligence. Clean Energy Council Approved Retailer and in-house Accredited Installers
- ✓ All solar components, installers and warranties properly approved and verified

Preferred Suppliers

- ✓ Strict adherence to every aspect of solar installation regulations and guidelines, as per AS3000 Wiring rules and AS4777 Grid connection of energy systems – far higher than Certificate of Electrical Safety [CES] provided as industry basic standard.
- ✓ Suppliers have also been awarded this work on the back of demonstrated performance with previous tenders with YEF and others, and have been on their preferred panel of suppliers for 2 years

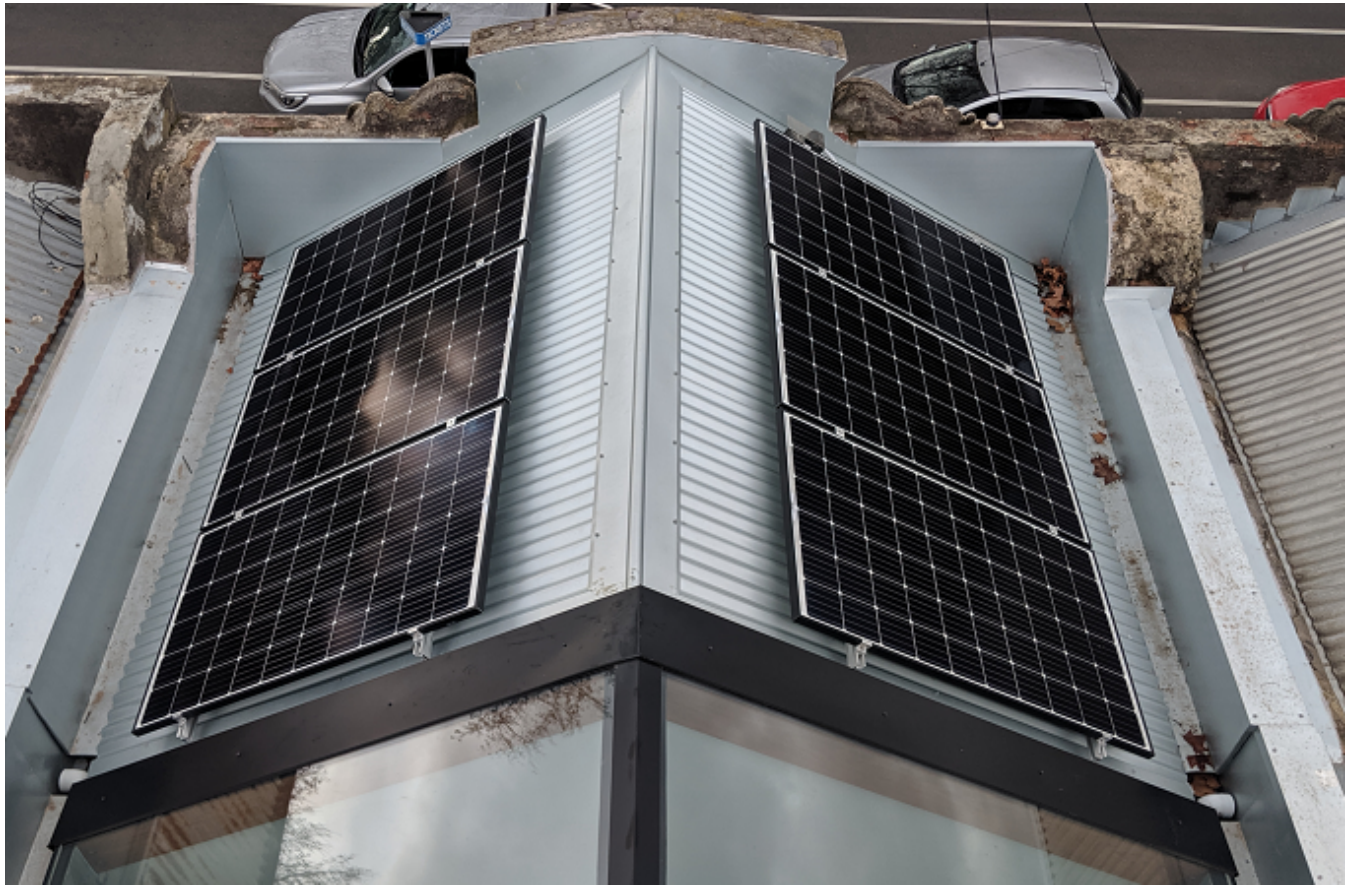
Solar PV with Battery



Installation examples – installation additions

- Note here:
- Installation additions:
  - Tilted aluminium frames
  - Multiple arrays
  - Extended DC interconnections
  - Opposing angles may require optimizers

Installation examples – micro-inverters



Installation additions:

