# Resilient Hills and Coasts Community Energy Program Final Report

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# 1 Executive summary

Cost of living pressures, especially rising energy prices, are impacting heavily on Resilient Hills and Coasts (RH&C) communities. Residents have demonstrated they want to be part of the energy future - taking up solar in record numbers. The 37% of households and businesses who have solar are already reducing the energy bill of the region by $50m per year.

The six Councils in the RH&C region have the opportunity to play a key role in shaping the region's future energy system. Waiting for state/federal governments and the energy sector to deliver the best outcomes for local residents and businesses has not worked.

Communities and councils around Australia are showing local leadership and taking energy matters into their own hands. They are building community resilience, tackling climate change, producing local economic benefits and shaping energy solutions to suit the needs of their communities.

In order to deliver on both Council and community priorities this report recommends the establishment of a Community Energy Foundation; an organisation which is community-led but supported (and in the early years partly resourced) by RH&C Councils to ensure successful outcomes are achieved.

The Foundation would lead the necessary change by:

1. Leveraging the collective buying power of the region to broker a competitive electricity deal for local consumers via a partnership with a community-oriented energy retailer; and
2. Delivering an ongoing program of community energy activities that seek to address cost of living concerns for local electricity consumers and accelerate local uptake of renewable energy.

## 1.1 Rationale for a community energy program

A community energy program can: ***aggregate*** energy needs of multiple customers to unlock a better deal for consumers; ***supply*** cheaper, locally produced renewable energy; and help customers to ***demand*** energy in the cheapest and most-efficient ways.

The region spends $150m per year on electricity and a further $200m on transport fuels. Energy security reports have already identified that renewable resources could power the whole region and provide confidence in long term energy security.

> *Renewable energy should be affordable for everyone, not just the wealthy.*
> ***Community Survey Respondent***

We suggest Councils reflect on the following four questions:

- To what extent can ratepayers' energy bills be reduced?
- How much of this expenditure can be captured locally to improve the region's economy?
- What is the value of other outcomes? – e.g. improved energy reliability, meeting climate change targets, community connection and resilience.
- Who should fund a community energy program?

The answer to these questions depends on the scale and ambition of the program. Studies on electricity retailer performance, energy efficiency opportunities and the falling costs of renewable energy suggest cost savings of up to 20% are achievable for those participating in the program.

Influencing only one tenth of the regional electricity spend to achieve this 20% cost saving would represent ***a potential benefit to the region of up to $3m per year***.

Much of the investment to realise savings will be spent on local labour, skills and dividends if the program is designed to place a priority on local outcomes.

Achieving these outcomes will also depend on building relationships - empowering communities, working with suppliers who can provide local capacity building and community benefits and partnering with other governments and the energy sector to support and fund local activities.

## 1.2 Results

This report has been commissioned to identify how the region could implement an effective community energy program. The brief anticipated that the program should be inclusive, staged to grow over time with a business model that could become self-funding and help to deliver communities that are more resilient and climate-ready.

The report brings evidence from the community energy sector on successful business models, some based on commercial returns, some that attract government funding and some that leverage community resources and determination to drive for better local outcomes.

The project team ran three stakeholder workshops, collected survey results from 380 community participants and conducted 11 interviews with electricity retailers, community energy groups and local community leaders.

The results of this engagement process show strong support for a community energy program from both the community and amongst councillors. The top priorities, with over 90% support, were delivering local renewable generation and solar-battery systems. Equal numbers in the community nominate energy bills and environmental impact as their top energy concern.

In our workshops, council stakeholders indicated a preference for a program at arms-length from councils. In our key informant interviews community leaders emphasised that councils need to make a robust commitment in order to ensure the program is successful. Our recommendations attempt to balance the project requirements while minimising risk exposure of the Councils.

## 1.3 Program Recommendations

Having consulted widely to identify council and community priorities, we recommend the program is structured around a Community Energy Foundation to be established as a community-led, council supported organisation.

For the model to be successful, Councils must facilitate and provide initial resourcing and funding.

The early priority of the Foundation should be to establish a Community Retail Offer by partnering with an electricity retailer that can best deliver community benefits.

Early engagement with potential customers, suppliers and funders is the other major priority of the Foundation and can be used to help shape future program delivery.

Work on the Foundation and the plans for engagement with customers and partners could be progressed by the Councils over the next six months. Once a collective level of ambition has been established by the Councils, an interim committee of community leaders should be established to help prepare for the transition to community ownership of the Foundation.

Our detailed recommendations are provided in Section 8.

# 2 Background

## 2.1 About the Project

Resilient Hills and Coasts (RH&C) is a collaborative project formed to develop a regional climate change Adaptation Plan for the Adelaide Hills, Fleurieu Peninsula and Kangaroo Island region of South Australia. This includes the council areas administered by Adelaide Hills Council, Alexandrina Council, City of Victor Harbor, District Council of Mount Barker, District Council of Yankalilla and Kangaroo Island Council.

RH&C aims to strengthen the resilience of the region's communities, economies, natural and built environments to respond and adapt to the changing climate.

Delivering a community energy program aligns with many of the strategic objectives and priority adaptation options identified in the RH&C Regional Adaptation Plan, including promoting and facilitating the advancement of climate-ready homes and buildings. Additionally, the program provides an opportunity for community engagement around climate change adaptation and mitigation. The community energy program reflects the region's commitments to sustaining economic activity, mitigating and adapting to the effects of climate change, and to enhancing the health and social welfare of its communities and in particular, supporting vulnerable members of the community.

In September 2017, with support from the Board of the Southern & Hills Local Government Association, the City of Victor Harbor issued a call for Proposals from the market, on behalf of RH&C partner Councils, for the design and delivery of a regional community energy program.

Moreland Energy Foundation Limited (MEFL) and Tandem Energy were appointed to develop the program design and governance structure for a regional community energy program on the basis of bids to the EOI process and subsequent interviews.

MEFL has 18 years' experience in delivering energy services to its Council and community. Established originally from the proceeds of privatisation of electricity assets, the Foundation has been charged with delivering community benefits from the outset. MEFL has grown as it expands to serve multiple councils and communities. Its main product is its energy advisory services, helping homes and businesses in their purchasing choices. MEFL has been well positioned to design and deliver specific programs and campaigns for partners like Sustainability Victoria and sectors such as low-income households.

Tandem Energy are a South Australian energy consultancy with strong links to the community energy sector nationally and a record of advocacy for support to develop community energy projects within South Australia. The model proposed by Tandem Energy in its EOI was considered worthy of further consideration. It asserted that a community electricity retailer and a MEFL style organisation were the two foundations for a community energy program that could grow and sustain itself over time, while delivering benefits to the region.

It was clear from the original proposals from MEFL and Tandem that genuine costs and governance detail could not be provided until the region's stakeholders provided insight into the relevant priorities and objectives of a community energy program.

This report reflects that next stage of work and combines the results of further research with the insights and advice from stakeholders, especially elected members, council staff and informed members of the community.

The project team ran three workshops with elected members, staff and key advisors from each Council. A community survey was shared widely and completed by 380 people from across the region to identify the knowledge, attitudes and behaviours of residents. Key informant interviews were conducted with 11 community leaders, 4 electricity retailers and 3 community energy organisers. The process has been well supported by the RH&C steering committee and project managers, allowing key staff in each council to become more familiar with the challenges and opportunities faced. Further details on the methodology and approach to this project can be found in Appendix A - Project Methodology.

## 2.2 Project rationale

Section 3 of this report provides the evidence base in support of a community energy program. The region has long been concerned about local energy security, the increasing cost of energy and impact on cost of living pressures, and South Australia as a whole has been actively grappling with the changes in our energy system as it is increasingly powered by decentralised renewable energy sources. The reasons for pursuing a community energy program can be summarised as follows:

**Fulfilling Council responsibilities**
All Councils in the region are committed to tackling climate change and this project stems from the region's climate adaptation plan. Councils are responsible for the management of open space, community facilities and streetlights. The collective energy bill for RH&C Councils is approximately $2.4m per year. Council buildings can be seen as assets within a community energy program, providing rooftop space and generation or storage capacity. Likewise, councils are responsible for waste, and use of the waste resource and assets overlaps with the energy sector. Councils' role in the planning sector may be one of its most important responsibilities. New businesses, homes and real estate developments work with councils and energy providers to obtain appropriate approvals and to gain access to energy supply. Development decisions have long term impacts for energy costs, resilience and suitability of investment.

