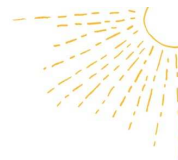


Solar Rates Briefing



Overview

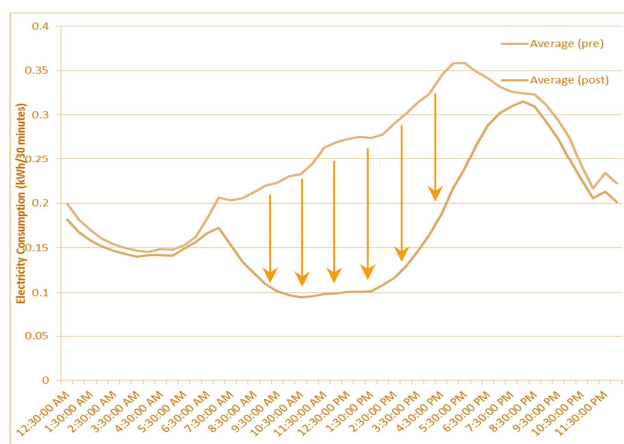
Low income households across Victoria are typically most vulnerable to energy hardship, going without other essential items to pay utility bills. Almost half of all Victorian households receive a rebate to support living expenses including a concession on electricity bills. One in five Victorian households receive a concession on their property rates via local government.

Solar photovoltaic (PV) systems provide a clear benefit to low income households by reducing their need to purchase electricity and gas. The ability of the technology to provide low cost energy throughout the day means these householders can also cool their homes during heatwaves without fear of 'price shock'.

Background

The Potential

Solar PV provides a clear benefit to low income households by reducing requirements to purchase electricity and gas. In 2014, the Darebin Solar \$aver program pioneered the use of the existing Special Charges Scheme (Sec 163) of the *Local Government Act* to apply a charge for 300 pensioner residential home owners to repay a solar system. This enabled participants to access low risk finance and gain an immediate net benefit (positive cash flow). The ability of the technology to provide low cost energy throughout the day means these householders can cool their homes during heatwaves without fear of 'price shock'.



Average daily electricity reduction from Solar PV (Darebin Solar \$aver program)

The Issue

Whilst the solar industry does a great job of getting solar on the roofs of Australian households, there is an issue in delivering solar to vulnerable and low income households who cannot afford the up-front capital costs of the installation. Government therefore has a role to play in assisting vulnerable households to meet this cost by providing access to low risk finance. To achieve a net benefit, the costs of finance need to be lower than the savings from investment.

Market and micro-finance terms are ultimately constrained by the need to apply a high interest to cover return and the risk of default. The interest rate is reduced when a household is able to provide an asset as security however the lender in most cases needs to recover its debt immediately, placing a low income household in unreasonable or higher financial stress. Government intervention can reduce the risks to lenders by underwriting default by allocating grant funds or the ability to manage delay in debt recovery due to statutory lien (claim) on property title. This allows a Council or Government to be a 'trusted and patient lender' to meet a policy outcome.

Unsecured Loan/Lease (12-15%, eg credit card)

High interest, no net benefit

✗

Unsecured Micro Finance (~6%, eg Good Shepard)

<3 year term, limited to \$3000

✗

Secured (5-12%, eg Car as security)

Places essential asset at risk

✗

Government Guarantee (0-5%, eg Rates/State Govt)

Low interest, low risk

✓

The Benefit

High Daytime Use

1 in 5 rate payers receive a pensioner concession and have a high daytime occupancy.

Given the daytime generation profile of solar and current low feed in tariff, solar is most beneficial for households who use electricity during the day. This may change as tariff structures change and storage becomes more affordable.

Home Ownership

Over half low income households are home owners

Given the need for asset security and the length of time required to repay finance, home owners/mortgagees remain the most straight forward segment. Further complementary measures are required to support renters or landlords participate.

As the Darebin Solar \$aver program demonstrates, pensioners provide an important group to develop a scaled program around as they clearly benefit, they have a need for finance, are readily identifiable and are a low risk lending option. Such a program, if successfully delivered, could be extended and modified to meet other low-income households facing particular barriers.

