SOLAR PV FOR LOW INCOME HOUSEHOLDS

Removing barriers to enable solar PV choices for low income households

Retail electricity costs dictate that some low income households go without essential services such as heating and cooling, even during climate extremes, with flow on health ramifications. Solar PV systems can provide clear benefits by reducing exposure to energy prices and allowing householders to cool their homes during heatwaves without fear of 'price shock'.

> *Existing retail-focused government interventions (energy concessions; hardship provisions) are inefficient and ineffective for low income households that are able to use onsite solar energy for their daytime energy needs.*

A more sustainable energy future should provide all Victorians greater choice around access to renewable electricity. To ensure low income households can participate in solar PV and energy efficiency action, low risk finance models are required to unlock investment and stimulate uptake.

Scale of initial impact

Low income households who have high daytime energy use (and can hence benefit from solar PV), are best suited for participation because they are:

- easily identifiable,
- likely to participate,
- provide sufficient scale for program viability and
- typically receive co-benefits (e.g. improved health)

Owner occupier pensioner households closely match these characteristics and are recommended as the first low income household group to be offered support at scale. The Darebin Solar $avers pilot supports this. The majority of these households will currently be eligible for a council rate rebate and electricity concession. Suitable solutions for other low income households could follow as a program develops to increasing scale, i.e. public housing, renters receiving a concession.

The general residential uptake of solar PV systems in Victoria stands at 13 per cent[1] (or 18.5% of owner-occupied households). There are an estimated 281,000 owner-occupied pensioner households in Victoria – if a similar scale of penetration can be reached within this segment, up to 52,000 low income pensioner households could be generating their daytime electricity onsite. By 2021, this figure is 56,600.

SHARING IN THE BENEFITS

A statewide low income solar finance program has the potential to deliver (assuming 2 kW installed capacity across 52,000 households):

- Minimum immediate net savings in the order of $100 per year on electricity costs per household
- Reduce Victorian Government concession payments by $4.5 to $6 million per year
- Installed capacity of 104 MW and investment of $174 m across 52,000 homes
- Renewable energy generation to reach 115,000 MWh per year
- Greenhouse gas emissions reductions to reach 143,000 tonnes CO_2-e per year

[1] See AEMO, State of the Energy Market 2015, p. 60.

Scott McKenry
Regional Coordinator
- Eastern Alliance for Greenhouse Action

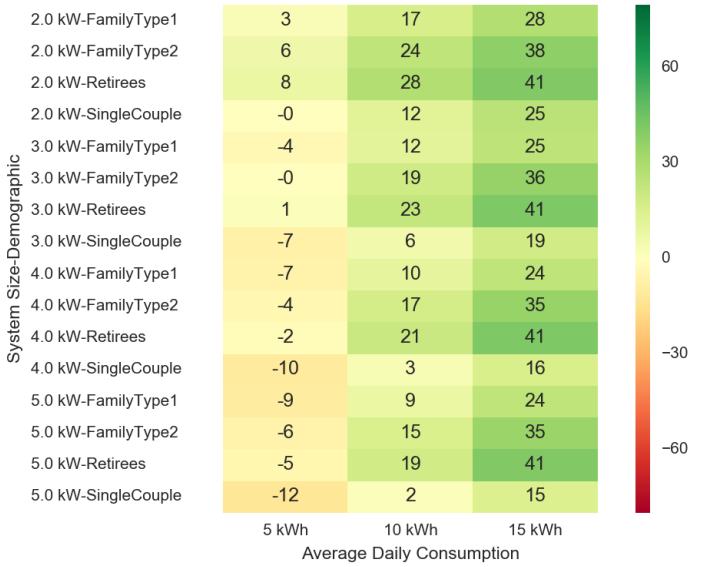
Phone: (03) 9298 4250
Email: scott.mckenry@maroondah.vic.gov.au

EAGA
EASTERN ALLIANCE FOR GREENHOUSE ACTION

Achieving financing thresholds and viable options

Loan finance allows a resident to cover the upfront cost of installing PV, receive the benefit upfront and repay the debt over time. To enable participation of low income households a program must deliver immediate reductions to households' energy costs which exceed the cost of finance (that is, be cash flow positive).