Despite multiple responsibilities for energy related decisions, councils often lack the expertise to engage effectively with a rapidly changing energy sector.

A community energy program can increase the capacity within councils and also provide them with access to independent expert advice.

**Supporting the community**
Collectively, the region spends around $150m on electricity each year, with much of this revenue leaving our communities. Without rooftop solar, which is used by over a third of the region's households, this bill would be $200m. Rising energy costs are also increasingly impacting economic activity and were highlighted as a key constraint to growing local businesses in the 2017 Victor Harbor Business Survey[1]. Consumer confidence and satisfaction in energy retailers is at an all-time low, with a recent report by the Australian Energy Market Commission[2] indicating that trust in the energy sector has dropped from 50% in 2017 to 39% in 2018. Energy security and climate change are also key concerns of residents with strong support for a cleaner, more reliable system.

A community energy program can provide support through energy education and help homes and businesses reduce energy expenditure. It can also work closely with SA Power Networks to improve electricity reliability. A community retailer can improve the financial viability of local renewable energy projects.

[1] https://www.victor.sa.gov.au/businesssurvey
[2] AEMC, 2018 Retail Energy Competition Review, Final Report

**An economic dividend to the region**
Any investment in local energy generation and energy efficiency diverts some expenditure into the region.

For example, the solar value of $50m per year may represent a capital expenditure of $300m that the region has already made. 20-50% of that expenditure would go to installers which can mean local jobs when the providers are sourced locally. Many energy efficiency initiatives, such as installing insulation, are labour intensive and can generate 10x more jobs than solar investments (where investment is dominated by the cost of the solar panel). Other generation projects that use local renewable resources can be capital intensive, although resources like waste and biomass involve jobs in the collection and preparation of the resource. Offering the investment opportunity in local projects to local investors can be an attractive way to keep project revenue in the region's economy.

A significant investment from the region is made to electricity distribution infrastructure and this report outlines ways that the electricity market is changing, allowing more capacity to be delivered locally and reducing expenditure on the traditional grid. These investments may localise some of the $70m currently flowing to SA Power Networks and Electranet.

The proposal for a local electricity retailer, recognises that retailing is dominated by sales, marketing and customer support. While backend services like billing systems, market contracts and risk hedging may remain better served by interstate providers, the customer contacts can easily be managed by local staff and therefore support additional jobs in the region.

Economic development is not only about the "import-replacement" concepts proposed above. Skills and innovation are widely recognised as foundations that allow an economy to grow. In a rapidly changing energy landscape, increasing the skill level of all professions that impact on household and business energy decisions can help the region directly and improve individual employability. Two attractive models for innovation revolve around the willingness to try new things and learn, and the enriched learning that occurs through collaboration. The state government continues to promote innovative projects, often with lead customers and clustering[3] as methods for supporting economic development at a state-wide level.

A community energy program can ensure that some electricity revenue remains within the region and could increase skills levels and the scale of innovative projects delivered across the region.

**Capacity building for the long term**
Adapting to the future is a challenge for all households and businesses across the region. The ambition for a resilient region highlights the need for communities to be able to respond to challenges. It is well known that climate change creates challenges. The rapid transition in energy systems and price rises relate to both technology development and the global effort to tackle climate change, which are driving change across the sector.

The community energy program can support the region at a local community level. This can create resilience that comes with stronger community connection and also provide confidence in successfully meeting challenges together.

## 2.3 Project objectives

The ideal community energy program is equitable, can grow through a staged approach, can be sustainably funded over time, and helps the region and its residents to become climate-ready.

[3] See for example, https://invest.sa.gov.au/wp-content/uploads/2017/02/Future_industries_and_advanced_manufacturing.pdf

The region deserves access to energy that is affordable, reliable, good for the local economy and good for the environment. This project explores how community energy could place downwards pressure on energy prices for residential and commercial customers whilst facilitating the uptake of renewable energy.

This project aims to design a Community Energy Program to;

- reduce cost of living pressures for local residents and businesses,
- localise the benefits of energy supply by keeping money in the region,
- help transition the community toward a clean energy future,
- identify the region as a region of choice for climate-ready development and investment.

A key part of the program design is to understand how local governments and the community can work together to achieve these objectives.

## 2.4 Purpose of this report

This report summarises the key project elements (background research, engagement and analysis) and provides the key recommendations for the design and governance of the RH&C Community Energy Program. The report is supplemented by a Public Resource Folder the team has developed to ensure all of the research and valuable information collected during this phase of the program can be utilised by the relevant parties.

There are three audiences for this report:

**1. The Resilient Hills and Coasts (RH&C) steering committee** has commissioned the report. It has been considering the role of a community energy program for some time. It already understands that Councils can successfully run or contract out programs like a solar/battery bulk buy program. The past success of these programs serves as a benchmark for the community energy program proposal. Past bulk buys saved the community money on energy bills, generated local economic activity in supply and installation of solar panels and demonstrated leadership in the uptake of clean energy. The report seeks to demonstrate that a community energy program can achieve a longer-term impact. It also recommends the steps that must be taken to establish a durable community energy program in order to maximise the chances of achieving the desired impact.

**2. The Councils** in the RH&C region will ultimately decide on the desired level of ambition for the community energy program and the role of Councils within that program. Most elected members are relatively new to thinking about energy issues and Council elections in November 2018 mean that there will be many new councillors involved in decision making for the next four-year term of council. The report therefore seeks to establish the case for a community energy program, on the basis of existing Council responsibilities and commitments, community concerns and challenges, and on the opportunities presented by the clean energy transition and the business case for action.

**3. Community Leadership** sits at the heart of our recommendations. The core group of citizens works with the Councils to drive the community energy program, will be key to its success. The report seeks to provide this group with the background research, insights and examples that will allow it to hit the ground running and build effectively on the work undertaken to date.

# 3 Research and results

## 3.1 Rapidly changing energy systems

Our energy systems are changing rapidly in response to climate change targets and an unprecedented fall in the cost of renewable energy technology. In 2011, the region was concerned about energy security and focused on ensuring sufficient energy infrastructure was built to accommodate growth. In a few short years, solar uptake went from 'early adopter' status to mainstream and the challenges across the electricity network changed overnight. New discussions about battery technology suggest it will follow the same pathway, and many commentators think electric vehicle uptake will happen fast to soak up an abundance of cheap renewable energy.

SA Power Networks (SAPN)[4] is planning for a future with smart systems that better support energy loads, storage, generation and new technology. To do so, the business sector recognises that it needs to better understand community needs. Energy Networks Australia[5] has modelled the benefits of using distributed energy and demonstrated it as the lower cost pathway for households, 30% cheaper than a business-as-usual approach. Most recently, the Australian Energy Market Operator (AEMO)[6] is consulting on the management of the electricity grid to economically optimise demand and supply.

However, the current system is still designed around the older centralised electricity model. AEMO highlights that customers will suffer if the system does not act to coordinate the distributed renewable resources. It cites voltage issues, constraints on customers which will limit their ability to recoup on investments such as solar or batteries, and expensive investments by SAPN as some of the issues that could undermine the potential for a cheaper system.

The convergence of electricity markets with gas and transport fuels also cannot be underestimated. A recent report by the Alternative Technology Association[7] demonstrates that an all-electric home can be a cost-effective choice, with solar electricity and high efficiency heat pump (air-conditioning) based electric heating becoming cheaper than gas.

There is a clear gap at the moment between 'what could be' and 'what is'. The energy market players are not incentivised to unlock the community benefits in the 'what could be' equation and this is a major argument for councils and communities to pay attention and consider becoming more heavily involved.

## 3.2 Consumer confidence

According to latest consumer research from the Australian Electricity Market Commission (AEMC)[8], in South Australia residential customer bills have increased by 19% and small business bills by 24% over the past year.

Consumer confidence is at an all-time low with less than 24% of South Australians believing their retailer has their best interests at heart. Less than 38% of consumers are satisfied with the value for

[4] https://www.sapowernetworks.com.au/centric/corporate/about_sa_power_networks/future_operating_model.jsp
[5] https://www.energynetworks.com.au/electricity-network-transformation-roadmap
[6] https://www.aemo.com.au/-/media/Files/Electricity/NEM/DER/2018/OEN-Final.pdf
[7] http://www.ata.org.au/wp-content/projects/Household_fuel_choice_in_the_NEM.pdf
[8] https://2018.aemc.gov.au/competition-review/

money from electricity. While the number of customers on hardship programs fell, SA still has almost 16,000 customers on hardship programs - the highest level in Australia.