- Short string lengths
- Opposing angles
- **Micro-inverters**

Installation examples – micro-inverters

Installation additions:

- Short string lengths < 5 panels
- Opposing angles
- Multiple roof faces
- Spotted shade
- **Micro-inverters**

Enphase (Micro-inverters) – premium upgrade superior technology

- Enphase (manufacturer) solar micro-inverters
- Micro-inverters are an entirely different inverter system, with one small inverter per panel
- They are usually considered a superior option, albeit at a higher price
- They are highly recommended for shady roofs, complex roofs and architectural applications where a large inverter might be unsightly.
- Consumption monitoring included

Inverter - Solar Edge

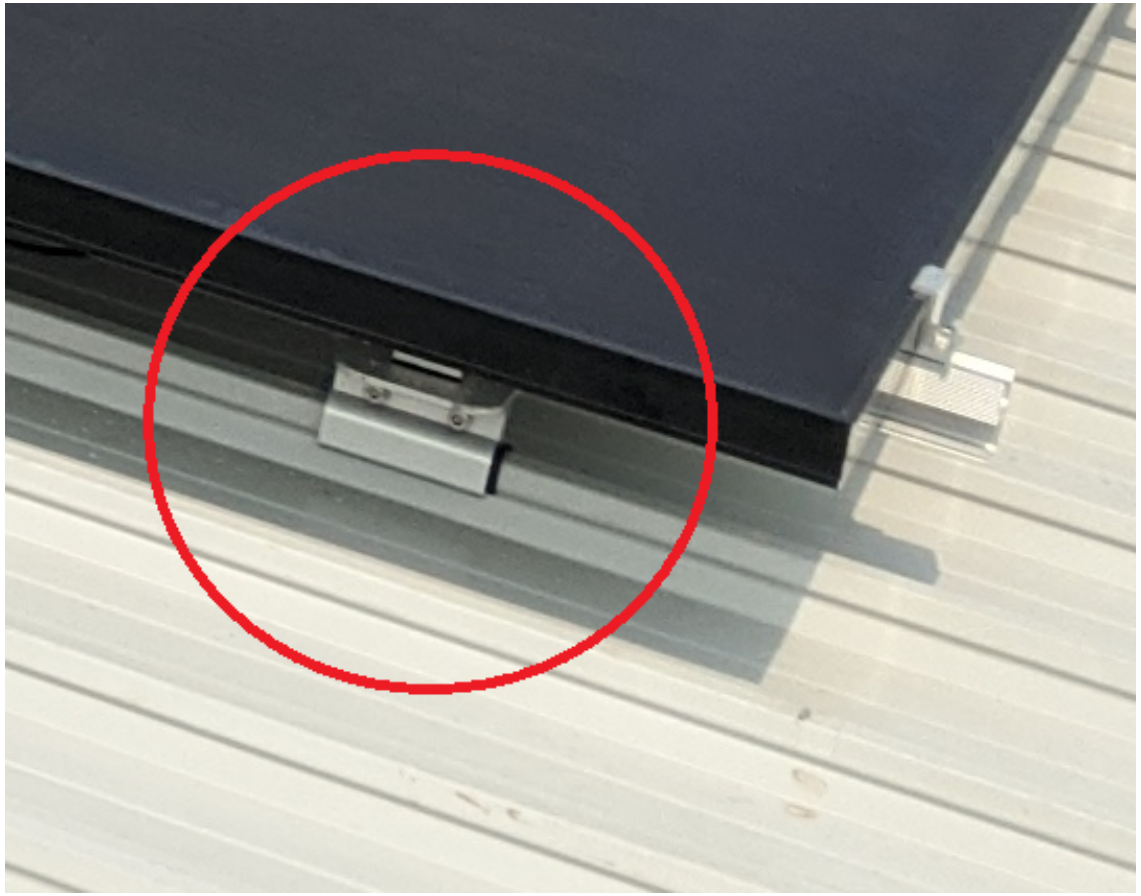
- 12yr Inverter & 25yr Power Optimiser Warranty
- Each panel operates independently
- Ideal for those that want panel level monitoring & detailed analysis of how well their system is performing
- Optimal solution for shaded areas

