



Small-Scale Community Solar Guide | version 2



Authors and Acknowledgements

The Small-Scale Community Solar Guide is an initiative of the Coalition for Community Energy.

The first version of the Small-scale Community Solar Guide was written by the Institute for Sustainable Futures at the University of Technology Sydney with input from Embark, Repower Shoalhaven, Moreland Energy Foundation, ClearSky Solar Investments and Starfish Initiatives. It was originally developed in 2014 as part of the National Community Energy Strategy project (Appendix E). The project was funded by ARENA. Special thanks go to Erland Howden for facilitating the workshop that led to the development of the first version of this Guide.

The second version of this Guide has been written by Community Power Agency in its capacity as Secretariat of the Coalition for Community Energy. This 2017 update was again a collaborative effort bringing in contributions from Pingala, Starfish Initiatives, Macedon Ranges Sustainability Group, The Hub Foundation in Castlemaine, CORENA, Repower Shoalhaven, Bendigo Sustainability Group and Environmental Justice Australia. Special thanks to Brendan Lim of LittleSketch.es for donating his time to update the Decision Tree diagram.

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Foreword

Welcome to the second edition of the Small-Scale Community Solar Guide. Sustainability Victoria is proud to have funded the Coalition for Community Energy to update this guide.

It is exciting to see the second addition of the guide include 10 models for small scale community solar proven in Australia as well as the important common legal frameworks so critical to the success of community energy projects.

At Sustainability Victoria we are passionate about creating a sustainable and thriving Victoria, mobilising communities, individuals, businesses and schools to work together for a better environment now and in the future.

Sustainability Victoria is excited to be helping communities take control of their energy future by providing information, guidance and support through activities including the updates to this guide and associated webinar series, as well as the exciting Community Power Hubs program.

Community energy plays a critical role in driving change at a grassroots level, engaging and supporting communities to come together to act on climate change. It enables communities to take ownership of their energy generation and use in a way that promotes the sustainable use of resources and helps create a better future for all Victorians. We know that together we can do more to reduce the impact of climate change on our communities, and that's why these projects are so important.

Congratulations to the Community Power Agency and the Coalition for Community Energy on producing this valuable second edition of the Small-Scale Community Solar Guide. I'm sure it will support the creation of many more community energy projects to come.

Best wishes,



Stephanie Ziersch, Interim CEO

Sustainability Victoria



Introduction and overview

This set of resources outlines what you need to know to get a small-scale community solar project off the ground. Specifically, this Guide aims to help community energy groups to understand:

- The models of community solar that we know work in the current context
- The legal structures and arrangements that underpin these models
- The reasons why they do work in the current context
- The constraints that make alternative models challenging
- Which of these models might be appropriate for your community group
- The first steps to start implementing the most appropriate model.

The current energy market context and regulatory environment makes setting up a community energy project challenging. The small-scale community solar models outlined in this Guide have been selected because they are proven to work in the current context. It should be noted that each model has specific requirements, so may not work in your community, or may need to be adapted to suit your local context.

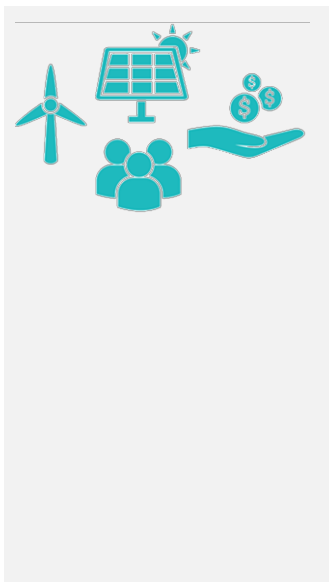
This Guide should not dissuade your community energy group from innovating and trying to create other models of community energy generally and community solar specifically. Indeed, many of these models are the result of innovation and adaptation.

Most importantly, these resources are intended to help you learn from others, provide options and make it easier to navigate the complexity of setting up your own project.



Types of community energy

A typology of different models of community energy was developed for the first version of this Guide and has since been updated in the [Guide to Community-owned Renewable Energy for Victorians¹](#). These different types allow us to categorise the models based on their fundamental characteristics. Note that some models can fit into more than one type/category.

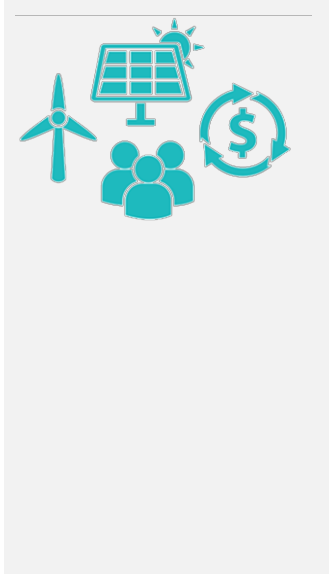


Donation/philanthropic

Donation/philanthropic projects involve a community raising funds through donations, either using a crowdfunding platform or more traditional fundraising programs. Typically, the host site and beneficiary of this model will be a not-for-profit community organisation, such as a school, surf-lifesaving club or fire station, and the project scale will be small (5-50kW). While members of the organisation may donate to the project and will have a say over its direction, they are not investors and will not earn a dividend.

Examples of donation/philanthropic models in this Guide are:

- *CORENA*
- *Macedon Ranges Renewable Energy Fund*
- *Bendigo Sustainability Group*



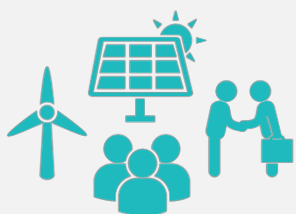
Community investment

Community investment projects are typically initiated and led by a community organisation such as a cooperative or company. Funds are raised by opening up the project to community investors on the expectation that they will receive a certain return on their investment.

Examples of community investment models in this Guide are:

- *Repower Shoalhaven*
- *ClearSky Solar Investments*
- *Sydney Renewable Power Company*
- *Lismore Community Solarfarm*
- *Pingala*

¹ Note this typology also includes 100% renewable town models, that are neither small-scale or just solar projects and as such are excluded from this Guide.

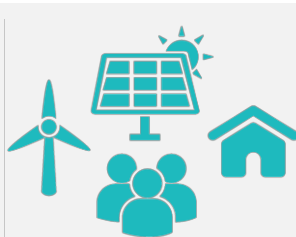


Community-developer partnerships

Community-developer partnerships are where the community or a renewable energy developer initiates a renewable energy project and both parties agree to deliver it in partnership. This can result in dual ownership between the community and the developer or other structures.

Examples of community-developer partnership models in this Guide are:

- *ClearSky Solar Investments*



Community-council partnership

A community-council partnership enables a community energy group to access council resources, such as a premise or land to install a renewable energy system or council administrative resources. The community group will often initiate the renewable energy project and then approach the council to enter into a partnership.

Examples of community-council partnership models in this Guide are:

- *Lismore Community Solarfarm*
- *Bendigo Sustainability Group*
- *Solar Savers*



Multi-household

Multi-household projects are where a community group aggregates households to bulk-buy and install renewable energy technology. This type of project started with solar bulk buys which were initially popular around 2009 and are experiencing a resurgence since 2016. More nuanced models have also been developed which involve the local council.

Examples of multi-house models in this Guide are:

- *Solar Savers*
- *MASH*

Behind the meter, below the load

All the small-scale community solar projects we are aware of, including the case studies in this Guide, are examples of what we call the “behind the meter, below the load” approach. This arrangement is currently the most feasible and viable for small-scale community solar. In this approach, there is a host site that directly uses the electricity generated by the solar – its behind their meter. The size of the solar array is scaled to meet the host-site’s needs thus avoiding the issue of selling electricity into the market and also producing a better financial outcome for all involved.

There are many challenges and barriers facing the community energy sector (see [Challenges and Opportunities Report](#)). This document focuses on those challenges that significantly affect the financial viability of community solar projects. These include wholesale electricity prices, retail prices, the status of renewable energy policy, and a number of legal requirements associated with raising

investment. Note many of these constraints apply to community energy projects employing other renewable technologies.

Financial Considerations

Community energy models are motivated by more than commercial success. While community energy projects need to be financially sound and many (though not all) provide a return on investment, they are not purely commercial projects. That is, community energy projects will include outcomes and benefits beyond just financial returns. As such, many community energy models require a degree of volunteer time, pro-bono and in-kind contributions. In order to achieve the non-financial benefits of community solar, a community energy organisation must consider harnessing non-financial support. If you are in this just for the money, community energy isn't for you.

There are some key components that contribute to the financial viability of a community energy project:

- costs to get a project operational
- how funds are raised to get the project operational
- costs once the project is operational
- income once the project is operational.

The wholesale electricity price, retail price and the status of renewable energy policy all affect the income of a project once it is operational (the [Embark Wiki](#) provides articles with more detail on these).

So how do these pricing mechanisms work?



Wholesale price

The wholesale electricity price is the price a project receives when exporting electricity to the grid. At 7-12c/kWh, the wholesale price has increased in recent years, but it is still low when compared with the retail price of electricity. Competition within the wholesale market remains strong in most states, and it is reasonable to expect the wholesale price growth to remain weak, with average prices falling or rising only modestly in coming years. With only a couple of exceptions there are currently no premium feed-in-tariffs available for new solar installations and particularly not at the scale of a typical community energy project (>10kW). If a project sells electricity to a retailer, 7-12c/kWh is the maximum likely to be received for the electricity generated. This income alone is unlikely to cover the cost of the actual renewable energy technology, let alone all the other costs in developing a community solar project.

Retail price

The retail electricity price is the price a home or business pays for electricity. This includes the wholesale cost, network charges, retail charges and margin and more. Currently, residential customers and small business customers pay a relatively high retail price (for residential to semi-large energy users it ranges from 14-35+c/kWh). The most costly component of this is network charges, although retail and wholesale costs are currently increasing significantly. Retail prices are not expected to go down significantly for the next few years.

Renewable energy certificates

The Federal Renewable Energy Target (RET) creates two markets for renewable energy generation. Systems smaller than 100kW (and even smaller for non-solar PV technologies) are eligible for Small-Scale Technology Certificates (STCs) and renewable energy systems greater than 100kW can sell Large-scale Generation Certificates (LGCs).

- STCs for solar PV installations are currently priced at approximately 3.3c/kWh of electricity predicted to be generated by the solar panels over 1, 5 or 15 years (deeming period depends on the installation). This payment is received up-front and results in an effective discount to the cost of purchasing the solar system. The STC arrangements provide certainty and a cost advantage for smaller-scale solar projects. Note the Small-Scale Scheme is scheduled to end in 2030 and the deeming period is now in decline, reducing by one year from 2017 and each year onwards. See the [Clean Energy Regulator website](#) for more information.
- LGCs are currently priced above 7.5c/kWh. Solar installations larger than 100kW must sell their certificates as they're generated. There is no deeming/up-front arrangement for these projects. Furthermore, there is significant volatility in the LGC market which makes it hard to predict future prices. This creates uncertainty and risk for the project.

Given these current electricity market realities, it is clear that if a community solar project can reduce an organisation's import of electricity from the grid. This reduces the amount of money that said organisation pays for grid electricity. The financial case for a community solar project that can offset or reduce an organisation's retail electricity bill will be much stronger than if a project relies on selling electricity to the grid at wholesale price. Further, if a project is smaller than 100kW it has greater financial certainty through the RET by receiving up-front STCs. Businesses pay electricity prices according to the size of their electricity consumption and the larger they are, the lower the price they pay for their energy. Thus, it is likely that a host site who can utilise a larger solar system will be paying a very low electricity tariff. To-date, it has been much easier to create community solar projects that sit behind the meter and below the load of a host-site organisation.



Raising investment funds - legal considerations

Seeking investment is a highly regulated process. For example, if your project is structured as a company or trust and investment is sought from more than 20 investors, it will probably need:

- An Australian Financial Services Licence,
- Require the development of a prospectus, and
- Include an obligation to undertake significant annual reporting.

These obligations add to the upfront and ongoing costs of a community solar project. For <100kW projects the income generated from the project almost certainly won't cover these additional costs.

These legal requirements affect both the cost of a project (in the development and operation phases) and a group's ability to raise funds.

Options to respond to these legal restrictions include:

1. Structure your project as a "small scale offering" where investment is sought from 20 investors or less. While this may avoid some legal restrictions, the downside is that it reduces the community ownership. It also means that you either need investors that can invest larger amounts, in many cases \$5,000 or greater to ensure a viable project or you need a project underwriter – who will potentially cover a significant proportion of the project's costs, but means you can have other investors providing smaller amounts.
2. Seek investment from more than twenty investors for the project but also increase the scale of the project so that the cash flows from the project are able to cover the increased regulatory and compliance costs. This will mean that you need a larger renewable energy system (>400kW) as the basis for the project, which restricts the number of possible host sites as there are less energy users in Australia that use the amount of electricity generated from a 400kW solar system during the day every day of the year. These large energy users usually have a very low electricity tariff.
3. Consider whether forming as a co-operative would suit your needs as a community. Co-operatives are governed by state-based co-operative legislation and, as such, are largely exempt from the more restrictive and expensive obligations enforced by the Corporations Act. The co-operative form comes with limitations which your community would need to be comfortable with and there may be other factors that make this a less attractive option.

Of these options, the first is the most straight-forward means of establishing a new investment-based community energy legal entity. This involves the setup of a proprietary company or trust and then utilising the small-scale offerings exemptions that exist in the Corporations Act by limiting the number of investors to a maximum of 20 in any 12-month period. There is nothing preventing a group from running multiple such projects, indeed this is what many of the pioneering community solar groups seeking to do investment projects have.

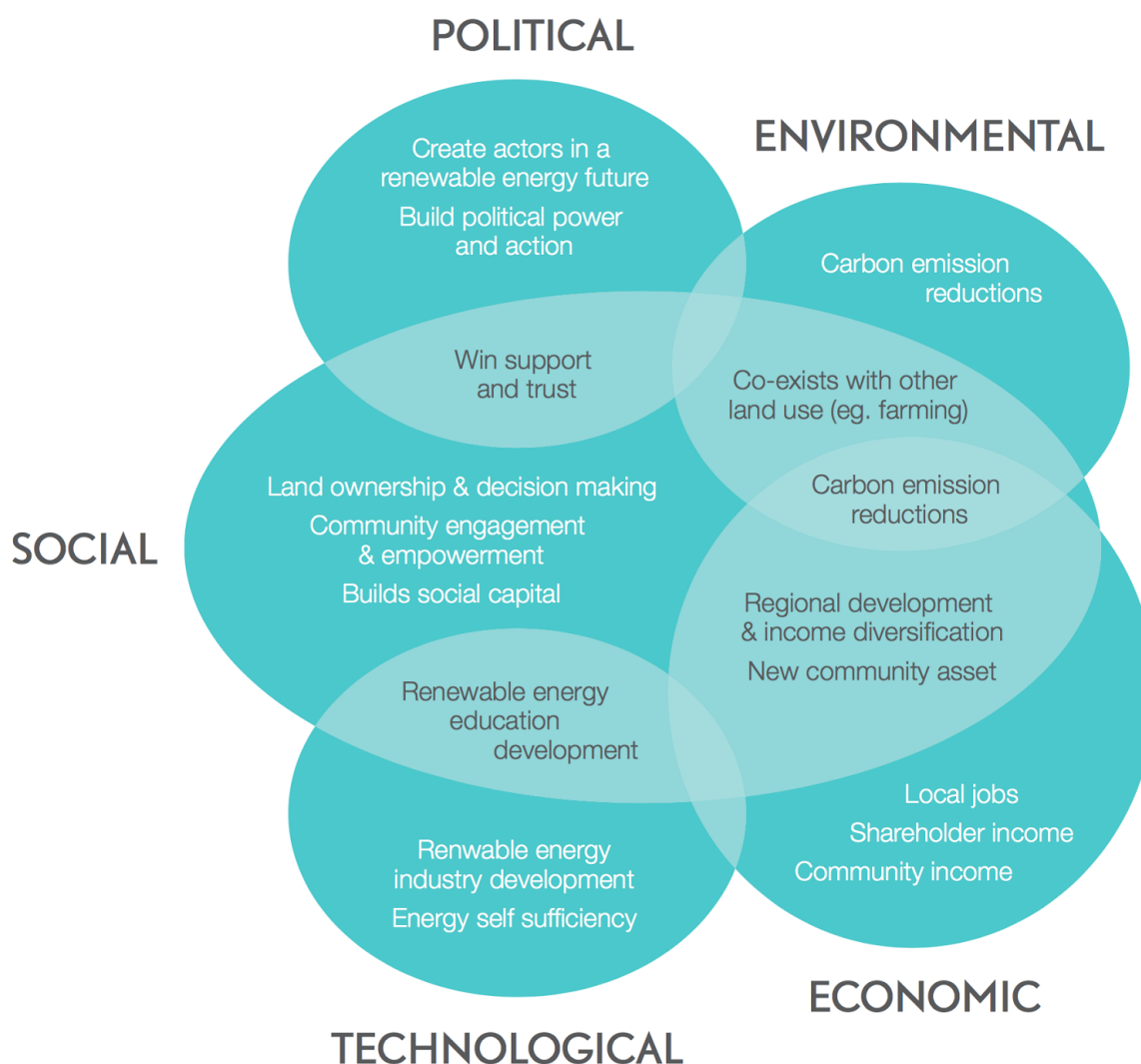


Choosing the right model

Deciding which model to adopt or adapt is an important early decision in the journey of creating a community energy project in your community. This decision is complex and it is beyond the scope of this Guide to expand on the process of setting up a community energy project. However, the recently published [Guide to Community-Owned Renewable Energy for Victorians](#) provides an excellent summary as well as different perspectives to consider when making this decision.

Your community should understand the motivations and benefits you are seeking to achieve before embarking on a specific project direction.