Savings available to South Australian households from switching away from the median standing offer to the cheapest market offer have almost doubled from $426 to $832 over the past year. Only 20% of consumers are switching retailers in any given year.

## 3.3 Energy and economy

Access to energy resources and energy infrastructure has always been a significant factor in the development of a regional economy. Businesses locate and expand when they have access to sufficient energy at acceptable prices. Population growth and new housing relies on access to energy.

Creating capacity for regional growth from existing assets should be one of the aims of a community energy program.

Electricity used in the region is worth around $200m per year. The cost stack (Figure 1) shows approximately what that expenditure is buying and the incredible value that rooftop solar is delivering to householders and business, clearly demonstrating the positive attitude the community already has towards renewable energy. Energy efficiency can also deliver value directly to the end consumer and improve the circumstances of vulnerable consumers. Australia has not been ambitious in this regard and compares poorly with other countries.

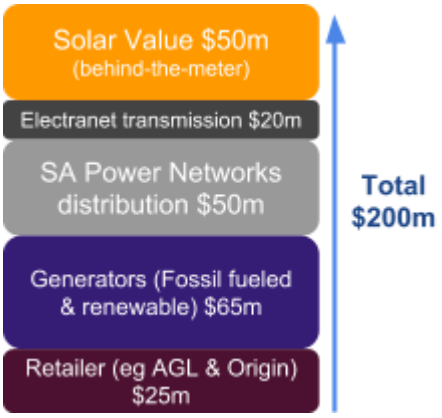


**Figure 1 – Cost stack showing approximate energy expenditure in the region**

The energy market in Australia is complex due to the significant number of interested parties. These include:

- Energy retailers
- Distribution network provider (SA Power Networks)
- State government
- Federal government
  Regulatory bodies (Australian Energy Regulator (AER), Australian Energy Market Commission (AEMC), Australian Energy Market Operator (AEMO)and local regulator, ESCOSA (Essential Services Commission of SA)
- Councils
- Commercial providers, small businesses and trades

For further discussion on the role each of these entities play in the energy market, see Appendix C – Research and results detail.

## 3.4 Brief demographic overview[9]

**Population**

The population of the Hills and Coasts region is 125,054. Approximately 22% of the population is over 65, which is higher than the state average of 18%. Alexandrina, Victor Harbor and Yankalilla have the highest proportion of retirees (over 27% of the population) and a lower proportion of

[9] All regional data has been taken from the Australian Bureau of Statistics Census 2016. Refer to the RH&C Public Resource Folder for the full data set sorted by topic and region.

working age population. This age profile is generally most suited to solar PV and energy efficiency upgrades as they are more likely to be home during the day and often looking to invest in their homes to reduce their living costs.

**Housing**

The majority of people in the region either own their home (37%) or have a mortgage (37%) in 60,000 homes across the region. The dominant housing type is separate house with over 90% of the region characterised by this housing type. Household income for the region is relatively evenly spread across the four income brackets, with approximately one quarter in each. These housing characteristics are preferable for a community energy program as households are in a good position to invest in their home.

Electricity and LPG are the main sources of energy for the region, with only a limited number of properties using natural gas via the Adelaide-Murray Bridge pipeline and homes also accessing wood for heating.

## 3.5 Energy usage

### Energy expenditure

The region's energy expenditure as illustrated in Figure 2, has been calculated based on ABS data[10] combined with additional energy price information. This method is intended to be indicative only. Transport and gas usage from the household sector have been included to highlight the longer-term potential for transitioning these uses to renewable electricity. Regional energy costs; Household electricity $100m, Business $50m, (Solar value $50m), and Transport fuel $200m.

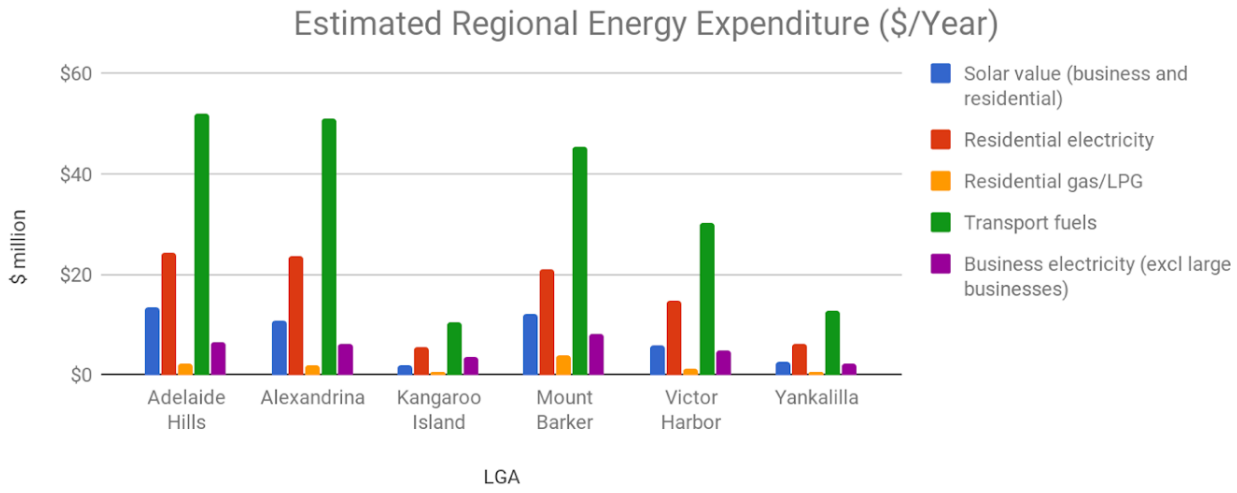


**Figure 2 - Estimated energy expenditure for households, businesses and transport across the region (ABS 2012)**

[10] ABS, Household Energy Consumption Survey, 2012

Table 1 - Energy consumption summary within the region

| Type of usage | Numbers | Typical energy consumers | Other fuels |
|---|---|---|---|
| Households and other accommodation | 60,000 homes plus holiday homes, hotels, care facilities | Lighting, heating, cooling, refrigeration, hot water, appliances | Gas/LPG, wood, and transport fuels |
| Building-based businesses | Over 1,130 office buildings and 750 shops | Lighting, heating, cooling, IT equipment | Transport fuels |
| Industrial uses | At least 400 industrial premises | Pumping compressed air, industrial processing, chilling and heating | Gas/LPG and diesel |

## 3.6 Energy assets

Renewable electricity in the region is generated mostly through rooftop solar systems and the Starfish Hill wind farm (34.5MW). There are almost 23,000 solar PV installations across the region, with a combined peak capacity of 88MW. **Error! Reference source not found.**3 illustrates how this is distributed across the region. Solar PV is estimated to reduce regional energy costs by $50 million annually.

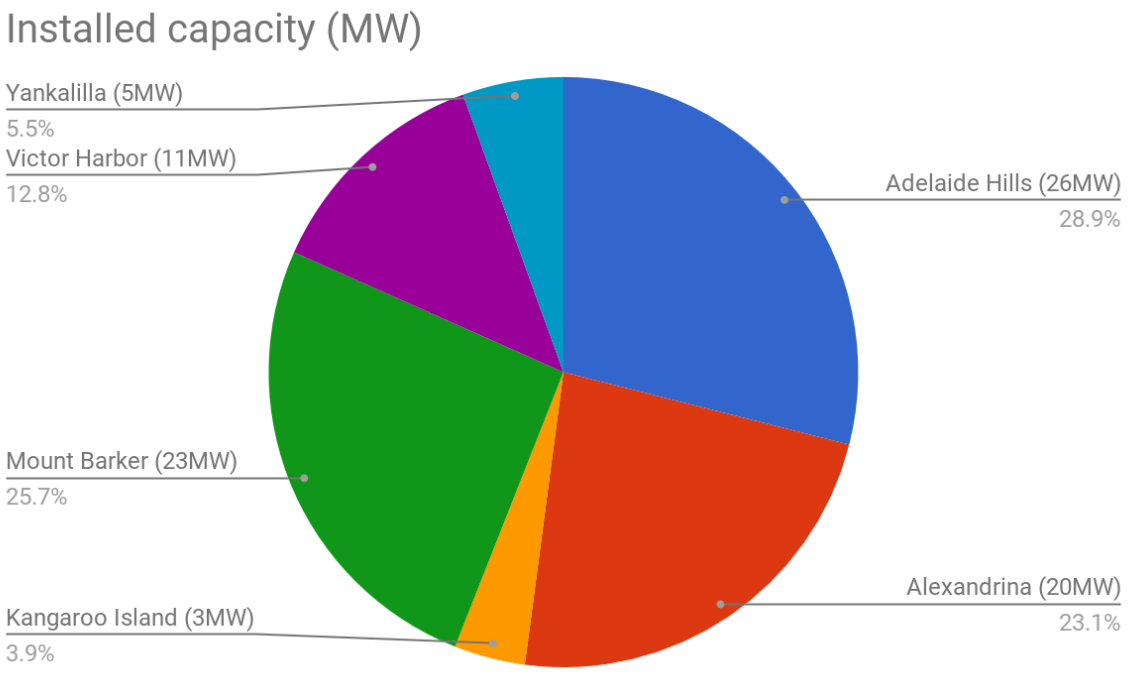


Figure 3 - Total installed capacity of solar PV by local government area in the region (APVI, 2018)

