Solar PV for low-income households

Final report for Solar Rates Business Case Phase 2

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Executive Summary

Since 2014, the City of Darebin's Solar $avers program has successfully employed a special rates mechanism to deliver solar to more than 300 households across the municipality.

In doing so, the council identified a mechanism to help pensioner and low-income households access the benefits of on-site solar photovoltaic (PV) power, reduce their daytime electricity costs and contribute to climate action through renewable energy generation in Victoria.

This business case investigates what is required to help an estimated 52,000 low-income, pensioner owner-occupier households across the state invest in solar, recognising that what worked in Darebin is not automatically replicable elsewhere. It provides recommendations to state and local governments and their partners on how to provide an effective and wide scale level of support to help low-income households install solar PV systems on their homes as a least cost energy option.

In particular, it recommends an integrated approach leveraging involvement of councils, state government and leaders in the finance sector. In particular, there is a need for the Victorian government to provide Incentives, such as through rules enabling access to electricity concession payments for qualified households purchasing and installing solar PV, which is both immediately cost neutral for the state and a necessary catalyst to achieve scale in Victoria.

The time to act is now.

An alignment of affordable finance and stated political ambitions to increase renewable energy at both the state and local level provides momentum for a concerted push to overcome barriers to low-income households accessing solar PV.

Project overview and prior business case phase

This project follows Phase 1 of a business case finalised by Moreland Energy Foundation Ltd (MEFL) for EAGA in January 2016, which examined necessary conditions for a household to benefit from innovative financing options for solar PV, and provided a preliminary exploration of models, enabling legislation, and delivery approaches.[1]

Some findings from Phase 1 of particular importance to the current business case (Phase 2) are:

- That loan products available through mainstream lending channels are inappropriate and/or inaccessible for financing solar PV systems on low-income households for a range of factors including eligibility, lifetime of the loan, and offered interest rates.
- Cost benefit modelling identified that such households would need to be offered interest rates no higher than 5 % per annum (p.a.) repaid over at least ten years, in order for the household to be in a cash positive position when balancing borrowing costs against energy savings. This outcome changes depending on the balance between electricity generated and used on site versus exported off site. Only higher energy users that expect to use much of the energy on site may stand to clearly benefit at the higher interest rates of 5 % p.a. and beyond.
- The Phase 1 report identified a number of low-income market segments and other groups that may benefit from accessible low interest finance to install onsite solar systems. The first priority

[1] Report is available from https://eaga.com.au/projects/solar-rates/ [Accessed 8 June 2016].

low-income group recommended for support was owner-occupier pensioner households, although in time, other groups may also be considered.

- Phase 1 findings suggested a range of approaches for councils and state government to support access to suitable finance including paths to diminish the level of risk that lenders may otherwise be exposed to, and to streamline engagement and operations at scale.

Building from this work, the main objectives of the current project phase (Phase 2) are to:

- Inform council advocacy relating to the Review of the Local Government Act and assist legislators in their redrafting of the Act's provisions relating to the use of council charges.
- Assist councils and other partners to design and establish a 'shared service' to deliver large scale solar rates programs within Victoria.
- Assist the state government and other stakeholders to set up a default fund and/or other means to grant lenders confidence and catalyse uptake of PV systems on low-income homes.

During Phase 2, the business case team established a tight understanding of the problem that substantiates action at scale; and through consultation, gained deeper insights into the types and levels of support from state and local government that represent meaningful assistance to the household, and established working relationships with core delivery partners (particularly lenders and councils).

The business case Phase 2 Directions Paper set out initial findings across these themes, ahead of developing draft and final business case reports, which present targeted recommendations to assist EAGA and its partners.

Understanding the problem

In reviewing the current assistance for this sector in the Directions Paper *Solar PV for low-income households* (the Directions Paper), the following problem was identified:

While the retail gas and electricity market generally functions to supply energy to households relatively efficiently, some lower income households face price risks and risks of disconnection that present a significant societal welfare cost that require intervention. 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.

We see this stated problem as arising from two shortcomings in the existing arrangements for addressing the energy costs of low-income households:

1. The DHHS energy concessions assistance is confined to assisting low-income households with costs in procuring energy (gas and electricity) sourced from retail suppliers, and does not apply to other cost effective means to source energy, such as solar PV. As a result, the concession payment effectively locks-in current energy consumption and production behaviours and discourages household investment in alternatives.

2. An established barrier that stops households on low incomes from installing solar panels is their inability to access capital with terms that allow them to remain cash positive from the outset. This effectively restricts them to second best 'grid only' options, which have higher longer-term costs for the household, the community, and the state's budget.

Together, these factors lock low-income households out of installing solar PV systems, even if it makes economic sense for them to do so. Further, unlocking one problem and leaving the other in place may be insufficient for enabling the lowest cost solution for these households.

RECOMMENDATION 1: That the stated problem is jointly agreed by state and local governments as warranting shared effort in line with responsibilities, role and capacity to contribute to a solution.

Recognition and responses requiring more consolidated action

We find that both state and local governments acknowledge and are interested in resolving these problems for low-income Victorian households. The state-funded EAGA-led New Energy Jobs Fund pilot (below) may be indicative of emerging state support for a solution in partnership with the local government sector, which pioneered support through the City of Darebin's Solar $avers program.

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

This EAGA-led project seeks to install up to 1,000 solar PV on low-income and vulnerable households across 22 municipalities in Victoria. The project is led by Maroondah City Council and coordinated by the Victorian Greenhouse Alliances. It will be delivered over two-and-a-half 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 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 project implementation to enable access to dedicated capability and reduce resource requirements and risks to councils. This will leverage scale economies in administration, procurement and governance, and enable participation by councils not otherwise able to offer this service to their residents.

Along with lenders, there is a recognised opportunity for state and local governments to work together to overcome the unwarranted disadvantage faced by low-income households in accessing the benefits of solar PV.

Scale of opportunity

The Directions Paper followed the Phase 1 report recommendation that low-income owner-occupier pensioner households be the first market segment to be investigated. Both the Phase 1 report and the Phase 2 business case acknowledge that there are other low-income households that are likely to be in greater need than this group, however they are more difficult to quantify and support. In time, it would make sense to expand out to these other groups and address their separate barriers as needs dictate.

From the Directions Paper analysis, it is conservatively proposed that at least 52,000 low-income owner-occupier pensioner households are impacted today through not having the means to invest in onsite solar PV systems. By 2021, this figure is at least 56,600 and this suggests that government intervention would have a warranted impact on the community.

Our analysis adapts the modelling undertaken during Phase 1 to consider concessions impacts on this target sector, and the benefit of installing a 2 kW system on a typical pensioner home consuming 12 kWh electricity per day. Using a 'no interest' loan as per the Darebin Solar $avers scheme or similar program, baseline annual energy costs of $951 could be reduced to between $774 and $877, resulting in a saving of $74 to $177 to the household and $87 to $109 to the state concessions budget per year.

However, a fully scalable offering may require interest rates above 0 % p.a. as not all councils will be in a position to lend from their cash reserves. As a result, the estimated household benefits may be lower should they be subject to higher interest rates from other loan sources. A guaranteed level of uptake connected to a compelling sum of benefit will therefore require serious ambition with regards to intervention and household selection processes for such programs.

Our analysis suggests that the provision of 52,000 2 kW Solar PV systems for pensioner households represents a minimum annual generation of 114,557 MWh of clean energy and a minimum greenhouse gas savings of 143,197 tonnes of CO_2 equivalent. At an estimated system cost of $3,350 to $3,635 per unit, this represents a collective investment of $174 million to $189 million across all 52,000 homes.

Due to the existing link between energy concessions and low-income household energy use, if this investment were to be realised across all 52,000 homes it would equate to a decrease in energy concessions costs (i.e. a windfall gain) to the Victorian Government of $4.5 to $6.0 million each year.

Future interventions should periodically take stock of what revised funding terms can be offered and whether these can be extended to other low-income household groups to invest in renewable energy where it makes sense to do so. This may depend on innovations where the asset is not co-located with occupancy such as through participation in community-owned renewable energy power stations sited on public assets that allow tenants and others not suited to onsite rooftop installations to participate in renewable energy investment.

RECOMMENDATION 2: Low-income owner-occupier pensioner households are to be focused on as the first low-income household group to offer support to, and to expand from this initial base.

RECOMMENDATION 3: The scaled up support is able to offer funding terms attractive to the majority of owner-occupier pensioner households, for whom it makes economic sense to install solar PV systems. The program must be scalable and clearly beneficial to suitable target households.

RECOMMENDATION 4: That program/service delivery arrangements continually identify the means to offer terms to attract other low-income household groups, including where relevant, the application of separate but complementary interventions.

State and local support

The business case recognises that both state and local government action is required for low-income households to be in a confident position to invest in onsite solar PV systems and have certainty that they will be better off.

Councils are uniquely connected with their community, and have nearly all the tools required to address the problem:

- They have access to finance at interest rates lower than can be offered by banks, via the MAV Local Government Funding Vehicle.
- They can levy charges on properties and overcome the split incentive barrier.
- They have engagement channels with and often act as trusted advisors to the target group.
- They have a wealth of experience in delivering residential energy efficiency programs.
- They already use shared services and have governance structures in place to support regional scale delivery in an efficient manner.

The state can facilitate a roll out of council-led programs, and can more effectively apply existing welfare support measures to reinforce the assistance provided by local government:

- It can improve the financial viability of program participation, by partly allocating its energy concessions budget to assist in repaying loans offered through local government-led programs.
- It can streamline administrative overheads borne by councils, through legislative amendments.
- It could help synchronise action across regions, eliminate duplication and provide resources to support the scaling of existing shared service models.
- It could coordinate data collection, analysis and information exchange.

Reforming the scope of energy costs recognised in the state energy concessions

State energy concessions work via payments to energy retailers in line with the 17.5 % discount awarded to pension and other card holders that identify themselves for support. This discount does not apply for that part of the concession that is foregone when purchasing a solar PV system and replacing retail energy with onsite generation. The discount only applies to residual energy consumed from the grid.

It would make sense if the 'business-as-usual' concession payment was still fully available to low-income households after borrowing for a solar PV system and was used to discount the residual energy consumed plus the solar PV system's loan repayments until fully repaid. This approach has **no net impact on the state budget**, because the government has already committed its energy concessions budget. Once the loan is paid off, the government reaps the savings that come with the household's lower overall energy costs.

The proposed reform simply makes the budget available for the same concession recipients and at the same level, albeit applicable to purchasing PV systems through a managed program. In time, it will lower the energy concessions budget as system loans are repaid and the overall retail energy cost component declines as it is replaced by the ongoing use of onsite energy. This dynamic cannot be assumed in the absence of this concessions reform, i.e. there may be no savings for the state

government to bank if the combination of assistance measures do not go far enough to drive low-income solar uptake at scale.

RECOMMENDATION 5: The Victorian Government (DHHS) reform the gas and electricity concessions scheme, to allow it to fund concession recipients' solar PV loans. In particular, concessions set to the current discount rate (17.5 %) are recommended to be applied to the estimated annual reduction in retail costs due to installing solar, and be made available to service solar PV loans over the loan's life.

Lending via the local government rates scheme backed by reserves and third parties

The precedent of committing council reserves coupled with repayments via the rates mechanism was tested and proven by City of Darebin. This offers low-income households the lowest cost finance, as councils can set interest rates in line with the level of subsidy they wish to offer.

In theory, a 'no subsidy' approach would set the interest rate at the council's cost of credit including lending risks, time value of money, and overheads. Any interest rate below that involves some level of cost absorption by the council. For this reason, along with the practical constraint that councils can only offer this financing option if they have cash reserves available, there are natural limits to scaling this offering across the state.

While City of Darebin pioneered this approach since 2014, it is only now being replicated in the EAGA-led New Energy Jobs Fund low-income solar project, wherein councils are offering the 'councils stream' funding option to a more limited extent.

Councils have reservations in using this instrument due to the conditions imposed in using the special rates mechanism to collect repayments (Section 163 of the Local Government Act, refer to Appendix 1). The City of Darebin considers these costs manageable while proposing that the ideal approach would be to have Section 163 amended to lower administrative costs, where the special rate is used on an 'opt in' basis.

RECOMMENDATION 6: As part of the Local Government Act reform, Victorian Government (DELWP) to insert 'opt in' clauses into Section 163 of the Local Government Act, that exclude the need for gazetting and allowing for public comments when using special rates for voluntary programs.

As a means to extend the cash available for solar loans while leveraging councils' low credit risk, banks are open to the idea of lending to councils. Using councils as liable intermediaries substantially lowers the risks for banks as they are lending to councils rather than households and allows an interest rate in the order of 2.5 % p.a. to be passed on to the household (see figure below). Interest rates may be further reduced if councils are willing to draw on the Municipal Association of Victoria's (MAV's) Local Government Funding Vehicle (LGFV), which typically makes finance available at around 100 base points, i.e. 1 % p.a. lower than what banks typically offer.

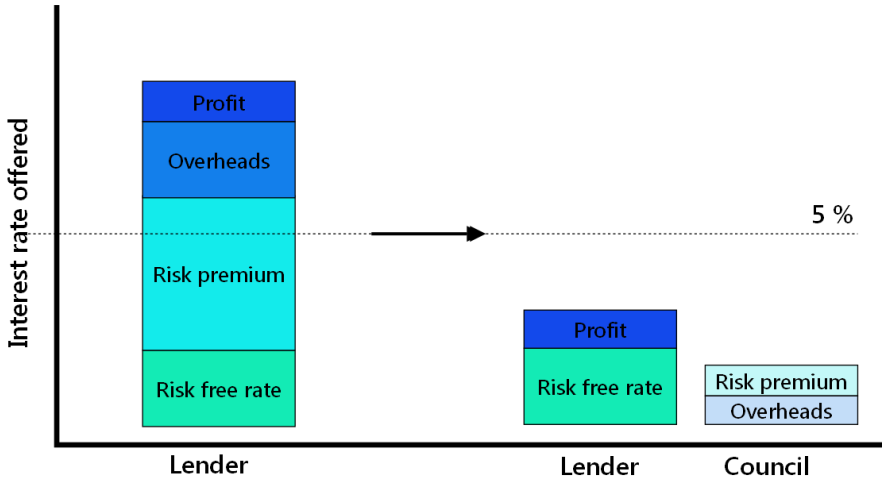

Figure: Using councils as debt intermediaries and rates as a means to collect repayments can lower the interest rate offered to low-income households.