solaredge

Installation examples – standard installation

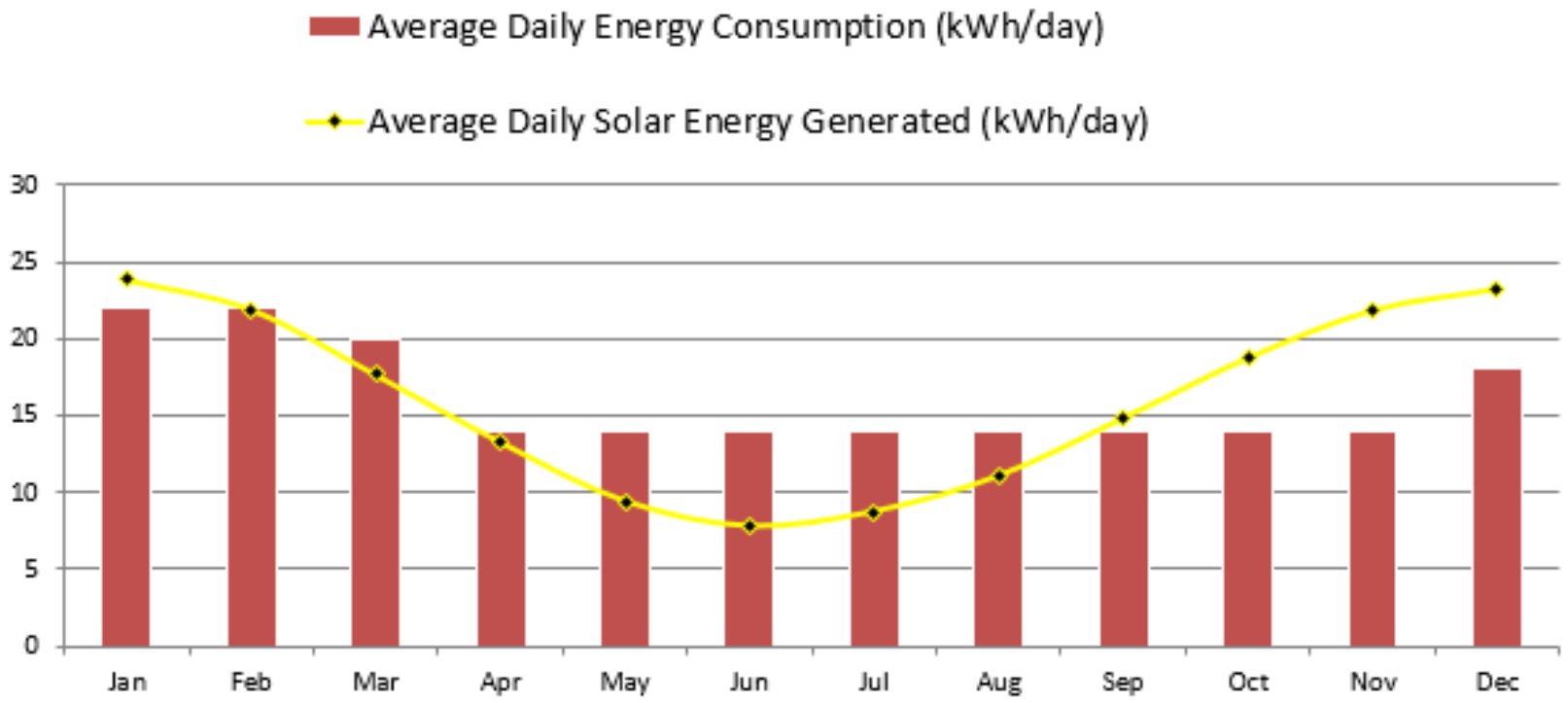
- Standard installation
- Flush installation
- No tilt frames
- Tin roof