Over three quarters of the region's solar capacity comes from household installations, which are under 10kW. The region has a high uptake of solar PV; in all areas except Kangaroo Island, as over 35% of dwellings have solar PV installed (**Error! Reference source not found.**4). This is well above the state average of 31.6% of dwellings. South Australia has the second highest percentage of dwellings with solar PV installed in Australia, behind Queensland.

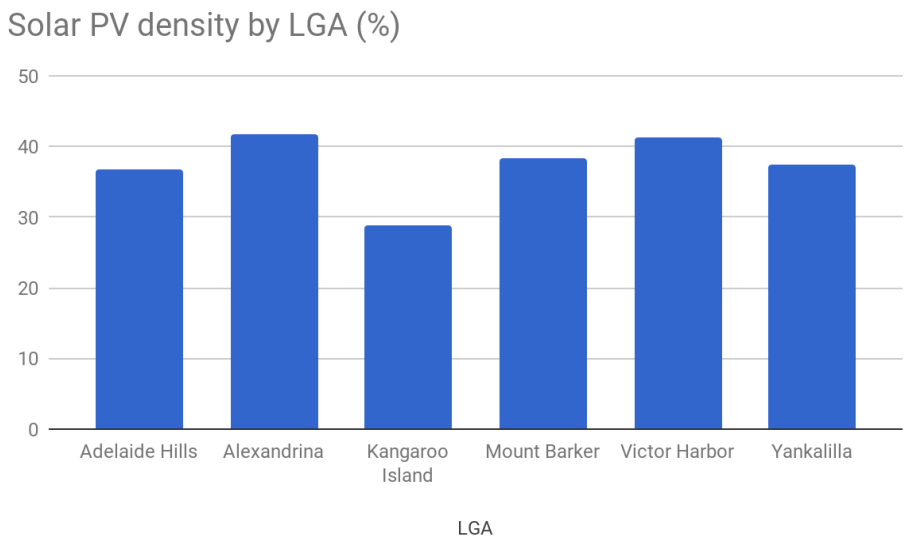


**Figure 4 - Density of households with solar PV installed by local government area in the region (APVI, 2018)**

The region has ample renewable energy resources and a community that is willing to engage with the changing energy system as demonstrated by the rates of solar PV uptake.

The region has assessed its renewable energy resources through a number of studies looking at energy security:

- Local Energy Security Study for the SA Murray-Darling Basin Community (2011)
- Demand Side Opportunities in the Fleurieu Region (2012)
- Energy Security Strategy for Adelaide Hills Council (2012)
- Toward 100% Renewable Energy for Kangaroo Island (2016)

Some of the reports also focus on the importance of energy efficiency and demand management.

The findings of these studies are discussed further in C– Research and Results detail. In addition to the standard renewable energy resources of solar and wind, the region is also rich in biomass and commercial waste which can both be a reliable source of energy. Waste and its overlap with community energy is discussed further in Appendix C – Research and Results detail.

## 3.7 Community energy opportunities

In simple terms, community energy is a group of people coming together to generate, own, manage, or reduce consumption of energy. Every community energy initiative is different and developed for different reasons, from tackling climate change to generating local jobs.

Community energy is relatively new to Australia. There are now over 100 community energy groups in Australia, with over 70 projects, and local governments are increasingly getting involved.

The opportunities for the region can be categorised by the aspect of the electricity market they affect/respond to.

Aggregation refers to the pooling of resources, skills or electricity demand to obtain better outcomes than participants could achieve when acting along. Opportunities include solar and battery (and other technology) bulk buys, a community-based electricity retailer, and electricity broking services.

Supply-side opportunities are intended to increase or enhance the electricity available to the region, including by developing local renewable generation (e.g. wind, solar, biomass etc.), collaborating with developers (e.g. to build microgrids) and building energy security for emergency and other key community facilities.

Demand-side opportunities intend to reduce the amount of electricity required by the region. This can happen through energy efficiency education, advice and services for homes and businesses, home improvement and advisory services.

## 3.8 What are other councils and communities doing?

Most councils around Australia are attuned to community concerns about energy and climate. The Climate Council launched its Cities Power Partnership[11] last year to promote the leadership being shown by local governments and to provide resources and support for those who do.

The Zero Carbon Communities Guide[12] by Beyond Zero Emissions highlights examples of councils and communities working together around Australia.

Appendix D – Potential energy activities describes these activities in more detail and provides examples from around Australia, including council support.

[11] http://citiespowerpartnership.org.au/
[12] http://bze.org.au/zero-carbon-communities-guide/

# 4 Summary of program model

## 4.1 Program design considerations

As described in the report introduction, this project aims to design a Community Energy Program to;

- reduce cost of living pressures for local residents and businesses,
- localise the benefits of energy supply by keeping money in the region,
- help transition the community toward a clean energy future,
- identify the region as a region of choice for climate-ready development and investment.

The energy market in Australia and globally is complex and changing rapidly through a variety of pressures. This means that there are many diverse opportunities to meet these objectives in the region.

Our program model recognises that without infinite resources to explore every opportunity, the model needs to provide a mechanism to filter through the available opportunities and encourage those that will unlock maximum benefit for local communities.

> *I think we should all be encouraged towards conservative energy use. Even if all our energy supply was renewable it is still a greater cost in resources to build greater capacity.*
> ***Community Survey Respondent***

Price and affordability of electricity has been consistently identified by Council staff, Elected Members and community as a priority, however this can be challenging to influence. The program model recommended in this report aims to reduce the region's total spend on energy, rather than a sole focus on reducing individual electricity tariff rates. This can be achieved by reducing the consumption of energy, for example by driving behaviour change such as using solar more wisely, and also by introducing innovative mechanisms through a friendly retailer to assist in potentially reducing electricity tariffs and improving affordability.

This project has been commissioned by local government organisations rather than evolving through grassroots community interest and so by necessity involves a top-down approach to activating local communities and enabling community energy projects. The region has a limited capability to fund this program and so project design also incorporates community input through volunteers as well as identifying potential partnerships and funding that can assist with implementation and operation.

## 4.2 Development of model

Figure 5 below is adapted from the RH&C Community Energy Program preliminary publication (referenced in background documents in Appendix I – Public Resource Folder), which was used to capture RH&C's intent for the program prior to engaging MEFL and Tandem. The diagram was based on MEFL and Tandem's original proposals, and this project was designed to test the knowledge and assumptions behind those proposals.

Both MEFL and Tandem have significant experience in the community energy sector and both recommended that the community energy program deliver a range of activities across the region in

order to best serve community needs and also exploit renewable energy opportunities. At the heart of the model sits a group, "Hills and Coasts Community Energy Board" that can raise funds and deliver community energy activities. A community-oriented retailer is included in the model because it can deliver benefits arising from aggregation of local electricity demand and capture revenue that delivers energy programs and services for the region. A strong relationship between the retailer and the community also helps with the viability of community energy generation projects

In-depth research, interviews, survey and workshops were used, and provided detail for structuring the model so that it will be successful (see Appendix A - Project methodology).

