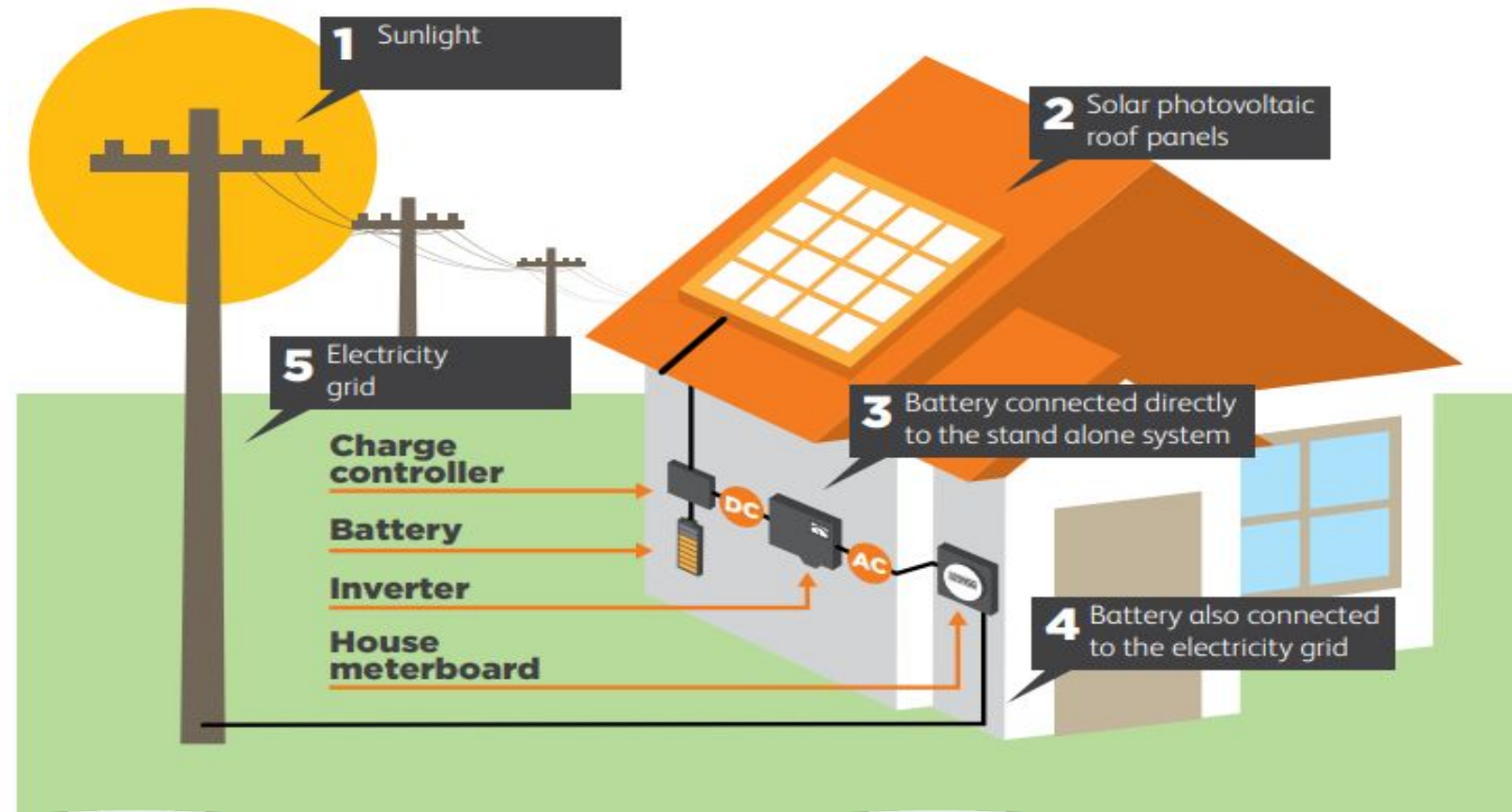


# Home Batteries and Much More



Special thanks to



[electrifyboroondara.org](http://electrifyboroondara.org)



# Electrify Boroondara

We are dedicated to a clean energy future

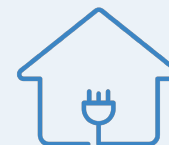


Source: Julian Meehan & Electrify Boroondara



# Home Batteries

- **Why** do I want/need a battery?
- What **size** ?
- What sort of **functionalities** ?
- Do the **financials** stack up?
- What sort of **tariff plans** are best ?
- How do I decide on **supplier/installer**?
- **Risks** and issues



# Battery objectives

- Blackout protection?
- Utilise excess solar?
- Avoid peak rates ?
- Support full household electrification?
- Help strengthen the grid?