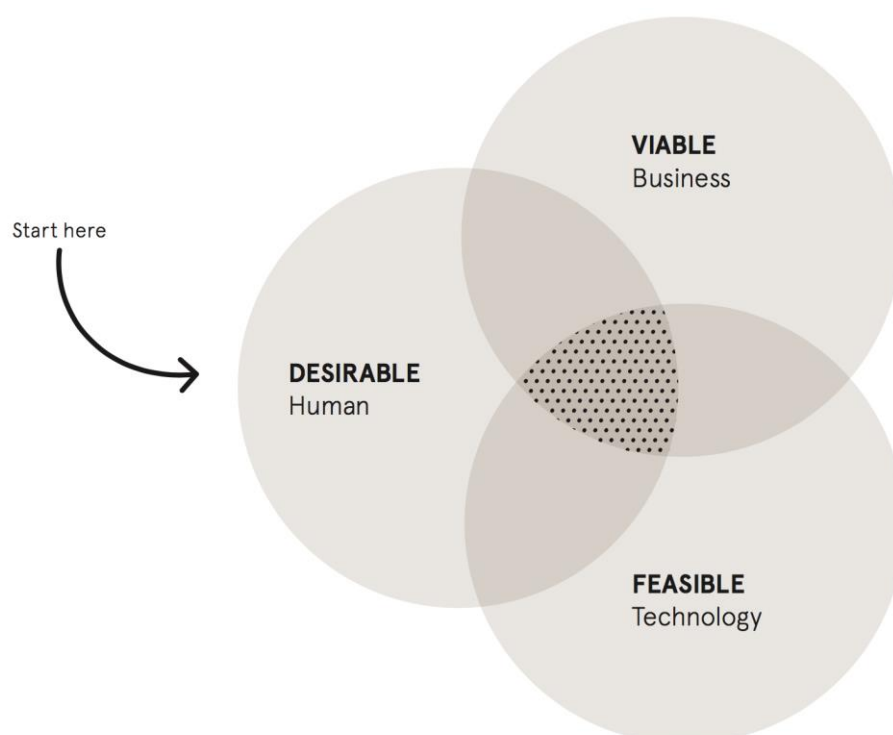
Figure 1. Motivators and benefits of community energy



Adapted from Source: Hicks, J. & Ison, N., 2012. Community Energy. In The Home Energy Handbook: a guide to saving and generating energy in your home and community. Centre for Appropriate Technology

Your community group should also consider the balance between what is socially desirable, financially viable and technically feasible.

Figure 2. Start with Desirable while also considering Viable and Feasible



Source: Field Guide to Human-Centered Design, IDEO.org

This Guide will help build your understanding of what is feasible and viable by providing further information on the proven models that work in the current context, why they work, and why other models might be struggling.

Being clear on these choices and associated constraints will help determine which is the most suitable model for your group. You may find that your unique local context requires adapting an existing model or if your group is willing to put in the time, even developing and testing a new one!

At the back of this Guide you will find a decision tree which provides a visual step by step guide to identifying which community solar model will work best for your group and local community.

Community solar models that work in the current context

Summary

In this Guide, we showcase models of community solar that will work in the current context. They have been selected because they have been proven to be successful. In most cases these models have resulted in multiple projects. There are other models that are not included in this Guide, but this selection should give an overview of the methods and structures that underpin successful models for small-scale community solar in Australia.

The ten models showcased in this Guide are:

Investment models

1. **Repower Shoalhaven model** – This investment model creates a proprietary company for each project, enabling up to 50 community members to co-invest in this “special purpose vehicle” (SPV).
2. **ClearSky Solar Investments model** – This is an investment model as well as a community-developer partnership. ClearSky create a SPV for each project, utilising trusts instead of proprietary companies. ClearSky have forged a close relationship with a solar company, Smart Commercial Solar, who share the responsibility of developing and operating each project.
3. **Pingala’s Community Solar Co-operative model** - This is an investment model, adapted from the Repower Shoalhaven model. Pingala have created a distributing (for profit) co-operative that allows an unlimited number of investors to co-invest in multiple projects over time.
4. **Lismore Community Solarfarm model** - This is an investment model as well as a community-council partnership model. Proprietary companies are established as SPVs for each project. The model has been developed for situations where the council is the customer.
5. **Sydney Renewable Power Company model** - This investment model uses an unlisted public company to enable medium-to-large numbers of community members to co-invest in a project.

Donation models

1. **CORENA’s Revolving Fund model** – This is a donation model, where the funds raised are used to provide zero interest loans to non-profit organisations. The structure of this model results in a revolving fund, with donated funds being reused for multiple projects.



2. **Macedon Ranges Renewable Energy Fund model** - This donation model is an adaptation of the CORENA model. An inception project is created using grant funds from the government. The customer for this first project enters into a power purchase agreement (PPA) with the Macedon Ranges Sustainability Group, with the resulting income stream being used as the seed funding for the Macedon Ranges Renewable Fund. The Fund is then used to create future, similar projects.

Multi-household models

1. **MASH model** - This multi-household model is a long-running solar bulk-buy scheme operated by the Hub Foundation in Central Victoria.
2. **Solar Savers model** – This is a multi-household model and a community-council partnership. The local council provides low-interest loans to low-income households as well as offering a rates-based payment mechanism. Positive Charge promote the scheme on behalf of the council, they broker the purchase of solar and they provide ongoing support to the participating households.

Hybrid approaches

1. **Bendigo Sustainability Group model** - This group's adaptive approach pulls elements from different models to deliver outcomes that are specific to each individual project.

The key features of the ten community solar models introduced above are compared in the following tables. Following these tables, a more detailed explanation of each model is provided.

It should be noted that we try as much as possible to use consistent terms and language to describe common elements across different models. A number of these terms are defined in the [Common Legal Framework](#) section of this Guide (you may want to have a look at it before reading the detailed examples below).



Table 1. Key Features of the community solar models in this guide

	Repower Shoalhaven	ClearSky Solar Investments	Pingala	Lismore Community Solarfarm	Sydney Renewable Power Company
Aims	Develop community energy projects local people can benefit from.	Provide opportunities for people to invest in solar power	Become a large energy business providing fairer energy	Developing a council-partnership model for community energy	Allowing many people to participate in a community solar project.
Legal structure	NFP Association & proprietary company	Trust and NFP Association	Co-operative and NFP Association	Proprietary company (SPV)	Public company
Where the money comes from	Community investors (<20 investors per year/project Max 50 per project)	Community investors (Projects have between 1 and 20 investors)	Community investors (Any number)	Community investors (<20 investors per year/project Max 50 investors/project)	Community investors (more than 20/50 investor limit)
Where the money goes	Return to investors	Return to investors	Capital remains in co-op Shareholders receive dividends	Return to investors	Return to investors
Size	<100kW	15-100kW	10kW to >400kW	<100kW	>400kW
Legal relationship with host	Lease/Loan/PPA	None. Loan from Trust to a commercial partner	Lease (hire purchase agreement)	Loan (unsecured)	Likely loan, not PPA
Project period*	7-10 yrs	7-10 yrs	5-10 years	10 years	25 yrs
Best locations	Sites with high insolation and high retail electricity prices where electricity used 7 days a week, 52 weeks a year	Sites with high insolation and high electricity retail prices where electricity used 7 days a week, 52 weeks a year	Sites with high insolation and high retail electricity prices where electricity used 7 days a week, 52 weeks a year	Council owned and operated sites	Large energy using site, likely in an urban area. Shopping centres could be good.

	CORENA	Macedon Ranges Renewable Energy Fund	MASH	Solar Savers	Bendigo Sustainability Group
Aims	Increase uptake of renewables, see benefits go to good organisations.	Increase clean energy uptake, reduce emissions	Increase houses with solar PV	Low income household access to solar PV.	Improve sustainability of the region
Legal structure	NFP Association	NFP association	NFP association	Must include a statutory body e.g. a council as a partner	NFP association
Where the money comes from	Donations, plus the loan repayments from other solar PV installations	Grant Donations	Households purchase their own solar equipment via bulk-buy	Council zero/low-interest loan	Donations
Where the money goes	Reduced power bills to host site. To fund other solar PV installations	Reduced power bills to host site. Fund other solar projects	Reduced power bills to house that installs the solar.	Reduced power bills. To repay council loan	Reduced power bills to host site. To fund other solar PV installations
Size	~5-30kW	<100kW	1-5kW	Many 1-5kW systems	10-100kW
Legal relationship with host	Loan	PPA	Bulk-buy services offered to households	Rates-based repayment mechanism	PPA
Project period*	5-10 yrs	Ongoing	Weeks	10 yrs	7-10 years
Best locations	The building of an organization that is "doing good/charitable work".	Landlords with multiple tenants	Residences and small buildings	The roofs of pensioners who own their own house.	Council owned and operated locations

*Note solar PV systems typically last 25 years, though the inverter needs to be replaced approximately every 7 years. Project duration relates to how long the community energy organisation is involved.

Models showcase

This section provides a showcase of 10 models of small-scale community solar that have been proven to work in the current context. You should use this section to build a deeper understanding of each model. Some concepts in this section are explained further in the [Common Legal Framework](#) section of this document and you may want to jump forward to familiarise yourself with the broad legal structure concepts before reading any case study.

Repower Shoalhaven Model

The Repower Shoalhaven model, also known as The Difference Incubator (TDi) model, uses a proprietary limited company as the *Project Entity* for each project. This “special purpose vehicle” (SPV) legal structure enables up to 20 community members to co-invest in a project at its inception (there is a limit of 50 investors in total). This model is especially suited to a solarfarm that is installed on the premises of a medium-to-large electricity user that primarily operates during daylight hours.

The best known example of this model Repower One – a 100kW solarfarm installed on the roof of the Shoalhaven Heads Bowling and Recreation Club.

What it is

Community investors can provide capital either by way of being a lender or shareholder to the SPV. The model is based on the SPV owning and operating the solarfarm for a period of seven to ten years, with a power purchase agreement (PPA) in place with the host. At the end of the agreement term the host becomes the owner of the solarfarm. The agreements include a methodology for calculating the mid-term buy-out value that would allow the host site (customer) to purchase the system early.

Repower Shoalhaven is the parent community organisation and is responsible for metering electricity and regularly invoicing the host for their consumption.

What it isn't

The SPV is not an entirely independent community entity. While the SPV is entirely owned by community members who are shareholders, it is governed by the board of the parent community organisation through a special shareholding that gives them voting power but no dividend rights.

What is this model most fit for purpose for?

The TDi model is well suited to an existing community organisation looking to develop several community solarfarm projects. Repower Shoalhaven have also been aggregating multiple host site customers into one SPV capital raising. Their most recent project, Repower Five, involves six host sites.

The limit on the number of investors (see Constraints section below), and their financial capacity to invest, will affect the total financial value of possible projects.

The main strengths and benefits of this model are:



- Availability of the existing templates
- Demonstrated track-record of Repower One through to Repower Five.

Essential requirements for viability

The essential requirements for this model to be viable currently are:

- A solarfarm host who is able to purchase all of the electricity at the time it is produced (as well as provide insurance cover for the solarfarm). This is often described as the solarfarm being 'behind the meter' and 'under the load'. It means that the host uses a significant amount of electricity during sunlight hours, every day of the year (i.e. including weekends and holiday periods). This is key because the value of electricity saved (retail price) is much higher than the price for selling electricity sold through the electricity grid or network (wholesale price or feed-in price)
- High certainty in being able to sell the renewable energy certificates generated by the solarfarm either up-front (STCs for renewable energy generation of less than 100kW in size) or throughout the period of the project for projects (LGCs projects larger than 100kW). This is because the renewable energy certificates account for approximately one-third of the project's up-front capital or ongoing income respectively.
- Either of the following to satisfy the governance, compliance and operating requirements of the governing community organisation and SPV, such as invoicing the host and distributing surplus to investors
 - Professionals with relevant skills willing to be Directors and/or assist voluntarily, or
 - An ability to purchase fee-for-service support from Repower Shoalhaven

Constraints

As the owner-operator of the solarfarm, the SPV (and so investors) carry the risk of something going wrong with the performance of the solarfarm. Any sub-optimal performance of the solarfarm will directly affect, and reduce, the income of the SPV from selling electricity and/or renewable energy certificates (for projects larger than 100kW in size).

The SPV can have up to 50 investors in total, however no more than 20 in any 12 month period. As noted above, this can constrain the total financial value of possible projects (depending upon the financial capacity of the investors of course).

It may be possible to secure bridging finance for a project to be able to make available two rounds of investment (i.e. two blocks of up to 20 investors). The second tranche of community investors could pay out the bridging loan.

Lastly, there is the risk of a host site customer experiencing financial difficulty and being unable to make their regular payments and/or buy-out the solarfarm.

How to utilise this model

Developing a community solarfarm project takes effort, time and cash. There is a considerable body of work to do **before** a project is ready for community investment.

A core leadership group is key. They need to be both willing and able to negotiate with prospective host site customers, to assess the suitability and viability of sites, as well as engage with the community and other key stakeholders to build sufficient support.

The templates have been designed as a general legal starting point, however legal and financial advice is likely to be required to fully understand and utilise the model.

As noted, there is potential to engage fee-for-service support from Repower Shoalhaven.

What not to do:

As noted above, the dynamics of the Renewable Energy Target means that solarfarms larger than 100kW have a much less certain cash flow from their sale of renewable energy certificates (RECs). This means systems larger than 100kW carry a lot more risk compared with smaller systems where the deemed, up-front value of small-scale RECs amounts to an effective discount of 20-30%. In the context of the current Renewable Energy Target and the volatility of the LGC market, the riskiness of this income today makes it nearly impossible, if not unethical, to seek community investment and provide reasonable financial returns for systems larger than 100kW.

The one exception to this is if it is possible to negotiate an arrangement which includes a long-term purchaser for the LGCs, such as by an organisation aiming to be carbon-neutral or sustainable.

Key lessons from other groups using this model:

Repower Shoalhaven was closely involved with the development of the TDi model, which was in fact developed specifically with the purpose of enabling their Repower One project. Repower has developed knowledge, systems and templates which are key to the successful use of this model:

- Advice to clarify taxation treatment of different aspects of the model
- Investment offer documentation
- Automated processes for quarterly billing of the host, accounting and annual reporting

As the *Administrative Services Provider* to each of its SPVs, Repower Shoalhaven has structured their projects to have one general meeting and financial distribution for the community investors each year.

Getting Assistance and Finding out More

The Repower Shoalhaven model was initially developed using the templates found in The TDi model. As noted above, Repower have since developed additional knowledge, systems and templates of their own. They have also evolved the original templates from their original TDi form.

The team at Repower Shoalhaven is the first port of call for advice on this model.

The Embark Wiki includes extensive details about community energy generally as well as unlisted public companies and solarfarms, including a [Fact Sheet](#) on the Repower Shoalhaven and TDi models.

The TDi model includes templates for:

- Power Purchase Agreement for the sale of solar power to the host (which requires the parent community organisation to hold a retail electricity licence or exemption)



- Solar System Rental Agreement
- Management Agreement between the community organisation and the SPV
- Community investor documents:
 - Loan Agreement plus Letter of Comfort (which is between the community investors and the parent community organisation since in the loan-based arrangement they have no decision-making authority with the SPV)
 - Shareholder Agreement where use in the shareholder-based structure
- Fact sheet and guide to registering the SPV through [Cleardocs](#)

Intellectual Property

The TDi templates listed above are available for free from TDI with the requirement of signing a simple Memorandum of Understanding before accessing the documents. For details email toolkit@tdi.org.au.

Anybody seeking the Repower Shoalhaven documents should contact Repower Shoalhaven at contact@repower.net.au to discuss the cost of their services.

ClearSky Solar Investments Model

ClearSky Solar Investments was established to provide opportunities for community members to invest in solar power. The motivation for establishing the company was that there were many in the community wanting to invest in clean energy who did not have a suitable roof, or a roof of sufficient size. ClearSky seek to:

- Accelerate the uptake of solar photovoltaics in Australia.
- Provide a source of low cost finance for solar PV installations, thus eliminating profiteering by banks who might wish to exploit an individual's desire to do the right thing.
- Provide individuals committed to cutting greenhouse gas emissions with the opportunity to shift their investments from fossil fuel to clean energy.
- Provide opportunities for local communities to invest in clean energy in their own community.

What it is

Clearsky is effectively a peer-to-peer lending broker. They partner with solar company Smart Commercial Solar, which identifies host site customers who want to benefit from solar power but, for whatever reason, do not want to make a capital purchase. ClearSky raises money by selling shares in a trust set up specifically for that customer. This money is lent to Smart Commercial Solar, which uses it to enter into a Solar Power Purchase Agreement with the customer.

Each project can have a maximum of twenty investors. The first offer to invest is made to the immediate community and then to anyone in Australia. Investors have their capital repaid with interest over an agreed term. At the end of the term the panels become the property of the customer.

By forming a close partnership with a solar company, ClearSky have ensured the volunteer component of each project is easily within their capacity over the long term.

What it isn't

ClearSky provides the funds required to establish solar power purchase agreements. The investors don't own the installation. They simply provide finance to the partner installation company in return for a specified dollar amount per kWh for the energy generated by the system over the contract term.

What is this model most fit for purpose for?

Where a community organisation decides that its aims can best be met by partnering with a commercial organisation and where the intention is to get projects underway quickly and get an income stream coming in reliably to investors with a minimum of volunteer effort.

Essential requirements for viability

There is a balance to be struck between efficiency, which means concentrating decision making power and day to day management in a few hands, and community buy-in, which means giving as many in the community the opportunity to become involved in decision making. ClearSky needs a network of supporters to ensure that when projects come up, news of the investment opportunity can be spread as widely as possible. (It is not permitted to publicly advertise an investment opportunity



as we are relying on an exemption in the Corporations Act which avoids the cost of obtaining a Financial Services Licence or the need to have a prospectus formally registered.). This network of supporters is our larger community, but they have no role in day-to-day management.

ClearSky were recipients of a NSW Government grant and much of these funds were used to develop a custom-designed administrative and records system. A small number of individuals are responsible for operating this system and a policy exists to help ensure there is always a trained volunteer available and able to take over.

Constraints

There is a narrow time-frame during which the capital must be raised for the project. ClearSky maintain a network of potential investors to help ensure projects are rapidly subscribed. One member has agreed to underwrite each investment by taking up any shortfall in investment funding on a temporary basis.

ClearSky are unable to advertise their projects due to restrictions in the Commonwealth Corporations Act on advertising or promoting investments.

How to utilise this model

Phase 1 - Setting Up

1. Select a Commercial Partner. A long list could be provided by ClearSky of criteria that should be used in selecting a commercial partner
2. Agree with the Commercial Partner on a method for calculating the return to investors
3. Agree with Commercial Partner on terms of End-User-Agreement. This will be commercial in confidence
4. Get a lawyer to draw up a pro-forma Trust deed. ClearSky's can be used as a template
5. Get a lawyer to draw up a pro-forma Investment Agreement between Trustee Co and the commercial partner
6. Set up a non-profit company limited by guarantee to be the Administration Company
7. Establish a bank account for the Administration Company
8. Get a lawyer to draw up a pro-forma Operations Agreement between Trustee Co and the Administration Company
9. Reach agreement with the Commercial Partner on the process to be used for exchanging information on potential projects, on signing-off on a project, of keeping records, of monitoring power generated, of billing for power generated, of dealing with the breakdown between capital repayment and interest, of transferring funds to the Administration Company for distribution to investors, of monitoring end user insurance cover and dealing with any issues that arise. Very likely that this will involve some shared records in the cloud.
10. Develop a web-based admin system for handling project announcement, registration of investors, investor expression of interest, investor application for units, unit allocation, electricity sales revenue recording, unit holder payment record keeping,
11. Prepare pro-forma information memorandum.