*If the councils invest in large solar or wind, they could help subsidise batteries for home owners … which would further stabilise our supply and help reduce prices.*
***Community Survey Respondent***

The research team considered the needs of councils to support equitable program delivery, and to provide a good return for the community. Councils also indicated a preference for the program to be operated at arm's length and to become self-funding over time. The research team also considered feedback from community leaders that strong support from councils is needed for success and the expectation from the community survey that councils show leadership in developing local energy opportunities.

As a result, we have recommended that the 'Hills & Coasts Community Energy Board' take the form of a 'Foundation' with a Board sitting at the helm of this organisation. Section 6 details the rationale for a Foundation and further recommendations on the steps to be taken to create it.

The community energy retailer can most easily be achieved by establishing a retail partnership with an existing market participant. The recommendations on how to proceed with the retail partnership, including exploring local ownership and control over time are made in Section 7.

The goal to reduce cost of living pressures for local residents and businesses is recognised as a regional priority. The best source of savings is through support to consumers to reduce energy use and choose cheaper products. The balance between using any surplus to grow the Foundation vs creating immediate benefits in the region will be a continuous challenge and is best made by the ongoing decisions of the Board.

The initial model outlined distinct Phases - 1, 2 and 3, however it is recommended to be more integrated rather than delivering separate phases. The Foundation should be established first and, dependent on level of resourcing, would conduct energy activities aimed at improving demand and supply, while also working towards the engagement of the community energy retail partner. Section 6 discusses the community energy activities in detail.

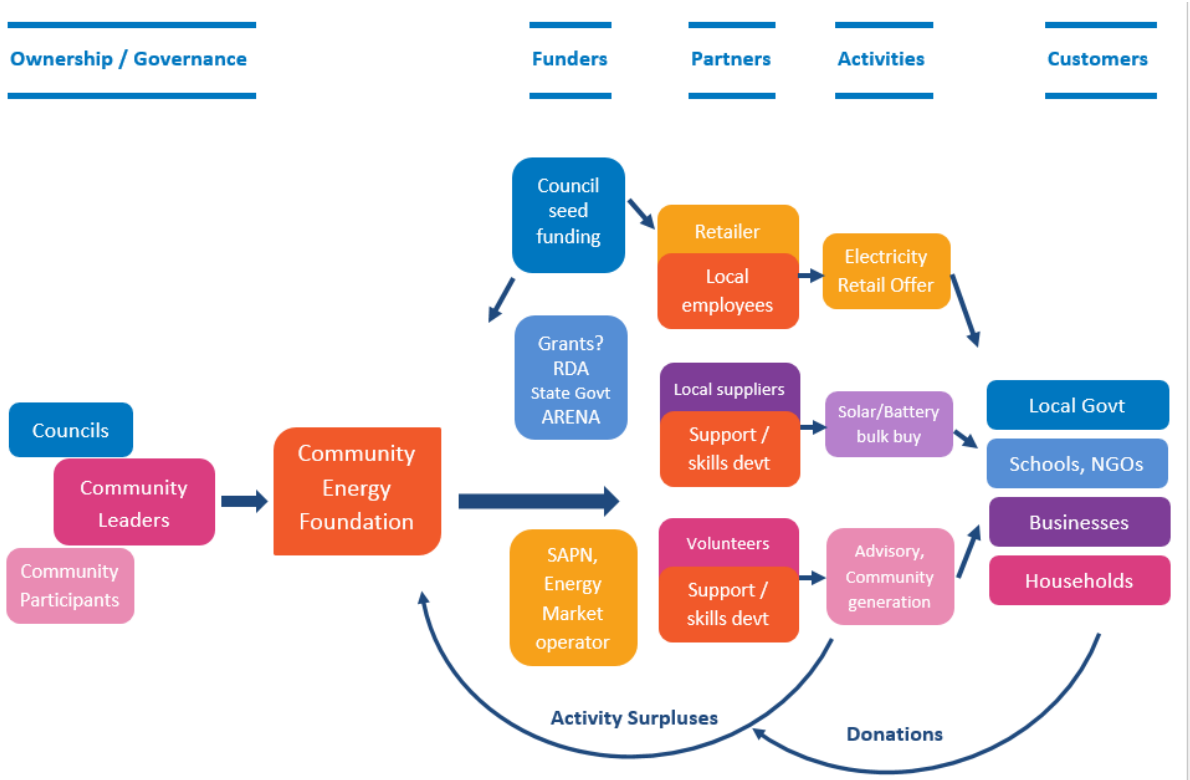


**Figure 5 - Community energy program model**

## 4.3 Role of the Councils in this model

**The Councils to facilitate but not become an energy retailer**

- The intent of setting up a Foundation with the remit and resources to engage experts as required is to reduce the risk exposure to councils. Councils would provide financial and in-kind support in a variety of ways but would not become an energy retailer, build a solar or wind farm, or directly participate in the energy market. In fact, it is unlikely that the Foundation would do so either, instead strategic partnerships with organisations able to deliver desired outcomes would be developed.

**The Councils to support but not own the model**

- The best chance of success for this program is to be funded by the Councils both in start-up phase and an ongoing basis over the medium term, however this does not require the Councils to own the process. Instead, individuals (Elected Members or staff) may choose to nominate for the Foundation's board and assist in ownership that way, while the Councils should play a leadership role over a number of years whilst transitioning to a community-owned approach.

**Councils to provide and source resourcing and funding for the model to be successful**

- Regardless of the time and effort invested into developing a robust community energy model with appropriate governance, if the implementation and ongoing operation is not adequately resourced then there is very little likelihood that the desired outcomes will be achieved. The Councils and RH&C can demonstrate this commitment in a number of ways, including;

- Determining the level of ambition from the councils.
  This is required to set KPIs for the Foundation as well as determining the likelihood of securing financial support and other resources from the Councils.
- Supporting the board and energy activities.
  This can include in-kind support such as marketing/web design, room hire/office space and promotion through social media channels.
- Government lobbying.
  Through their unique positions, Councils and RH&C are able to support the board and community retailer by opening and facilitating discussion with state and federal governments around key energy policy and regulations.
- Energy procurement.
  A community retailer will have the best chance to thrive if a strong baseload of demand is obtained early and easily. This can happen if the Councils choose the community retailer to provide their energy supply, and encourage community groups and others to do the same.
- Planned energy efficiency expenditure.
  Planned council expenditure on energy efficiency activities at their own sites, e.g. energy audits, lighting upgrades, staff education, could be managed through the Foundation. This would ensure money stays in the region and help build expertise within the Foundation while council objectives continue to be met. A multi-year commitment by the Councils to an internal energy efficiency program would bring certainty and revenue to the Foundation in the traditionally lower income early years.
- Direct resourcing.
  This is an essential component of the model, and will vary dependent on the Councils' level of ambition. It goes without saying that the more resources that are put into a correctly constituted organisation, the more success can be expected. Potential resourcing required for each component is outlined in detail in the following chapters, with consideration of the outcomes from MEFL and comparable organisations around Australia. Any investment in the program over $120,000 will greatly enhance both the community engagement able to be achieved, and the projects able to be delivered, while funding under this threshold will mean the program will take much longer to achieve any significant outcomes. Investments could be sourced directly from Councils' budgets or via leveraging grant opportunities, or a combination of the two.

## 4.4 Risk assessment

This model has been developed specifically to reduce the Councils' risk exposure while creating change in the community. Messaging from the workshops and interviews was clear that while participants were strongly supportive of the community energy retailer concept, they felt it was not the Councils' responsibility to carry this risk. The following table describes identified risks for the Foundation and community energy program in general. It is recommended that the Councils develop their own risk assessment as this table and report focusses on project risks.