Installation examples – Klip-lok style non-penetrative brackets



- Solid heavy aluminium
- 3 or more custom sizes
- Prevents roof leaks
- Higher installations require more brackets to handle wind.

Solar Savings

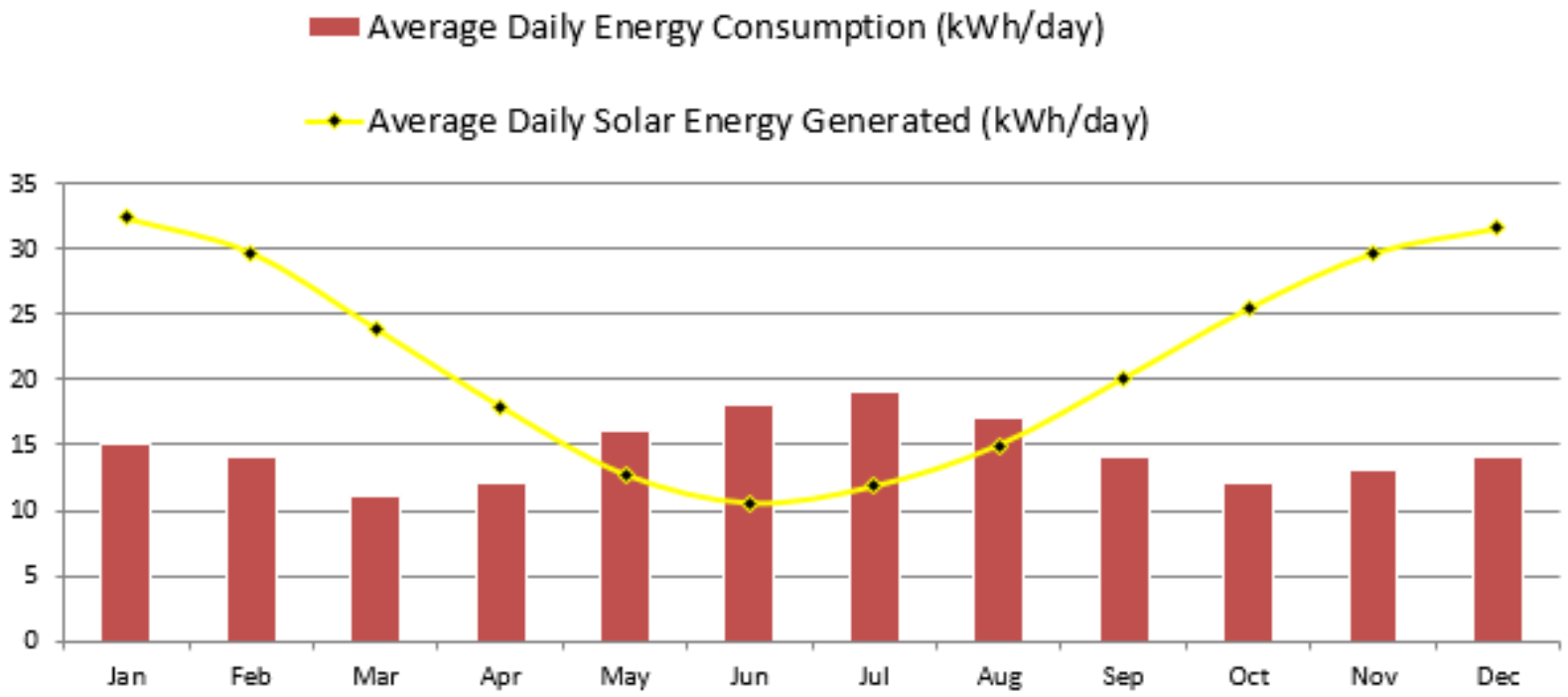


- Exactly 100% of annual kWh produced by solar power, **16 kWh**.
- 66% of power bill $$ saved

Battery Options

- Still quite expensive
- Return on investment at least twice as long as solar only
    - They will usually save you on the remainder of your bill
- Although the ‘battery’ pricing is coming down:
- Ancillary component requirements are complex
    - Inverter and monitoring
    - Fire-proofing (weatherboard)