Phase 2 – Project Initiation

1. Reach agreement with Commercial Partner on terms of agreement



2. Use accounting firm to cookie-cutter set up new trust and trustee company
3. Set up bank account for trust
4. Customise Investment Agreement
5. Customise Operations Agreement
6. Customise Information Memorandum
7. Customise Application form
8. Augment record system to accommodate new project
9. Set up Project on website
10. Email out applications to interested investors
11. Allocate units once funds deposited
12. Pay invoice from Commercial Partner from investor deposits
13. Remove project from public view once fully subscribed

Phase 3 – Project Administration

Monthly

1. Record power generation

Quarterly

1. Invoice commercial partner for generation
2. Use web based system to calculate payments to each investor
3. Transfer funds into investor bank accounts
4. Email investors with details of capital repayment and interest components

Annually

1. ASIC compliance form and payment
2. Prepare financial statements
3. Submit tax return

What not to do

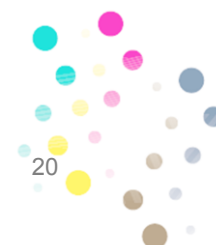
Keep things simple. Don't be tempted to add complexity.

Key lessons from other groups using this model

Consider using ClearSky for your project rather than setting up an equivalent. You can help find the host-site and the investors can still be local.

Getting Assistance and Finding out More

Contact Warren Yates on 0408 111 931 or Christina Kirsch on 0411 699 266 or email them at admin@clearskysolar.com.au. They are happy to talk with you.



Intellectual Property

The End User agreement and the design of the web based administrative system are the property of our Commercial Partner and ClearSky respectively.

Pingala

Pingala has adopted a co-operative legal structure to create a new, low cost, model that can cater for an unlimited number of investors in an unlimited number of projects. The model can:

- start small and grow to become larger;
- start small and remain small, or;
- jump straight to a larger investment size from the start.

The model can accommodate any size of project but is best suited to host sites above a small-to-medium electricity user (15-30kW system). The model can also operate in the difficult zone where the project size is between 100kW and 400kW but the number of investors is greater than 20 or 50.

Groups who have ambitions to create multiple projects over a longer period of time will find this model attractive as it scales up efficiently and is flexible enough to cater for changing project types over time (i.e. it can support more than just behind-the-meter solar projects).

What it is

Pingala's structure is similar to that of Repower Shoalhaven except for the key difference of using a single co-operative instead of multiple proprietary companies (SPVs). This adaptation was made for two reasons:

1. **Improved economies of scale when adding multiple projects:** Having a single co-operative should avoid having certain annual administrative costs repeated for each project. Although Repower Shoalhaven was able to achieve extremely low annual administration costs for its first project, they have a somewhat linear relationship between the number of projects created and their annual costs. The replication of annual reporting and financial management over multiple projects can add to the annual costs for managing multiple companies.
2. **Enabling a significantly larger number of investors to be involved in each project:** Private companies are limited to a maximum of 50 investors in total and, if a model takes advantage of the small-scale offering exemptions, only 20 investors can be added in any year. To go beyond these limits a private company must convert to a public company, such as the legal structure used by the Sydney Renewable Power Company solar model. Pingala uses a different entity type altogether: the co-operative. Just like a public company, a co-operative can grow to have an unlimited number of investors but it does this while avoiding the more stringent reporting requirements that a public company would face until it becomes large enough to justify more detailed reporting².

² http://www.fairtrading.nsw.gov.au/ftw/Cooperatives_and_associations/Running_a_cooperative/Cooperatives_financial_reporting.page accessed August 2017

Co-operatives also face lower regulatory fees than public companies. For example, annual reporting for a co-operative in NSW costs \$72³ whereas a public company would face \$1,201⁴ for its annual review fee.

What it isn't

Whilst it does raise capital in the form of shares for each project, the co-operative model is not an investment in a single project, but an investment in the co-operative itself, which supports the establishment of solar projects. The shares entitle owners to a dividend but there is no capital return until the shares are sold to another investor or purchased back by the co-operative.

What is this model most fit for purpose for?

The Pingala model is a good option for groups who have ambitions to grow into the future but who want to start with a smaller project. Co-operatives can have an unlimited number of investors and yet they don't have onerous reporting requirements until they become large enough to justify additional scrutiny.

The Pingala model is the only behind the meter solar model that enables equity crowdfunding without relying on new equity crowdfunding provisions recently added to the Corporations Act. Pingala sold its first release of shares by crowdfunding, but with an actual crowd instead of an internet platform. 200 people attended the investment launch of their first project where they were invited to submit investment 'expressions of interest'. It took Pingala just nine minutes to sell their shares to a total of 54 people.

Essential requirements for viability

It took three and a half years for Pingala to develop their model. Groups wanting to adopt this model need to be committed to a long lead time and be willing to invest time and effort in building their base of supporters and volunteers. The Pingala Association plays an integral role in the model by setting up the project and executing the tasks required to reach installation as well as on-going activities on behalf of the co-operative.

Co-operative Directors need to be recruited, and the recruitment process needs to find people that are experienced in governance. Ideally there should be at least one Director who has solid financial skills.

As per other models, the choice of host site and size of project are important elements in viability. However, Pingala has also shown that it's possible to start with a single smaller project (less than 30kW) if some external financial support is provided. In Pingala's case, \$20,000 of the cost of the first project was paid for with grant funds from City of Sydney. This allowed the Pingala Co-operative to reach financial sustainability with just one small project.

³ http://www.fairtrading.nsw.gov.au/ftw/About_us/Our_services/Fees/Cooperatives_fees.page accessed August 2017.

⁴ <http://asic.gov.au/for-business/running-a-company/annual-statements/> accessed August 2017.



Constraints

There are certain things that Co-operatives must always do. They must always have an active membership test, inactive members must have their share capital returned to them, they can only have one vote per member and several other requirements. These constraints may be perceived as the co-operative form being less flexible than a company structure. Anybody considering a co-operative should weigh up this potential lack of flexibility with the benefits that a member-owned legal framework offers.

Pingala found the co-operative form to be extremely well suited to its values and mission. Other community energy groups may not have such a strong affinity for adhering to the co-operative principles and framework.

One thing to be aware of is that co-operatives are far less common than companies. There are approximately 1,700 co-operatives in Australia versus over 1.6 million companies. The impact of this is that it can be hard to find legal or financial advisors with specialist knowledge of co-operatives. This wasn't a problem for Pingala as the agreements they entered into were relatively straightforward and the structure of the co-operative was also uncomplicated.

How to utilise this model

Pingala is committed to co-operating with other co-operatives and can assist any group considering becoming a co-operative.

Pingala can also make their co-operative available to community energy groups in New South Wales who would like to run a local project, but who perhaps don't want to maintain the financial vehicle for 10 years or more. This "co-operative as a platform" concept is designed to maximise the efficiency of having multiple projects running under a single co-operative.

For groups that would like to develop their own co-operative investment vehicle, the first port of call should be the [Get Mutual resources](#) developed by the Business Council of Co-operatives and Mutuals (BCCM).

Intellectual property

Pingala's Co-operative Rules and Disclosure Statement are published on the Pingala website and are freely available.

The Solar Lease and Services Agreement are both commercially sensitive documents. Community energy groups that have a genuine interest in forming a co-operative and adopting the Pingala model can request access to these documents by contacting info@pingala.org.au.

Lismore Community-Council Partnership Model

This community solarfarm model was developed especially for two 100kW projects in partnership with Lismore City Council. They are the first community-funded and council-operated solarfarms in Australia.

Lismore City Council worked through a range of necessary legal reviews, including clearance from the NSW Office for Local Government, which provides a valuable assurance of the legality of this model for other collaborations with Local Councils.

The model is especially well suited to small-sized community energy projects of up to around 100kW in size. It can also be used to fund energy efficiency upgrades.

The use of a loan-based financial structure results in relatively simple and minimal requirements in terms of governance, financial, legal, compliance and administration.

What it is

The small-scale, loan-based community energy model is comprised of the following parts:

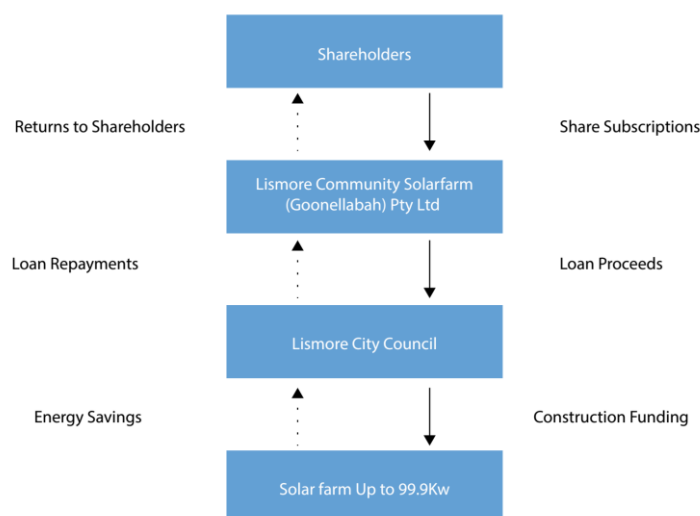
- Proprietary limited company entity ('community company') which allows for up to 20 investors in any given twelve month period (up to a maximum of 50)
- Loan agreement between the community company and the Local Council or other borrowing organisation that is in turn using the funds for a renewable energy or energy efficiency upgrade project

The community investors receive a fully franked dividend stream and the return of their original capital at the end of the project. Each investor's individual taxation circumstances will affect what additional financial benefit and return they can realise from the use of the franking credits.

There are minimal operating costs for the community company, meaning the majority of the loan interest is paid through to the investors as dividends - which in turn makes the rate of interest on the loan, and the loan repayment terms (i.e. interest only or principal and interest) a key determining factor for the investors' rate of return

The financial model is depicted below, using the example of Lismore Community Solarfarm (Goonellabah).

Figure 3. How the model works



The model includes templates for the following:

- Pre-legal, in-principle agreements ~
 - Memorandum of Understanding for feasibility assessment
 - Heads of Agreement for development of formal legal structures and agreements
- Financial spreadsheets to forecast income, solarfarm power output, loan repayments, expenses and dividend returns for community investors
- Company constitution, which can be tailored to embed a community purpose in much the same way as more traditional legal models like cooperatives (such as a one-shareholder-one-vote democratic rule rather than the usual one-share-one-vote rule) or consistency with applying for B-Corporation certification
- Director's Handbook
- Offer Information Statement for a private offering of shares to the community
- Unsecured Loan Agreement, which was developed for Lismore City Council and so is especially useful for community partnerships with Local Councils
- Presentations, fact sheets and FAQs for marketing and communications

The main strengths and benefits of this model are:

- Legally valid model to utilise with Local Councils in NSW⁵
- The Local Council is responsible for the operation, performance and maintenance of the energy project, which is a good fit with their core role and expertise as infrastructure managers (and in turn relieves community volunteers from impractical responsibilities)

⁵ Groups outside NSW would need to consider securing clearance from their state's equivalent to the NSW Office of Local Government.



- Relatively simple governance, financial and administration requirements, which is key given that voluntary contributions by the Directors are required to handle these matters
- The constitution can be tailored to incorporate community purposes and principles

What it isn't

The use of a proprietary company structure constrains the maximum number of investors to no more than 20 per annum and a maximum of 50 in total. Other legal structures can accommodate larger numbers of investors, such as the unlisted public company structure used by Hepburn Wind.

The loan-based business model is not a power purchase agreement (PPA). Unlike a PPA, which links host payments to the generation and/or consumption of electricity produced, the loan has payments derived from an interest rate and the term of loan.

The proprietary company is 'unlisted', meaning that the shares are not listed on a public stock-exchange for trading (buying and selling). As such, shares can only be sold directly between sellers and buyers on a bilateral basis.

What is this model most fit for purpose for?

This model is well suited to a Local Council or other low-risk host organisation that is looking to involve its key stakeholders (ratepayers, members, shareholders, customers, clients, etc.) in a novel way to co-fund their energy sustainability infrastructure.

The model is well suited to smaller sized projects, particularly due to the constraint on the possible number of community investors and in turn the amount of capital which can be potentially raised from this small number of investors.

While to this point in time the model has been used to fund two small-scale solarfarms and some small energy efficiency upgrades, it can readily be applied to other renewable energy technologies, such as wind or hydro, as well as energy efficiency upgrades.

Essential requirements for viability

The essential requirements for this model to be viable are:

- A host/partner that is capable of realising tangible benefits from the project, and that has clear commitments to fostering sustainable energy, building leadership, capacity and social capital through collaborating with key constituents and stakeholders.
- A host/partner who is able to consume all of the electricity at the time it is produced (for energy generation projects) and/or benefit from electricity savings (for energy efficiency upgrade projects).
 - For energy generation projects, this requirement is often described as the project needing to be 'behind the meter' and 'under the load'.
 - This requires a host which uses a significant amount of electricity in the day time, every day of the year (i.e. including weekends and holiday periods).
 - This requirement is key because the value of electricity saved (at the retail price) is much higher than the price for exported surplus electricity which is sold through the electricity grid or network (at the wholesale price)



- Professionals with relevant experience and/or expertise who are willing to be Directors of the community company

Constraints

Has only received clearance for use in NSW.

The limit on shareholder numbers makes this model unsuitable for projects that require a larger number of investors.

These shareholder limits can also constrain the total feasible amount of capital which can be raised. For Lismore, the two solarfarms required individuals to invest a minimum of \$9,000 to raise \$180,000 in total for each project.

For energy generation projects, as distinct from energy efficiency projects, the host/partner needs to have a power usage profile which is greater than the generation from the project. This makes the model best suited to local infrastructure operators and industry. Community facilities which operate every day may also be suitable.

How to utilise this model

Developing a small-scale community energy project takes considerable effort, time and cash. There is a considerable body of work to do before a project is ready for community investment. *Farming the Sun* assessed more than 120 prospective hosts to secure their viable projects with Lismore City Council.

A core leadership group is a key requirement. This group need to be both willing and able to conduct negotiations with prospective solarfarm hosts as well as engaging with the community and other key stakeholders to build sufficient support.

Suffice to say that pursuing this model requires time, a level of financial backing, professional nous as well as passion for community energy.

The greater vision and purpose of the project over and above the renewable energy installation or energy upgrades is likely to vary between communities. It is important to involve a range of community investors and stakeholders in developing the core purpose and principles.

Lastly, it goes without saying that the identity of your project - it's brand, look, feel, style and so on - need to reflect the uniqueness of your project.

Australia's community energy movement aims to create a network of unique and complementary projects rather than a new national franchise!

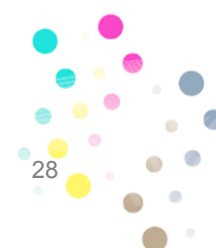
What not to do

A genuine appreciation of - and benefit from - the non-financial benefits are key to the success of projects of this kind, since the financial benefits alone are unlikely to be sufficient to justify the total investment of time, knowledge and money.

Given this, it is most important to steer clear of prospective hosts, partner organisations, community investors and stakeholders who are single-mindedly focussed on the financial benefits.

The most significant benefits for the host/partner are:

- Profile and publicity



- Taking leadership on energy sustainability
- Partnership with key constituents and stakeholders
- More affordable energy and sustainable infrastructure.

The most significant benefits for the community are:

- Leadership and influence
- Greater energy sustainability awareness, literacy and capacity
- Sustainable and ethical investment.

The most significant environmental benefits are:

- Use of renewable and sustainable solar energy
- Renewable energy awareness and education.

Getting Assistance and Finding out More

Starfish Initiatives is the key organisation to approach for assistance with this model.

The [Farming the Sun](#) website has details of the Lismore Community Solarfarm projects.

Starfish has developed and delivered training on this model for other community groups including CROW (Climate Rescue of Wagga) and Manilla Community Solar Co.

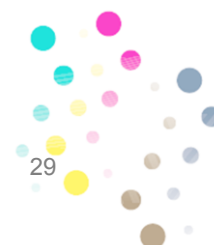
Intellectual Property

All of the intellectual property relating to this model is freely available under a Creative Commons Non-Commercial Share-Alike licence.



Simple written agreements are required to ensure that any party utilising the model is fully responsible for seeking their own independent legal and financial advice.

Farming the Sun would like to acknowledge Norton Rose Fulbright Australia, The Difference Incubator and Repower Shoalhaven for their contribution of intellectual property to this model.



Sydney Renewable Power Company Model

This model was developed in close partnership with Embark and is a mid-sized community solarfarm model using an unlisted public company legal structure to enable medium-to-large numbers of community members to co-invest in a project.

The project using this model is the Sydney Renewable Power Company's 400kW project to be built on the Sydney International Convention, Exhibition and Entertainment Precinct at Darling Harbour.

What it is

This model is especially suited to where community investors fund the installation of a solarfarm on the premises of a medium electricity user.

The model can be either on the basis of the community company selling power to the host of the solarfarm (power purchase agreement) or lending the money to the host for a solarfarm.

The main strengths and benefits of this model are:

- the ability to involve a large number of community investors (i.e. greater than 50)
- public company structure is widely used, as compared with less common legal models such as cooperatives. This might make accessing professional advice – such as legal, financial and taxation – easier and more affordable.
- the constitution can be tailored to incorporate community purposes and principles, for example by using the Benefit Corporation certification.

Embark developed the following templates for this model:

- financial spreadsheets to forecast income, solarfarm power output, expenses and returns for investors
- company constitution, which can be tailored to embed a community purpose in much the same way as more traditional legal models like cooperatives (such as a one-shareholder-one-vote democratic rule rather than the usual one-share-one-vote rule)
- company disclosure documents, for offering shares to the community
- key legal agreements such as roof leasing for installation, power purchase, loan, etc.
- pre-legal agreements such as Memorandums of Understanding
- presentations and fact sheets for marketing and communications.

What it isn't

Being 'unlisted' refers to the fact that the shares are not listed on a public stock-exchange for trading (buying and selling). As such, shares can only be sold directly between sellers and buyers on a bilateral basis.

What is this model most fit for purpose for?

This model is most fit for community energy projects of \$1m in value or greater. This minimum financial project size is required so as to ensure that the costs of establishing and operating the



public company can be covered while still achieving a fair financial return for the community shareholders.