Table 2 - Identified risks to project & risk management strategy summary

| IDENTIFIED RISKS TO PROJECT | |
|---|---|
| **General** | |
| **Hazard / Risk** | **Mitigation / Management response** |
| COUNCIL specific: Inadequate funding ('another impoverished NGO').<br><br>FOUNDATION specific: Inadequate funding leads to 'another impoverished NGO' which doesn't have the ability to effectively deliver on its objectives. | Councils to determine internal level of ambition and commit to fixed multi-year funding arrangements. Funding arrangements and relevant KPIs to be set with realistic expectations and based on the experience gathered via this process (organisation will not be "set up to fail"). |
| Political risks<br>– Not viewed as council's core responsibility<br>– Councils heading into caretaker period.<br>– Understanding the ramp up time to deliver an ROI. | Communication with elected members, council staff and general community to focus on how this does address council's responsibilities – leadership on climate change, local economic development, supporting vulnerable members<br>Consistent and clear reporting to all stakeholders about the outcomes of the Community Energy Foundation (and level of investment from council). |
| Low community engagement – community engagement is critical for the success of the Foundation. It will drive participation in the board, volunteering in general as well as sales of energy products and services. | Significant investment. |
| **Board/Governance** | |
| **Risk** | **Risk management strategy** |
| Overly democratic governance where decisions/priorities fluctuate and action flounders. | Board design. |
| Lack of local representation on the Foundation's board (a Board of Energy Experts not local leaders). | Specifications on make-up of board members (skills and location). |
| **Community Retailer** | |
| **Risk** | **Risk management strategy** |
| Lack of take up of retail offer / slow start. | Significant investment in marketing / community engagement.<br>In-kind support from councils to promote.<br>Incentivise community groups / leaders to refer. |
| Unable to deliver cheaper prices to the community – perceived lack of value. | Education of community and other benefits of the community retailer to reduce perception of cost as primary outcome. |

| Risk | Risk management strategy |
|---|---|
| Unable to find retail partner. | Informant interviews suggest this is unlikely however the Foundation could consider creating their own retailer, or following other community groups and run alternative energy activities. |
| Commercial failure of retail partner – leaving customers in the lurch and damaging reputation. | Procurement approach to include financial risk assessment and energy market analysis, to ensure financial viability of both retail partner and the regional retail business model.<br>Clear contractual termination clauses.<br>Clear & regular communication with customers (as the Energy Foundation not just via the retail partner). |
| Poor customer service of retail partner – damaging reputation. | Procurement approach to include customer service feedback and assessment.<br>Clear contractual termination clauses.<br>Clear & regular communication with customers (as the Energy Foundation not just via the retail partner). |
| **Energy activities** | |
| **Risk** | **Risk management strategy** |
| Individual project failure. | Rigorous due diligence on program design and execution by Foundation.<br>Identify delivery partners with experience to work with as skills and experience grows. |

## 4.5 Summary of key recommendations

In order to manage the risks outlined above whilst maintaining momentum and clarifying ambition, we recommend the following:

1. a) Councils note recommendations contained in this report while deferring the main decisions on financing and legal structures for approval by new Councils in 2019.

   b) RH&C Steering Committee maintain progress by applying for an LGA R&D grant to develop drafts of governance, legal, business planning and marketing documents and/or explore alternative mechanisms for maintaining progress should grant be unsuccessful.

2. Councils to review report and recommendations and determine a shared level of ambition that determine a shared level of scale and ambition that will frame the remaining process. The level of ambition will determine the speed and scale of implementation and thus the amount of funding and in-kind support required. Develop indicative budget bids for the 19/20 financial year.

# 5 Hills and Coasts Community Energy Board and Foundation

## 5.1 Why a Community Energy Foundation?

The original model envisages a decision-making body (a Board) that can prioritise funds in order to deliver a range of community energy activities. The activities are a combination of commercial offerings and public services. In the workshops with councillors and council staff there was a strong sentiment that the Councils should remain at arm's length from a community energy program and not take on risks that it didn't have the expertise to manage. In contract, key informant interviews and experience across the community energy sector emphasise that long-term support from councils plays a significant role in the success of any program.

The community energy program therefore needs to be seen as a partnership between councils and their communities with its own organisational structure. We are calling the organisation a "Foundation" to reflect the fact that it would be established to serve the region. International experiences demonstrate that mature, not-for-profit institutions are essential to community energy leadership in many regions. MEFL is the only example of this type of organisation in Australia.

This section explains the considerations for governance models with our recommendation based on the success stories of the community energy sector, and the experience of both MEFL and Tandem. Ultimately the decision on legal form should be made by the inaugural board of the Foundation.

## 5.2 Potential models for a Community Energy Foundation

Control, ownership, leadership, resources and responsibility are concepts that need to be teased out in any governance structure. At the heart of the early decision making is the core group of people who step up to lead and take responsibility. Local government leadership and community leadership exist on a spectrum and there are advantages to both. There is no perfect solution and the governance is likely to need to adapt as the community energy program expands its responsibilities. The energy sector and the state government are also key potential partners and the governance model will need to consider how to involve them appropriately in program delivery.

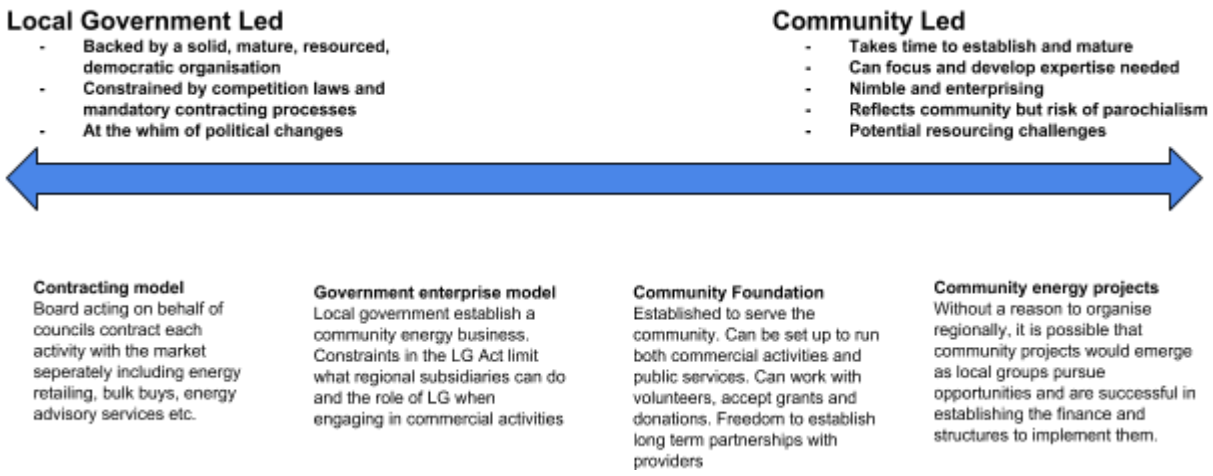


**Figure 6 - Spectrum of governance of organisations**

At the council-led end of the spectrum, councils can contract directly with delivery organisations or set up a local government-based organisation to deliver community energy activities. Both of these models leave councils at the heart of the model and responsible for the effectiveness of the program over the long term.

This is not the recommended approach at this stage because it may fail to empower community participants and will be subject to political whims with each term of council. Most importantly, this is not the solution advocated for by councillors or council staff. Most workshop participants highlighted a series of risks that would be difficult for councils to manage without strong energy sector expertise. Some felt energy was not council responsibility and therefore a council model that took on new risks could not be justified.

If communities are encouraged to lead without a region-wide program, it can be expected that some towns with more urgent energy issues will organise local responses. This is a grass-roots approach and at this stage there is little indication from the community that we can expect local energy leadership to emerge without strong regional leadership.

We recommend the community-led Foundation approach. A very strong partnership with the region's councils should be a goal so that the Foundation can best serve the needs of all the communities in the region.

*Build collective momentum and pride in the community.*
***Elected member and staff comment***

The Foundation should work closely with councils and there will be activities that are better suited to Resilient Hills & Coasts or the Councils themselves (such as applying for some grants). We recommend that the Foundation is established as a non-profit and considers the benefits of charity status.

A Governance Analysis has been developed that is referenced in Appendix 1 – Public Resources Folder that discusses governance considerations in more detail and provides stronger rationale for the foundation model.

## 5.3 Critical elements

The core group that will lead the Foundation through its first phase of operation should have a major say in decisions around organisational structure. It is envisaged that this group could be formed as an interim committee in the first instance and a number of informal recruitment and engagement

iterations will be needed before the main leaders and potential nominees for a paid CEO position emerge.

Key considerations for the interim committee and the Councils are noted below. They can be incorporated in the structure through the legal model, the objectives and constitution of the Foundation and also through the terms of any funding agreements that are signed.

1. Trustworthiness is key to the success of the Foundation.
   This feedback was delivered consistently throughout workshops and in survey comments. The board of the Foundation and leadership group needs continually work at ensuring its authority and legitimacy is earned and it is seen to be accountable to community stakeholders.

2. Establish a culture and ambition that encourages community participation.
   The funding stream to support the Foundation's establishment and growth is likely to be modest. Engaging with communities and accessing community resources for the delivery of community energy activities could be as significant as council funding in driving the growth of the organisation.