    - Complex switchboard wiring
    - Bollards etc
    - Back-up loads, switchboard re-arrangement

Solar/Battery Savings



- Exactly 150% of annual kWh produced by solar power, **14 kWh**.
- 80% of power bill $$ saved

PRODUCTS – Battery Storage – Redback or Tesla

- Streamlined all-in-one design
- Hybrid Inverter
- Expandable battery storage
- Uninterrupted backup power
- Updates that get smarter
- Monitoring

REDBACK TECHNOLOGIES

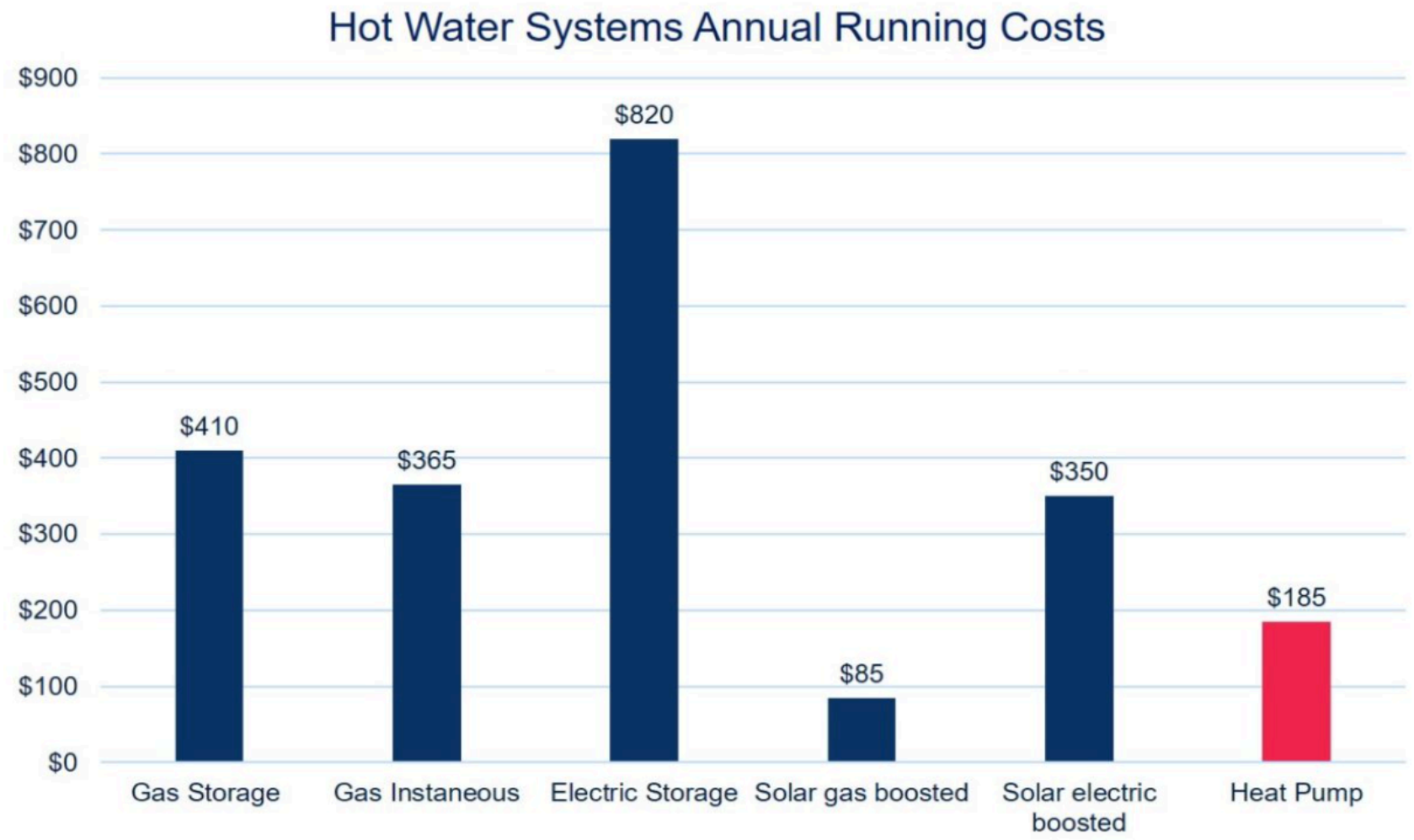
- 13.5kWh Battery
- Can be hooked up to existing solar systems
- Uninterrupted backup power
- Instant alerts before severe weather
- Monitor & Optimise
- 10 Year Warranty