Council rates (0.0%pa, 10yrs)



Private finance (5.0%pa, 10yrs)

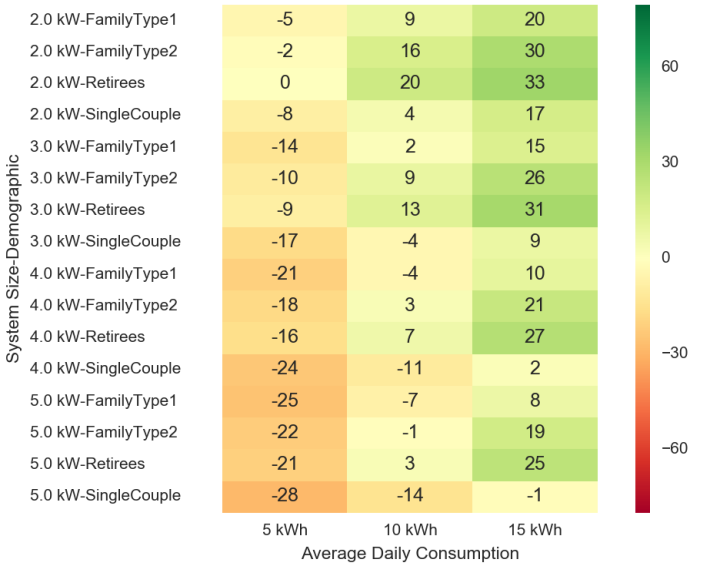
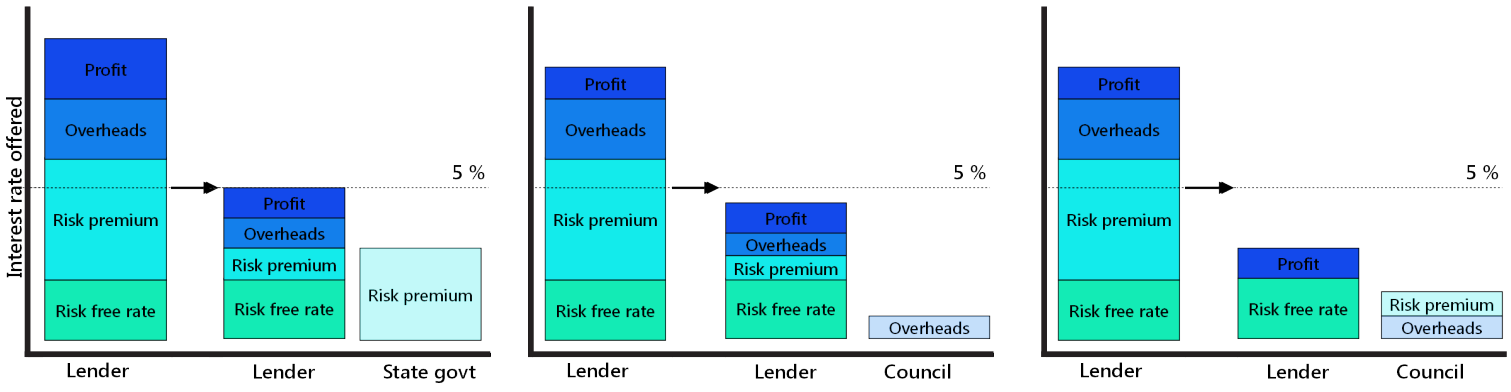


Figure 1 – Interim modelled net savings ($/month) under different scenarios from Phase 1 analysis.

Interest rate and repayment term have the greatest impact on the economic viability of low income solar finance. A 5% interest rate is considered the threshold (suitable for high electricity consumers only) and long repayment terms (e.g. 10 years) are key. A key focus of an ongoing program will be to drive best available interest rate and terms to ensure maximum benefits to households.