Battery decisions today affect your options for the next 5–15 years

# Design Considerations

- Blackout protection (none, some, all household circuits)
- Ability to export to the grid
- Scheduling (charging, discharging, self-consumption)
- Remote control (you, support, VPP)
- 1, 2, 3 phase
- Adding capacity later (modularity)
- EV charger integration
- Hot water integration

# How big?

- How much energy (kWh) does your house consume?
  - Now? After you fully electrify?
  - Winter vs summer?
  - During the day? During peak hours (4pm-9pm)
  - Citipower/United Energy meter reports/graphs
- Will you only charge using solar? Or from the grid (using free/cheap solar soaker tariffs)
- Is extended blackout protection important?
- Will bi-directional EV charging provide some capacity in the future?
- Can I easily expand in the future
- Do you intend to trade energy? (VPP, Amber etc)



# Should I just wait and use my EV battery?

- V2x standards still emerging
- Will your EV be plugged in:
  - During the day to charge?
  - During the evening to discharge?
  - Will you remember, be bothered?



- EV batteries are bigger but home batteries are more useable
- Some newer home batteries are bi-directional EV ready
- At least a small home battery with option to plug in EV for more capacity

# Tariff selection

## **Standard peak/off-peak**

(eg 35c/kWh 3pm-9pm, 20c/kWh otherwise)

Charge battery with solar and off-peak.

Discharge/self-consumption to reduce/eliminate peak tariff usage

OK, easy to manage.

## **Solar soaker**

(free 11am-2pm, normal peak/off-peak otherwise)

Charge battery with solar and free grid period,

discharge/self-consumption to reduce/eliminate peak tariff usage. Use free power to charge EV and run heat pump etc

Can save money but requires some config

## **Amber**

(track wholesale market rates – wide range)

Battery trained to charge from solar or cheap grid

whenever available, discharge for self consumption and sell into grid at high prices

Complex and not for faint-hearted

# Government Incentives



## Federal Battery STCs

These incentives are deducted upfront by the installer, meaning no direct paperwork or application is required from the customer.



## Solar Victoria Rebate \$1400

If a customer is also receiving the Victorian solar rebate, the installer initiates the process, but the customer must submit the final application.

# Matching the solution to the Household

Every home has unique energy needs

## Light Use

- 5-8 kWh capacity
- GoodWe, Sungrow
- Basic backup

## Average Family

- 10-15 kWh capacity
- Tesla, Sigenergy, Sungrow
- Smart home integration

## High Electrification

- 15-30 kWh capacity
- Tesla, Sigenergy, Sungrow
- EV & electric heating ready

Full STC Factor applied (100%) for initial capacity. **approx \$3,500 rebate @14kWh**

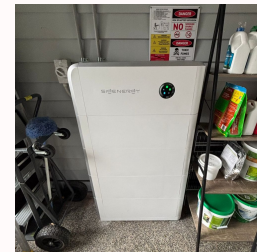
Additional capacity receives 60% of the STC Factor. **approx \$5,600 rebate @28kWh**



Tesla Powerwall 3 - 13.5kWh  
\$14,000 - \$15,000



Sungrow - 16kWh  
\$8,500 - \$9,500



Sigenergy - 16kWh  
\$13,000 - \$14,000

# Choosing a Location



**Garage:** sufficient clearance for adequate ventilation to prevent heat traps.

**Utility Room:** non-habitable, proper ventilation, fire-rated walls.

**External:** weather-protected and shaded. Requires sufficient clearance from the ground. Clear of windows and doors for safety and access.



# Putting It Together:

**kWh used outside solar hours** – *How much electricity do I use between ~4pm and ~10am?*

**Solar panel size (kW)** – how much energy you *can* generate – especially in mornings, afternoons and winter

**Inverter size & export limits** – cap how much solar can be used or exported at once

**Battery kWh** – Determines how long stored energy lasts overnight and into the morning

**Battery kW** – Determines what appliances can run at the same time

*Solar creates opportunity, batteries shift energy in time, export limits are a reality. The goal is control and flexibility – not perfection*

# Your supplier should help you answer

- What problem am I solving?
- Will this system work as my household electrifies?
- What compromises am I making (now vs later)?
- What happens when something goes wrong?

A good installer welcomes these questions.

# Key points to remember

- Be clear on what you want to achieve – 5-10 year view
- Batteries and tariffs work together
- Ignore letterbox brochures and TV ads

# More info



- <https://www.solarquotes.com.au/lp/battery-dos-donts/>
- <https://assets.cleanenergycouncil.org.au/documents/consumers/battery-storage-guide-for-consumers.pdf>
- <https://www.energy.gov.au/solar/get-know-solar-technology/batteries>
- <https://www.solarchoice.net.au/solar-batteries/homeowners-guide/>
- <https://www.sunspot.org.au/>



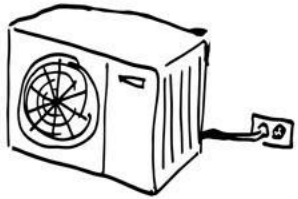
# Learn how to electrify your home



[electrifyboroondara.org/learn/overview](https://electrifyboroondara.org/learn/overview)

There are many practical and easy ways to save money and reduce emissions in your home. Visit the pages below for explanations, ideas and useful resources.

## Heating and cooling



## Hot water



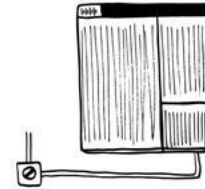
## Rooftop solar



## Induction cooktops



## Batteries



## Electric vehicles