Operational Requirements

To be successful, a Local Government program needs to provide:

Accessible finance	Financial mechanisms need to provide a low interest rate and simple mechanism to ensure benefit and participation levels.
Low risk	Models needs to be low risk for councils, finance providers and residents.
Scalability	The scheme should leverage the benefit of economies of scale to meet needs of residents and interest of councils.

Regional Coordination/Shared Service

There are a number of roles (communications, procurement, customer service) that can be undertaken regionally, this can reduce resource burden on individual councils, access expertise and contain costs of the overall program. Councils already provide some services as a Shared Service across multiple councils and coordinate programs through greenhouse alliances. Partnerships with social and environment sector NGOs can further harness existing capability and link with complementary support programs.

Bulk purchase/Economy of Scale

Further to efficiency, bulk procurement may allow for a significant reduction in the installed cost of solar PV systems. Programs are able to leverage a reduction in capital costs and labour and logistics costs where installation is clustered. Consideration needs to be given to ensure compliance with local government procurement requirements and coordination across regional areas.

Models

Council Rates Program (Recommended)

Utilise Councils ability to apply additional charges to property rates. For example the Darebin Solar \$aver program has utilised the *Special Charges* mechanism to enable 300 pensioners to access solar PV and pay back the cost over 10 years. Any outstanding debt is tied to the property title and allows the Council to recover debt (with accrued interest) when the property is sold.

Requirements to scale

- Legislation to enable 'off balance sheet' finance similar to Environmental Upgrade Agreements
- Regional shared service model supported by Victorian Government

Private Finance/Government Guarantee (Alternative)

Utilise retail finance institution products directly to the household. The risk of default is underwritten by a Government fund. *No Interest Loan Scheme* (NILS) demonstrates some capacity to broker arrangements between banks and NGOs to achieve a social benefit.

Requirements to scale

- Capacity of private institutions to forgo profit to provide low interest finance
- Ability of Victorian Government to underwrite risk

State Government Program (Uncertain)

State Government has some capacity to provide financing or underwriting risk for vulnerable households. As an example, The Home Renovation Service loans, available through the Dept. of Health and Human Services, provides low interest, long term loans to concession card holders to support modifications to make living at home easier and safer.

Requirements to scale

- Ability of the Victorian Government to fund a state-wide program
- Ability to coordinate regional implementation in partnership with Councils, NGO sector and industry.