This approach would require councils to overcome their prevailing preference not to carry debt, formalised in councils' individual debt policies. It is understood that the Local Government Act reform process may bring clearer guidance on financial management principles for councils, which may lead to a revised stance on debt across the sector.

The proposed approach recommended in this report would allow councils to use the MAV LGFV to source very low cost finance and if necessary, to offload that debt when it reaches the limits of the council's debt policy (i.e. the initiative can stay strictly within debt limits). For example, solar loans could be pooled across a number of councils and then used as payments for bonds issued on behalf of those councils, so that the loans are effectively aggregated and sold on to a third party.

This path complements the method tested by City of Darebin, using council reserves to fund solar on low-income households with no interest charges. Between the two options, councils could offer no-interest and/or low-interest loans, according to their cash reserves and their debt tolerance. This combination should grant confident scalability while offering least cost finance to households.

RECOMMENDATION 7: Parallel to or within the New Energy Jobs Fund pilot, leading councils should explore and then commit to use of third party finance as a means to finance low-income solar panels, where they are unable to draw on cash reserves to sufficiently meet demand.

RECOMMENDATION 8: Councils engage with MAV Procurement and financial institutions on options to set up and implement a process for councils to borrow at low interest rates to fund solar loans for low-income households, and a process to offload debt in line with their debt tolerances.

RECOMMENDATION 9: Councils continue to offer space for retail banks to partner via direct lending to households (as in the New Energy Jobs Fund project), and allow that the banks are best placed to act independently to develop products and source credit according to their individual strengths.

An integrated approach

This business case recommends that Victorian Government revise the terms of its energy concessions scheme to allow existing concession card holders to access the same absolute level of concessions (i.e. based on their baseline energy use or an approximation thereof) when installing solar PV systems onsite via a low interest loan, until that loan is paid out. This will maintain the concession for the residual energy drawn from the grid, while assigning funds towards servicing the loan. Once the loan is paid, the energy concessions will still apply to the remaining energy purchased from the grid, which has been reduced relative to baseline energy costs for those households.

This approach needs an adequate estimate of the change in retail energy costs for each household after they install solar, in order to determine the sum of solar concession to apply over the loan years. We expect that a range of methods would be available to do this, based on the experiences and data gathered over the Solar $avers program. It is suggested that councils and state government adopt an approach to estimating the quantum of support that balances accuracy against administrative and other overheads, without causing undue financial uncertainty for the household.

The business case also recommends that councils use third party financing for solar PV on low-income household rooftops within their community, where the lender provides funds to councils as an intermediary. Councils can also draw on reserves as a lower interest alternative where they are in a position to do so.

Taken together, these measures form a complementary approach to help low-income households afford solar PV systems where it makes economic sense for them, and gives them the best chance of participating in local renewable energy investment without introducing market distortions or budgetary impacts. The table below sets out the indicative benefit during and after a solar loan period, using assumptions reflective of the target pensioner group and solar offering.

Table: Distribution of household and state benefits, factoring in the allocation of concession gains to assist solar loan repayments and using assumptions set out in Section 3. Note that for a 5 % p.a. solar loan, the household would need to use 76 % of the electricity on site to be $100 better off during loan years (calculations not shown).

Interest rate	Household benefit (during loan, per year)	Household benefit (after loan, per year)	Concession savings (after loan, per year)
0 %	$161 - $282	$409 - $536	$87 - $109
1.5 %	$135 - $253	$409 - $536	$87 - $109
2.5 %	$116 - $233	$409 - $536	$87 - $109
5 %	$68 - $181	$409 - $536	$87 - $109

RECOMMENDATION 10: Councils and state government pursue an integrated approach, supported by delivery partners as necessary, to streamline management of the revised state concessions arrangement and council-assisted financing methods.

In particular, a fair and reasonable use of the concessions budget to repay solar loans will provide households with greater confidence that they can manage the loan while facing uncertainty over the loan period (see figure overleaf). A range of options is expected to be available to implement these measures together, using common processes and administrative structures.

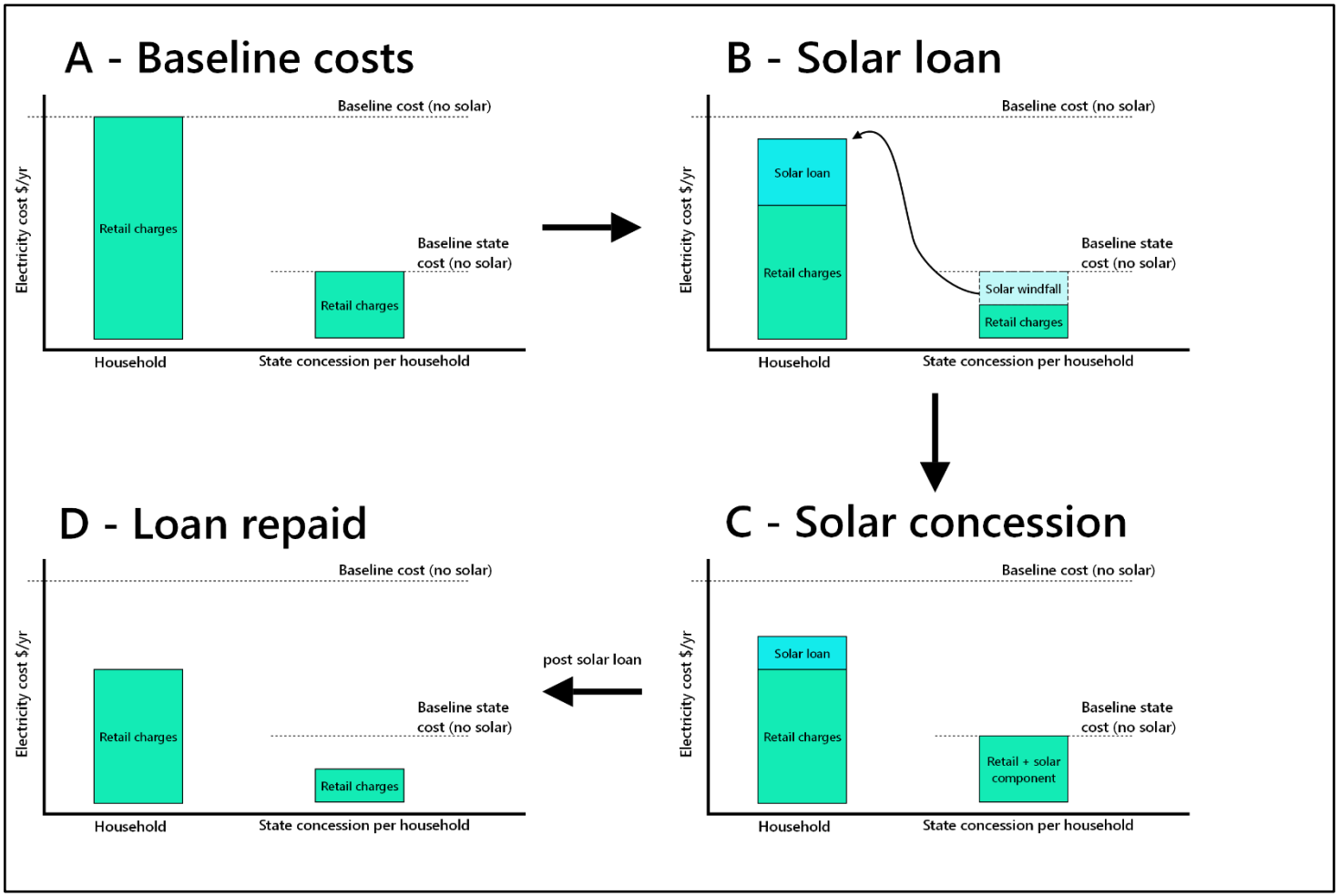

Figure: Overview of the benefit to households and state concessions budget through the recommended initiatives. Graph A represents the baseline costs to household and concessions budget without solar. Graph B shows the moderate net savings to the householder (and concessions budget), which may not be adequate to ensure strong uptake across the target sector in isolation. Graph C illustrates that the net concessions savings presented in B as the 'solar windfall' can be re-deployed to the householder to assist with solar loan repayments, and deliver net savings that drive strong uptake. Once the loan is paid off, as presented in Graph D, the concessions savings are realised and the household has substantially lower energy costs for the long term.

Building scale to a state wide service

This project has incorporated discussions with stakeholders and potential partners around the characteristics and merits of incorporating shared services into ongoing program delivery at scale. The NEJF application and related program delivery approach was developed prior to work on Phase 2 of the business case, establishing a strong precedent for program delivery through a 'shared service' approach. Engagement with stakeholders has helped to further socialise the NEJF pilot and consider options to both strengthen NEJF delivery and provide opportunities for low-income households at greater scale, i.e. across all council areas within the state.

RECOMMENDATION 11: Councils and government agree to pursue a shared service based low-income solar PV program that accommodates state wide scale and reach.

The 'shared service' approach has traditionally been developed to better enable scaled services within the local government sector, however it does not have to be constrained to bringing benefits and efficiencies to this sector alone. If the problems and benefits are shared between sectors (i.e. local and state government and/or other stakeholders), then the case for shared investment may be made.

The key characteristics of a shared service for low-income solar PV program delivery are:

- Flexibility in achieving state coverage and scale.
- Driving continuous improvement on financing terms and interest rate.
- Efficient recruitment processes – targeted communication and engagement with low-income households.
- Efficient and effective household energy (Solar PV) technical expertise.
- Leverage group procurement benefits.
- Ability to integrate other services – energy efficiency and thermal comfort.

Once agreed as a starting point, program partners can seek to establish performance measures for the shared service aspects of the program.

RECOMMENDATION 12: The key characteristics (set out above and outlined further in Section 4) are agreed as central to a scalable shared service delivering low-income solar to households across Victoria. In particular, incorporating shared services into program delivery should deliver:

• Necessary flexibility to respond to and provide aggregated services for combinations of councils and partners whose ambition, budgets and timing align.

• Continuous improvement on financing terms and interest rate and benchmarked benefits to the householder.

• Broader energy efficiency and thermal comfort benefits for residents over the medium term.

Involving Municipal Association of Victoria and Sustainability Victoria in building scale

Initial engagement through this project found a number of areas of alignment between MAV Procurement services, key characteristics of shared services (as above) and preferred financing options. Involving MAV will help the project partners to achieve:

- ***Flexibility to scale*** – Councils can join individually or collectively to work via MAV Procurement as their procurement / contracting agent. It grants the opportunity for a flexible arrangement that could start small or be scaled to a state-wide scale.
- ***Energy services group procurement*** – Drawing on recent experience in managing procurement relating to streetlight retrofits, MAV Procurement could set up procurement processes and panels of providers for solar panels, project management, facilitation and energy service brokering services.
- ***Financial services group procurement*** – A procurement process seeking suitable financial products for low-income solar could be attempted, given MAV's core expertise in this area (as below).
- ***Leverage the Local Government Funding Vehicle (LGFV)*** - The LGFV is a mechanism that could be employed to provide 'cheaper' finance to the local government sector, in part to provide additional funding via councils for provision of solar PV to low-income households. The long-term expectation is that capital will be provided to councils through LGFV at approximately 1 % p.a. below bank finance.
- ***Encourage investment from state and Commonwealth government*** – With scale comes the opportunity to seek direct investment from state and Commonwealth entities. For example, the Clean Energy Finance Corporation (CEFC) had expressed some interest in investing through the LGFV, given they have notionally allocated $230 million for local government sector investment.

RECOMMENDATION 13: The project partners (led by Alliances / councils) should seek formal participation of MAV in support of the project and request (in addition to Recommendation 8) that:

• MAV Procurement provide procurement panel services to the NEJF pilot at discounted rates.

• MAV lead engagement with the state government around modifications to the rules for broader access to the state concessions budget to support low-income solar (including via the NEJF Pilot scheme.

Initial engagement with Sustainability Victoria staff during this project suggests an awareness of council efforts (i.e. Darebin Solar $avers and the NEJF pilot) and a willingness to explore provision of support to these and other initiatives into the future. Options for support may include technical input into program design and delivery, alignment to complementary programs and/or assistance with investment attraction.

RECOMMENDATION 14: Program partners should consider further engagement with Sustainability Victoria to determine their ongoing commitment to supporting low-income household Solar PV / energy efficiency, and potential to complement the objectives of the pilot NEJF and achievement of an integrated state scaled scheme.

1 The case for action

This business case provides recommendations to state and local governments and their partners, on how to provide an effective, confident, and wide scale level of support to low-income households who may be interested in installing solar PV systems on their homes as a least cost energy option, but face significant barriers to do so.

This project follows on from Phase 1 of the business case finalised by Moreland Energy Foundation Ltd (MEFL) for EAGA in January 2016, which amongst other goals, examined necessary conditions for a household to benefit from such a program, and provided a preliminary exploration of financing models, enabling legislation, and delivery approaches.[2]

There are compelling reasons for why state and local governments should closely examine the needs of low-income groups regarding their energy use and energy costs, and whether these groups have adequate support in pursuing an investment in solar PV systems on their rooftops.

Historic and current measures from both tiers of government reveal an interest in themes that, at the very least, suggest this is an implicit priority for them. Limited public initiatives and investments are more explicit but at the same time show that governments need to progress further before realising relevant and full scale assistance to low-income households wanting to install solar panels based on a sound economic decision.