The model could be applied to other renewable energy technologies, such as hydro, wind or even funding energy efficiency upgrades.

Essential requirements for viability

The essential requirements for this model to be viable currently are:

- A solarfarm host who is able to consume all of the electricity at the time it is produced. This is often described as the solarfarm being 'behind the meter' or 'under the load'. It means that the host uses a significant amount of electricity in the day time, every day of the year (i.e. including weekends and holiday periods). This is key because the value of electricity saved (retail price) is much higher than the price for selling electricity sold through the electricity grid or network (wholesale price).
- High certainty in being able to sell the renewable energy certificates (RECs) generated by the solarfarm for the period of the project (7-12 years). This is because the RECs account for approximately one-third of the project's income.
- Professionals with relevant skills willing to be Directors and/or assist voluntarily with governing and operating the community company. The company is likely to be able to afford to pay for core professional services (e.g. annual financial audit) and basic administration.

Constraints

This model is generally suited to large metropolitan areas where there are suitable solarfarm hosts as well as interested community investors. There are however, still many regional or rural centres that may meet these requirements.

How to utilise this model

Developing a mid-sized solarfarm project takes effort, time and cash. There is a considerable body of work to do before a project is ready for community investment. Having a core leadership group is key. They need to be both willing and able to conduct negotiations with prospective solarfarm hosts as well as engaging with the community and other key stakeholders to build sufficient support.

The choice of *Supply Agreement* – power purchase agreement versus loan – is a key decision for anybody wanting to adopt this model.

The purpose of the project over and above the solarfarm operation itself is likely to vary between communities. It is important to involve a range of community investors and stakeholders in developing the core purpose and principles for the initiative.

Lastly, it goes without saying that the identity of your project - it's brand, look, feel, style and so on - need to reflect your project. Australia's community energy movement aims to create a network of unique and complementary projects rather than a new national franchise!

What not to do:

The current renewable energy policy uncertainty can make this model unviable. This is because around one-third of the income of a solarfarm larger than 100kW arises from the sale of large-scale generation certificates (LGSs) year-by-year into the future. The riskiness of this income today makes it nearly impossible, if not unethical, to seek community investment and provide reasonable financial returns.

The one exception to this is if it is possible to negotiate an arrangement that includes a long-term purchaser for the LGCs, such as by an organisation aiming to be carbon-neutral or sustainable.

Key lessons from other groups using this model:

- In addition to the SRPC usage of this model, Starfish, through its solar energy collaboration Farming the Sun, has worked with Embark for three years on this model. In that time the specific requirements for a viable project have become much clearer, and challenging. The external political context has shifted, as has the increasingly competitive renewable energy sector.
- The upshot of this though is that Farming the Sun has assessed more than 120 prospective hosts to only yet have one viable project - with Lismore City Council.
- Suffice to say that pursuing this model requires time, a level of financial backing, professional nous as well as passion for community energy..

Getting Assistance and Finding out More

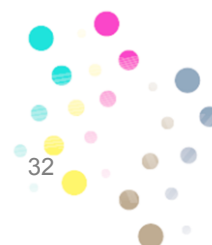
Sydney Renewable Energy Company is the key organisation to approach for assistance. The Embark Wiki includes extensive details about community energy generally as well as unlisted public companies and solarfarms.

Starfish has developed and delivered training on this model for other community groups including CROW (Climate Rescue of Wagga) and Manilla Community Solar Co.

Intellectual Property

Embark and Starfish both make their intellectual property available under a Creative Commons licensing agreement for non-commercial use.

Simple written agreements are required to ensure that any party utilising the model is fully responsible for seeking their own independent legal and financial advice.



CORENA Quick Win Project Model

The Quick Win project model from CORENA (Citizens Own Renewable Energy Network Australia Inc.) is a donation-based model featuring a revolving fund. Citizens who wish to take an active part in tangible climate action (reduction of carbon emissions) by “chipping in” to projects for the sake of the common good.

What it is

This model collects donations via fundraising campaigns. The funds are used to provide interest-free loans to non-profit community organisations to pay for installing clean energy, such as solar panels, batteries, solar hot water, and/or energy efficiency measures. The loans are repaid into the Quick Win Fund from savings for on-site power bills, and are then used repeatedly to help fund subsequent Quick Win projects.

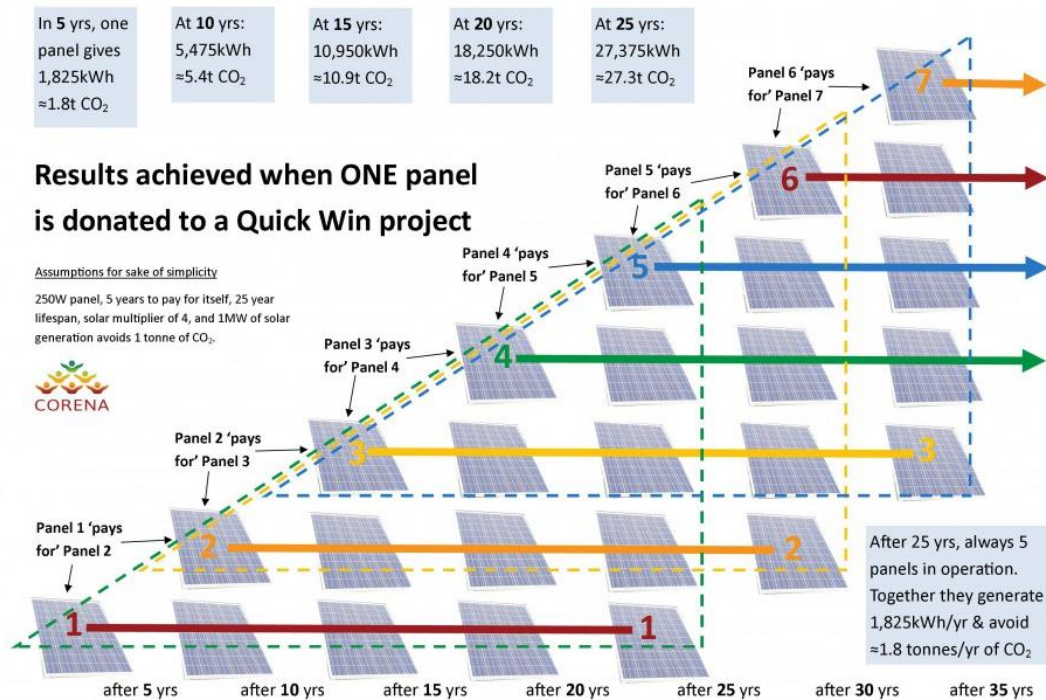
The clean energy infrastructure is owned and maintained by the community organisation from the outset. The loan is repaid after approximately four to five years. All subsequent savings on power bills reduces the organisation's overheads so that they have more money available to fund the community services they provide. Using the CORENA model, community organisations can install solar or energy efficiency measures at no cost to themselves, and everyone receives the benefit of lower carbon emissions.

The main strengths and benefits of this model are:

- Many community organisations cannot install solar because they simply do not have the capital. This model ensures access to finance is not a barrier as projects self-fund through savings on energy bills.
- Project hosts are easier to find because specific levels of return on investment (ROI) are not required and there is no cost of finance.
- Projects can be implemented by any incorporated association.
- Relatively little time, effort, or specialised skills are required to find suitable project hosts, raise funds, and implement the project. CORENA uses volunteers with technical skills to support the decisions made by project hosts and calculate the anticipated savings.
- Anyone, anywhere in Australia (or overseas) can be part of achieving the project outcome. This is empowering for donors.
- Donors are inspired by two aspects of the model: those who wish to support the community organisation and those motivated by reducing greenhouse emissions and advancing community renewable energy.
- The only required legal instrument is a sound loan agreement template. (CORENA is happy to share the one they had drawn up for themselves).

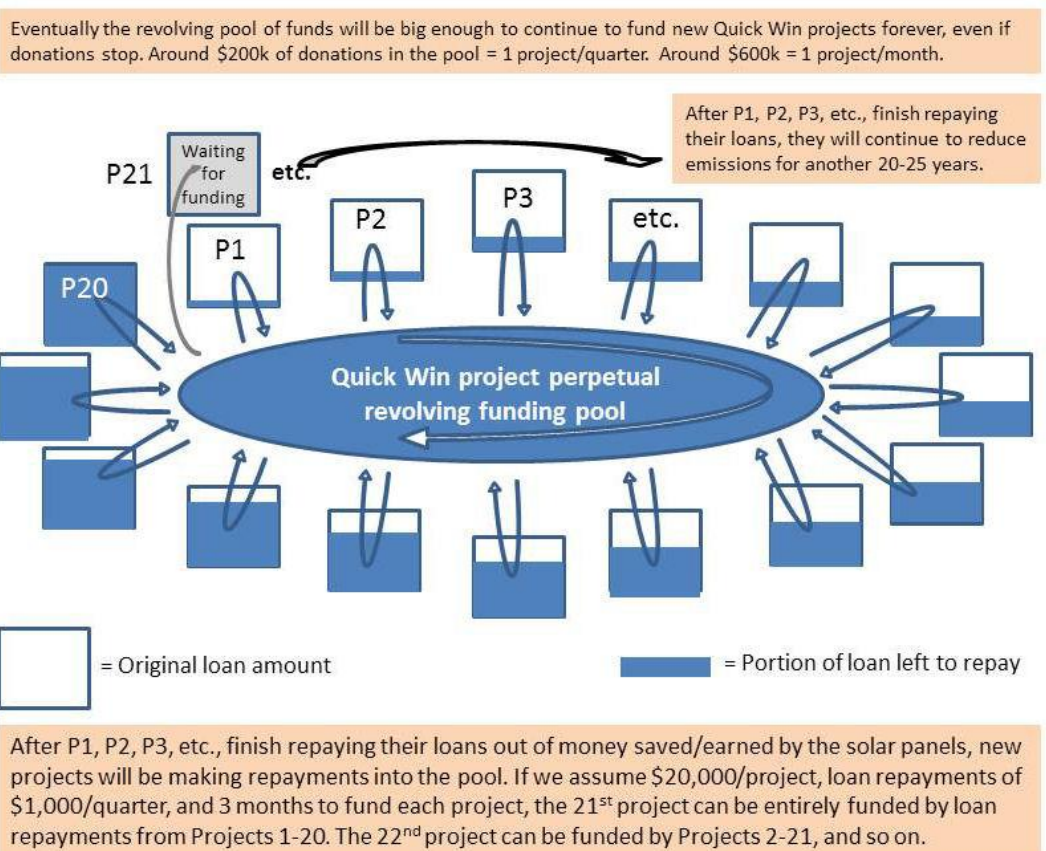
Since repaid funds revolve into subsequent projects, over time any particular donated amount will achieve roughly 5 times as much as it achieves in its first project. The impact calculator on the CORENA website demonstrates that \$100 lent to the first CORENA project in November 2013 has already been re-lent to subsequent projects, contributing \$225 of project funding to date.

Figure 4. The process how one panel can grow into approximately five panels



Source: CORENA (<http://corenafund.org.au/quick-win-projects/>)

Figure 5. The process how the Revolving Fund keeps funding new projects



Source: CORENA (<http://corenafund.org.au/quick-win-projects/>)

The CORENA revolving fund could be self-sustaining without regular donations but projects would take longer to fund. CORENA has been funding four to six projects per year and its revolving fund has grown to over \$100,000. In comparison with crowdfunded projects which sometimes stall in reaching donation goals, CORENA projects receive ongoing funding momentum from the trickle of repayments from previous projects. Some CORENA projects have accessed a mixture of grant/donation funding and combined it with a loan from CORENA.

What it isn't

It isn't an investment-based project model. Funds can be used over and over again rather than being returned to individual investors, and specific ROI requirements need not be met for the model to be viable.

It's also not purely a gift model even though it doesn't cost the recipient organisation a cent. The solar installation or other measures 'pay for themselves', and the money earned/saved by the project is what pays back the interest-free loan into the revolving fund.

This model is not a crowd-funding scheme in the usual sense. Crowdfunding platforms often charge a fee to raise money which undermines the interest-free model and would not suit long-term revolving funds that will potentially involve large amounts of money. The CORENA website tracks donations and repayments toward funding goals in a manner similar to crowdfunding sites. It is clear that donors like to back a project that is likely to become reality and not one that might fail to reach its goal.

What is this model most fit for purpose for?

This model is most fit for solar installations and energy efficiency measures for 'deserving causes' that inspire donors to support an interest-free loan. Solar projects that will be able to repay the loan from savings are likely to be at sites that use a significant share of their electricity during the day (at least 5 days/week). Energy efficiency opportunities with quick payback period often involve high efficiency lighting or reducing hot water energy. Solar PV installations of up to 10kW are ideal. Most of the generated solar power should be used on site rather than exported to the grid to minimise payback times and maximise the amount of money available in the revolving fund for subsequent projects. Once the loan is re-paid, the organisation benefits directly from reduced energy bills.

The model will suit any incorporated group that wants to implement a series of small 'quick win' projects over a period of years. For example, if the group can attract enough donations to fund one project a year, after five years (assuming a payback period of five years) the loan repayments alone will continue to fund one new project every year, forever (or as long as the organisation exists). This also suits communities with a number of opportunities to retrofit sites across the region with the finance continuing to deliver value within the local economy.

Theoretically this revolving fund model could also be used to fund projects for businesses or homeowners, but it is obviously easier to attract voluntary contributions if the project recipient is considered to embody a deserving cause.

Essential requirements for viability

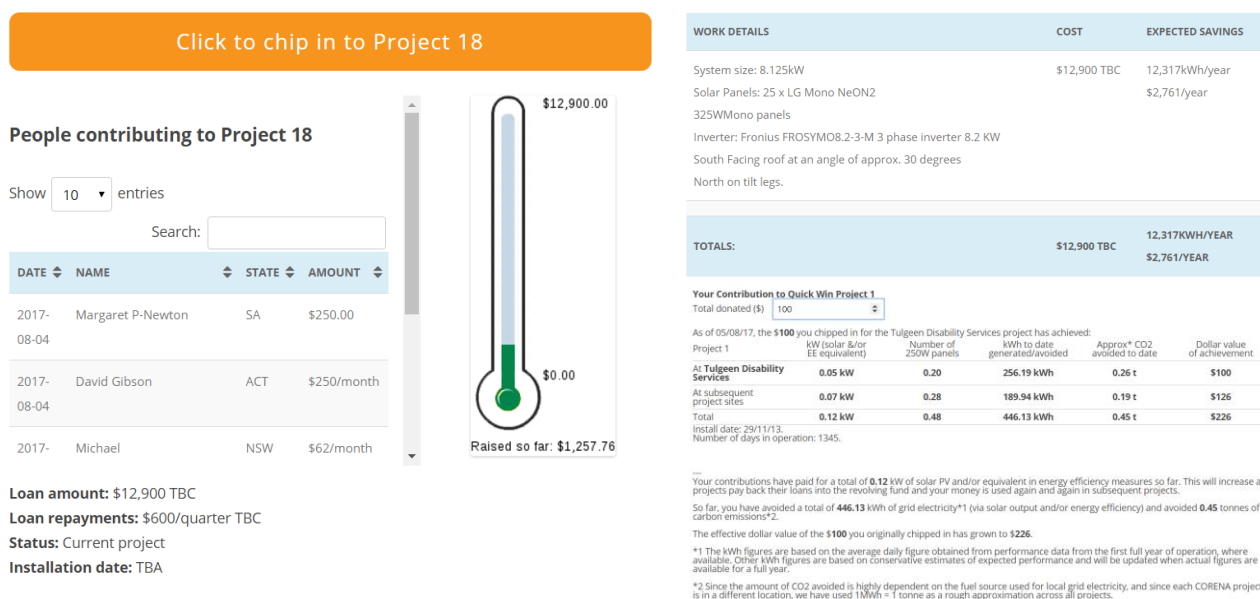
The essential requirements for this model to be viable are:

- A series of project hosts with suitable roof space and regular daytime electricity use,



- A mechanism for soliciting and receiving donations, and an account for depositing donations, issuing loans, and receiving loan repayments,
- Access to professional product and installation advice to ensure high project quality,
- Admin people (preferably volunteer) to promote project fundraising, manage and report donations and loan repayments, and assess and liaise with prospective project hosts, and
- Transparent financial and project reporting so that the public and potential supporters can see how donated money is used, and preferably annual financial audits (essential if the group implementing the project has DGR status) (See Figure 6)

Figure 6. Website snapshots at corenafund.org.au show transparent project information, feedback on fundraising and the impact calculator.



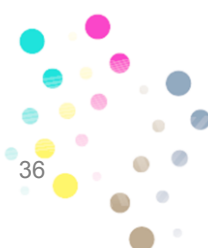
Constraints

This model is most suitable for projects for community organisations that own their own building, although those with secure long-term leases are possible with permission of the owner (generally council- or state-owned premises).

The ability of the host to reliably repay the loan should be considered by using contingency clauses which are included in the loan agreement. This is important because there is a responsibility to donors to maximise the benefit of their contributions by having funds revolve through to future projects.

This model is theoretically suitable for projects of any size, but the size/cost of projects should be in balance with the amount of money that can be raised quickly enough to be a 'quick win'. Donors want their money to be used in a project and start reducing emissions reasonably soon after they donate it.

A first project is the hardest to fund because all funds must be donated. Subsequent projects get progressively easier to fund as more and more projects start making quarterly loan repayments back into the funding pool (see Figure 4).



How to utilise this model

Regional renewable energy groups or climate action groups typically have members who are keen to see tangible outcomes in a short time. Such groups can apply this model at whatever scale suits them in order to achieve some quick outcomes, perhaps while they work through the process of setting up a larger more complex investment-based project. In this case the model could be tweaked to suit the aims of the groups. For example, this model could be used until a larger investment-based project is ready to start seeking investors. At that point the plan (publicised in advance) could be to start directing all Quick Win loan repayments to the larger investment-based project. The initial Quick Win projects would provide a good opportunity for involving people who could donate a small amount but could not afford to invest directly in the larger project. It would give all supporters something they could help achieve, not just those with the specialist skills required for setting up a large investment project.

Alternatively, any renewable energy group is welcome to partner with CORENA to fund a Quick Win project in their local community. The local group could initiate the project and liaise with the host organisation, and help build local interest in and support for the project. CORENA could provide the admin role and promote the fundraising effort nationally. Since loan repayments and donations from other areas of Australia would help reach the funding target, this would be a relatively quick and simple way to achieve a one-off small local project.

Note: CORENA will need to finish any projects in the funding queue before starting to fund a new project. They are happy to add new projects to the queue. CORENA's preferred way of operating is to partner with a local group, particularly for projects in communities a long way from Adelaide where the core of the CORENA team are based.