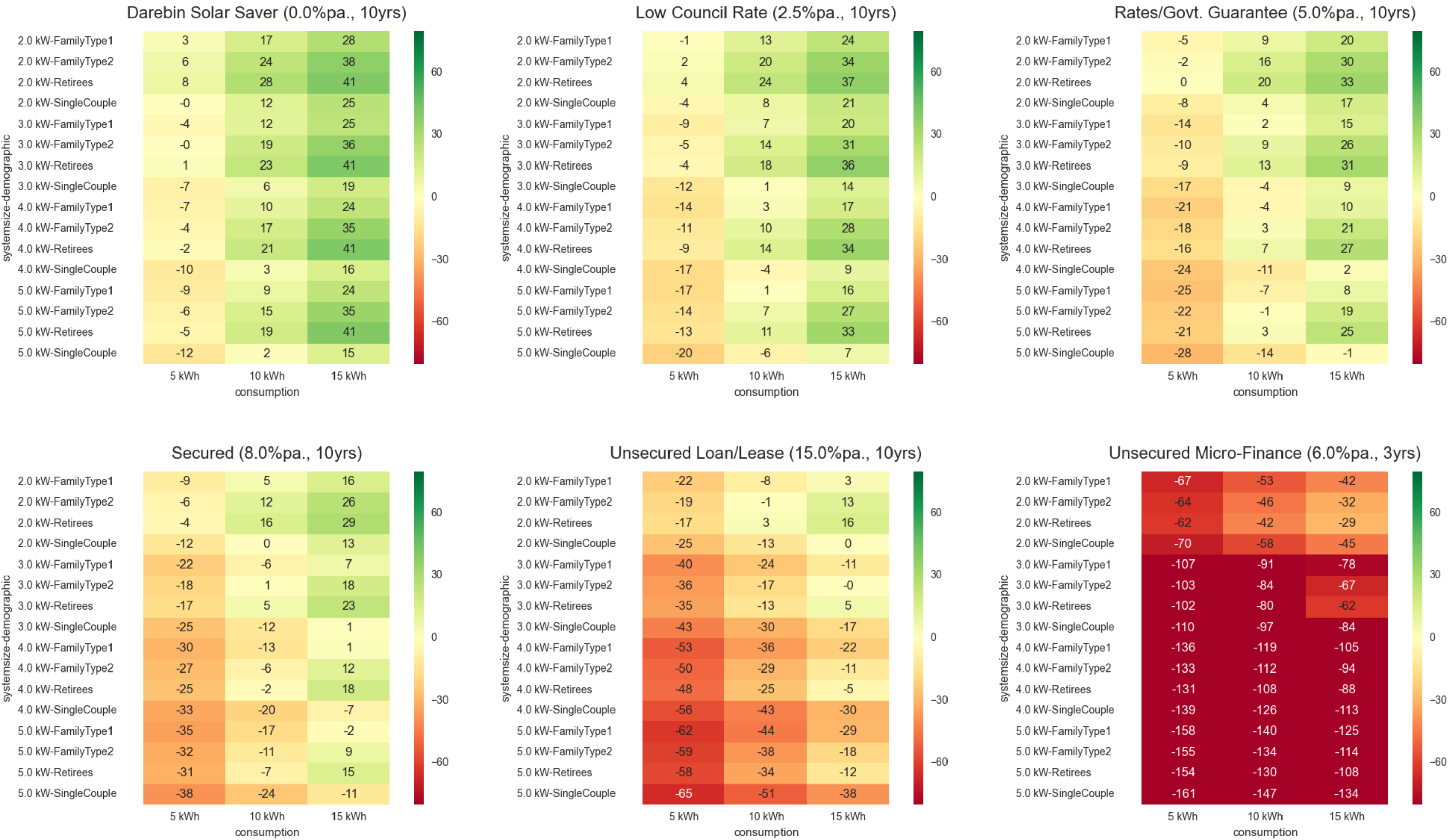
Next Steps

Business Case	<i>Establish key factors for regional program design</i> Current work to provide business case/tools for Councils to be completed in December. Additional work in early 2016 to consider legal amendments to enable 'off balance sheet' finance, default fund mechanism and shared service arrangements.
Pilot Funding	<i>Identify resources to support a regional pilot</i> Utilise the potential opportunity via the New Energy Jobs fund or alternative Victorian Government initiative to support the delivery of a regional pilot to demonstrate impact, refine model and support wider roll out.
Advocacy	<i>Highlight key opportunities to remove legislative and regulatory barriers</i> Engage with current Victorian Government processes (Energy Efficiency Strategy, Renewable Energy Road Map, Review of Local Government Act) to better enable program scale.

EAGA Solar Rates - Net Savings (\$/month) - Baseline

Monthly savings calculated for different financing options, results presented graphically below.

Key assumptions provided on following page



EAGA Solar Rates - Key Assumptions



Solar insolation for a Melbourne metropolitan location

Solar PV systems priced as follows

- 2.0 kW at \$3,350
- 3.0 kW at \$4,850
- 4.0 kW at \$6,000
- 5.0 kW at \$6,950

Electricity costs calculated as follows.

- Without solar at 30c/kWh
- With solar at 35c/13c peak/off-peak and a 6c/kWh feed-in tariff.

Daily consumption assumed to vary by demographic group according to profiles shown in chart below.

- Family Type 1 Couple with children, both parents working
- Family Type 2 Couple with children, 1 parent staying home to look after kids
- Retirees 1-2 people living in the home, generally at home during day
- Single/couple 1-2 people living in the home, all occupants working 9-5 Monday to Friday