1.1 An established problem that needs a new solution

The nature and extent of support for low-income households faced with rising energy costs and the related risks of hardship are inadequate, outdated and not equitable. In reviewing the current assistance for this sector in the Directions Paper *Solar PV for low-income households* (the Directions Paper), the following problem was identified:[3]

While the retail gas and electricity market generally functions to supply energy to households relatively efficiently, some lower income households face price risks and risks of disconnection that present a significant societal welfare cost that requires intervention. 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.

We see this stated problem as arising from two foremost shortcomings in the existing arrangements for addressing the energy costs of low-income households:

1. The DHHS energy concessions assistance is confined to assisting low-income households with costs in procuring energy (gas and electricity) sourced from retail suppliers.[4] This is outdated and inefficient in recognising that, for some households, their least cost energy procurement will be by investing in solar PV systems on their rooftops, yet the concessions budget does not aid those

[2] Report is available from https://eaga.com.au/projects/solar-rates/ [Accessed 8 June 2016].

[3] See Directions Paper, p. 6.

[4] See Directions Paper, p. 8.

households with these non-retail costs. To the extent that households would forgo energy concessions for that part of their retail energy that is replaced by solar, existing arrangements work against rather than support the uptake of solar PV systems by low-income homeowners.

2. An established barrier that stops households on low incomes from installing solar panels is their inability to access capital with terms that allow them to remain cash positive from the outset.[5] Other households can rely on their savings or can absorb high loan repayments in the early years, but this is not an option for those on a low income. Further, they have fewer loan options than higher income households. By and large, state and local governments have been unable or unwilling to address this barrier through an integrated approach to finance.

Taken together, these factors lock low-income households out of installing solar PV systems, even if it makes economic sense for them to do so. This outcome is inequitable[6] in that:

- Energy prices are still rising while low-income household budget pressures are increasing.
- These people are more inclined to reside in lower quality housing, leading to higher energy consumption and costs for a given level of comfort (or voluntarily forgoing this comfort to save money) relative to others, and this is worsened in a changing climate.
- As other households 'flee the grid' or otherwise reduce their exposure to retail energy costs, low-income households are left to carry the ongoing fixed network costs across a shrinking customer base.

Given the adverse welfare and environmental justice[7] outcomes in unduly exposing low-income households to energy costs and related risks, there is a basis for doing more to help these people. This is compounded in that there are untapped energy concession budget savings, caused by a lower investment in solar panels than would be the case if these barriers were overcome.

RECOMMENDATION 1: That the stated problem is jointly agreed by state and local governments as warranting shared effort in line with responsibilities, role and capacity to contribute to a solution.

1.2 Common acceptance of the problem

In this section, we review the extent that this problem is conceded by state and local government, and by the household lending sector.[8] We examine the level of action that governments have committed to the present. We find that although implicit acceptance is somewhat common, action thus far is limited and uncoordinated, and is not able to offer lower income households any options to invest in solar that are immediately scalable and unambiguously beneficial.

[5] See Directions Paper, p. 7.

[6] See Directions Paper, p. 6 – 7.

[7] See Directions Paper, p. 8.

[8] This section reproduces and expands on content from the Directions Paper, p. 8 – 9.

State government responses

The state government displays some recognition of the welfare difficulties that energy costs expose to low-income households. It recently requested for Essential Services Commission (ESC) to review the provisions protecting low-income consumers from undue hardship, stemming from energy prices and the risk of disconnection. It also has an ongoing and substantial concessions budget which includes payments to alleviate low-income households' energy costs.

We note that the current government interventions solely rely on direct interaction with retail market mechanisms:

- The DHHS electricity and gas concessions grant relief to retailers of eligible consumers (pension card, health care card, and Veterans' Affairs gold card holders) who voluntarily seek a discount of 17.5 % off their electricity bills. This discount is applied after accounting for other retailer discounts, solar credits, and Commonwealth subsidies.
- The ESC hardship provisions provide directions and actions to regulate how electricity and gas retailers treat their consumers at risk of disconnection. While newer provisions seek to foster innovation in how hardship is diminished, it still relies on the retailer as the agent to enact change despite an otherwise conflict with its interest to maintain and grow profits.

Given transformations and price trends in the retail energy market and the ongoing falling costs of solar panels and related technologies, there is a case for the state government to support the further evolution of instruments, pathways and partnerships used to address the welfare impacts of energy costs on low-income homes.

State government developments in renewable energy and climate change

State government is working towards a comprehensive commitment to renewable energy policy through its Renewable Energy Action Plan (in development). While the action plan is yet to be released, the government has recently announced the plan to install a 40 % Victorian Renewable Energy Target (VRET), to be achieved by 2025.

The Victorian Government has also indicated an intention to better enable access to renewable energy for vulnerable households (refer to Chapters 4 and 5 of the Victorian Government's Renewable Energy Roadmap). However, policy detail is yet to be made public. With the right support, low-income Victorians could materially contribute to the renewable energy target.

The Victorian Government has committed to zero emissions across the state by 2050. Principles of environmental justice and equitable climate change mitigation /adaptation dictate that the impacts on and contributions from low-income households need to be actively accounted for.

Further, instruments that carry a climate change mitigation or renewable energy investment dimension[9] overlap with stated and emerging policy interests of the state government, and should be recognised for this co-benefit and policy delivery dividend.

As yet, we do not see practical evidence that the state government is connecting these two related issues via its intervention framework. We suggest that there is a case to connect the state's low-income household energy support with renewable energy and climate change priorities where there are clear efficiency, effectiveness and welfare equity outcomes.

Local government responses

From the perspective of local government, there are precedents that legitimate a role for councils regarding energy costs, wider costs of living, and renewable energy on low-income homes in the context of climate change within their communities.

- Many councils view climate change adaptation and mitigation of sufficient importance to justify membership within a greenhouse Alliance. This membership funds and resources climate change-related planning, action and representation on behalf of councils at the regional scale, and enables initiatives not possible at individual council level.
- Further, some fifty-plus Victorian councils have substantial and quantitative corporate emissions reduction targets, which indicates the level of commitment councils have in this area, and the importance they attach to being local leaders.
- Local government Community Plans and Health and Wellbeing Plans place prominence on the need to support wellbeing and build resilience for vulnerable members of their community, including aged- and disability-pension citizens. In many cases, these Community Plans recognise both the need to adapt to climate change, and the impact of population aging on demand for welfare services and support.
- In the Climate Change Memorandum of Understanding executed between councils and Victorian Government in September 2014, the impact of climate change on vulnerable social groups is recognised as an area of priority for future work. The MOU recognises that there are shared and separate responsibilities between local government and councils in this area, although respective roles still need to be clarified.

Beyond these generalised indicators that local government has an interest in this space, there are two recent programs that show councils' emerging dedication to a solution.

Given the above points, it may be argued that local governments, both individually and at the sector level, recognise the dual problem of rising living costs and climate change impacts for low-income households in their community. Should a solution to this problem involve partnership between state and local governments, this would be in accordance with how state and local government have historically worked together on this problem.

[9] The Renewable Energy Roadmap is available at: http://www.energyandresources.vic.gov.au/energy/sustainable-energy/victorias-renewable-energy-roadmap [accessed 21 April 2016].

Darebin Solar $avers

In 2014, the City of Darebin's Solar $avers scheme piloted 'no interest' loans for nearly 300 low-income households to install 1.5 and 2 kilowatt PV systems on their rooftops. Darebin funded its scheme from its reserves and repayments are made to council via the special rates mechanism. This shows both that there can be a clear benefit to households that opt into the scheme, and that there is a clear council appetite to commit in this space. But as set out in the Directions Paper, there are some known challenges to replicating this scheme 'as is' throughout Victoria, particularly in relation to legislated overheads and the reliance on council cash reserves.

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

This EAGA-led project seeks to install up to 1,000 solar PV on low-income and vulnerable households across 22 municipalities in Victoria. The project is proposed to be led by Maroondah City Council and coordinated by the Victorian Greenhouse Alliances. The initiative will be delivered over two-and-a-half 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 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 project implementation to enable access to dedicated capability and reduce resource requirements and risks to councils. The approach will leverage scale economies in administration, procurement and governance, and (importantly) enable participation by councils not otherwise able to offer this service to their residents.

New Energy Jobs Fund project – Solar Rates program

Local government's stake in this area is more recently demonstrated by the 22 councils that have signed on to an EAGA-led pilot scale version of a low-income Solar Rates scheme (refer to box below). This project is funded by Victorian Government. A range of commitment levels will be explored by those councils, and the scheme will trial two financing mechanisms involving direct lending by banks and replication of the Darebin model. This business case is intended to inform the project's set up to allow future expansion and fuller low-income household participation over time.

Similarly, we also note that this pilot will provide important empirical information to inform a workable, scalable model. As the project was initially conceived for a fixed term of activity and limited offering to households, we believe further augmentation is needed to ensure both scalability and unambiguous longer term benefits to low-income households across the state.

Responsible lending

The retail lending sector sees that there is a need to offer finance products to low-income households with terms favourable for onsite energy investment. The banks engaged in this project so far[10] recognise that this need comes with a tension against their standard responsible lending approaches and duty of care, which normally precludes them from offering products with these terms to that borrower segment.

In net terms, lending needs to be seen as a service that improves private and public welfare, and this in turn supports the sector's licence to operate. An inability to offer an adequate response to the welfare problem defined here may be viewed as a sectoral failure.

Lenders' feedback on this reveals that they view state and local government as essential partners to help unlock access to suitable private finance, especially in building to scale. That is, lenders are willing to move into the area if they can depend on interventions that support their delivery of responsible loan products. At the same time, they expect government to 'not overstep' its role, for example, by crowding out private lending through competing (as opposed to complementary) services, or by introducing undue red tape to a scheme that would otherwise unlock private finance.

1.3 Common acceptance, needing a coordinated commitment

The discussion above shows that state and local governments both acknowledge and are interested in resolving this problem for low-income Victorians. The DELWP funded EAGA led pilot (see text box in previous section) may be indicative of emerging state support for a solution in partnership with the local government sector.

Despite this, the state government is yet to progress from acknowledging the problem to building the most suitable and effective solution, and the leading examples of action by local government are yet to coalesce into a scalable and sector wide approach that can confidently meet the needs of more vulnerable Victorians. Lenders also see the issue at hand but are prevented from acting unilaterally by sectoral constraints and in some cases, their individual lending ethos.

Granted the separate and complementary responsibilities, powers and relationships across state and local tiers of government and the lender community, we see that there is a unique opportunity for these sectors to work together to overcome the unfair disadvantage faced by low-income households as the energy sector undergoes transformation.

1.4 Empowering low-income households: a closer look

At the core of the problem statement, while there exists some support for low-income households in Victoria to avoid hardships and ameliorate risks of disconnection from energy retailers, this support does not deliver options for those householders looking to access other energy pathways.

As a separate but related issue, low-income households also have fewer options to finance the upfront investment needed to install solar PV systems and share in the benefits enjoyed by other Victorians investing in renewable energy. We separately observe that some households set out in

[10] Refer to Appendix 2 for a list of persons consulted on this project to date.

the Phase 1 report[11] have additional complications and setbacks – low-income tenants for example – that would require support and intervention beyond that set out in this business case.

From the standpoint of the low-income household, their present status is one of disempowerment. They do not have the same expanding options to choose from regarding their energy resources as other Victorians, and this lack of choice locks them into an ongoing role of price taker for all of their energy needs, even as retail energy and other living expenses rise in cost.

This position also makes their energy consuming decisions relatively marginal, compared to higher earning households that can currently select across retail purchasing and onsite investment and who will benefit from future sectoral transformations in storage, local energy trading and other developments. Low-income households have fewer and more marginal options, despite some support (such as energy concessions) which do not alter their position as less enabled price takers.

As set out in the Directions Paper, this is neither a fair nor an efficient approach to this welfare problem. A preferred approach would see all Victorians participating in renewable energy investment if and when it makes sense for them to do so. Arguably, lower income Victorians should have the same abilities as others to pursue the least cost energy path available to them, given that energy is legislated as an essential service and given the health, welfare and social and economic participation that affordable energy services bring.[12]

In this light, there is a moral and economic imperative across state and local governments and other sectors with a proclaimed social licence to better empower these energy consumers. We are sure that this can be achieved both at scale and with definite benefits to the household, but it rests on a shared and coordinated approach to action. The clear longer term trajectory should be to increasingly enable low-income Victorians to invest in renewable energy on the best possible terms.

1.5 The case for action

Given the needs set out in this section, there is a convincing case to appropriately support low-income households investing in their own solar power systems. This support needs to align with sound welfare economics, recognised roles of government and the private sector, and existing responsible lending standards.

It is also clear that coordinated commitment is needed across several sectors as set out in Table 1. As later sections in this business case will prove, the only way meaningful support can occur is if each sector plays its respective role and reinforces each other's mandate for action.

[11] See Phase 1 report, p. 17 – 20.

[12] See Directions Paper, p. 6.

Table 1: Summary of state and local government and lender interests, responsibilities and roles.

State government		
Problem recognition	**Related responsibilities**	**Potential role in a solution**
Recognises the need to include vulnerable households in renewable energy investment Recognises that support for energy hardship needs improvement Recognises the need to support vulnerable households adapting to climate change	Legislates state welfare, local government, climate change and retail energy provisions Manages energy concessions Sets state renewable energy and climate change policy Partners with councils through targeted programs (e.g. VASP; NEJF grants Community stream) Oversees, manages and funds state public housing	Reform to legislation to enable renewable energy investment by low-income households Make improvements to energy concessions in line with modern energy market needs Technical guidance Shared investment in a solution Large scale solar investor on public housing stock Lender de-risking interventions
Local government		
Problem recognition	**Related responsibilities**	**Potential role in a solution**
Commitments in Community Plans, Health and Wellbeing Plans, Environmental Plans Greenhouse alliance actions in energy and climate change City of Darebin Solar $avers NEJF Grants project	Delivery of local and regional climate change and renewable energy strategies Small scale trials of innovative funding for low-income households Delivery of local climate change mitigation and adaptation action via VASP Trusted advice to the community on renewable energy and climate change	Trusted promotion, guidance and advice to low-income households concerning renewable energy and finance products Source and/or intermediary for no or low interest finance Shared investment in a solution
Private lenders		
Problem recognition	**Related responsibilities**	**Potential role in a solution**
Stated recognition that they cannot supply products at the terms required 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

2 Scale and focus

Section 1 established that there exists a real problem in the lack of support for low-income households with an interest in onsite solar PV systems, owing to the design of existing interventions and barriers to accessing finance. A determination of this problem's scale and its significance to the Victorian community is set out below. The problem is material to the health and wellbeing of a sizeable population of lesser-advantaged Victorians, with impacts carried to the state budget.

