

# SOLAR REBATES

INFORMATION by BREAZE Energy Solutions (Rene de Jong)

- **Solar Rebates**
- **Solar in Perspective**
  - **Feed-in tariffs**
  - **Payback**
  - **Energy use**
  - **Energy production from PV**

# SOLAR REBATES INFORMATION

- <https://www.energy.gov.au/>
- **Headings**
- Energy basics for householders, Find the best deal, Your rights as an energy customer, Heating and cooling, Lighting, Hot water systems, Appliances, Solar PV and batteries, Pool pumps, Energy ratings, Water efficiency, Reducing waste, Transport, Household waste

# SOLAR REBATES

## RENEWABLE ENERGY CERTIFICATES (REC's)

- Small Technology Certificates – STC's
  - Federal government scheme managed by Clean Energy Regulator - rebates for solar, wind, hydro to manage emissions reductions to 2030 on a reducing sliding scale/yr
  - Certificates generated, sold to polluters, provided as an offset rebate to renewables
  - Based on KW power generated
  - Value Solar 6KW-\$2,720; 5KW-\$2,280, 4KW-\$1,800
  - Value for Sanden Heat Pump \$1,088
  - Included in quotations

# SOLAR REBATES

## Victorian Energy Efficiency Certificates (VEEC's)

- Open now – information at <https://www.esc.vic.gov.au/victorian-energy-upgrades/activities-offered-under-veu-program>
- State government scheme managed by Victorian Energy Upgrades (VEU) Registry - rebates for solar, wind, hydro to manage emissions reductions to 2030
- Certificates generated by State Government and retailers required to purchase these to meet targets, \$ used to offset renewables
- Includes (but not exhaustive list) Water heating, Space heating incl gas (away from electricity – Lcoal powered), Thermally efficient windows, Weather sealing, low flow shower heads, Lighting efficiency improvements, High efficiency devices (tvs, proven energy efficient tech)
- From electric to Sanden Heat Pump – approx. \$450
- Included in quotations for HWS from elect to gas (?? legacy policy) or air to water heat pump – (cannot get from gas to heat pump).



# SOLAR REBATES

## Victorian government solar PV rebate

- Opens 1 July, 2019, can register at <https://www.solar.vic.gov.au/expression-of-interest-solar-pv>
- you have a combined taxable income of less than \$180,000 per annum?
- Are you the owner-occupier of the property?
- Is the property valued at under \$3 million?
- Are you replacing an existing solar PV system that is at least 10 years old or getting a new solar PV system?
- Can you confirm that you haven't applied for or received a rebate for solar hot water system under the Solar Homes Package?
- Valued capped at \$2,225 and 50% for systems under \$4,500.
- 40,000 systems to be funded in the next year and monthly quotas of 3,333 systems that can be installed with rebate (in 2017-18, 32,000 systems funded)

Please note that households are only eligible for one rebate under the Solar Homes Package (ie. a household that accesses a solar PV rebate cannot claim a solar hot water rebate and vice versa).

# SOLAR REBATES

## Victorian government solar PV interest-free loans

- Information at <https://www.solar.vic.gov.au/Solar-rebates/Interest-free-loans>
- 2019-2020 there will be support for householder and rental properties up to \$2225
- Eligible households will be able to install solar panels on their home, saving households hundreds of dollars a year on their energy bills.
- Households will be required to pay back the amount of the loan over four years, which will assist Victorians with budgeting for their cost of living.
- Households who choose to access the solar PV rebate before the loans scheme opens in July 2019 will not be able to apply for the no-interest loan.
- If you would like more information about the Solar Homes program, [register for updates](#) or call 1300 363 744.

# SOLAR REBATES

## Victorian government solar PV for rental properties

- Opens 1 July 2019. Information at <https://www.solar.vic.gov.au/Solar-rebates/Solar-for-rental-properties>
- 2019-20 there will be support for 2000 installation for rental properties
- The installation of solar panels is expected to save a typical Victorian household who rents their home \$890 on their electricity bill every year, while landlords will benefit by getting panels at low cost. Landlords need to demonstrate that renters get shared benefit.
- Owners corporations will also be eligible. In order to receive the 50 per cent rebate and no-interest loan, they will need to demonstrate that the benefits of installing solar panels will be passed on to tenants.
- If you would like more information about the Solar Homes program, [register for updates](#) or call 1300 363 744.