Private Finance with Gov Guarantee

Lending with default fund allows lender to partly transfer risk to the state who absorbs using fund reserves

Council rates: EUA

Council as collection intermediary - risk to lender diminished by relying on Council rates for repayments, and sharing some overheads with Councils

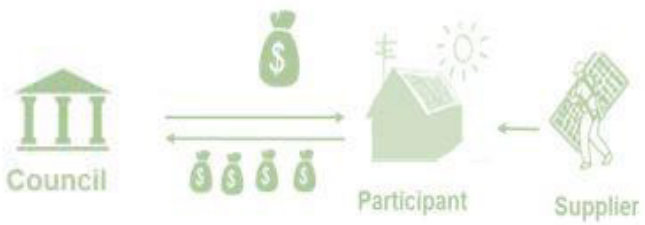
Council rates: Special Charges + Debt

Council as borrowing intermediary - risk and overheads to lender diminished by directly lending to Council. Council carries residual household debt risk and recruitment overheads

NAGA
NORTHERN ALLIANCE FOR GREENHOUSE ACTION
Moreland Energy Foundation
VICTORIA State Government
URBAN EP

Council rates charges the most practical model

The recommended finance model is a council rates charges scheme, which utilises the rates scheme as a loan repayment mechanism for eligible homeowners. This model can deliver favourable terms to borrowers (0 – 2.5% over ten years), while providing confidence to lenders (if councils choose to hold debt) through asset security, statutory charges and the capacity to transfer debt to new property owners. The Darebin Solar $avers pilot demonstrated the mechanism's success.



NEW ENERGY JOBS FUND PROJECT - SOLAR PV FOR LOW INCOME HOUSEHOLDS

The program seeks to install up to 1,000 solar PV systems on low income and vulnerable households across twenty two municipalities in Victoria. The project will be coordinated by the Victorian Greenhouse Alliances over 2.5 years and will:

- test a model for scaling up the use of Council rates to provide individual loans to households and recover costs through the rates system
- catalyse private sector investment within a community segment traditionally viewed as high risk to investors by establishing and evaluating partnership finance models with the banking sector
- establish a shared services approach to implementation enabling access to dedicated capability and reduce resource requirements and risks to Councils. The approach will leverage economies of scale in administration, procurement and governance, and (importantly) enable participation by Councils not otherwise able to offer this service to their residents.

The decision of the Victorian Government to fund the NEJF Solar PV for Low Income Households project demonstrates strong support for continued application of the council rates charges scheme and a willingness to trial new partnership models with private sector finance providers. The NEJF trial will provide an opportunity to test the use of a government guarantee (default fund) as a means of driving more competitive terms.

Improving the council rates charges model to state scale

The financing models to stimulate the greatest uptake will need interest rates as low as possible, with minimal Council and lender overheads and risks. While Councils can provide very low interest finance from limited cash reserves, they could add to this by drawing on third party finance.

The MAV Local Government Funding Vehicle has been set up expressly to provide very low interest finance to Councils and is ideally placed to support this scheme. Other finance sources, such as Clean Energy Finance Corporation, may be similarly suitable if arranged with a third party.

MAV can also play a key role in lowering implementation costs through its aggregate procurement and advisory services, e.g. for solar panel purchasing and finance sources. It is recommended MAV is engaged as a key program partner in the NEJF pilot.

Reforms to the special rates section (Sec. 163) of the Local Government Act would lower program costs further. If voluntary solar rates programs were exempt from public notice and other provisions for the use of special rates, the resulting decrease in administrative costs are likely to remove barriers to Council participation.