2.1 Initial segment and scale

Given the problem as stated in Section 1, the business case Directions paper[13] has confirmed the problem exists at a significant scale in the Victorian community. The Directions Paper followed the Phase 1 report recommendation[14] that limited income owner-occupier pensioner households be looked at first, as a reasonably well understood initial demographic that is suitable for support.

The Phase 1 report and the business case Phase 2 acknowledge that there are other low-income households that are likely to be more in need than this group, although they may be more challenging to quantify and to assist in the early years of support. In time, it would make sense to expand out to these other groups and address their separate barriers as needs dictate.

From the Directions Paper analysis, it is conservatively proposed that at least 52,000 low-income owner-occupier pensioner households are impacted today through not having the means to invest in onsite solar PV systems. By 2021, this figure is at least 56,000 and this suggests that government intervention is warranted.

RECOMMENDATION 2: Low-income owner-occupier pensioner households are to be focused on as the first low-income household group to offer support to, and to expand from this initial base.

RECOMMENDATION 3: The scaled up support is able to offer funding terms attractive to the majority of owner-occupier pensioner households, for whom it makes economic sense to install solar PV systems. The program must be scalable and clearly beneficial to suitable target households.

[13] This section refers to findings from the Directions Paper, p. 10 – 11.

[14] See Phase 1 report, p. 17.

2.2 Quantifying expected benefits

This business case is able to adapt the benefits model developed during the business case Phase 1, to determine the scale of benefit to this initial low-income household group under a range of support scenarios. In doing so, expected renewable energy investment and greenhouse gas emissions results can also be derived.

The benefits model[15], established through the Phase 1 business case, provides some useful insights built around quantifying the expected benefits of choosing to invest in solar PV at the individual household level to a preferred number of households (i.e. 52,000). The model attempts to characterise the electricity consumption profiles of different types of low-income households, including the current and initial low-income focus around owner-occupier pensioners.

The project team applied the Phase 1 model for low-income pensioner households with a view to determine the scale of benefit achievable for households signing onto a low-income solar program. The following settings were used, and founded on the accompanying reasons:

- Retail tariff before installing solar set at 30 c per kWh, based on independent advice on standard ongoing tariffs (i.e. not applying market discounts) applied to the target segment[16]
- Retail tariff after installing solar equalised with the tariff used before installation, to avoid results being unduly affected by retail price factors outside investment in solar
- Feed-in tariff set at 5 c per kWh, in line with the most recent ESC determination
- Solar energy export ratio set between a range of 23 % to 30 %, based on advice provided by MEFL and drawn from analyses of the Solar $avers program's typical results (but noting that this variable is dependent on individual household circumstances)
- Business-as-usual average daily electricity consumption for each household revised to 12.1 kWh, based on advice provided by MEFL and drawn from analyses of the Solar $avers program's typical results (and again, individual households' profiles will vary)
- PV system price and performances for 2 kilowatt systems including default settings (i.e. $3,350 purchase price; 2.02 MWh per year generation) and settings most recently considered by City of Darebin ($3,635 purchase price; 2.68 MWh per year generation), although it is recognised that other values can substantially affect results

The model (with subsequent derivations reflecting the specific consumption of 12.1 kWh per day) generated the following results (refer to Table 2).

[15] View the benefits model at https://eaga.com.au/projects/solar-rates/

[16] See for example, St Vincent de Paul, 'The NEM – Still Winging It', 2015, available at: https://www.vinnies.org.au/icms_docs/228265_National_Energy_Market_-_Still_Winging_It.pdf [accessed 5 September 2015].

Table 2: Annual benefit to household in applying terms to the Phase 1 model as above, not factoring in concessions.

Defined interest rate	Baseline retail cost	Loan repayment	Post-solar retail cost	Export revenue	Net annual benefit
0 %	$1,325	$335 - $364	$706 - $862	$26 - $33	$161 - $286

Factoring concessions into the expected benefit

While the derivation above is instructive, refinements to the estimated benefit need to account for pension card holders' likely access to the Commonwealth and state electricity concessions allowances. We need to ensure that the comparison illustrates how the addition of solar PV provides benefits against the current electricity costs incurred, including the concessions that a typical pensioner is entitled to receive from the government. These include:

- A capped Commonwealth concession of $171 per year.
- A 17.5 % discount on concession household electricity costs, after accounting for the Commonwealth concession and any solar credits.

As far as we can determine, the benefits model from Phase 1 does not assume the householder is eligible for an energy concession from the Commonwealth or Victorian government nor applies a proportional concession on the basis of expected electricity consumption as a function of the model itself.[17] For the purposes of illustrating the quantum of benefits when applied to a state scale (52,000 households), we assume the average pensioner owner-occupier household has an average daily demand of 12.1 kWh, with an annual electricity bill of $1,325. Table 3 illustrates the application of Commonwealth and state electricity concessions to derive an average annual cost of electricity of $951 to the household.

Table 3: Effect of concessions on annual individual and sectoral energy costs.

Average pensioner household – current situation (no solar PV)		
Annual Retail Electricity Cost	**With Commonwealth Concession**	**With State Concession**
$1,325	*Less $172*	With 17.5 % reduction
	$1,153	*Less $202*
Annual cost of retail electricity after concessions is $951		
52,000 owner-occupier pensioner households – current situation (no solar PV)		
$68.9 million	*- $8.9 million*	Apply 17.5 % reduction
	$60.0 million	*- $10.5 million*
Annual cost of retail electricity after concessions is $49.5 million.		

[17] Further targeted engagement around a refined model to incorporate electricity concession benefits may be discussed with the author of the Phase 1 report post submission of this report.

Now utilising the Phase 1 benefits model, we assume that same average household chooses to invest in a 2 kW system as per the settings stated earlier. Further, we assume they live in Darebin and take advantage of the Solar Rates scheme, which means they will pay $335 to $364 per year (for ten years, with cost dependent on system deployed) via their rates to the council to pay for the Solar PV system, and $862 per year to the energy retailer (pre-concessions) to pay for grid electricity. They also receive annual solar credits totalling $31 to $33 (dependent on energy generated and amount exported). Table 4 shows the application of Commonwealth and State Concessions to give an annual cost of electricity of between $774 and $877.

Table 4: Costs to a low-income household (with concessions) investing in a 2 kW system with a 0 % p.a. loan over ten years.

Average pensioner household – with 2 kW solar PV		
Annual Retail Electricity Cost	**With Commonwealth Concession**	**With State Concession**
$706 - $862	*Less $172*	With 17.5 % reduction after solar credit of $33
	$534 - $690	*Less $93 - $115*
Annual cost of retail electricity after concessions is $441 to $575		
Plus $335 or $364 as annual investment cost of Solar PV system (with 0 % p.a. interest rate)		
Annual cost of electricity is $805 to $910 **Deducting solar credits of $31 to $33 gives net cost of electricity of between $774 and $877**		

Based on these estimates, the immediate savings to the householder are significant. The household electricity cost is reduced from $951 to between $774 and $877, i.e. $74 to $177 saved per year. However, we note this is a significant downwards revision of $87 to $109 against the original Phase 1 result of $161 to $286 per year (from Table 2), where concessions were omitted from the analysis. In effect, the difference of $87 to $109 represents the windfall gain to the state for each system installed, i.e. paying $93 to $115 in concessions post solar installation, relative to the baseline of $202. We note that the state may inadvertently stand to benefit more than the household for the duration of the loan under some of the indicative scenarios here, yet does not substantively bear the risk or the funding costs carried by the household.

Should these perceived risks and funding costs outweigh the perceived benefits (not as modelled here, but as judged by the householder), the household will not proceed with investing, such that neither the state nor the householder financially improves, and both remain fully tethered to retail costs. Based on City of Darebin advice that a net annual benefit of around $100 is considered the minimum level needed for strong community participation and confidence that the program will not lead to participants being worse off, the nature and level of any support, and program recruitment and vetting methods will need to be well designed and delivered to a high standard.

The level of the state benefit at various scales of program delivery is outlined in Table 5 below, presented with the capital value of and annual repayments for the renewable energy systems installed across the number of low-income households involved in the program.

Table 5: Impacts of low-income household investment in solar panels on state energy concession budget, at relevant scales.

Solar PV system capital value	Annual rates based repayment (at 0 % p.a.)	Annual state concession savings
Darebin scale (approx. 300 households)		
$3,350 to $3,635 per unit $1.005 m - $1.090 m	$335 - $364 per household $100,500 - $109,050	$87 to $115 per household $26,100 - $34,500
22 council Pilot scale (1193 households)		
$3.997 m - $4.337 m	$399,655 - $433,656	$103,791 - $137,195
State wide scale (52,000 households)		
$174.2 m - $189.0 m	**$17.4 m - $18.9 m**	**$4.5 m - $6.0 m**

The provision and deployment of 52,000, 2kW Solar PV systems onto pensioner households represents an annual generation of 114,557 to 139,360 MWh of clean energy and greenhouse gas savings of 143,197 to 174,811 tonnes of CO_2 equivalent.

However, as alluded to previously in this section, the variation in individual households' circumstances will have a strong bearing on their net benefit and uptake – a level of rigour and ambition in addressing the core problem through interventions and delivery processes will be critical to maximising the shared gains from a low-income solar support regime.

2.3 Potential growth of opportunity

The initial segment – pensioner households who own their own homes – is not as disadvantaged as some other low-income households in Victoria. While some pensioner households may not meet the ABS definition of low-income, they are all recognised by state and Commonwealth Governments as needing assistance in meeting their living costs. Further:

- They hold the benefit that they match with the foundational program offered by the City of Darebin and therefore the Solar $avers lessons are immediately transferable.
- Are locally quantifiable and identifiable through the pension card scheme and ratepayer databases.
- Are a demographic recognised as needing assistance through the energy concessions system, and whose current fixed incomes prevent ready investment in solar PV systems.
- Are a relatively well understood and familiar group to lenders, carrying modest risk (both as holders of security and with a track record of being able to service a longer term loan).
- As owner-occupiers, they are well placed to invest in and benefit from installing solar on their rooftops (as opposed to tenants, who may need other supporting measures).
- Being unlikely to be full time employed or full time students, they are reasonably assumed to have high daytime energy use and are likely to benefit from onsite solar PV systems.

Taken together, these traits demonstrate that low-income owner-occupier pensioner households are an ideal starting demographic to initially support, and will be the focus of the DELWP-funded trial across the 22 councils. Over time, and as deliverers understand the costs, benefits, opportunities and other barriers to supporting low-income solar better, the program could be extended to other suitable low-income groups in Victoria.

The Phase 1 report identified other low-income groups that may benefit from dedicated support:

- Renters (on low income)
- Households requiring heating and cooling due to sickness
- Households under mortgage stress
- Households with credit risk
- Culturally and Linguistically Diverse (CALD) community members
- Households that otherwise have high daytime occupancy (e.g. shift workers, young families)

However, some of these household types may have innate characteristics that make them particularly challenging or inappropriate to support through a rate-based loans program.

The business case team is also aware that City of Darebin is interested in looking at supporting low-income families (as economic modelling gives some confidence of the likely benefit); and is exploring solar for the benefit of public/social housing occupants (which is being trialled in the Solar $avers program, round 2).[18] Public and social housing presents an interesting opportunity in that it may couple programs and investment targeting individual low-income dwellings with the larger scale of public housing, while contributing to DHHS pledges concerning climate change.

Given the above, any low-income household supporting arrangements should be designed to periodically take stock of what revised funding terms can be offered, to empower other low-income household groups to invest in renewable energy where it makes sense to do so.

In some future cases, this may depend on innovations where the asset is not co-located with occupancy – for example, part ownership of community-owned renewable energy power stations sited on public assets, to allow tenants and those with ill-suited rooftops to participate in renewable energy investment.

While this wider participation may rely on additional interventions beyond the scope of this business case, it makes sense that delivery arrangements are able to inform and co-opt future efforts to remove barriers for other household groups.

RECOMMENDATION 4: That program/service delivery arrangements continually identify the means to offer terms to attract other low-income household groups, including where relevant, the application of separate but complementary interventions.

[18] Personal communication with Gavin Mountjoy, City of Darebin, 5 July 2016.

3 Shared leadership to make it happen

The previous sections establish that the lack of means for low-income households to invest in solar on their homes is a substantial problem, both individually and across the Victorian community. This problem has both efficiency and equity dimensions, and ties in with renewable energy, climate change and public welfare interests of state and local governments.

This section looks at actions to address this problem in the context of the New Energy Jobs Fund project, taking stock of the historic roles of governments and lenders, and scrutinising the options laid out in the Directions Paper. It identifies that some mechanisms are better suited to the problem than others, given the impact on the household they bring, their readiness to scale to a statewide solution, and the responses generated from delivery stakeholders. Finally, it identifies integrated activities and services that are need to implement them, with a view to setting out how these could come together through working with partners.

3.1 Pathways to lock in benefits of solar on low-income homes

Recall from Section 1 that there are two issues at hand that impede low-income households from being able to confidently invest in onsite solar PV systems as an energy solution.

1. The state energy concessions assists low-income households with costs in procuring energy sourced from retailers. For some, their least cost energy will come from investing in rooftop solar PV systems, yet no support exists for this option. At present, the concessions are a counterincentive by lowering the energy value of onsite solar PV without correspondingly reducing the capital costs.