Heat Pump Hot Water

- Time your heat pump to power up around midday, when the sun is highest.
- Your heat pump will store energy generated from your solar pv system into the form of hot water.
- Your family can use hot solar-powered water any time they want, even when the sun isn't shining.

This combination time-shift + energy self-consumption will cut your electricity bills even more than just a solar system, or just a heat pump, would on its own.

Heat Pump Hot Water



Data sourced from Sustainability Victoria's Hot Water Running Costs and compares running costs of 5.5 star gas storage system, 7 star gas instantaneous system, electric storage off peak system, high-efficiency solar gas boosted system, high-efficiency solar electric boosted system, high-efficiency hot water heat pump on off peak tariff.

Hydronic Heating – Heat Pump

The warmth and comfort of hydronic heating is appealing!

Also retains the existing system's sunk costs in radiators and copper pipework – re-use!

- Lower temperature setting with Heat Pump than Gas Boiler – slower response to heating demands
- Ceiling fans turning slowly in reverse for warm circulation and heating time optimisation
- Access?
- Switchboard

Solar Victoria

State Government - Solar Victoria Rebate Scheme https://www.solar.vic.gov.au/
If you have the following …
Property Valued at less than $3 million
Combined household income of less than $180,000
Are the owner-occupier and do not have an existing system, then…
You can receive up to $1400 rebate off your Solar PV system

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Flagship Projects

Flagship Projects

Aim high – think big!

These projects can truly be anything related to climate change response and solution.

Some examples are:

- Large >100 kW solar pv
- Scoping/feasibility for Community Batteries
- Power Purchase Agreement for commercial
- Transitioning a retail street to 100% renewable energy offerings

Opportunities

1. Retailer Negotiations: 50% to 100% Green Power products for all CS that is fair, equitable, easy to understand – Power Purchase Agreement for Business and potentially for low-income

2. Virtual Energy Networks (VEN): simply, peer-to-peer energy offering

3. Community Batteries: apartments

4. Electric Vehicle Storage: can act similarly to CBs tied into VEN, removes need for personal batteries

5. EV Charging: equitable price point for individuals through retailer negotiations

Call to Action

- Get a free, no-obligation quote for any of the products listed www.yef.org.au/mcph
- Consider an All-Electric Home as a step-by-step process
- Think of an unique project and hit us up! information@yef.org.au
- Join Lighter Footprints to become part of the MCPH https://lighterfootprints.org/

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