# SOLAR REBATES

## Victorian government solar hot water rebate

- Open now. Can apply at <https://www.solar.vic.gov.au/Solar-rebates/Solar-Hot-Water-Rebate>
- 2019-2020 there will be support for 6000 HWS installations for rental properties
- You have a combined taxable income of less than \$180,000 per annum?
- Are you the owner-occupier of the property?
- Is the property valued at under \$3 million?
- Are you replacing an existing hot water system OR an existing solar hot water system that is at least three years old?
- Can you confirm that you haven't applied for or received a rebate for solar PV under the Solar Homes Package?
- Valued at \$1,000.
- Please note that households are only eligible for one rebate under the Solar Homes Package (ie. a household that accesses a solar PV rebate cannot claim a solar hot water rebate and vice versa).



# SOLAR REBATES

## Victorian government solar batteries rebate

- Available from 1 July, 2019. Information at <https://www.solar.vic.gov.au/Solar-rebates/Solar-batteries>
- 2019-2020 there will be support for 1000 battery installations for households
- Households will have access to a 50 per cent rebate for a solar home battery system up to a maximum rebate value of \$4,839 in 2019-20, which is expected to be the price of a typical 11 kWh solar home battery system.
- The solar battery system is expected to save a typical Victorian household up to \$650 a year on their electricity bills, in addition to savings they are already making with solar panels.
- Victorians with a household income of up to \$180,000 who live in their own home valued at up to \$3 million are eligible for these rebates.
- Homeowners will only be eligible for one rebate across the Solar Homes program. These rebates will be applicable to batteries installed after July 2019, and households will need to confirm their eligibility before installing a battery.
- There will be monthly quotas and only 1000 rebates available in the next 12 months. 10,000 over 10 years. Allocation of quotas by postcode to be announced based on demographic and technical criteria (growth areas and grid support unknown now)
- Solar Victoria is responsible for delivering the Solar Homes package and will provide further details on the batteries program, including eligibility, in the coming months.
- If you would like more information about the Solar Homes program, [register for updates](#) or call 1300 363 744.

# SOLAR REBATES

Energy providers and retailers

- There are 5 energy suppliers (poles & wires & electricity distribution) – local one is Powercor
- There are 37 established and newly licensed retailers in Victoria
- Some energy retailers provide pensioner discounts
- Shop around

# SOLAR IN PERSPECTIVE

## Feed-in tariff (income from exported power)

- Essential Services Commission sets minimum tariffs
- Before 1 July 2019 – time varying tariff minimum 7.1c/kwh (10pm-7am) to max 29c/kwh (3pm-9pm weekdays)
- **From 1 July 2019 – flat rate tariff minimum 12c/kwh and**
- **time varying tariff minimums**
  - 9.9c/kwh (10pm-7am)
  - 11.6c/kwh (7am-3pm, 9pm-10pm, W/E 7am-10pm)
  - 14.6c/kwh (3pm-9pm)
- Always better to use own than export!
- With solar PV, better still to charge HWS, especially heat pump (about 1/3 household energy is used to heat water)



# SOLAR IN PERSPECTIVE

## Payback – solar PV

- Most solar PV systems will pay back their costs from reduced energy bills if bills are high, technical setup is appropriate and self use of around 40% or better to offset high cost daytime power from the grid.
- Payback period 4-7 years
- Solar PV on own property is a “no brainer” in most cases

# SOLAR IN PERSPECTIVE

## Payback — Heat Pump, Batteries

- Most heat pumps and solar tubes/collectors will pay back in around 8 years
- Batteries are still marginal except where off-grid is more economical than bringing power to the property or exporting power is not permitted by Powercor

# SOLAR IN PERSPECTIVE

## Energy use

- Typical HWS uses 5kwh to heat water
- Household general use 12-20kwh
- Car per 100 KM use (small-large) 20-40kwh
- Car embodied energy = 22% (13200 KWh) of all energy used over life of the car (dirty energy) (50000KW/250000km)
- House embodied energy = 15 years of household energy use (dirty energy)
- Solar PV system embodied energy is equivalent to around 5 years of power generation from them (5KW = 30000 KWh)
- **5KW solar PV array produces around 6000 KWh per year**