What not to do:

- Don't forget to check for possible energy efficiency measures at the host site. A combination of energy efficiency and a small solar PV installation can be more cost effective than spending all the project funds on solar PV.
- Don't risk damaging your group's public credibility by using cheap and possibly unreliable components and products.
- Don't try to fund more than one project at once. Finish one, then move onto the next so that donated funds are put to use as promptly as possible.

Key lessons from other groups using this model:

The CORENA team notes that there was no direct model for them to learn from for donation-based funding of renewable energy projects. But they did extrapolate from several key observations concerning the Hepburn Wind project.

- They found that some investors in that project were motivated primarily by the desire to see the tangible outcome rather than by a particular desire for a financial return on their investment, suggesting that a donation-based model could work.
- They observed that it was very involving and empowering for the local community but left people in other states and territories out in the cold, so CORENA wanted to develop a model that could involve and empower everyone regardless of where they live.
- A mechanism that automatically helps fund subsequent community energy projects is a valuable addition where significant volunteer effort is required to establish the organisation.

A number of other community groups have used the revolving fund concept to establish projects where returns from the project will be used for further projects or to deliver other benefits into the community. Yackandandah and Mullumbimby have both fundraised successfully for local projects. Bendigo Sustainability Group has structured its projects differently, retaining ownership over the project and savings for the first 10 years. It has been more successful in accessing local business donors and the revenue stream from projects allow the group to continue delivering sustainability projects around Bendigo.

Getting Assistance and Finding Out More

CORENA is happy to answer any questions about how to implement the Quick Win model. A lot of detail can be gleaned simply from a thorough read of their website (<http://corenafund.org.au/>), but if anything is not clear CORENA invite you to get in touch.

Intellectual Property

A copy of CORENA's loan agreement template is available on request. There are no restrictions over copying the Quick Win project model or methods.

Macedon Ranges Renewable Energy Fund Model

This model was developed by the Macedon Ranges Sustainability Group, a non-profit association. The motivations of this group were to increase clean energy uptake, reduce greenhouse gas emissions, pilot an embedded micro-grid and provide ongoing income for the Macedon Ranges Renewable Energy Fund.

The inception project was set up as an embedded micro grid, servicing the electricity needs of the tenants at the host site. Income from the inception project is collected into the fund, where it is allocated on a zero-interest basis to local community organisations to help them pay for installing clean energy, such as rooftop solar.

What it is

The Macedon Ranges Sustainability Group have a revolving fund similar to the CORENA model but instead of asking for donations for individual projects the fund was kick-started by an “inception project” funded by a government grant. The grant was for installing a 40kW solar array at a converted sawmill. Macedon Ranges are selling the electricity generated to the landlord at the site and the resulting income is being used as the seed of the Macedon Ranges Renewable Energy Fund (MrRef).

The inception project also installed individual metering for up to 10 tenants who share one retail or head meter.

The system is owned and operated by the Macedon Ranges Sustainability Group, an incorporated not-for-profit association. The same group also manages the Macedon Ranges Renewable Energy Fund.

What it isn't

As the entire project was funded by a state grant, there was no requirement/opportunity for the community to invest in this project. The community “ownership” is realised via the not-for-profit Sustainability Group and the benefits come back to the community through interest free solar loans via the Macedon Ranges Renewable Energy Fund.

What is this model most fit for purpose for?

The method of utilising grant funding to establish a local renewable energy fund is well suited to communities who can attract such funding. This would depend on grant funding being available as well as the group having a history and capabilities for running such projects and thus being able to submit a compelling grant application.

This is one of the few community solar projects involving an embedded micro grid. The model would be of interest to any other group wanting to work with multi-unit commercial tenancy buildings.

Any group having ambitious plans to tackle a large number and rich variety of solar projects over a lengthy timeline would find this model helpful. While it may be more difficult to secure grant funding to pay for infrastructure in this way, the ongoing cash-flow benefits makes future projects much easier to support.

Essential requirements for viability

Access to grant funding is essential for this model. Grants must be available which allow for purchasing solar equipment. The community group should ideally have a good track-record of success and have access to good grant writing skills. Since there is no guarantee of success, the group must be willing to accept that their first grant application may not be successful.

The community group must be prepared to run a competitive procurement process, such as a tender for engineering, procurement and construction (EPC) and operation and maintenance (O&M) of the solar system. Government grants allowing for purchase of infrastructure will probably have this as a requirement.

The group must also be prepared to run the administration for the duration of the project or beyond as the ongoing revolving fund will need to be actively managed over this timeline. This may be longer than 25 years.

To deliver the model effectively there needs to be a strong partnership and a high level of trust between the Sustainability Group, the commercial owner of the site/building and the tenants.

Constraints

Finance

As this project was entirely funded by a grant, no fundraising activities were required other than a business case and grant application.

The inception project at the saw mill creates a revenue stream for the community group through the sale of the electricity generated by the solar panels. This money is placed in a renewable energy fund and new projects are supported with a zero interest loan financed from this fund.

Administrative burden

An enormous amount of volunteer time went into this project, starting with the site identification, the grant application, the project specification, the tendering process, project management, technical issue resolution and grant administration. For the 25 year life of the project, invoices need to be produced at regular intervals detailing individual tenants' electricity usage and charges. This can become challenging with different volunteers stepping in and out of the organisation over time.

The project at the sawmill includes a remote metering solution, which avoids the need to perform on-site metering each quarter.

How to utilise this model

The implementation of this model is dependent on the availability of grant funding and the dedication of volunteers who should be prepared to invest time and effort to realise this project. Government funds are subject to political decision making and budget allocations. Hence a first step is to identify a suitable funding agency, which can be a government body, but philanthropic or industry sources could also be considered. The process of writing a grant funding application depends on the formality of the process and requires some experience in presenting the project in such a way that it meets the requirements of the funding body. Those requirements can include a competitive tender process for engineering, procurement and construction (EPC) and operation and maintenance (O&M) of the



solar system. If the application is successful, the community organisation has to be prepared to dedicate a substantial amount of time and effort to the initial tender process most likely in a limited timeframe.

Getting Assistance and Finding out More

Since the project is a hybrid-model combining grant funding with the CORENA fund concept, assistance should be sought from both the CORENA team (please see the model and further details on page 32) and the Macedon Ranges Sustainability Group. The model is introduced on the website of the [Macedon Ranges Sustainability Group](#) and the project team can be contacted to provide some assistance at mrref@mrsgonline.org.au

Intellectual Property

Macedon Ranges have developed competitive tender documentation. They also have a power purchase agreement (PPA) which supports the particular arrangement they have with the owner of the sawmill site. These documents are not templates and any person wanting access to them should contact Macedon Ranges Sustainability Group to discuss this further.

MASH Model

MASH is a project of the Hub Foundation Castlemaine Ltd. Initially the project name stood for Mount Alexander Solar Homes. It was changed to More Australian Solar Homes when the group decided to expand beyond their local borders into Bendigo and Macedon Range.

Over 700 households have gone solar with MASH since the organisation started installations in September 2014. These households – plus a growing number of businesses – are located in the City of Greater Bendigo, Mount Alexander and Macedon Ranges Shires.

What it is

MASH is a bulk-buy solar project. The initiative launches one stage per year, with each stage having a different supplier/installer, different prices (usually lower than the previous one) and covering additional regions. The supply and installation of the systems are put out for tender and contracts with the successful tenderer are signed before each launch.

A special characteristic of MASH is that every bulk-buy announcement involves great publicity, communication and local engagement. In this regard, the partnership with the local councils is very advantageous, since the Mayor's provide favourable quotations for the media and are present at the launch in each Shire. Another important element is the involvement of local media. MASH strives to have every main newspaper group signed up as partner. This results in prominent coverage of the launch, lower cost advertising and the right to write a 300-500 word column in the paper each week for the first 10 weeks of the campaign for that stage. The column with a masthead and photo of the writer provides news on solar in general and the campaign in particular.

In addition, a number of large 5m x 1.5m colourful banners are distributed across the region to be displayed at prominent sites e.g. the Hub building owned by the chair of the Foundation.

MASH also uses posters and leaflets to inform about the bulk buy opportunities.

Interested people register on the website at mash.org.au and these are automatically passed to the supplier/installer. In addition to names and addresses and phone numbers, people are asked how they heard about MASH, whether they already have a solar system and whether they're interested in batteries as well as solar or just batteries.

MASH also provides a phone number to either the project representatives or the supplier/installers in order to answer questions or make a complaint.

MASH earns a commission for each watt power installed. The foundation also stipulates that 1% of sales income is donated to a community organisation for a solar system.

What it isn't

MASH does not have an installer license. Therefore, the foundation has no direct involvement or contracts with the customers. Hence they don't contact the customers once they have registered.

What is the model most fit for purpose for?

The model is most suitable for groups:

- with some marketing knowhow and/or interest in marketing
- with a good reputation in the community

- operating in a community which is not saturated with solar

Essential requirements for viability

- a not-for-profit status
- an ability to raise money in advance from donors or the supplier/installer
- a capacity to take a reasonable financial risk
- a commitment to start small and grow organically
- support of councils and local media
- good weekly reporting from the supplier

Constraints

The biggest hurdle is seen in preparing the contracts with the suppliers/installers which have to cover all bases in particular penalties for non-performance.

Over time as the solar penetration increases in an area, each dollar spent on marketing has a progressively lower return.

The marketing cost and much of the admin cost in the first round of MASH in 2014 was completely funded by philanthropic donations. This allowed MASH to cover the administration costs for the first bulk buy.

Since then, the foundation has required the supplier to pay a commission on each watt sold and today the commission covers around 50% of costs. The remainder is provided by board members in form of donations. In 2017/18 the income from commissions will cover approximately 80% of costs.

Key lessons

Carefully consider if small local supplier/installers can adequately handle large numbers of inquiries. Local suppliers may well be preferred, but they might also have difficulties to meet the requirements of a large bulk buy project. Hence MASH recommends to favour organisations with proven track records in bulk buys.

It should be ensured that any supplier uses 'near maps' software (or similar tools) to view the properties and coordinates the contact and relationship with the customers in a Customer Relations Management (CRM) software.

It is recommended to visit the potential suppliers' offices, chat to people in the industry and ask the hard questions about financial viability, personnel skills, software used and sources of equipment.

Stipulate if possible that the supplier uses local installers. This is a good selling point for local councils and media.

Good use of local media is essential. Apart from the launch, local media will often run news items if they are well-written and accompanied by a good, interesting photograph.

Getting assistance and finding out more

The most valuable assistance can come from your supplier, especially one which is already working on bulk buys with other not-for-profits.



The Clean Energy Council will offer certain advice, as will not-for-profits in the field, including The Hub Foundation, Positive Charge and Yarra Energy Foundation, all in Victoria.

MASH is also prepared and happy to give free advice to not-for-profits, while their advice to local councils would be charged. The email contact is: info@hubfoundation.org.au.

More information about the initiative can be found on their website: <http://mash.org.au/>

Intellectual property

The foundation is currently considering compiling a toolbox for other groups interested in running bulk-buys. Alternatively, the foundation may decide to fund other organisations to work in their own area, in return for a commission on sales.

Solar Savers Model

The purpose of the program was to further increase rooftop solar PV in the residential sector. The Solar Savers model was developed by Positive Charge, an initiative of Moreland Energy Foundation, and in partnership with Darebin City Council. The model established a structure to better support residents to invest in solar PV by engagement through trusted stakeholders and low interest finance to offset upfront cost.

After a successful pilot with Darebin City Council, the Solar Savers program will be progressively rolled out across 20 Victorian municipalities through to June 2019.

What it is

The pilot project, “Darebin Solar Savers” used council funds to provide loans to 480 pensioner households. The loans were repaid through the households’ council rates. The council also plays an important role of trusted brokering, leveraging the reputation that council holds in the community.

Council provided promotion and finance mechanism. Positive Charge provided project management, household advice, solar assessment and brokering of specifications and contracts on behalf of a solar PV supplier and Council.

Houses can install solar on their roofs with no up-front cost and the additional council rates payments are structured so match savings on electricity bills. The model is similar to the Property Assessed Clean Energy (PACE) schemes that have operated successfully in the United States.

Figure 7. Elements of Solar Savers



What it isn't

While similar to environmental upgrade agreements (EUAs), utilising the *Special Charges* requires Council to directly bear the cost of capital (debt), whereas EUA requires the Council to collect the debt though does not have direct financial liability. EUAs are also not available to households.

This isn't free solar for homes. The council is lending money, which will be repaid by the participating households.

What is this model most fit for purpose for?

- Large scale roll out of residential and small business solar utilising Council rates scheme to build participant trust, access low cost finance and manage ownership transfer.
- Opening up the benefits of solar PV to low-income households.

Essential requirements for viability

This model has a key component of the Council using *Special Charges* levied through their rates collection. This may not be possible in states other than Victoria.

To deliver the model effectively there needs to be a strong partnership between a local council, a community interface (broker) and the equipment supplier. The local council needs to be proactive in promoting the project, willing to undertake upfront investment and able to manage administrative requirements to utilise the rates scheme to recover investment.

A broker is essential to provide a clear and straightforward process for participating households and businesses and reduce administration for councils and lending institutions. The broker is able bring together the participant's needs, supplier specifications, lending conditions and council requirements. MEFL through its Positive Charge initiative delivered the Solar Saver program for Darebin City Council as a broker, providing independent assessment of viability, quotation on behalf of a supplier and contract issuing on behalf of the Council.

The benefits of this model allow a technically qualified team to engage with participants, provide independent advice and make arrangements on their behalf to streamline the process. Given the additional requirements to liaise with tenant and landlord in the majority of business arrangements a clear brokering functionality is critical for rates based schemes to genuinely realise the potential environmental benefits. The cost of the role can be integrated into the end cost for the service.

Solar installations on recipient roofs should be scaled to ensure that savings on a household or business electricity bill are greater than the rate repayment.

Positive results and successful continuation

The successful implementation of the Darebin Solar Savers program between 2013 and 2015 enabled spin offs: the new Solar Savers program is a scale up of the City of Darebin's successful program, and a pioneering approach by Victorian councils and four Victorian Greenhouse Alliances to support pensioner households install quality, affordable solar systems with no upfront costs.

The pilot project is funded by the Victorian Government through their New Energy Jobs Fund grants program and led by partners: the Central Victorian Greenhouse Alliance (CVGA); the Eastern Alliance for Greenhouse Action (EAGA); the Northern Alliance for Greenhouse Action (NAGA) and the South East Councils Climate Change Alliance (SECCCA), aims to remove the barriers faced by low income pensioner households wanting to install solar.

One of the major barriers faced by these households is access to affordable loans. In one pilot, Solar Savers will test the use of council special rates charges to fund the installations at 0% interest with households paying off the cost of their solar system through their rates notice. The second pilot will offer households a special low interest loan provided by a private sector finance provider.

Through both pilots, the affordability of solar is improved for low income households by extending the loan term to a 10-year period. The result is that each Solar Saver participant will receive a solar system that pays for itself in electricity savings from the very first day.

The Municipal Association of Victoria is also lending its support to the project; managing the procurement to contract a solar supplier and installer for the project. This group procurement process not only ensures the project secures a solar provider with the appropriate experience, qualifications



and capacity but will also secure competitive prices, which again improve the affordability of solar for the low income target group.

Constraints

Administrative burden

Implementing rates based schemes will require administrative support to establish a scheme and process rates charges over time. For the scheme to be both effective for participants and efficient for Councils, there needs to be a clear process for establishing participant eligibility, lender and supplier accreditation, and routine collection and processing of payments.

How to utilise this model

Community Engagement

Engaging participants effectively and efficiently is key to the impact and viability of the model. Managing recruitment, screening eligibility and issuing contracts are critical stages that need to be coordinated.

Figure 8. Engagement process for Darebin Solar Savers Model



Council Process

Having recruited participants, Council must declare its intention to utilise the *Special Charges* mechanism through public notice (note may only currently be available in Victoria), allow 28 days for concerns to be lodged and considered and then a Council resolution to implement the *Special Charge*. As part of the process, Council is required to keep participants up to date and informed of the process.

Finance

Council bulk purchases solar PV equipment for all participants from a supplier and then recovers the cost through individual rates charges for each participant. Council could itself borrow funds or finance from internal reserves.

Figure 9. Finance model underpinning Darebin Solar Savers



Getting Assistance and Finding out More

Visit: <http://www.mefl.com.au/projects/darebin-solar-saver/>

Bendigo Sustainability Group Model

The Bendigo Sustainability Group (BSG) was founded in 2007 and is one of the pioneers in community solar in Victoria.

The group has developed a flexible approach to project development and implementation, focussing on behind the meter solar PV installations. Their “multi-model” approach has been very successful in applying different models to their varied projects.

BSG also run a multi-household bulk-buy model, which is in addition to the activities outlines in this case study.

What it is

BSG uses a model-adaptive approach to finance community solar projects. The project development process is usually the same encompassing collaborations with local councils and involving power purchase agreements.

The group started small, with a donation-based model. Over time, the BSG approach as evolved to encompass elements of the community investor and loan models.

Project funding

With their first two projects, BSG raised a total of \$42,000 in donations from the community to install a 20kW solar system on the Bendigo Library and a 11kW system on the Bendigo Discovery Centre. These council who own and operate these sites purchases the electricity via a power purchase agreement (PPA). These two projects enabled the establishment of a ‘revolving energy fund’ which is fed by the income from the PPAs plus any surplus from crowdfunding campaigns.

BSG continuously seeks project opportunities whereby the revolving fund money enables the group to match project funding as needed. For example, their latest 30kW project at the Bendigo Archive Centre was financed through three funding streams: A \$10,000 grant from Bank Australia, \$10,000 taken from the revolving fund and a small loan also from Bank Australia. Note that the PPA has been accepted by Bank Australia as collateral for the loan and can this arrangement can probably be used for future projects.

The process to secure a project

Most BSG community projects to date have been in collaboration with the local council. This requires negotiating with the council to utilise the building roof at a “peppercorn” rate. Council also agrees to purchase the electricity via a PPA. The electricity rate in the PPA is approximately the same as the commercial electricity tariff for that site. The solar system generates approximately between 10% to 50% of the host site’s electricity needs depending on roof capacity.

Typically, the PPA contracts are for 10 years. At the end of the period the solar system is gifted back to the host site customer for the remaining 10 to 15 years of operational life. The host site customer will get the facilities free of charge but will be responsible for replacing the inverter in year 10 and removing the equipment at end of life.

Future investment projects

BSG will continue to use different funding models and a mixture of financial instruments for its future installations. When investment-based projects start to be included in their diverse mix of projects, they will use special purpose vehicles (SPVs), inspired by the Repower Shoalhaven model.