3. The Foundation serves the region.
   The Foundation needs to make a clear proposal on how it will serve the whole region and also honour local priorities.

4. Fund the new Foundation over the long-term.
   The Councils need to be clear about the conditions that will allow a long-term funding agreement to be signed with a fledgling organisation. At a minimum, the Councils need to be assured that funding will deliver community benefits, that equity principles will ensure all householders and businesses will be given fair opportunities and that the Foundation's board will be elected on democratic principles after the start-up period.

5. Decide on the parameters of local economic development.
   If local economic development is agreed to be a requirement of the community energy program, then the Foundation needs to understand the extent to which it can preference skills development and local procurement over purely competitive, price-based market outcomes.

6. Set a realistic timeframe.
   A timeframe - longer than 5 years - for growing the Foundation and allowing it to mature as a regional institution needs to be understood. In this time frame the energy system will continue to change at breakneck speed, so the adaptability of the Foundation is a key attribute.

7. Relationships need to be built from the outset.
   These relationships should engage funders, supporters and other organisations with a strong community presence. A number of large institutions serve the region and have a role to play in the long-term outcomes for energy and regional economic development.

8. Resource the interim committee.
   The Councils should resource the establishment of the interim committee and support it through to the point that ongoing Council or other funding is awarded. This is likely to involve at least 0.5 FTE of staff support and funds for legal advice at a minimum. It is understood that RH&C has applied for an LGA R&D grant for some of the work.

9. Councils work with the interim committee.
   The Councils should work closely with the interim committee to understand an achievable budget, jointly shared goals and to draft a funding agreement that is likely to be realistic for the Councils to approve. In addition, a short-term plan for quick wins and further community engagement can be agreed and costed.

10. Councils help the committee engage key stakeholders.
    The Councils should provide a series of delegations and include committee members to engage with and lobby key stakeholders such as state government, the regional development authority, the LGA and SA Power Networks with the aim of exploring other sources of funding for the program and establishing senior level support for the initiative the region is taking.

## 5.4 Skills of the Foundation

It is recommended that board positions should be unpaid to maintain the spirit of a non-profit, community-led organisation. Ideally, paid support staff/seconded council staff will provide operational support while the volunteer board provides strategic guidance. The Foundation's ambition should be a paid CEO as the main recruitment priority. The early work of this person will be relationship building to attract funding, create partnerships and supporting board members to do the same.

As with any board, diversity offers the basis for stronger decision-making due to the different insights diverse board members can offer. Adequately speaking for each community across the region will be important, as will relationships with each Council and other partners across the region. One more way to achieve this would be to limit the number of board members from each council area.

Board members and the CEO should be recruited who have one or more of the following skills or attributes:

- Project management
- Technical
- Financial
- Communications and marketing
- Legal / governance

The core group should continue to audit its complement of skills, knowledge and connections and should also develop partnerships with others willing to support the emergence of the Foundation whenever skills gaps emerge. Partnerships can provide the mentoring which will support the core group to grow its skills base.

Appropriately skilled staff can also be seconded by councils or allocated to provide support to the Foundation.

# 5.5 Funding of the Foundation

## 5.5.1 Recommended funding arrangement

The level of ambition for the Foundation will need to be kept in line with the funding available. We recommend that starting small, with a specific focus on the Community Energy Retail Offer will be the best short-term strategy for success.

In order to fund this, we propose that the Councils enter into a five-year funding agreement with the Board to establish the Foundation and to set up the Community Energy Retail Partnership and Offer (see section 8.3 for more information on the sample budget).

## 5.5.2 Funding examples

*The Moreland Energy Foundation Ltd (MEFL)*

MEFL was established with an annual investment from Moreland City Council from interest generated by the sale of the Brunswick Electricity Supply. For 18 years MEFL has enjoyed the support of council in the form of core funding to look after the base administrative requirements of the organisation. The funding agreement is usually structured for a four to five-year term and increases by CPI annually. MEFL currently receives a little over $400,000 per annum in core funding and receives an additional $300-$400,000 to deliver on elements of MEFL's Zero Carbon Evolution Strategy[13][14]. This funding come with very high expectations and targets for energy savings and carbon reductions to be achieved in the Moreland Community. MEFL also obtains income from a variety of other sources including grants and contracts with other councils.

*The Yarra Energy Foundation*

The Yarra Energy Foundation has been operating since 2010 and receives approximately $300,000 per year from Yarra City Council with a similar model of four to five-year funding agreements.

*Community Power Hubs (CPH)*

The three CPHs recently established in Victoria have each received $300,000 of funding that is going to existing local community groups to accelerate their efforts. This is a state government funded program. Bendigo Sustainability Group, for example, will spend $100,000 per year for three years on a number of part time staff who were formerly volunteering within the 'core group' where the unpaid nature of their roles limited their capacity to deliver. As a CPH they will expand their capacity to deliver projects. The ambition is for these projects to produce a longer-term income stream for the organisation.

## 5.5.3 Potential sources of additional funding

- The state government should be approached for a partnership with the Foundation for many of the same reasons that local government is involved. The energy future is arriving fast and governments need to adjust equally quickly in how they support communities to benefit.
- Federal funding is most likely to come through ARENA grants for innovative projects and regional development grants.
- The market bodies (AER, AEMO and AEMC) support Energy Consumers Australia which offers a range of small grants for work that fits within energy market reforms.

[13] http://www.moreland.vic.gov.au/globalassets/key-docs/policy-strategy-plan/zero-carbon-evolution-strategy.pdf
[14] https://morelandzerocarbon.org.au

- SA Power Networks could also be approached for a partnership with the Foundation. As a regulated monopoly, its ability to supply funding is likely to be constrained and the Foundation will need to explore which services it might be able to offer for SAPN. The peak body, Energy Networks Australia, has a research fund for projects that will help distribution companies understand new opportunities.

- State government programs, new and old, may be sources of funds especially if the Foundation can negotiate that they be delivered locally instead of from Adelaide. These include the Retailer Energy Efficiency Scheme, energy advisory services and utility literacy for low income households, the battery subsidies, virtual power plants and newer demand management programs.

- Each Council and other large organisations in the community can contract with the Foundation to deliver energy services in a consulting capacity and to install solar and energy efficiency products. Regular income streams of this nature support the organisation to become financially viable.

## 5.6 Summary of key recommendations

3. Establish a volunteer interim committee consisting of a core group of community leaders that will work with RH&C to establish the Foundation, supported by council staff and funding. Transition the interim committee to become the founding board of the Foundation and continue supporting them to develop a funding agreement for council consideration after the November 2018 council elections.

4. Transition the interim committee to become the founding board of the Foundation and continue supporting them to secure a funding agreement with participating Councils.

5. Councils to provide funding over a five-year agreement with the Foundation which is aligned with council priorities and ambitions and the Foundation business plan (please note this is included in the seed funding outlined in the Sample budget in Section 8.3). A figure of $100 to $150K has been identified as the minimum collective investment needed to cover set up costs in addition to an ongoing annual core payment. This is required to cover legal costs, the early community engagement work as well as attracting additional funding. Note that this investment does not include the funding required to establish, market and deliver the Community Energy Retail Partnership or any other energy activities.

6. Recruitment of a CEO and agreement on in-kind resources from councils to proceed as soon as financially possible.

# 6 Community Energy Retailer (procurement approach)

## 6.1 Why a community energy retailer?

The establishment of a community energy retailer has been identified as a central platform for this broader community energy program since its early stages of design in February 2018. The retailer model has been selected as it offers:

- The greatest potential for early income generation that can be used by the Foundation to invest in other energy programs (such as energy efficiency upgrades for vulnerable communities etc.);
- Can offer flexible and innovative approaches to buying and selling electricity that will support development of community energy projects e.g. PPAs, solar farms;
- A clear and focused offering to sell to the community, increasing the speed of market penetration by reducing confusion or promoting programs with higher barriers to participation; and
- The possibility of lowering energy bills for community members.