2. Households on lower incomes are additionally prevented from installing solar panels due to their inability to access capital with terms that allow them to remain cash positive from the outset.

This section reviews solutions for each of these problems, and recommends preferred actions that will confidently enable low-income households that are well placed to install onsite solar PV systems (e.g. due to their energy consumption needs and profile, and access to a suitable rooftop) to do so.

Revised support from state government

The energy concessions budget is presently unworkable as a form of assistance for low-income households aspiring to least cost options which involve installing solar on their homes. Without going into a deep and comprehensive policy review here, Table 6 presents some options, how they would work, their disadvantages and their advantages.

Table 6: An overview of state interventions to assist uptake of solar PV systems by low-income households.

Instrument	Workings	Advantages	Disadvantages
Ongoing program funding	Implementation funding for council led programs, e.g. future cycles of the NEJF funded pilot	Leverages commitment of local government and banks Fixed funding level per program	Does not directly correct retail bias of other support State costs scale in line with program ambitions Ongoing program overheads
Direct purchase support	State procures or subsidises solar PV for low-income homes	Simple to communicate Well established government precedents (e.g. solar hot water subsidies) Could be set to counter concessions' retail bias	Costly to implement May destabilise or distort sector Ongoing budget impacts Stakeholder and other political risks (e.g. 'pink batts' scheme)
Default fund (refer to Directions Paper)	State covers default risk to lenders, to bring interest rate down	Is only drawn on to the extent that lender is at risk	Information intensive Lack of traction with lenders Fund needs to re-size in line with number of loans Risk of moral hazard behaviour
Concession budget reform	Revise concessions to allow allocation to assist repayment of solar loans	Corrects concessions' retailer bias by design No net impact on budget Introduces fair treatment	Depending on details, may require baseline energy use modelling or similar efforts Requires administrative reform

While this table is not exhaustive, it demonstrates that there are some challenges in using some of the more traditional state government support such as program funding and direct purchase/ subsidies, when aiming to provide support for installing PV systems on upwards of 50,000 low-income households.

A default fund is also included for completeness, although the type of intervention is more in line with lowering the cost of finance. It is discussed in more detail in later parts of this report.[19]

This brief review suggests that the most effective and efficient assistance that the state government could grant to low-income households in regard to the problem is to reform the concessions scope.

We note that the energy concessions work via payments to electricity and gas retailers in line with the 17.5 % discount awarded to pension and other card holders that identify themselves for support. This discount does not apply for that part of the concession which is foregone when purchasing a solar PV system and replacing retail energy with onsite generation.

[19] Use of a default fund is first raised in the Phase 1 report, p. 8 – 9, and is explored in more detail in the Directions Paper, p. 16 – 17.

For a range of compelling reasons across efficiency, effectiveness, coherency, and equity, it would make more sense if this concession amount was still available to low-income households after purchasing a solar PV system, and was used to offset solar PV system loan repayments until fully repaid. The policy and welfare benefits are summarised in Table 7 below.

Table 7: Policy and welfare benefits in extending energy concessions to the cost of capital investment in solar PV systems, relative to business as usual.

Criterion	Status quo – Concessions apply to retail energy only	Administrative reform - Concessions also apply to PV loans
Effectiveness	Less effective as it fails to support low-income households in sourcing the least cost energy if it involves onsite power.	More effective as low-income households are encouraged to adopt least cost energy, even if it involves onsite power.
Efficiency	Less efficient as low-income households will continue to purchase all energy from retailers into the future. Less efficient as energy concessions budget is fully coupled to projected energy price rises.	More efficient, as the proportion of concessions used to repay the loan could be ceased once the loan is paid off. More efficient as it partially decouples the concessions budget from rising energy prices and couples it to a fixed term investment in onsite PV, and could be revised as system prices fall.
Equity	Less equitable as it doesn't create or support options for some low-income households to install renewable energy, that are enjoyed by other energy users.	More equitable as it lowers barriers to owning onsite energy that are particular to lower income households. (Note: In time there may be mechanisms to also link the concession to investments made available to tenants, once tested with lower income owner-occupiers.)
Coherency	Less coherent as it is at odds with state government's stated priorities in renewable energy, climate change and environmental justice.	Coherently aligns with other government interests in renewable energy, climate change and environmental justice.

Further to these benefits, this approach has **no net impact on the state budget in the immediate years**, because the government has already committed its energy concessions budgets. The proposed reform simply makes the existing allocation available for existing concession recipients, but allowing them to partially direct their allocation to help pay off PV systems purchased through a council loan program. In time, it will lower the energy concessions budget as PV system loans are repaid while the retail component stays depressed due to its partial replacement by onsite energy.

RECOMMENDATION 5: The Victorian Government (DHHS) reform the gas and electricity concessions scheme, to allow it to fund concession recipients' solar PV loans. In particular, concessions set to the current discount rate (17.5 %) are recommended to be applied to the estimated annual reduction in retail costs due to installing solar, and be made available to service solar PV loans over the loan's life.

Addressing barriers to affordable finance

The Phase 1 report examined the way in which upfront capital is a barrier for low-income households that are otherwise interested in solar PV systems. The report found that, as a minimum condition for the household to be cash positive throughout the loan, a low-income household with moderately high daytime energy demand would need a loan for solar panels with interest no greater than 5 % p.a. over at least ten years.[20]

The Directions Paper looked more deeply at this issue and argued that, for many low-income households, these terms would still not necessarily make a compelling case to invest in solar, given the uncertainty in energy consumption that they may face over the loan's timeframe.[21] For example, it is entirely plausible that low-income aged pensioners will undergo changes at home within a ten year loan timeframe, which significantly alter the occupancy and level of activity in their homes, such that those loan terms leave them unduly exposed.

For that reason, arrangements to support low-income households to get finance need to pursue the best possible terms at that time, and the goal of 5 % p.a. over ten years should be a starting point.

During the Directions Paper phase of the business case, a range of mechanisms were investigated for their ability to offer attractive loan conditions for low-income households.[22] The status of enabling legislation and factors that may limit or enable scaling up the mechanism to a state wide offering were also reviewed.[23]

In brief, the mechanisms covered:

- Councils funding solar panels from their cash reserves, with repayments made via the rates scheme (using the special rates mechanism), akin to the City of Darebin Solar $avers program and the 'council stream' of the New Energy Jobs Fund project.
- Councils funding solar panels from third party finance sources, with repayments made via the rates scheme (again using the special rates mechanism), with the USA Property-Assessed Clean Energy (PACE) finance an international example.
- Application of Environmental Upgrade Agreements (EUAs) to residential properties (noting that, at present, legislation only enables EUAs for non-residential properties).
- A public default fund to compensate lenders in the event of higher default frequencies.
- Indirect interventions (e.g. a council-led bulk purchasing and finance program), whereby lenders leverage the profile and relationship between councils and their community members to lower the cost of recruiting households into a third party loan, as per the 'Banks stream' of the New Energy Jobs Fund project.

[20] See Phase 1 report, p. 28 – 31.

[21] See Directions Paper, p. 13.

[22] See Directions Paper, p. 14 – 24.

[23] See Directions Paper, Table 1 in Section 3.7; and Appendix 2 of this draft report.

In preparing this business case report, the project team also closely looked at the legal underpinnings and conditions attached to using some of these instruments, to determine whether legislative reform was needed to enable implementation (refer to Appendix 1).

Consultation in the intervening period has further informed this list and the practicality of different options, and revealed the level of traction and interest amongst state and local government and lenders. Stakeholder feedback showed that some of these mechanisms would be more challenging to implement at scale and with certainty of benefit to the household. The paragraphs below and Table 8 summarise the results of consultation and research conducted since the Directions Paper.

Table 8: Scaling and household benefit performances for different financing instruments under consideration.

Interest rate	Mechanism	Scaling barriers	Barriers to household benefit
0 %	Council cash reserves to cover upfront costs, repaid via rates e.g. Darebin Solar $avers, NEJF council stream	Limited number of councils are able to commit significant cash from reserves	No specific barriers
1.5 – 3 %	Council borrows to cover upfront costs, repaid via rates	Some council disinterest in taking on debt (although this may be overcome)	No specific barriers, although will need to closely review interest rate impacts on household benefit
3 % +	Residential EUA – banks lend direct to households, repaid via rates (no council liability)	Needs law reform to allow use No interest from bankers to work with this option, due to transaction costs	No specific barriers, although may start to only benefit higher energy using households
3 – 5 %	Public default fund	Limits to fund size, which is proportional to program scale No interest from bankers to work with this option	No specific barriers, although may start to only benefit higher energy using households
4 – 5 %	Lenders leverage council resources and relation-ships while constraining costs, risks and margins	In the absence of a low cost finance solution, lenders may have limited appetite beyond a pilot scale	Only attractive to higher energy using households

Financing using council cash reserves

The Victorian precedent of using council reserves coupled with repayments via the rates mechanism was established by City of Darebin. This offers low-income households the lowest cost finance, as councils can set interest rates in line with the level of subsidy they wish to offer households.

In theory, a 'no subsidy' approach would set the interest rate at the council's cost of credit including lending risks, time value of money, and overheads. Any interest rate below that involves some level of cost absorption on behalf of the council. For this reason, along with the practical constraint that councils can only offer this financing option to the extent that they have cash reserves available for this use, there are natural limits to scaling this offering across the state.

While City of Darebin pioneered this approach since 2014, it is only now being replicated in the EAGA-led New Energy Jobs Fund low-income solar project, wherein some councils intend to use the 'councils stream' funding option. The commitment from individual councils in this stream is moderate (other than that from City of Darebin), suggesting that the sector retains a cautious attitude to this solution for the time being.

According to the Alliances, councils have reservations in using this instrument due to the administrative requirements that are legally imposed in using the special rates mechanism to collect repayments (Section 163 of the Local Government Act, refer to Appendix 1). City of Darebin[24] considers these costs manageable while proposing that the ideal approach would be to have Section 163 amended to lower administrative imposts where the special rate is used on an 'opt in' basis.[25]

RECOMMENDATION 6: As part of the Local Government Act reform, Victorian Government (DELWP) to insert 'opt in' clauses into Section 163 of the Local Government Act, that exclude the need for gazetting and allowing for public comments when using special rates for voluntary programs.

Third party financing via councils

Due to their low credit risk, banks are receptive to the idea of lending to councils, who may use this cash to lend to low-income households to install solar panels. Using councils as liable intermediaries substantially lowers the risks for banks as they are lending to councils rather than households, and allows an interest rate in the order of 2.5 % p.a. to be passed on to the household (refer to Figure 1).

However, this approach would require councils to overcome their prevailing aversion to debt, which has been recognised and observed as being at odds with responsible financial management principles.[26] It is understood that the Local Government Act reform process may introduce clearer

[24] Personal communication with Gavin Mountjoy, City of Darebin, 5 July 2016.

[25] There has been some suggestion that the service rates clause, Section 162 of the Local Government Act may be an alternative to using the special rates mechanism. However, at the time of writing, clear guidance and/or relevant precedents for this mechanism have not been identified.

[26] See ACELG (2016), 'Debt is not a dirty word: The role and use of debt in local government'.

guidance on financial management principles for councils, which may lead to a revised stance on debt across the sector.[27]

Within this proposed approach, councils may prefer to use the MAV Local Government Funding Vehicle[28] (MAV LGFV) to source very low cost finance (e.g. up to 1 % p.a. lower than available via banking sources stated above); and separately, to offload that debt when it reaches the limits of the council's debt policy (i.e. the initiative can stay within debt limits). Consultation with MAV Procurement indicates that they are willing to support councils in this approach, and may have other services to offer in during program operations. Consultation with banks has confirmed that they could also facilitate debt offloading processes.

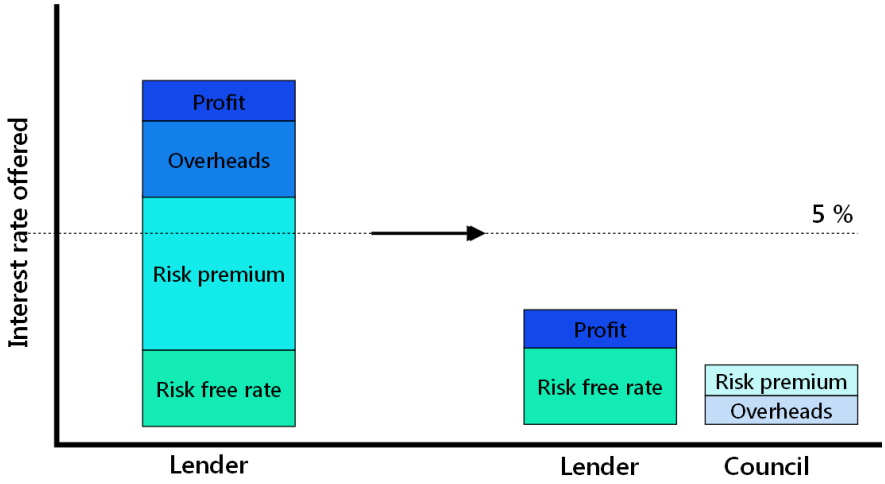

Figure 1: Using councils as debt intermediaries and rates as a means to collect repayments can lower the interest rate offered to low-income households. Where drawing on cash reserves, i.e. with no outside lender, councils could offer loans at as little as 0 % p.a. Where drawing from external lenders, councils may be able to offer loans at as little as 1.5 % p.a., depending on funding source and perceived risk.

The method explained here complements the method tested by City of Darebin, i.e. to use council reserves to fund solar on low-income households with no interest charges. Between the two options, councils could offer no-interest and/or low-interest loans, according to their cash reserves and their debt tolerances. This combination should grant confidence of scalability while offering least cost finance to households. The only councils that may face difficulties enacting either method are those that are at their financial limits – not in regard to their debt policies but in substantially deviating from the aforementioned principles of financial management. DELWP LGV informally suggests that there would be very few councils in this position, notwithstanding their preferences against debt.