What it isn't

BSG is not a sole donation nor investment model it is rather a 'multi-model', where the respective funding mechanism is decided on case by case basis.

What is the model most fit for purpose for?

Most fit for communities with appetite for multiple small and larger sized projects and groups who

- Have dedicated members and are prepared to invest a lot of time and effort
- Have great capacity to facilitate different approaches and mechanisms

Essential requirements for viability

- A small project team with the right skill set
- Project management skills are essential
- Risk management plan
- Dedicated volunteers supporting the marketing of the initiative

It is important to point out that the successful implementation of all projects was enabled by extensive social media campaigns (Facebook) and the involvement of the local media. In addition, the Bendigo community is especially receptive to sustainability initiatives which paved the way for BSG's projects come to fruition.

Key lessons

- Start with a small project (10 or 20kW) project.
- Work with a small team with appropriate skills. It's easier to reach agreement.
- Concentrate on finding roofs owned and occupied by the same organisation.
- Only install Tier 1 panels and inverters.
- Use qualified commercial grade installers.

Getting assistance and find out more

BSG is available to provide CORE workshops and mentoring for groups interested in starting their own projects. They have developed a "tool kit" of processes and documentation, which can be received upon request.

Bendigo Sustainability Group is host for the Community Power Hub – Bendigo. In this capacity BSG will support communities in implementing their renewable energy projects.

The website of BSG also offers further details and information: <https://www.bsg.org.au/>

Intellectual property

BSG have evolved elements from other models and created their own IP in the form of their methods and the documents they use. As mentioned above, this “tool kit” is available upon request.

Common Legal Framework

Summary

This section outlines a standard method for describing and comparing the legal structures of donation and investment models of community solar. Please note that it does not apply to the multi-household models, including the MASH and Solar Savers case studies.

One of the key differences between the various donation and investment based small-scale community solar models is their legal structures. The legal structure shouldn't be confused with the model itself. The legal structure underpins the model from a regulatory, contractual and legal perspective, whereas the model is the complete operation of the enterprise, encompassing purpose, financial, legal, regulatory, governance, marketing and administrative functions, to name just a few.

This section of the Small-Scale Community Solar Guide introduces a Common Legal Framework that allows the legal structures of each model to be described in a consistent way. Rather than attempting to exhaustively catalogue all the legal sub-structures that underpin the different models, this Common Legal Framework describes the structural elements that are common across models. Standardising to a common framework assists in understanding the differences and similarities between the models in this Guide, providing further help in choosing which model to adopt or adapt for your group.

These models share some basic characteristics. Central to each is a *Project Entity* which raises finances from *Investors/Donors* via some form of fundraiser offering, applies the money raised to the purchase of a solar system and enters into a supply agreement with a *Customer*.

Common to these projects are a set of *participants* and a set of *agreements*. Not every project or model will have the full set of agreements or the full set of participants, but most projects or models have most of them.

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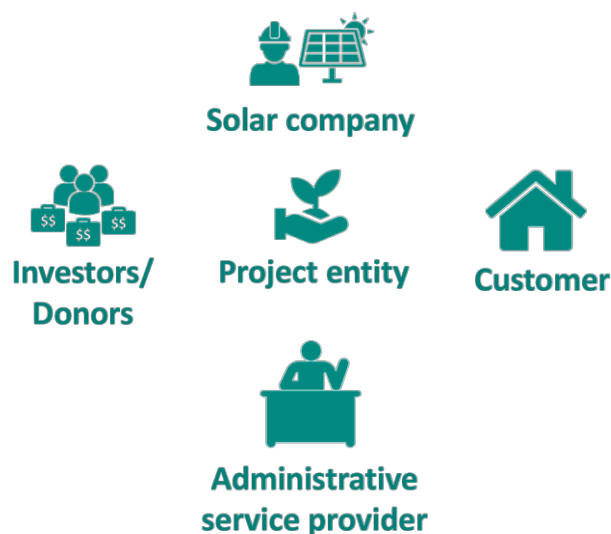
- Sets out a common language for describing each of the *participants* that interact through the legal model
- Provides a common language for each of the *agreement* types that commonly exist in each model
- Describes the Common Legal Framework structure
- Applies the Common Legal Framework to the proven business models (case studies) described in this Guide so that the business model of each can be better understood and comparisons made
- Provides clear sign-posts to which agreements are available and where to find them.

Participants

These are the main parties that make up any behind-the-meter community solar project. It is not a complete list of all possible participants in the project, just the major parties.

Project Entity

The *Project Entity* is the incorporated entity (company, trust, co-operative etc) that is raising the finance for the project, contracting suppliers to deliver the renewable energy infrastructure and typically entering into an agreement with a *Customer* to allow them to use the infrastructure or the energy it produces in return for a fee.



Investors/Donors

Investors/Donors provide the ultimate source of funds to pay for the project. *Investors* purchase equity (shares) or provide debt (loans) with varying expectations as to whether their initial funds will be returned to them or whether they will see a return on their investment. *Donors* provide unconditional gifts (donations) or provide funds for certain activities to take place (grants from government or philanthropic sources) without an expectation that the funds will be returned or that there will be a return on these funds.

Customer

The *Customer* is the entity that utilises the renewable energy infrastructure or the energy it produces. In a behind-the-meter solar model, for example, the *Customer* would be the host site whereas in a larger grid-connected project the *Customer* would be the energy retailer purchasing the electricity.

Administrative Services Provider

In many models, there will be an *Administrative Services Provider* that carries out much of the day-to-day activities on behalf of the *Project Entity*. *Administrative Services Providers* are typically found in structures where the *Project Entity* is a different legal entity to the community organisation behind the project. In these cases, the community organisation might provide coordination and administrative support for one or more separately incorporated *Project Entities*. An example is Repower Shoalhaven, who create a special purpose vehicle (SPV) for each project: the SPV is the *Project Entity* and Repower Shoalhaven Association is the *Administrative Services Provider* for many SPVs.

Solar Company

The Solar Company is the organisation that carries out Engineering, Procurement & Construction (EPC) and Operation and Maintenance (O&M) for the project. In other words, they install the solar system and maintain it over the life of the project. The EPC and O&M provider might be a single organisation or different organisations, but for purposes of simplifying this Common Legal Framework we are considering them together as one.

Agreement types

A *Project Entity* will need to enter into multiple agreements throughout the life of a project, with different agreements typically being required at different stages. The following agreement types capture the major agreements that underpin the basic delivery of any community energy project that currently exists in Australia, or is under development.



Constitution/Rules/Trust Deed

Any incorporated entity requires some form of governing document that describes the running of the organisation. This will be called either the *Constitution*, *Rules* or *Trust Deed* depending on the type of entity. Companies and associations have *Constitutions* whereas co-operatives have *Rules* and trusts have *Trust Deeds*.

Investor Agreement

In some circumstances, particularly for companies, there may be some form of *Investor Agreement* that describes the obligations of the *Investors* and the *Project Entity* during the term of the project.

Engineering, Procurement & Construction (EPC) Agreement

The *EPC Agreement* is the contract that sets out the obligations of the *EPC Provider* in delivering the renewable energy infrastructure that will generate electricity for the duration of the project.

Operation & Maintenance (O&M) Agreement

The *O&M Agreement* is the contract that describes the maintenance and operational activities that should be performed by the *O&M Provider*.

Supply Agreement

A *Supply Agreement* is a document that provides the use of the product (electricity) or the infrastructure that produces the product (solar equipment) in return for a fee or charge. This could be a Power Purchase Agreement or a Lease, for example. Alternatively, rather than the purchase of energy or the lease of infrastructure, the supply agreement may take the form of a loan to finance the installation. For some models, the *Supply Agreement* is between the *Customer* and *Project Entity* (e.g. Pingala) but for others it may be between the *Customer* and the *O&M Provider* (e.g. Lismore) or between the *Customer* and the *Administrative Services Provider* (e.g. Repower Shoalhaven).

Services Agreement

The *Services Agreement* is any contract that sets out the terms and conditions by which the *Administrative Services Provider* delivers services to the *Project Entity*. This might include services at an early project development stage (for example sales to potential *Customers*) right through to

services provided during the operation of the project (such as shareholder management services or other administrative functions). The *Administrative Services Provider* may be paid for providing these services, or they might be provided on a voluntary basis.



Common Legal Framework

When we bring the above participants and the agreements together, we have the complete Common Legal Framework, visualised as follows.



Overview of Supply agreements

One of the key benefits of a community solar project is the ability for regular people – mums and dads, renters, young professionals, anyone really – to invest or donate funds that help see the setup of a renewable solar project. How this works on the investor/donor-side is relatively similar across most models: funds are raised through collecting donations or offering investments; these funds are used to pay for the installation of solar equipment; the *Customer* enjoys the benefit of solar electricity without needing to make an up-front purchase.

However, the financial arrangement between the *Project Entity* and the *Customer* differ based on the *supply agreement* in place. The supply agreement used by a group is a crucial element in the design of each model and understanding the options available is vital for anybody wanting to better understand the proven models and/or to develop their own small-scale community solar model.

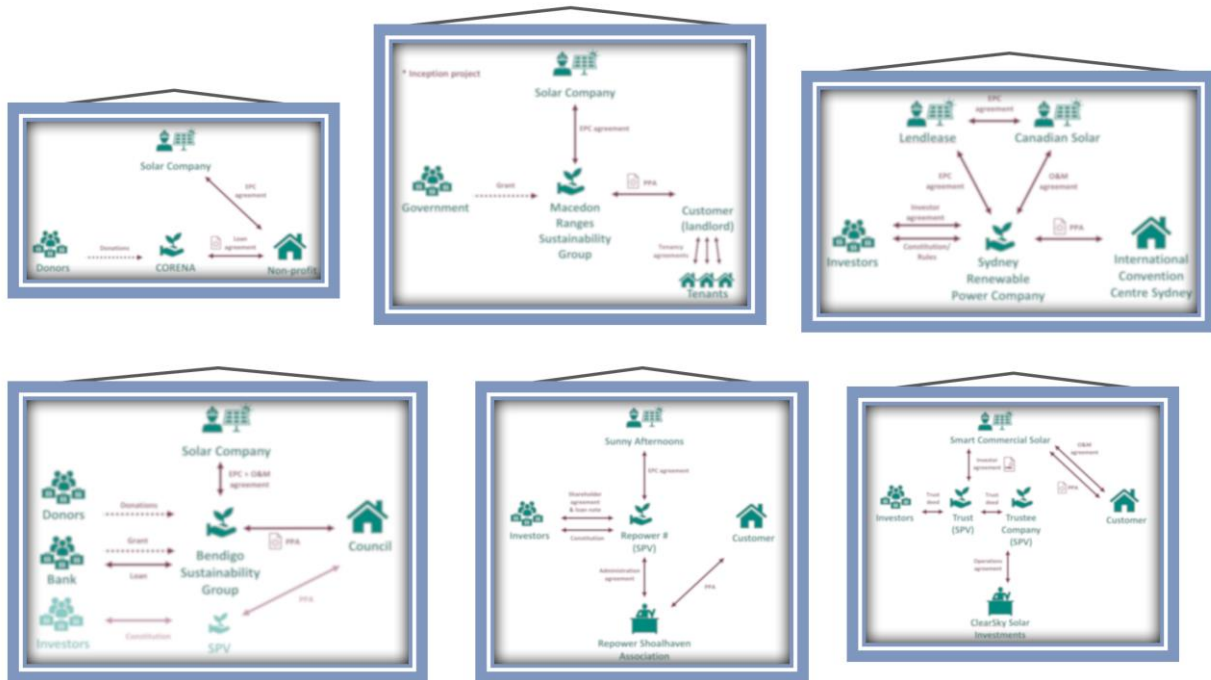
The following table outlines the three options for supply agreement.

Supply agreement	Description
Power Purchase Agreement (PPA)	The <i>Project Entity</i> organises for a renewable energy installation to be installed on a host-site (<i>Customer</i>). The installation is owned by the <i>Project Entity</i> . The <i>Customer</i> then enters into an agreement with the <i>Project Entity</i> to purchase all of the power from the renewable energy installation at a certain price for a certain period of time. Typically, at the end of the agreement term, the renewable energy installation is then gifted or sold to the <i>Customer</i> for the remainder of its life.
Lease	The <i>Project Entity</i> organises for a renewable energy installation to be installed on a host-site (<i>Customer</i>). The installation is owned by the <i>Project Entity</i> . The <i>Customer</i> then enters into an agreement with the <i>Project Entity</i> to lease the renewable energy installation (equipment) at a certain price for a certain period of time. Typically, at the end of the agreement term, the renewable energy installation is then gifted or sold to the <i>Customer</i> for the remainder of its life.
Loan	The <i>Project Entity</i> provides finance to a <i>Customer</i> based on a set interest rate, or a variable interest rate. The <i>Customer</i> then takes all the risk and responsibility for the installation and maintenance of the renewable energy installation. The renewable energy installation is owned by the <i>Customer</i> .

Different agreements will suit different community energy groups' needs and objectives, capacity to manage ongoing contractual obligations, and appetite for risk. Some community energy groups will want to be involved in the ongoing operation of the renewable energy installation and have an ownership stake, while others will be keen to have a simpler and more hands-off approach.

Models legal gallery

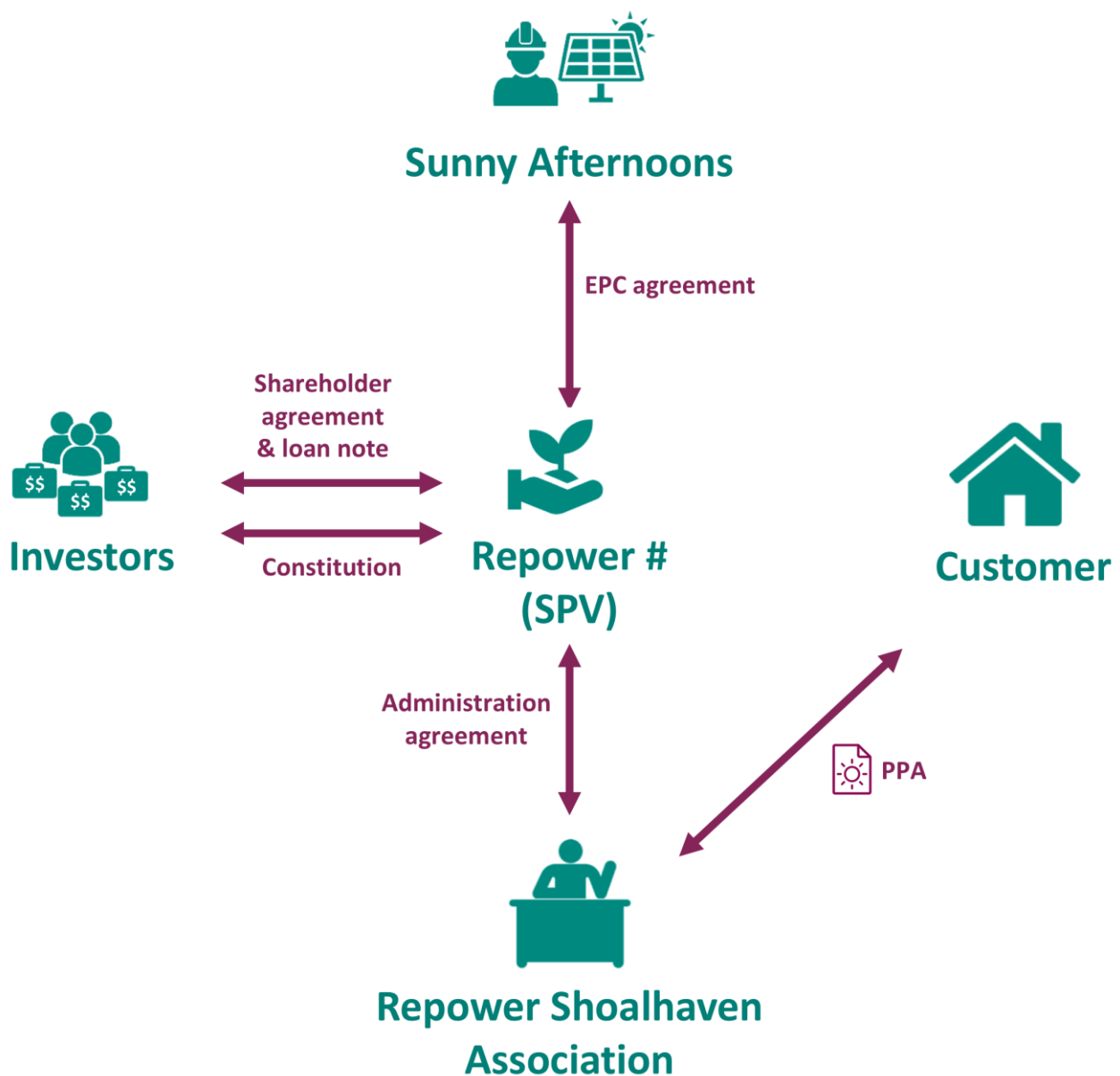
The following pages are a gallery of the different models described using the Common Legal Framework. This section of the Guide may be useful in understanding the differences between the legal structures that underpin each model.



Repower Shoalhaven

A private company is created for each fundraising. Referred to as a Special Purpose Vehicle (SPV), this is the *Project Entity* in the Repower Shoalhaven model. A single fundraising results in multiple *Customers* having their solar systems financed by that SPV. *Investors'* membership of the SPV is defined by the Constitution of the SPV. The *Investors* each sign a Shareholder Agreement and separately enter into a Loan Agreement with the SPV. This hybrid between a loan note (debt) and owning shares (equity) enables the SPV to be more flexible in the way it returns principal/capital to the *Investors*. The SPV contracts the *Solar Company*, Sunny Afternoons, to install the solar system.

The Repower Shoalhaven Association performs the administration for the *Project Entity* (SPV). The Repower Shoalhaven Association also hold the retail licence exemption and so they are the ones to enter into the PPA with each *Customer*.