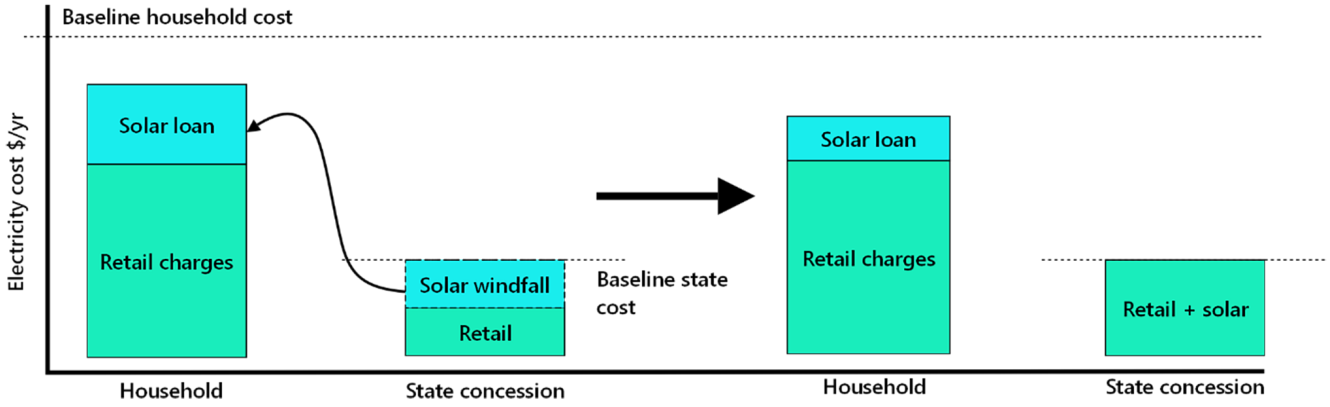
State measures that alleviate energy hardship could be reformed to reinforce local government leadership. As electricity concessions are only applied to retail costs, low income households lose part of this concession when investing in solar, and are not able to draw on equal support for their solar investment. This stymies their options in the modern energy market, and may be a counterincentive against Council solar rates programs even if solar PV is their least cost energy source.

For this reason, it is recommended that the Victorian Government allow concession households to use part of their 'business as usual' concession to pay-off their solar loan (see figure below). This is a more efficient, effective and fair application of the concession than the current retail-only focus. This has the added advantage for the Victorian Government who would be able to bank the concession savings once the loan is paid off.

Scott McKenry
Regional Coordinator
- Eastern Alliance for Greenhouse Action

Phone: (03) 9298 4250
Email: scott.mckenry@maroondah.vic.gov.au

EAGA
EASTERN ALLIANCE FOR GREENHOUSE ACTION



Opportunity for an integrated, coordinated approach

The only way meaningful support can occur is if each sector plays its respective role and reinforces each other's mandate for action. It is recommended than an integrated approach is required if a program is to successfully scale to impact 52,000 households and beyond.

State government

Problem recognition /driver	Related responsibilities / lever	Potential role in a solution
• Confirms the need to include vulnerable house-holds as renewable energy investors • Sees that support for energy hardship could be better • Recognises the need to support low income households adapting to climate change	• Welfare, Council, climate change and retail energy laws • Energy concessions • Energy and climate change policy • Partnerships with Councils • Oversees, manages and funds state public housing	• Legal reform to lower solar rates scheme overheads • Revised concessions in line with modern energy market • Technical guidance • Shared buy-in into a solution • Large scale solar investor on public housing stock

Local government

Problem recognition /driver	Related responsibilities / lever	Potential role in a solution
• Stated in Community, Environmental, Health and Wellbeing Plans • Greenhouse alliance actions in energy and climate change • City of Darebin Solar $avers • NEJF Grants project	• Local / regional climate change and renewable energy strategies • Pilots to test innovative funding for low income homes * Ongoing advisory services to their communities	• Promotion and advice to low income households on renewable energy and finance • Source and/or intermediary for no- or low-interest finance • Shared buy-in into a solution

Private lenders

Problem recognition /driver	Related responsibilities / lever	Potential role in a solution
• Recognition that they cannot supply products at scale with the terms needed • Recognised gap in the market that they are constrained in addressing by themselves	• Responsible lending and related activities • Development and brokering of related financial products such as green bonds	• Revised product terms in line with a solution • Brokering third party finance • Services related to offloading and managing debts in line with tolerances

Scott McKenry
Regional Coordinator
- Eastern Alliance for Greenhouse Action

Phone: (03) 9298 4250
Email: scott.mckenry@maroondah.vic.gov.au

EAGA
EASTERN ALLIANCE FOR GREENHOUSE ACTION