As a final note, given the recognised problem and its scale as presented earlier in this report, there are some implicit moral overtones at play. If councils are able to source debt at substantially lower costs than low-income households, and if this debt can be used to alleviate energy poverty and

[27] See Local Government Act reform Directions paper 'Act for the future: Directions for a new Local Government Act', Section 8.

[28] See http://www.mav.asn.au/policy-services/procurement/projects/Pages/local-government-funding-vehicle.aspx [Accessed 18 August 2016].

improve thermal comfort for those same households while maintaining financial prudence, is a preference against council debt a satisfactory reason not to lend to those households?

RECOMMENDATION 7: Parallel to or within the New Energy Jobs Fund pilot, leading councils should explore and then commit to use of third party finance as a means to finance low-income solar panels, where they are unable to draw on cash reserves to sufficiently meet demand.

RECOMMENDATION 8: Councils engage with MAV Procurement and financial institutions on options to set up and implement a process for councils to borrow at low interest rates to fund solar loans for low-income households, and a process to offload debt in line with their debt tolerances.

Residential EUAs

Residential EUAs are discussed at length in the Directions Paper.[29] Retail banks advise that they are generally not interested in using a residential version of EUAs, given the high transaction costs for and limited uptake of the existing commercial EUAs, and the residual risk of having a direct loan with a homeowner. Banks are also conscious that this is a more complex mechanism to explain to low-income households than others, which may impact penetration with low-income households.

Additional to this, it is not clear that the state government would prioritise expansion of the EUA legislation to cover residential properties, particularly given that City of Darebin has shown that an existing rates mechanism could be applied for residences and that the success of using EUAs on commercial properties has to date, been mixed. That is, it is not clear that the legislative reform effort will reap significant usage of any new residential EUA provisions.

State-sponsored public default fund

Similarly, banks were sceptical of the use of a default fund to partially compensate them in the event of default. One of the main reasons is that it may invite lending to households that shouldn't be considered fit as borrowers, in contravention of responsible lending codes. Further, there are significant challenges in setting up the fund to work efficiently.[30]

Indirect intervention

Partnerships between local councils and retail banks are being trialled in the New Energy Jobs Fund project. This form of intervention is less formal, and revolves around councils offering to engage their local community and promote through a formal program, in order to have low-income households sign on for rooftop solar panels financed through a retail loan.[31] This loan is set at as low an interest rate as possible, through a variety of methods including stringent approvals, reduced profit margins and cost-sharing with local councils. Banks may also be able to on-sell finance from larger sources of low cost finance (such as money from the Clean Energy Finance Corporation).

[29] See Directions Paper, p. 18 – 21.

[30] See Directions Paper, p. 16 – 17.

[31] See Directions Paper, p. 15 – 16.

Thus far, retail banks have not been able to match the interest rates that could be on offer using some of the instruments discussed here, and this would have flow on effects to low-income households. At the same time, the expertise of private lenders should be acknowledged, particularly in their ability to understand finance markets and source cheaper credit. So while there may be a place for direct lending from retail banks alongside other measures, it may not be best placed to deliver the best outcome for households nor ensure a strong participation rate.

RECOMMENDATION 9: Councils continue to offer space for retail banks to partner via direct lending to households (as in the New Energy Jobs Fund project), and allow that the banks are best placed to act independently to develop products and source credit according to their individual strengths.

Summary of financing options

This section reviews the financing mechanisms that hold the potential to lower interest rates for low-income households. Using a council rates mechanism while relying on third party debt as needed, is identified as a preferred approach additional to those trialled in the NEJF program. This method is:

- Practical and relatively simple to communicate to and implement with households.
- Potentially well-received by households, with relatively modest interest rates.
- Able to be implemented under current legislation, although would improve with some legal reforms to Section 163 of the Local Government Act.
- Scalable in line with the identified scale of problem.
- Surrounded with buy in, expertise and support from lenders and finance brokers.

This mechanism complements the approaches that will be tested in the 22 council trial. Councils would have the option to offer debt collected via rates, dependent on their own reserves and/or willingness to acquire debt; while still retaining a channel for those households that could contract directly with a lender.

From this view, there is a continuum of products and services progressing from the initial Darebin approach, then scaled to the DEWLP-funded project, and then finally scaled to a state wide scheme.

- The City of Darebin Solar $avers trialled a product that gives the least cost results for low-income households (no interest loan) but is constrained by councils' ability to draw on reserves. While councils suggest this method carries high overheads, minor legal reforms and scaled services may make these overheads more palatable.
- The New Energy Jobs Fund project expands the Solar $avers model to other councils, and adds direct bank lending to the mix. While this bypasses council costs and constraints to a degree, it also offers interest rates that are at the upper end of what may be economically reasonable for low-income households. As such, it may not be scalable as fewer low-income households may be undeniably better off under those terms, i.e. for some households it would not be responsible to offer them this financing solution.

- The approach recommended here – attaching third party finance to council loans recovered via rates – brings scalability while still presenting an attractive option to households between the two interest rate extremes that will be trialled in the New Energy Jobs Fund pilot. However, there are some cultural and policy barriers concerning council appetite for debt to be addressed, and the administrative costs faced by City of Darebin would still apply here. It is hoped that some local government leaders will step towards trialling this approach and in doing so, engender greater confidence and replication across the sector.
- In order to facilitate this progression, it is logical to gear the outlook and services of the New Energy Jobs Fund to enable a clear path to operating at a higher scale, and explore the use of third party debt mediated through councils.

The table overleaf (Table 9) presents this progression of instruments, and shows an appealing middle ground for scalability and household benefit that stems from the recommended approach.

Table 9: Progression of financing instruments used and/or under consideration to date, their related scaling and risk factors, and enabling legislation.

Interest	Example application	Mechanism & lead roles	Scaling considerations	Outstanding risk holders	Enabling law
Towards 0 %	**Darebin Solar $avers program** **New Energy Jobs Fund project 'councils' stream**	**Special rates using public reserves** Council lends to resident using cash reserves and collects via rates – no interest charged to household. Overheads caused by special rates mechanism conditions.	Scale constrained due to: Council appetite and ability to draw on reserves. Overheads caused by special rates mechanism conditions (to address via legislative amendment).	Default risk held by council but diminished due to use of rates to collect debt. Some cash flow risk held by household but likely to be offset by energy savings.	**Sec 163 of Local Government Act** Special rates mechanism as the means to retrieve public debt.
4 – 5 % (Lower if CEFC finance leveraged)	**New Energy Jobs Fund project 'Banks' stream**	**Bank pilot** **Indirect intervention** Banks lend to and collect directly from residents. Interest rates lowered via strict approvals, shared operations, and leveraging low cost finance. Councils promote, recruit and vet households for suitability.	May be limited by households' willingness to enter into debt with private lender at the proposed rates, which may leave them only marginally better off. Benefits limited to mostly high consuming households.	Risk held by households as the proposed interest rate is at the margin for cash positive returns for the households. Risk held by lender, but this can be set within their tolerances and terms.	This approach is not dependent on a particular legislation to proceed.
1.5 % – 3 %	**No prior examples – recommend for testing during New Energy Jobs Fund project**	**Special rates backed by third party lender** Council lends to resident, backed by lender and collected via rates.	Scale constrained due to: Council appetite to draw on debt (to be tested). Overheads caused by special rates mechanism conditions (to address via legislative amendment).	Default risk held by council but diminished due to use of rates to collect debt. Some cash flow risk held by household but likely to be offset by energy savings.	**Sec 163 of Local Government Act** Special rates mechanism as the means to retrieve public debt.

3.2 Integrated support

The business case recommends that Victorian Government revise the terms of its energy concessions scheme to allow existing concession card holders to access the same level of concessions (i.e. based on their baseline energy use) when installing solar PV systems onsite via a low interest loan, for the duration of that loan.

This will cover the concession for their residual energy imported from the grid, while providing additional funds to help service the loan. While there may be other options to revise the concessions in line with this benefit, the proposed approach is consistent with the intent behind the concessions and does not carry an adverse impact on the state budget, given that the sums are equivalent to what the government would have laid out under business-as-usual conditions.

The business case also recommends that councils use third party financing for solar PV on low-income household rooftops within their community, where the lender (or other source of upfront funds) provides funds to councils as an intermediary. In doing so, the councils are recommended to interpret their debt exposure in terms of the draft principles of financial management and in light of the option to offload debt using third party services (using the MAV LGFV or commercial banks).

Taken together, these measures are a complementary approach to help low-income households afford solar PV systems where it makes economic sense for them, and gives them the best chance of participating in local renewable energy investment without introducing market distortions or budgetary impacts.

We recall that there are two welfare problems in play, justifying the delivery of the two complementary initiatives from state and local government –

- The need to support low-income households in their energy costs, already acknowledged through energy hardship provisions and the narrowly-targeted retail energy concessions.
- The need for low-income households to be able to access affordable finance in order for them to equitably participate in energy investment without undue financial duress.

Figure 2 presents an overview of how the two measures work together.

Further, it is posited that there is considerable overlap in terms of the administration, data gathering and custodianship, stakeholder engagement and other activities needed for both the state and local government led components to be successful and efficient. It is therefore suggested that the two tiers of government leverage each other's respective capabilities, positions and other strengths to maximise coordination and delivery efficiencies.

RECOMMENDATION 10: Councils and state government pursue an integrated approach, supported by delivery partners as necessary, to streamline management of the revised state concessions arrangement and council-assisted financing methods.

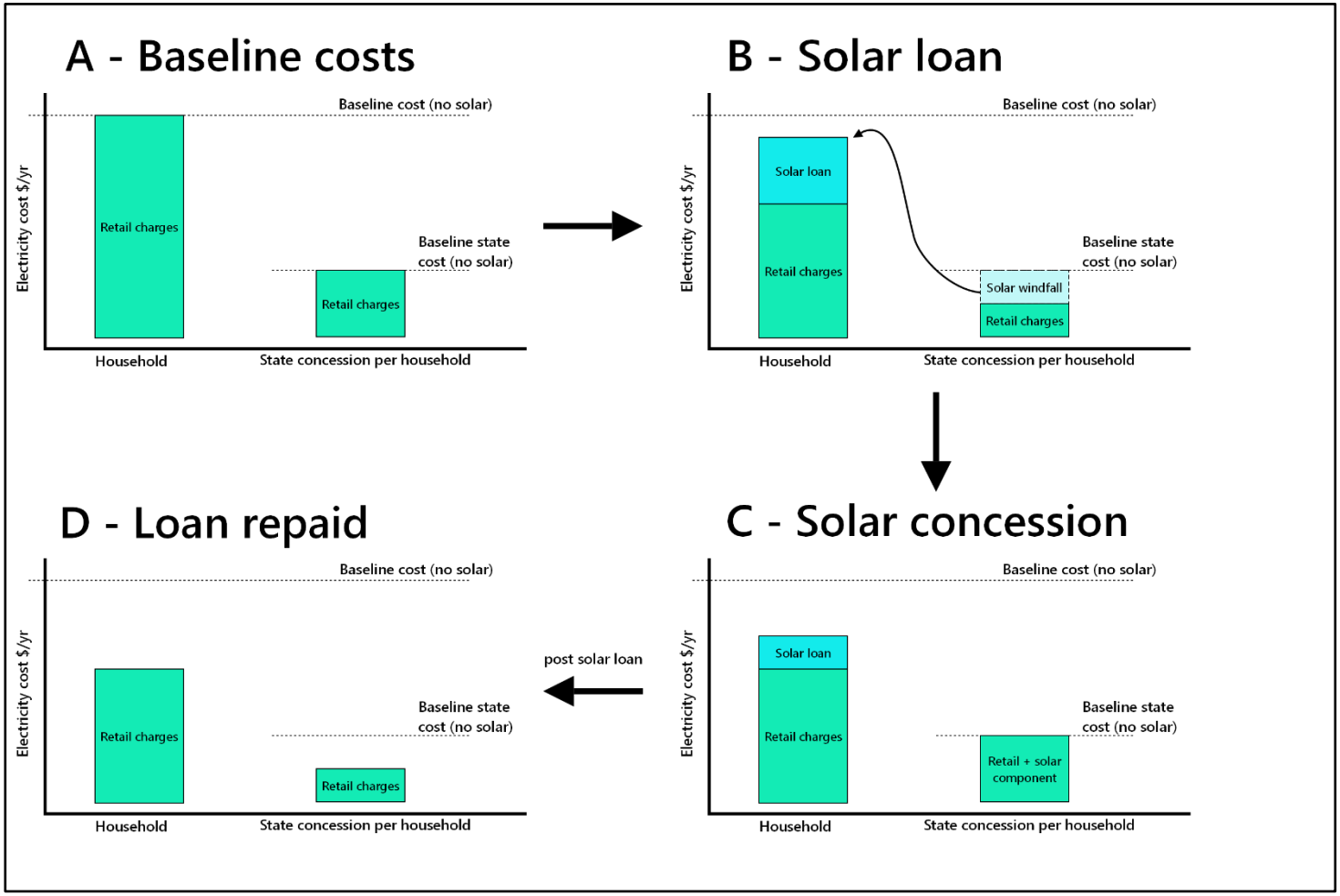

Figure 2: Overview of the benefit to households and state concessions budget through the recommended initiatives. Graph A represents the baseline costs to household and concessions budget without solar. Graph B shows the moderate net savings to the householder (and concessions budget), which may not be adequate to guarantee strong uptake across the target sector in isolation. Graph C illustrates that the net concessions savings presented in B as the 'solar windfall' can be re-deployed to the householder to assist with solar loan repayments, and deliver net savings that drive strong uptake. Once the loan is paid off, as presented in Graph D, the concessions savings are realised and the household has substantially lower energy costs for the long term.

Reallocating benefits to optimise outcomes

Section 2.2 provided an outline of the expected benefits to scale a program to 52,000 households, using 0 % p.a. finance and without reform to concessions. In particular, it highlighted the potential windfall gain of $4.5 m to 6.0 m per annum in annual savings to the electricity concession budget following the addition of solar panels across all 52,000 households. Depending on the interest rate faced by the householder, the state concessions budget may stand to gain more of the overall benefit than the individual household during the loan years, and the scale of net benefit to the household may only drive partial uptake within these 52,000 homes.