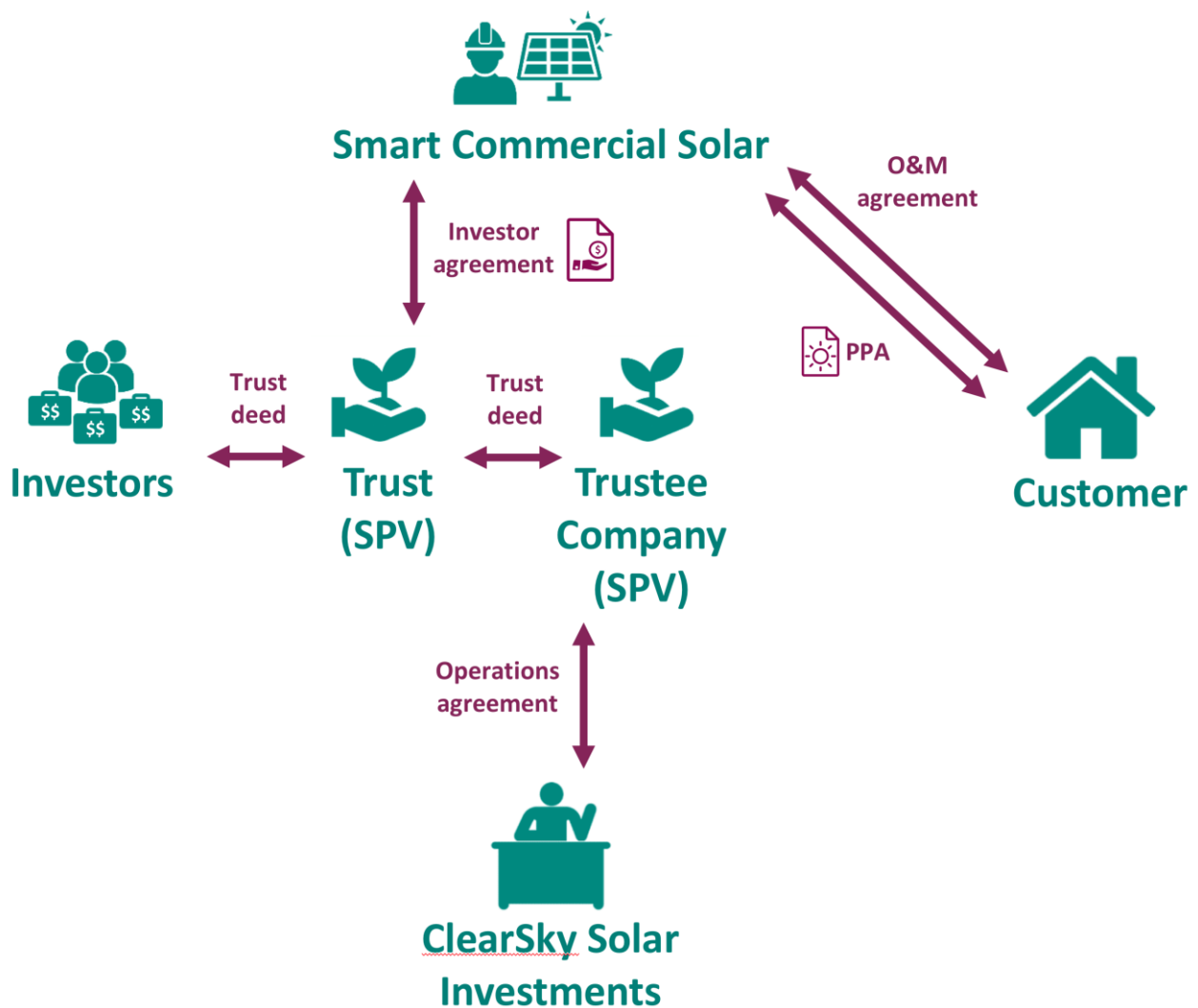


ClearSky

ClearSky Solar Investments also use per-project special purpose vehicles (SPVs). The SPV is comprised of two *Project Entities*, the Trust and the Trustee Company. A trust deed governs the relationship between the Trust, the Trust Company and the Investors, much like a constitution would with a company.

ClearSky have a close relationship with *Solar Company*, Smart Commercial Solar, who enter into an investor agreement with the Trust. This agreement sets out the arrangement whereby funds are provided to support their power purchase agreement (PPA) with the *Customer*. In return, the trust receives income based on the production of electricity by the solar system.

Clear Sky Solar Investments are the *Administration Services Provider*, supported by the services agreement between them and the Trustee Company.



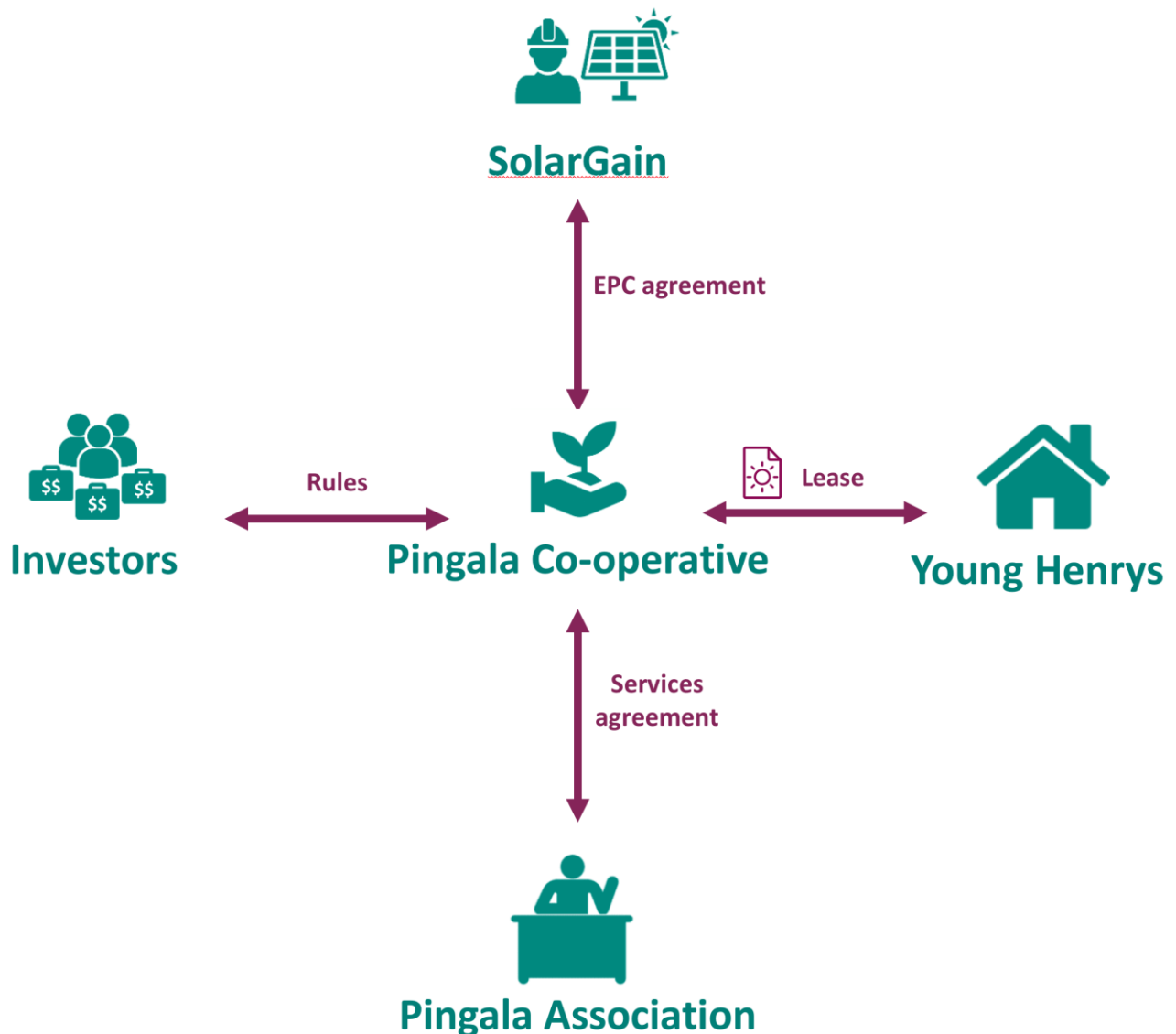
Pingala

Pingala has completed one project at the time of writing. This diagram of the Pingala model describes their first project.

The Pingala Co-operative is the *Project Entity* and it is used repeatedly for multiple projects over time (i.e. there is no SPV in the Pingala model).

A separate fundraising supports each project at a *Customer* location. *Investors* purchase shares in the Pingala Co-operative and this relationship is governed by the Rules of the co-operative. The Pingala Co-operative contracts the *Solar Company*, SolarGain (or any other *Solar Company*) to install the solar system. The Co-operative then enters into a Lease as its *Supply Agreement* with the *Customer*.

The Pingala Association performs all the administrative and operational activities of the Pingala Co-operative, with this arrangement being supported by a *Services Agreement*.

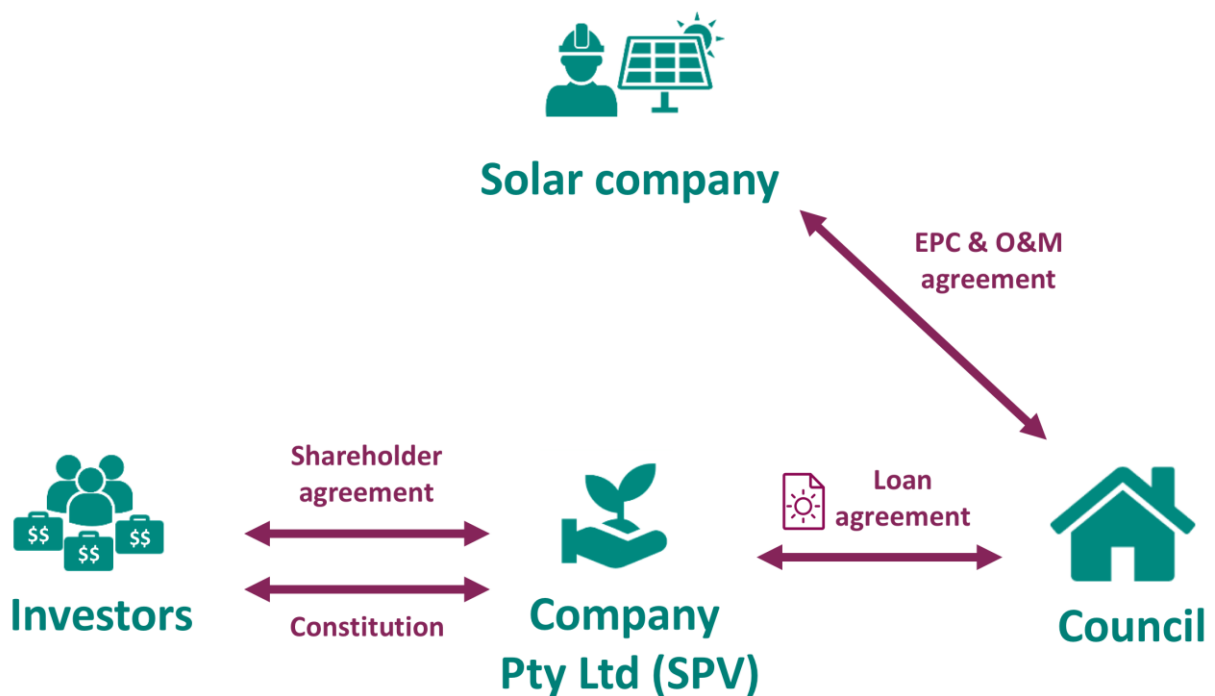


Lismore community solarfarm

A private company is created for each project. This SPV is the *Project Entity*. The two projects completed to-date have created a single SPV for a single host site. *Investors'* membership of the SPV is defined by the Constitution of the SPV.

The *Investors* each enter into a Shareholder Agreement with the SPV. The model is built for use where the *Customer* is a local council and uses an unsecured loan agreement as its Supply Agreement. A result of this is that it's the *Customer* who purchases the solar system, entering into an EPC & O&M Agreement with a *Solar Company*.

Although Farming The Sun played an active role in the creation of the two projects using this model, they don't play an ongoing administration role. The SPVs are self-administered and are provided with a low-administration model as well as tools and templates to help manage their company. There is no *Administrative Services Provider* in this model.



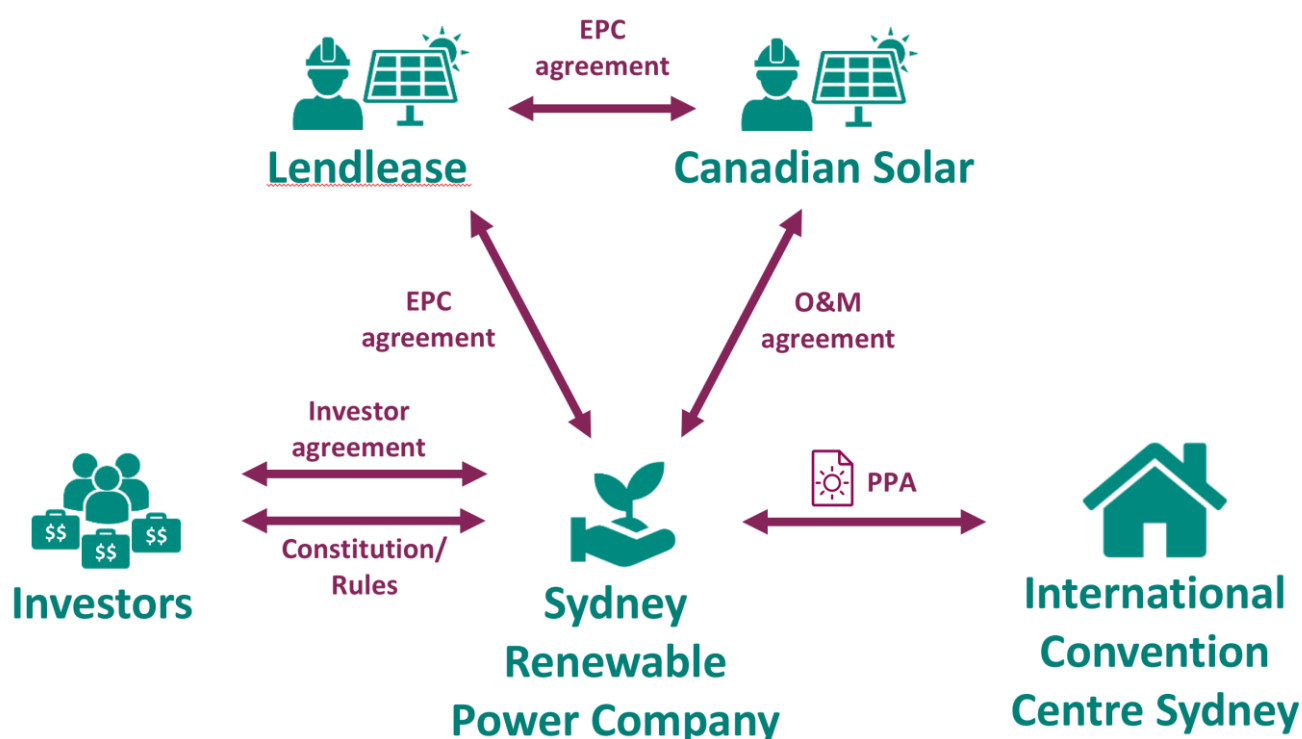
Sydney Renewable Power Company

The Sydney Renewable Power Company (SRPC) are a public company, limited by shares and they are the *Project Entity* in this model.

Lendlease were the developers of the broader infrastructure project (constructing the new International Convention Centre in Sydney) and they sub-contracted the installation of the solar system to Canadian Solar, the *Solar Company* in this diagram. An EPC agreement between Lendlease and Canadian Solar supported this arrangement.

Once the solar system was commissioned, SRPC entered into an EPC agreement with Lendlease and also an O&M agreement with Canadian Solar. This effectively transferred ownership to SRPC and maintenance responsibility to Canadian Solar. The funds to pay for this purchase came from *Investors* who purchased shares in SRPC, with an Investor Agreement and a Constitution governing the relationship between the *Investors* and SRPC.

The International Convention Centre Sydney are the *Customer* and they purchase the electricity via a power purchase agreement (PPA) between them and SRPC.

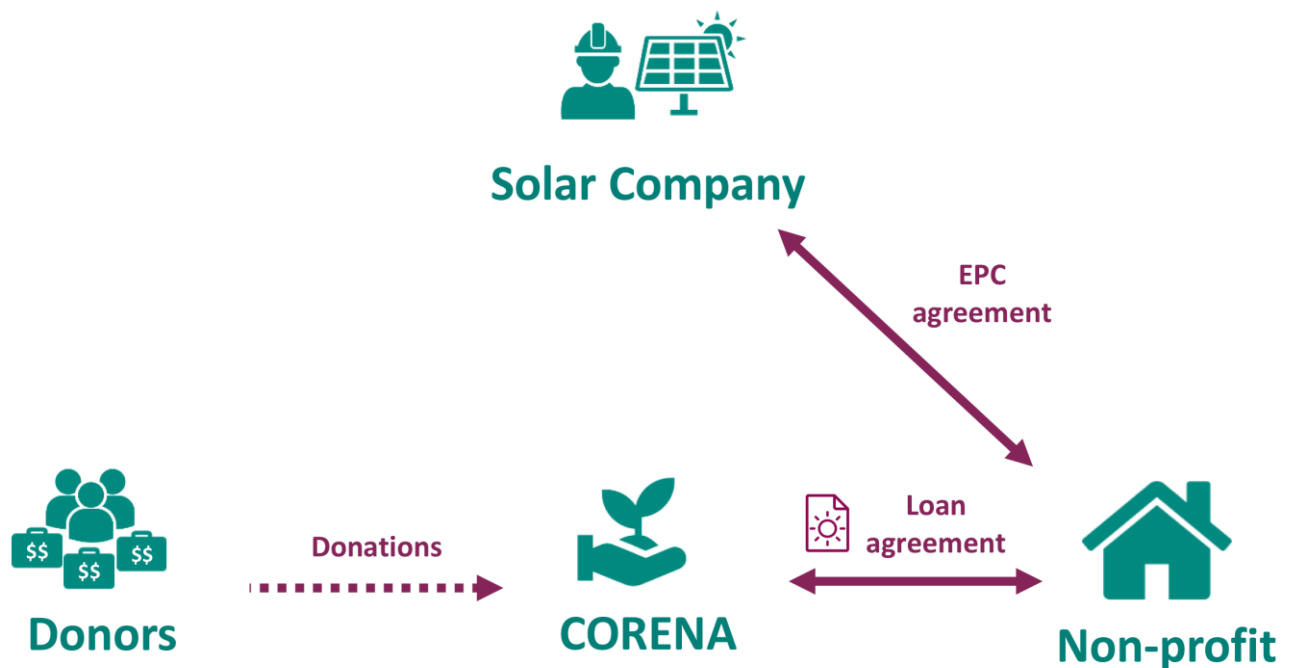


CORENA

CORENA is an incorporated association holding Deductible Gift Recipient (DGR) status for their CORENA Fund. They are the *Project Entity* in the diagram.