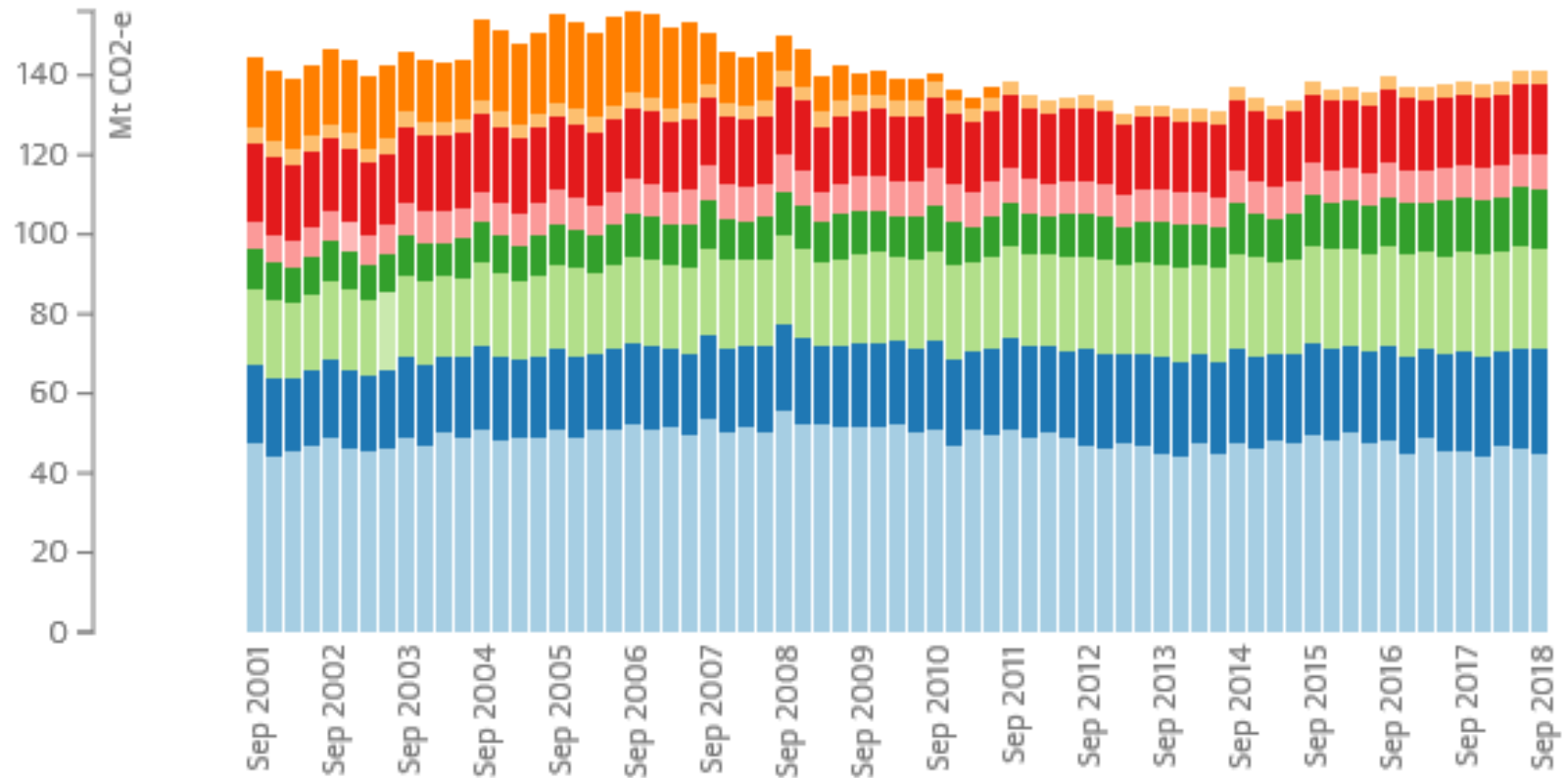
# SOLAR IN PERSPECTIVE

## Energy production solar PV

- **5KW solar PV array produces around 6000 KWh per year**
- Daily average 16.4 KWh per day
  - Low daily 6.6 KWh in June
  - High daily 26.7 KWh in January
- Solar offsets – 750 KWh offsets about 1 tonne of carbon greenhouse gases
- In 2018 with 4 KW PV array, I offset 7.08 T carbon

# SOLAR IN PERSPECTIVE

## Aust carbon emissions



- Bottom bars are electricity



# SOLAR IN PERSPECTIVE

Embodied energy typical house (CSIRO)