Recalling the calculations and settings in Section 2 and adjusting for the range of interest rates considered in this business case, the distribution of benefits to the household under a range of interest rate scenarios is as presented in Table *10*. These figures relate to a system that exports 23 % to 30 % of the electricity generated and uses 77 % to 70 % on site.

Recall that the windfall gain to the state was estimated at $87 to $109 per household per year, and is independent of interest rate.

City of Darebin and MEFL estimate that the net benefit to a given household during the loan years would need to be in the order of $100 per year to represent a compelling case for participation. So the figures reveal that uptake may only be partial, i.e. highly reliant on individual household circumstances. For example, with 70 % of the energy used on site, a 5 % p.a. solar loan for a household would have a net *cost* of $19 per year, when opting for a lower end system ($3,350 cost, 2.02 MWh generation expected per year). For comparison, a household would need to use about 96 % of the electricity on site to reach the net benefit of $100 per year under a 5 % p.a. solar loan.

Table 10: Distribution of benefits across household and the state during solar loan years, under different interest rates. Under the scenarios shown here and assuming that 70 to 77 % of the electricity generated is used on site, each scenario yields less benefit to the household than to the state, and may only motivate partial uptake. Higher on site usage will drive a higher benefit to the household and grant more confident uptake, yet this may only relate to a subset of households.

Interest rate	Baseline retail cost	Loan repayment	Post-solar retail cost	Export revenue	Household benefit (during loan)	Concession savings
0 %	$951	$335 - $364	$441 - $575	$26 - $33	$74 - $173	$87 - $109
1.5 %	$951	$361 - $392	$441 - $575	$26 - $33	$48 - $144	$87 - $109
2.5 %	$951	$380 - $412	$441 - $575	$26 - $33	$29 - $124	$87 - $109
5 %	$951	$428 - $464	$441 - $575	$26 - $33	-$19 - $72	$87 - $109

The $87 to $109 represents the windfall gain to the state for each system installed, i.e. paying $93 to $115 in concessions post solar installation, relative to the baseline of $202 (refer to Section 2). We note that the state stands to benefit more than the household for the duration of the loan under some interest rate scenarios in Table 10, particularly those towards the higher rates, while not bearing any of the risk or funding costs carried by the household.

Should these perceived risks and funding costs outweigh the perceived benefits (not as modelled, but as judged by the householder), the household will not proceed with investing, such that neither the state nor the householder improves its financial position, and both remain fully tethered to retail costs. As this is an entirely plausible result, it makes sense to re-allocate a suitable proportion of the

concessions allowance to make certain that households will proceed with the investment where it makes economic sense.

As outlined earlier in this section, we suggest a case can be made to the state government to defer these concession budget savings over the life of the scheme and instead apply the $4.5 to $6.0 million (already allocated in forward estimates) to reduce loan liabilities and debt exposure at the household and council levels. This would revise the above distribution of benefits across households and the state as set out in Table *11* below, undergoing significant improvement by the end of the solar loan. While the state concessions budget savings will be deferred under this arrangement, the government at least has a strong confidence that they will actually be realised at full scale.

Table 11: Distribution of household and state benefits, factoring in the allocation of concession gains to assist solar loan repayments and derived from Table 10. Note that for a 5 % p.a. solar loan, the household would need to use 76 % of the electricity on site to be $100 better off during loan years (calculations not shown).

Interest rate	Household benefit (during loan, per year)	Household benefit (after loan, per year)	Concession savings (after loan, per year)
0 %	$161 - $282	$409 - $536	$87 - $109
1.5 %	$135 - $253	$409 - $536	$87 - $109
2.5 %	$116 - $233	$409 - $536	$87 - $109
5 %	$68 - $181	$409 - $536	$87 - $109

Given this discussion of relative benefit to household and the state government, and in light of the strong welfare and equity basis for supporting low-income households to realise their voluntary participation in renewable energy investment, the case to review how concessions relate to this investment is urgent.

Similarly, there is a strong imperative for councils to allow their access to low interest finance to be leveraged for the benefit of low-income households who seek to improve their position through economically sound investment in solar PV systems. For even if the concessions budget were made available for solar investments, many of those households may lack the means to cover the outstanding capital costs through reserves or loans carrying market interest rates.

The two interventions need to work in unison to ensure both scale and clear financial benefit to less advantaged households.

4 Building scale to a state wide service

A key focus for the current project is to investigate and propose a shared service model which provides a cost effective and efficient programmatic vehicle to implement the program at scale. The 'shared service model' approach has traditionally been developed to better enable scaled services via the local government sector, however it does not have to be constrained to bringing benefits and efficiencies to the local government sector alone. If the problems and benefits are shared between sectors (i.e. local and state government and/or other stakeholders), then the case for shared investment may be made.

The preceding section of this report have discussed and put forward a number of recommendations which encourage councils and state government to better support low-income solar financing. Some of these recommendations point to potential shared services in support of improved access to finance (whether public or private) by pensioner households. The scope of potential shared services to implement a program at scale is broader than financing and could include communication and engagement services, and other energy related technical services.

Given current establishment and support for a 22 council pilot program (part funded via the government through the NEJF[32], the establishment of a pilot shared service for program delivery is imminent. It is proposed that experiences gained through the 22 council pilot should inform establishment of a state scaled scheme. To maximise learning and exposure, additional partnerships and related shared services should be sought from key organisations (some with state reach) in the pilot phase to better enable a more seamless growth to state scale out of the pilot phase.

RECOMMENDATION 11: Councils and government agree to pursue a shared service that accommodates state wide scale and reach.

4.1 Key characteristics of an effective shared service

The key characteristics of a shared service for program delivery are outlined here for agreement by stakeholders and partners.

Flexibility in achieving state coverage and scale

The ambition for scale has been conservatively set at 52,000 pensioner households currently located throughout the state. However, it is potentially sub-optimal and unlikely that the resourcing and shared ambition will see all councils looking to facilitate low-income solar outcomes at the same time. The shared service should enable:

- The potential to scale to state coverage.
- The flexibility to respond to and provide aggregated services for combinations of councils and associated partners whose ambition, budgets and timing align.

Leading councils need to be supported to embark in groupings that suit, and others supported to learn about the costs and benefits and options to follow on. Trialling and then scaling support for other types of low-income households should also be encouraged and accommodated over time.

[32] See page 10 and 11 for NEJF overview.

Driving continuous improvement on financing terms and interest rate

Any shared service needs to be focused on the core purpose of delivering best possible financing terms on behalf of low-income households. There is potential to scale and drive new innovations, products, rates and terms through a suitable shared service vehicle. As mentioned previously, an efficient solution would source ten-year finance for low-income households at as little as 0 % p.a. (for as many households as possible) and at most at 5 % p.a. (for the smaller number of households that still benefit), while pricing and allocating risks and costs accurately and fairly. Taking an adaptive benchmarking approach through implementation helps drive the societal efficiency of the scheme over time.

In broad terms, the range of services and activities could include:

- Undertaking processes surrounding the establishment and agreement by individual councils to apply a special rates charge (or similar) to nominated households and handle all communication with the householder around explaining and signing individual contracts
- Designing and implementing group procurement processes and managing panels on behalf of councils/government, to deliver one or more contractual arrangements for the provision of finance at agreeable terms to councils or direct to households
- Holding and/or managing a default fund on behalf of state government and the scheme. Manage pooled funds and transactions
- Conducting ongoing market research and negotiation with potential partners and advocates
- Revising business case delivery and pitch to prospective investors over time (public / private)
- Intergovernmental/inter-sectoral reporting on financial position and transactions
- Governance and risk management.

Benchmarking actual changes to costs and benefits for low-income households recruited and supported through the program will be essential to ongoing success. The scope for changes to cost components over time means the program will need to continually revisit and refine modelled costs and benefits against actuals, noting shifts in electricity and solar PV markets and behaviour change.

Efficient recruitment processes - communication and engagement with low-income households

The communication and engagement overhead associated with recruitment of low-income households to the solar scheme is thought to be a key area for economies of scale and cost savings to councils. The design and branding of the communication material will need to satisfy the key stakeholders and partners and resonate with prospective low-income households. Anecdotal evidence suggests that for the pensioner segment of low-income households, communication with ‘council’ representatives is key. The range of services and activities could include:

- Direct recruitment (letters, calls, emails, etc.)
- Recruitment administration (maintain client management system)
- Community workshops / seminars on scheme
- General communications (website, case studies, articles etc.)

Efficient and effective household energy (Solar PV) technical expertise

There are a range of services that need to be enabled through involvement of household energy (Solar PV) expertise. In broad terms these areas of activity include:

- Screening of potential roof-tops for solar potential against electricity consumption profiles
- Sizing and design of systems
- Selection and purchase of PV panels, inverters etc.
- Installation of systems
- Connection and commissioning
- Maintenance of operation (over, at minimum, the loan/rate charge term).

There is an overall responsibility to ensure these activities take place on a household by household basis to an agreed standard.

The separation of responsibilities between internal roles (housed / employed by the shared service) and contracted service providers will need to be determined. For the most part it is expected that contracted third parties, energy brokers/facilitators and solar PV providers, will be contracted to undertake energy services and installations following selection through a group procurement panel process. This should enable efficient, timely and competitive responses to scaled opportunities.

Leverage group procurement benefits

A number of the activities and services outlined above could be undertaken by third party service providers engaged via a 'group procurement' tender process. The ability to organise and group procurement on behalf of a group of councils (or private residents, depending on design of the scheme, e.g. bulk buy schemes) is therefore a key function of the shared service.

The Victorian Local Government Act provides the opportunity for councils to perform functions inside and outside municipal districts and the ability, under Section 186 (5), for a council entering into in a group procurement arrangement (lead by another council, agent or 'in accordance with arrangements approved by the Minister') to avoid the need to repeat a range of administrative obligations and notifications.

One such group procurement arrangement approved by the Minister for Local Government is MAV Procurement, a not-for-profit unit of the Municipal Association of Victoria (MAV) with local to state scale, focused on achieving better procurement outcomes for local government. The option for MAV Procurement to play a role as a delivery partner is outlined further in section 4.3 (below).

Ability to integrate other services – energy efficiency and thermal comfort

Building a shared service delivery vehicle around reducing barriers to financing low-income solar is a relatively focused intervention aligned to the problem statement. However, in time the opportunity to provide engagement, financing or other linkages to other improvements to low-income households can be explored and integrated. Provided the service is not replicating but leveraging opportunities provided through other government and private channels, an expanded intervention should still pass the governments public benefits test.

RECOMMENDATION 12: The key characteristics (set out above) are agreed as central to a scalable shared service delivering low-income solar to households across Victoria. In particular, incorporating shared services into program delivery should deliver:

• The necessary flexibility to respond to and provide aggregated services for combinations of councils and partners whose ambition, budgets and timing align.

• Continuous improvement on financing terms and interest rate and benchmarked benefits to the householder.

• Broader energy efficiency and thermal comfort benefits for residents over the medium term.4.2 Learning from pilots: partnerships for a state-scaled shared service.

4.2 Learning from pilots: partnerships for a state-scaled shared service

As noted previously, EAGA recently coordinated development and submission of the Solar PV for Low-income Households application to the state governments New Energy Jobs Fund (NEJF). The program attempts to build scale (22 councils) based on the success of the Darebin Solar $avers (solar rates) scheme. In additional it investigates and enables the provision of private finance through targeted bank loans (from one financial institution) at terms of 5 % p.a. over ten years (or better) targeted at a suitable subset of households.

A successful funding application signals support from the government to work with councils on establishing an integrated pathway for low-income households to access more sustainable energy options. The program will leverage operational funds from state government ($765K) toward operating a shared service including funding toward salary costs of 3.1 FTE (for 2.5 years) and related activity over the pilot period.

Engagement and feedback from stakeholders (state government, councils and the finance sector) through this current project would suggest there is more that can be done to position this 'pilot' NEJF application and the related commitment gathered from 22 councils within a state scaled initiative.

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

Seeks to install up to 1,100 solar PV on low-income and vulnerable households across 22 municipalities in Victoria. The project is proposed to be led by Maroondah City Council and coordinated by the Victorian Greenhouse Alliances. The initiative will be delivered over two-and-a-half years and will:

- Test a model 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 project implementation to enable 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.

To maximize the benefits, ongoing engagement is needed with state scaled delivery organisations which potentially hold aligned interests. MAV Procurement and Sustainability Victoria are two such organisations who have been preliminarily engaged through this project.

The scope of shared service characteristics (section 4.1) and financing options (section 3) are broader than the scope of what the NEJF pilot looks to address. Initial engagement with MAV Procurement and SV representatives suggests some positive traction around shared ambition for a state scaled scheme.

Involving the Municipal Association of Victoria in building scale

Initial engagement with Municipal Association of Victoria (MAV) and MAV Procurement has been undertaken to explain the intention of the 22 council NEJF pilot and outputs of further engagement with stakeholders around improved financing options (outlined in previous sections). The following areas of alignment between MAV Procurement services, key shared service characteristics (Section 4.1) and financing options (Section 3) have been identified:

Flexibility to scale – Councils can join individually or collectively to work via MAV Procurement as their procurement / contracting agent. It grants the opportunity for a flexible arrangement that could start small or be scaled to a state wide potential from the outset.

Energy services group procurement – drawing on recent experience in managing procurement relating to streetlight retrofits, MAV Procurement could set up procurement processes and panels of providers for solar panels, project management, facilitation and energy service brokering services.

Financial services group procurement – a procurement process seeking suitable financial products for low-income solar could be attempted, given MAV's core expertise in this area (as below).

Leverage the Local Government Funding Vehicle (LGFV) - The LGFV is a mechanism that could be employed to provide 'cheaper' finance to the local government sector, in part to provide additional funding via councils for provision of solar PV to low-income households. The long term expectation is that capital will be provided to councils through LGFV at approximately 1 % p.a. below bank finance.