Tax deductible donations are collected into the fund. One fundraising supports the installation of a solar system at a single non-profit community organisation who are the *Customer*. CORENA enters into a simple Loan Agreement with the *Customer*, charging zero interest. The non-profit organisation then uses the funds to purchase the solar system from a *Solar Company*.

CORENA manages its own affairs, so there is no *Administrative Services Provider* for this model.



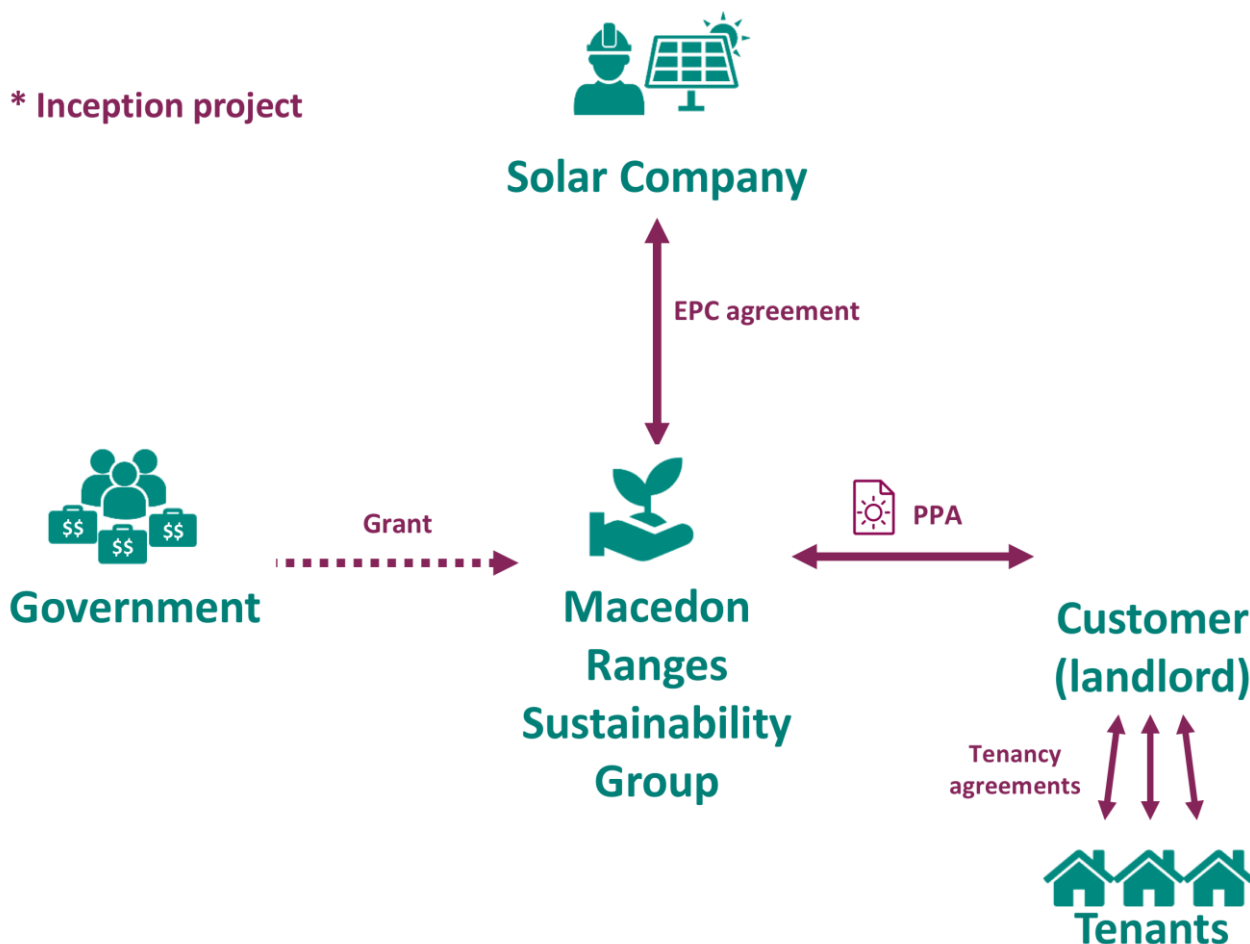
Macedon Ranges Sustainability Group

This diagram describes the Inception Project that established the Macedon Ranges Renewable Energy Fund. Subsequent projects operate in a similar manner to the CORENA model.

Macedon Ranges Sustainability Group are the *Project Entity* in this donation model. They are an incorporated association and they maintain the Macedon Ranges Renewable Energy Fund, known as MrRef.

The Victorian Government provided a grant to Macedon Ranges Sustainability Group. These funds were used to install solar and electrical metering equipment at the *Customer's* premises - an old industrial sawmill site, converted into an artist/artisan space. The *Supply Agreement* is a power purchase agreement (PPA). The sawmill is a landlord, having ten commercial tenancies and so the PPA is structured to support the sawmill landlord in charging his tenants for their share of the electricity they each consume.

Macedon Ranges Sustainability Group will own the Solar System for 25 years. They have entered into an EPC & O&M agreement with a local *Solar Company*.

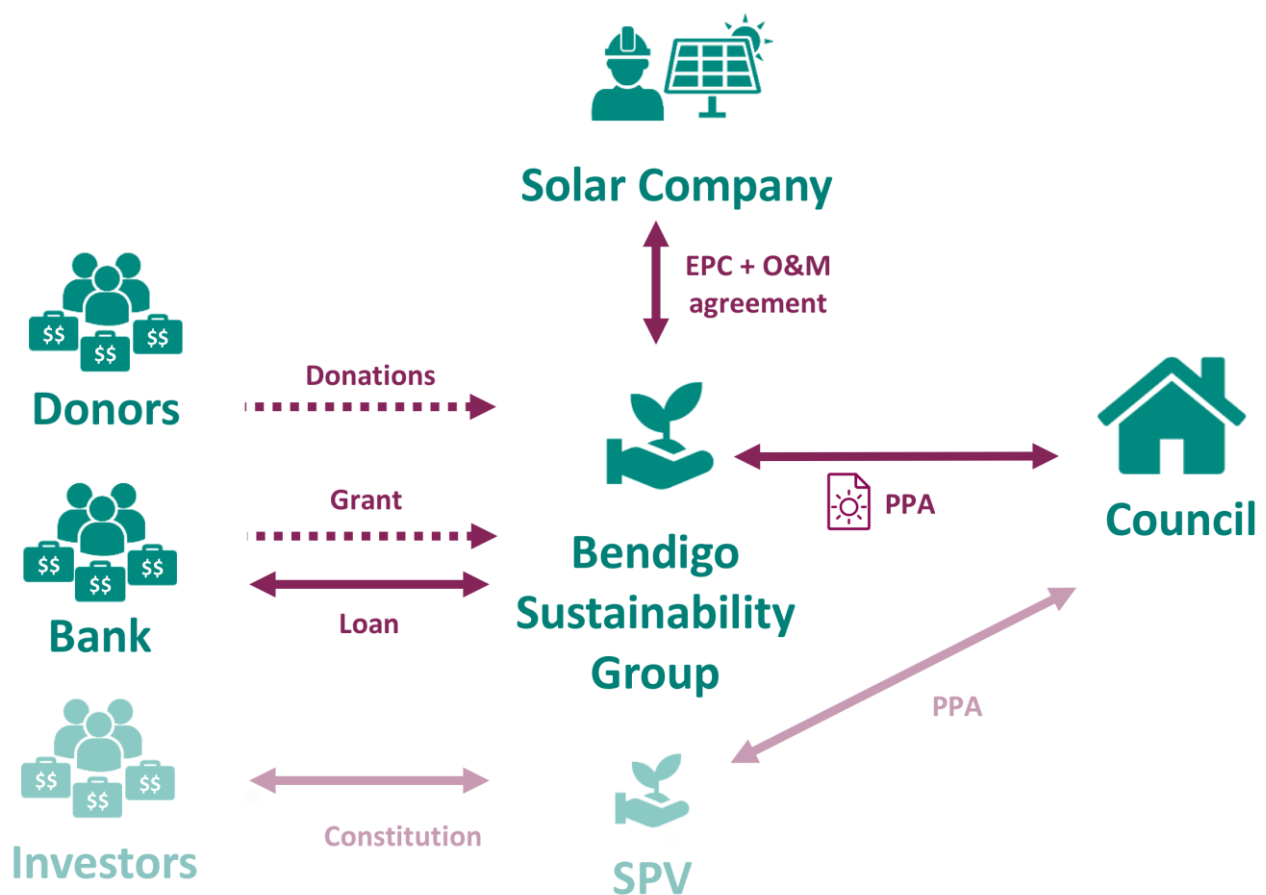


Bendigo Sustainability Group

Bendigo Sustainability Group’s multi-model approach is to select the elements from existing models to suit the particular outcomes they’re seeking to achieve with each project they complete.

Bendigo Sustainability Group are the *Project Entity* for the donation projects they have created so far. Initially, they collected donations from individual donors to create projects, such as on the roof of the Bendigo Library, one of their first *Customers*. Bendigo Sustainability Group enter into power purchase agreements (PPAs) with their *Customers*. The PPA income contributes to a renewable energy fund that is used to contribute to future projects. Later projects have used a combination of donations, recycled funds, grant funding and loans (both from a bank).

The group plans to deliver investment based projects in the future. When they do this, they’ll establish a SPV as the *Project Entity*, taking funds from *Investors*, while maintaining the PPA arrangement with their *Customer*.



How to Access Legal Agreements

The community energy sector is highly collaborative and many groups are willing to share their documents and methods with others wanting to adopt or adapt their model.

In the table on the following page we summarise the legal agreements that underpin each of the models showcased in this Guide. Not all agreements are available, for instance when the agreement is the intellectual property of a third party (e.g. Solar Company).

In addition to these agreements, there are other templates that have been developed by lawyers or groups with grant funding. Generally, these documents have not been used by community energy groups or they have been heavily modified in practice. Here are few examples:

1. The Difference Incubator developed a [small-scale community solar legal toolkit](#), which was used by Repower Shoalhaven as the basis for their agreements
2. The CLEANaS Lighthouse Project developed a [community renewable energy toolkit](#), including legal templates.
3. The [Community Solar ToolKit](#), developed by SolarShare and SERREE includes legal templates such as for a PPA and draft constitution.

Consider also if your group motivations would be better served by partnering with an existing group. Many projects are the result of such collaborations and are a quicker and easier way to achieve a solar project for your community.

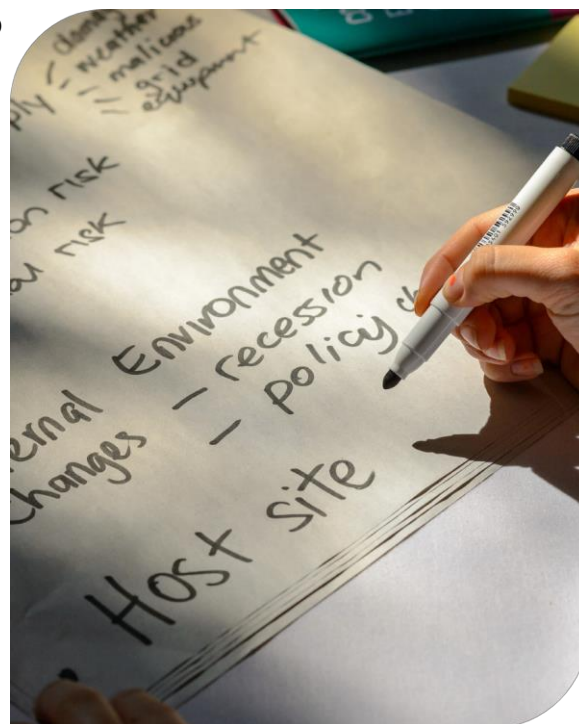
	Constitution/ Rules/Trust Deed	Investor agreement	EPC + O&M agreement	Services agreement	Supply agreement	
Repower Shoalhaven	Constitution	Plus loan note	Not available		PPA	Contact Repower Shoalhaven to discuss their fee-for-service assistance for new groups wanting copy their model
ClearSky Solar Investments	Trust Deed	Trust Deed	Not available		Not applicable	Contact ClearSky Solar Investments to obtain copies of agreements
Pingala	Rules	Not applicable	Not available		Lease	Contact Pingala to obtain copies of agreements. Co-op Rules are published on the Pingala website
Lismore Community Solarfarm	Constitution		Not available	Not applicable	Loan	Contact Starfish Initiatives to obtain copies of agreements
Sydney Renewable Power Company	Constitution			Not applicable	PPA	Contact Starfish Initiatives or Sydney Renewable Power Company to find out if agreements are available
CORENA	Not applicable	Not applicable	Not available	Not applicable	Loan	Contact CORENA to obtain copies of agreements
Macedon Ranges	Not applicable	Not applicable	Not available	Not applicable	PPA	Contact Macedon Ranges Sustainability Group to discuss if their PPA is available
Bendigo Sustainability Group	Not applicable	Not applicable	Not available	Not applicable	PPA	Contact Bendigo Sustainability Group to discuss their fee-for-service assistance for new groups wanting to copy their model

Finding a host site customer

Characteristics of a good site for behind the meter community solar

This Guide is designed to provide a community group with the preliminary information to quickly assess whether a business or organisation is potentially suitable for a community solar project. This Guide is most relevant for investment-based behind-the-meter community solar projects from 20-100kW or > 400kW on commercial premises (RePower Shoalhaven, ClearSky and SRPC models).

Below is a checklist for the **pre-screening of possible host sites**. If the site passes most of the conditions below, only then it is worthwhile approaching the possible host site to appraise their interest before conducting a full feasibility assessment.



Technical Characteristics

1. Is there space on the roof (or in adjacent land) for a solar array⁶?

Each kW of solar requires 6-10m² for flush mounted systems and 12-18m² for raise mounted systems depending on a number of factors such as the module efficiency, array configuration, roof inclination, longitude, etc.

Solar can't be installed on roof surfaces that are transparent, have vents or antennas

Solar should be ideally installed facing north, although some commercial premises may benefit from slight deviation of NE or NW.

2. Is shading an issue?

If the roof has substantial shading on the north, east, or west side of the array location, it could substantially impact the viability of the array. Take into consideration growth of nearby trees over the investment life of the project (7-25 years) and what type of development is permissible on adjacent sites under applicable Local Environment Plan (LEP) zoning and development controls.

⁶ A number of calculators can be found online for individuals and groups to help determine whether there is sufficient roof space (these vary in level of detail of inputs and outputs, whether they are commercial products or freely available).

3. Is the roof structure sound?

If the roof structure cannot support the panels, or the roof will need to be repaired over the investment life of the project (7-25 years), this may add costs, potentially making the project unviable.

Economic Characteristics

4. Is this customer likely to have sufficiently high minimum demand during daytime hours?

To be economic, solar must be offsetting onsite electricity consumption at the time of generation, year round. This is because electricity customers gain little value, if any, from exporting solar energy into the grid.

To quickly assess whether their demand may be suitable, does this site utilise any of the following electrical processes during the day?

- large heating, ventilation and cooling systems
- cool rooms and commercial refrigeration
- pumps and/or motors which are in constant use
- a large quantity of lights

The more diversity of processes in operation, the steadier the demand load will be, and hence the more suitable the building will be for community solar.

Ideally the site should operate 7 days a week 52 weeks a year. Consider if the business has downtime where the demand falls below its typical daily use, for example, weekends or holiday periods. Insufficiently high load at these times (leading to greater exports) may negatively impact the financial viability of the project.

5. Does the business pay a sufficiently high price for its electricity?

The higher the electricity price, the more economic it will be for the business to install solar.

Typically the more electricity a business uses, the lower their price and vice-versa. This means that buildings which often have sufficient demand load for a community solar power facility often have very low electricity prices, and therefore they attain less value by installing community solar. Alternatively, buildings with high electricity prices often have insufficient demand or roof space for a community solar facility.

Therefore, appropriate buildings are often medium sized businesses or organisations which fall into the 'sweet spot' of having sufficiently high electricity price and steady daytime demand.

Investment Security Characteristics

6. One of the biggest risks to a community solar project is if the host site business defaults on their payments. Therefore, the viability of the business should be taken into consideration at the outset.

Typically safe host sites include government buildings such as council facilities, or other public buildings such as police, health or education buildings.

When assessing a business, consider how established the business is and how resilient the business might be to possible risks in the medium to long term. These include sensitivity to enhanced competition, foreign exchange rates, regulatory change and trends such as the changing retail economy, or changing demographics. A more diverse income stream often means more inbuilt resilience.

To provide project and investor confidence, you may need to request financial account records from the possible host site. Depending on the business type, this information may be commercially sensitive and may not necessarily be available for release to the community group or prospective investors.

Next steps

If the host site has passed these basic pre-screening tests, you may feel ready to approach them to see whether they are interested in community solar.

It is vital to note that the experience of community energy groups to date has been that while hosting a community energy project can be an attractive financial proposition, it is unlikely to be able to 'compete' in purely financial terms with self-financed PV system installation (for businesses with access to funds to purchase the system), or commercial solar leasing (for businesses who want a no upfront cost option).

If the motivation of a business are strictly financial, there is a high risk that the community group will expend time working with the organisation, after which they decide to pursue a self-financed or commercial leasing model. As such, when contacting the organisation, it is important to quickly establish whether their motivations align with some the following characteristics.

Organisational Motivations

- To engage with local community or constituent/customer base for marketing, public relations or other benefits
- Interest in innovation, particularly with regard to technology and social enterprise
- Willingness to pay a small financial premium for the opportunity to work with the community
- Reduction of carbon emissions for social good, or marketing and public relations benefits
- Provide opportunities for members, employees and supporters of the organisation that will use the power generated to invest in their own organisation and their own local community
- Provide a renewable energy investment alternative for those wishing to divest their fossil fuel investments



- Increase the long term resilience of the organisation that will use the power by dramatically reducing electricity costs once the system has been paid off (typically 7-10 years).

Community Solar Projects Decision Guide

February 2017

The decision points in this diagram represent some of the questions and choices groups will need to answer and address in setting up a community energy project.

Being clear on these decisions, choices and associated constraints will help determine which is the most suitable model for your group.

You may find that your unique local context requires adapting an existing model, or, if your group is really dedicated, even developing and testing a new one!

KEY TO UNDERSTANDING HOW THESE MODELS HAVE BEEN DEPLOYED

Successful model with multiple projects in operation

Refinement and streamlining of an existing model. Model has already been piloted through a now operating project

Model is being tested through a pilot project

Hypothetical model - not operating.

No viable models currently known about or operating