Encourage investment from state and Commonwealth government – with scale comes the opportunity to seek direct investment from state and Commonwealth entities. For example, the Clean Energy Finance Corporation (CEFC) had expressed some interest in investing through the LGFV, given they have notionally allocated $230 million for local government sector investment.

Formalising MAV Procurement support for the NEJF Pilot

The NEJF program should be seen as an opportunity to continually engage with MAV Procurement and progressively take advantage of these aligned service characteristics. There is an opportunity for MAV and MAV Procurement to gain a better understanding of the options and opportunities to provide advocacy, policy, program and procurement support and improve the program over time.

MAV Procurement has provided an outline of services costs (in the order of $15 to $25K) for management and establishment of a group procurement i.e. solar panel services. However, MAV Procurement has also outlined that there is precedent for costs to be waived where the case can be made. Provision of solar to low-income homes may qualify for discounted procurement support.

Supporting council debt financing option through MAV Procurement

Section 3 (above) raised and recommended that third party financing via councils be considered and direct engagement take place with MAV Procurement to ensure access to the MAV Local Government Funding Vehicle (MAV LGFV) to source very low cost finance (e.g. towards 2 % p.a.) and to offload that debt (via securitisation) when it reaches the limits of the council's debt policy (i.e. the initiative can stay strictly within debt limits).

In addition the proceeding sections have raised potential linkages between appetite for council finance and amendments to the government's rules around access to the concessions budget. As outlined in section 3.2 (above) if these changes are made, councils could arguably receive the discount from DHHS on behalf of the householder, and adjust the rates-based repayment schedule accordingly. This may appease councils' concerns regarding debt, as a proportion of the debt is paid for by the state government and is therefore subject to very low risk.

Quite apart from support from MAV Procurement, we suggest broader support from MAV should be sought to enable improved exploration of this option between the local government and state government sectors. If supported, further support will be needed to ensure uniform reporting, tracking and verifying processes are established. Once again, MAV would be a useful partner in working through these options.

RECOMMENDATION 13: The project partners (led by Alliances / councils) should seek formal participation of MAV in support of the project and request that:

- MAV Procurement provide procurement panel services to the NEJF pilot at discounted rates.
- MAV lead engagement with the state government on modifications to the rules for broader access to the state concessions budget to support low-income solar (including via the NEJF Pilot scheme).

Involving Sustainability Victoria in building scale

Sustainability Victoria are a key program delivery agency of the Victorian Government across a range of sustainability areas, including a focus on improved energy efficiency and renewable energy uptake by households. Engagement with Sustainability Victoria staff during this project suggests an awareness of council efforts (i.e. Darebin Solar $avers and the NEJF pilot) and a willingness to explore provision of some support to these and other initiatives into the future. The following provides a summary of some potential areas of assistance put forward as options to explore through further engagement and discussion:

Program delivery and design input – SV hold technical expertise across renewable energy and energy efficiency program delivery for the built environment. They may provide input and technical advice on program design and delivery matters. They may also provide connection to benefits and interactions with other schemes (i.e. VEET) if integration is preferred.

New opportunities – with energy, environment and climate change portfolios aligned there may be opportunities for SV to attract dedicated program support using this or similar business cases.

State level branding and regional staff – promotion and co-branding with a state government agency may encourage increased engagement with the program. SV have some regional staff and their work programs could be aligned to provide additional engagement and program support.

Investment attraction – SV have investment attraction, procurement and data governance and management capabilities which may be useful to leverage at pilot and state scales.

RECOMMENDATION 14: Program partners should consider further engagement with Sustainability Victoria to determine their ongoing commitment to supporting low-income household Solar PV / energy efficiency and potential to complement the objectives of the pilot NEJF and achievement of a state scaled scheme.

Appendix 1

Financing mechanisms and their enabling legal provisions

This Appendix provides guidance on a subset of low-income solar financing mechanisms that rely on special legal provisions, whether those provisions currently enable their use as intended, and whether there are any known 'soft' (e.g. cultural; economic) constraints to their use as intended. Equally important, it will set out any apparent sources of ambiguity.

Drawing on the Directions Paper, the following finance interventions rely on some form of direct legislation to enable councils to play a role in securing affordable finance for low-income solar (Table 12). A more detailed analysis of the relationship between the legal provision and its application to support a low-income solar program is set out at the end of this Appendix (Table 13).

Table 12: Summary of financing mechanisms reliant on Local Government legislation.

Mechanism	Legislative provisions and concerns	Relevant law
Loan serviced via rates using public reserves or backed by private lender Council lends to resident with or without private lending, and debt is collected via council rates. Council holds householder debt.	Requires use of existing special rates or service rates law as the means to retrieve public debt, i.e. no strict legal barrier. Darebin precedent used the special rates mechanism, and it is claimed that this carried a high administrative impost (28 day public notice and council sign off). Councils may also be averse to going into debt due to e.g. cultural and policy factors, These are soft barriers to address through the conditions prescribed.	Special rates: LG Act Sec 163 Service rates: LG Act Sec 162
Residential EUAs (or equivalent) Banks lend directly to residents; repayments collected via rates. Councils do not hold and are not liable for household debt.	Requires amended EUA legislation, which only applies to non-residential properties, i.e. there presently exists a strict legal barrier. Councils and lenders state the need to pare back process and paperwork in line with size of residential transaction for this to work. So there are also soft barriers in play.	Commercial EUAs: LG Act Sec 181

Strict legal barriers

Both special rates (and charges) and service rates (and charges) can be applied to rateable land, and may be a mechanism to recover finance via rates under the legislation as it currently stands. For service rates, there is some ambiguity in whether they can be applied to a low-income solar program, and this rests upon whether it can be considered a 'prescribed service'. The use of a residential EUA mechanism would require an amendment, as present legislation only enables EUAs to be struck for non-residential properties.

Softer barriers

Of the three provisions in place (right hand column, table above), service rates appear to have the least administrative burden on councils and other stakeholders, with no direct burden imposed on third party lenders. But there is no known precedent for their use in similar voluntary programs, however, and it is not clear whether they can be applied to a low-income solar program, given that

the legislation allows for their use concerning waste, water/sewage and 'prescribed services'. The legislation does not appear to clarify or define what services are prescribed.

Special rates legislation similarly does not directly impose on third party lenders, but seemingly prescribes more conditions on councils in their use compared to service rates. City of Darebin has advised that, while there were substantial implementation costs incurred by these conditions, they were manageable. From this, it could be interpreted that while a program could be delivered using special rates, under an ideal scenario, the special rates legislation would require less onerous conditions in recognition of the program's 'opt in' nature.

Directly applying EUAs as they currently stand to residential properties presents a burden both to councils and third party lenders, such that lenders have advised that they are unworkable in the absence of streamlining and other alterations to lower transaction costs.

Of the three mechanisms, should third party financing be needed (which need not be the case for special rates and service rates if they are funded from cash reserves), EUAs are the only mechanism by which councils are not liable for the debt incurred. Given the culture and policies of councils to shun debt, this dimension would at face value make residential EUAs appeal to councils more than third party financed programs that apply service or special rates.

Under Section 32A (c) of the Sale of Land Act, any rates, taxes, charges or similar outgoings affecting the land under sale need to be notified in the vendor's statement. This clause seems equally applicable to any of the above rates emplaced to support a low-income solar program.

Given the above:

- Service rates may be applicable for a low-income solar program, but councils may need to see a precedent for similar usage to give comfort in their use in a low-income solar program. Third party finance would involve councils drawing debt, as with special rates. Because service rates and special rates seem to cover similar permissions regarding how finance might be recovered via a rates scheme and because of this ambiguity concerning service rates, the business case will focus on the use of special rates where councils offer a loan and recover costs via rates.
- Special rates are legally applicable but may need to be less onerous to councils, which a legislative amendment could enable. The Darebin Solar $avers program brings relevant precedence in use. Third party finance would involve councils drawing debt.
- For EUAs, current law is not applicable, and amendments need to address the burden on lenders and councils as well as introduce them to residential land. It would allow councils to side step debt, but engagement with lenders suggests that they may still be unenthusiastic in applying EUAs, given the limited success of commercial EUAs in Victoria to date.

Treatment in the Local Government Act Directions paper

In the Directions Paper for the current Local Government Act reform process 'Act for the Future', both service rates and charges and special rates and charges are mentioned:

- Service rates and charges are focused on in Section 9.6, which proposes that the term 'service charges' be applied to both, and that they no longer be applied to water supply and sewage services. It proposes that the Minister for Local Government be empowered to prescribe services that fall under this mechanism.

- Special rates and charges are focused on in Section 9.7. This section proposes that they be retained in the Act, but that the Act issues clear guidance on their purpose, and the criteria to use when determining their benefit.

More related to council practices concerning debt, Section 8 of the Directions Paper proposes that sound financial management principles be specified in the Local Government Act, and that it be used as the basis for all financial management, including council debt policies. In time, this may help address councils' cultural aversion to debt and mitigate one of the barriers to using special and/or service rates to collect externally sourced debt used for solar panels on low-income homes, where councils are liable for that debt.

Given the above, EAGA may wish to engage with DELWP on relevant reforms to these rate-related mechanisms during the Local Government Act reform process.

Advice sought by councils to date

Given the interest in establishing and replicating low-income solar programs such as the City of Darebin's Solar $avers program, some councils (principally City of Darebin and City of Moreland) have sought independent legal advice on whether the special rates clause of the Local Government Act can be used i this manner.

In each case, councils were **not** advised against using the charge for the purposes of the project, however it is a requirement that the works must be considered a 'fixture' and not an appliance (e.g. an energy efficient refrigerator) as a householder may be able to remove the appliance while the Special Rates charge would still be applied to the property and notified via the Sale of Land Act Section 32 vendor's statement.

Given this, there is no reason why a special rates mechanism could not be used for other renewable energy technologies such as heat pump for hot water or heat pump space heating (typically a reverse cycle air-conditioner), or solar hot water service. A special rates charge could be used to add insulation, double-glazing or improve the 'air-tightness' of a home or building.

Further to this, EAGA's engagement with councils through both business case phases has indicated that councils have used special charges for a range of other purposes in the past, including decorative Christmas installations in retail precincts.

Advice informally provided by Local Government Victoria during this project accords with the independent advice set out above.

Table 13: Partial review of financial mechanisms, enabling legal provisions and explanation.

Mechanism	Relevant law	Main relevant clauses and subclauses	Implications for solar rates program
Loan serviced via rates using public reserves or backed by private lender Council lends to resident with or without private lending, and debt is collected via council rates. Council holds householder debt.	**Special rates and charges:** LG Act Sec 163 (and other related sections)	Sec 155 (e)(f) and Sec 156	Designates that special rates and charges can be applied to rateable land, and that the owner of that land is liable for those rates and charges
		Sec 163 (1)	Provides that a council may declare a special rate, a special charge or a combination of both only for the purposes of— (a) defraying any expenses; or (b) repaying (with interest) any advance made to or debt incurred or loan raised by the council— in relation to the performance of a function or the exercise of a power where it will be of special benefit to the persons required to pay the special rate or special charge.
		Sec 163 (1A)	Requires that a council must not make a declaration unless it has given public notice of its intent to declare at least 28 days beforehand.
		Sec 163 (1B) through Sec 163B (7)	Further details relating to the public notice and declaration process, including information prescribed, limitations, objections and so on.
	Service rates and charges:	Sec 155 (c)(d)and Sec 156	Designates that service rates and charges can be applied to rateable land, and that the owner of that land is liable for those rates and charges

	LG Act Sec 162 (and other related sections)	Sec 162 (1)	Provides that a council may declare a service rate or an annual service charge or any combination of such a rate and charge for the provision of any prescribed service
		Sec 162 (2)	Provides that a service rate or charge may be declared based on any criteria specified by the council in the rate or charge.
Residential EUAs (or equivalent) Banks lend directly to residents; repayments collected via rates. Councils do not hold and are not liable for household debt.	Commercial EUAs: LG Act Sec 181A-181J	Sec 181A	Provides that primary parties may enter into an environmental upgrade agreement in respect of rateable land with an existing building on it, that is entirely or predominantly used for non-residential purposes, to fund works that improve the energy, water or environmental efficiency or sustainability of the building on that rateable land.
		Sec 181B-181D	Provides for conditions, provisions and charges relating to environmental upgrade agreements
		Sec 181E	Provides that a council must use its best endeavours to recover an environmental upgrade charge, but is not liable for any failure by an owner or any occupier to pay an environmental upgrade charge or charges. A failure by an owner or any occupier or an owner does not make the council liable to pay the outstanding amount under the environmental upgrade charge to the lending body.

Appendix 2

Stakeholder consultation to date

This draft report is informed by stakeholder consultation as agreed with the project manager. To date, the project team has consulted with the following parties:

- Bruce Thompson, (formerly) Moreland Energy Foundation Ltd.
- Robert White and Michael Prentice, nab bank
- Jacob Edwards, Bank Australia
- John Bergin and Nick Coker, Bendigo Bank
- Tony McLynskey, Community Sector Banking
- Catherine Bremner, ANZ Bank
- Cameron Spence, MAV Procurement
- Chloe Hicks, MAV
- Tanya Corrie, Good Shepherd
- Linda Tremewen, Victorian Government (MWRRG)
- Leighton Vivien and Julia Keeble, Victorian Government (DELWP)
- Peter Dobson, Prem Panickar and Kristen Wood, Victorian Government (DELWP)
- Daniel Voronoff, Victorian Government (DHHS)
- Sally Moxham, Sustainability Victoria
- Gavin Mountjoy, City of Darebin
- Jane Spence, City of Stonnington
- Matthew Dixon, City of Boroondara
- Stephanie Kuisma, City of Whitehorse
- Sam Sampanthar, City of Knox
- Simon Woodland, Yarra Ranges Shire
- Nelly Belperio, City of Maroondah
- Karen Jones, City of Monash

Further consultations are planned with these and other stakeholders as the business case project progresses.