***It is critical to note that while improving the affordability of energy in the region has been consistently rated as a top concern this program has been designed to address, the establishment of a community energy retailer will not guarantee lower tariffs and therefore lower bills. Lower tariffs primarily depend on the ability to build a large-scale customer base, allowing the retailer to access capital and hedge risk by taking a longer-term view of the market. Other energy activities conducted by the Foundation will assist in reducing energy consumption and consequently cost.***

*Localising the energy supply and having a mechanism for investing would be amazing. Just think what it would mean for our community to be somewhat independent of the State network!*
***Community Survey Respondent***

Instead, a community energy retailer can offer a greater community benefit of closing at least part of the economic loop and maintaining more local wealth within the region, investing in other projects with the community and helping community members save on their electricity bill in other ways, for example with energy efficiency upgrades and small behavioural changes.

As the community engagement deepens, the community energy retailer can also work with their customers to understand the scale required to ensure the price of electricity does not increase and will, over time, become cheaper than the major retailers.

In the early stages of preliminary program design the concept of a coordinating a traditional aggregated purchasing model on behalf of the region, similar to One Big Switch, was explored. However, despite the very positive marketing messages from these commercially driven programs, the actual data on customer savings is very difficult to uncover and an aggregated “switch” program will not realise any of the broader environmental or economic benefits a community energy retailer can. Instead the supporting councils can work with the Foundation to utilise elements of those campaigns to begin community engagement and commence aggregating demand and customer data that will ultimately support the RFQ process.

## 6.2 Support for a community energy retailer

Almost 90% of the community survey respondents were interested in switching to a community-based retailer, either categorizing themselves as enthusiastic about the idea (28%) or willing to do it if there were benefits to the community (31%) or to themselves (30%).

The key informant interviews generally supported the concept, however many interviewees (particularly those with experience in the retailing space) warned about the complexities and risks that need to be addressed, as well as the level of resourcing required. Many of these have been included in the discussion and recommendations below.

The workshops with Elected Members and Council staff demonstrated a strong level of support for further exploring the establishment of a community energy retailer (support ranked at an average of 4.2 out of 5). However, it is important to note that energy efficiency advice and education actually ranked as the highest priority within those workshops, with a solar and battery bulk buy and community energy retailer coming in equal second.

Establishing a community energy retailer, or any community energy organisation, is not an easy task. Only one wholly owned community energy retailer has been launched and continues to operate in Australia after four years, Enova Energy. Other communities grappling with this challenge are exploring alternative options that still generate community benefit while also minimising risk.

## 6.3 Potential models for a community energy retailer

There are many diverse models for structuring a community energy retailer, the current operating models are documented in Appendix B – Electricity Retailer Models. In order to narrow down the possibilities, MEFL and Tandem have explored three possible models for establishing a community retailer in the region through this project.

**Model one:** Building a community owned energy retailer from scratch. This is not a recommended model at this stage of development.

**Model two:** Establishing a council owned and operated energy retailer with benefits flowing directly back to the community. This is a model currently being explored by several councils in Victoria[15]. It is our recommendation that the Councils stay in touch with the Northern Alliance for Greenhouse Action as this model develops. This is not a recommended model at this stage.

**Model three:** Supporting the Foundation to partner with an existing retailer to "white label" a Community Energy Retail Offer that may generate a smaller benefit to the community while minimising the significant risks inherent to the electricity retail environment. This is the recommended model, particularly in the short to medium term (next 2 to 5 years).

*Our recommendation*
Our recommendation is to focus the next stage of this program around the third model - to partner with an existing retailer via the Foundation. However, even within this model there remains a large range of possible structures and solutions, depending on the risk (and potential reward) appetite of the Foundation's board.

These partnership options exist along a continuum from those that are commercially focused and those that have a stronger community focus. We recommend that the Foundation starts with a partnership in the middle of the spectrum to allow time to build up a local presence, a strong

[15] http://www.naga.org.au/uploads/9/0/5/3/9053945/electricity_retailing_in_victoria.pdf

customer base and a depth of knowledge, experience and networks in the sector that will further minimise risks.

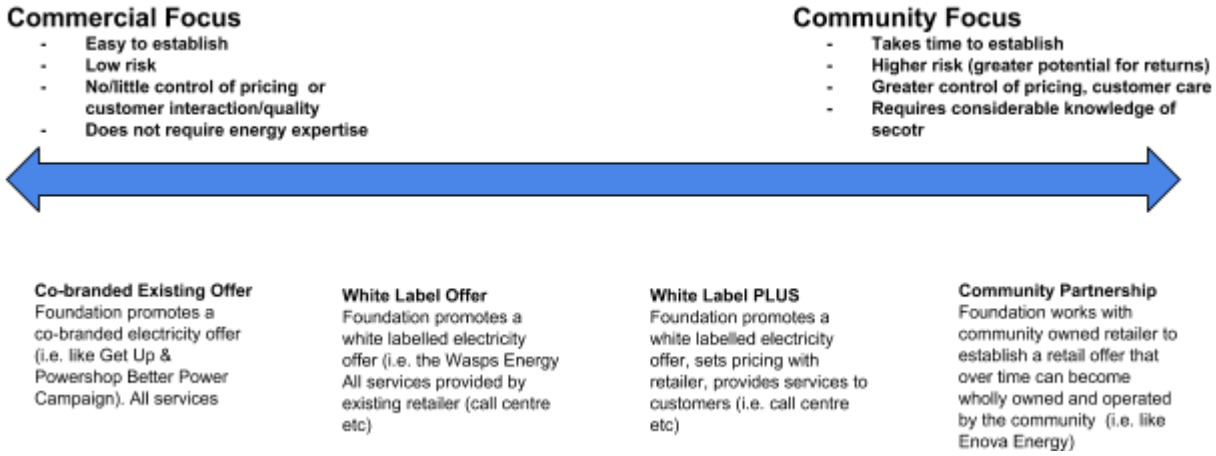


**Figure 7 - Spectrum of focus for the retailer**

## 6.4 Critical elements

The partnership model that is being recommended for this stage of the program design will need to include the following elements:

- The Councils support the Foundation to develop the request for quotation (RFQ) (our recommendations for the RFQ are included below) and the governing agreement for the successful retailer (noting that the agreement will need to be executed by the Foundation).
- The Councils provide between $100,000 and $150,000 as seed funding for the establishment of the Community Energy Retail Partnership (please note this is in addition to the seed funding being supplied to establish the Foundation). This funding will primarily be utilised to build the brand, website and marketing materials used to promote or advertise the Community Energy Offer.
- Once the partnership agreement is established, the Foundation will be responsible for governing the agreement.
- The Councils will continue to support the promotion and marketing of the Community Energy Offer.
- The Foundation will be responsible for building relationships with other organisations to support the promotion and marketing via council and other channels.

## 6.5 Potential income

According to the interviews undertaken to date and based on MEFL's experience, the retailer could be realistically expected to generate a return of approximately $100 per customer to the Foundation per annum. This amount is not based on a simple $100 referral fee, but instead it is a very conservative estimate that has been simplified for necessity. The partnership could structure the payments to the Foundation in a variety of ways (i.e. percentage of energy sold, income generated etc.) and the rate of payment will be dependent on the elements of the program that the Foundation wants to service (for example, does the Foundation take a higher cut from the retail partner and take on responsibility for customer service, with associated local jobs?). There would obviously be a higher return for small to medium businesses.

In the first year of operation we would recommend a target of 1,000 customers (approximately 1.5% of the potential residential market), generating a minimum of $100,000 in the first full year of operation (see also Section 8.3). It is important to note that this is $100,000 of income, not surplus. Over time, and as the customer base is built up, the surplus could be distributed back to customers or invested in activities with a broader community benefit (or a combination of both).

## 6.6 The recommended business model

**Audience / Customers**

- All households - homeowners, renters, tenants.
- Small to medium businesses.
- Community organisations (as customers and as a marketing channel).

**Process**

- Localised marketing (by region, municipality or town).
- Online platform to request quote
  Customer Relationship Management tool owned by Foundation with details fed to Retail Partner. This will allow the Foundation to 'own' the customer data, independent of the retailer agreement. This will be of significant value to sell future products and services, but also if the retailer partner changes.
- Local helpdesk for further information (needs to be budgeted for - could be staffed part time or by volunteers in short term).
- Information and education sessions held by Retailer, Foundation and Council.
- Retail partner to offer locally relevant energy products, report regularly and pay monies owed quarterly.


**Figure 8 - Community energy retail offer process**

**Resources**

- The Foundation (local leadership and legal framework for partnership).
- Set up funds ($100,000 to $150,000).
- Council marketing channels.
- Customer referral program (for local community groups, consider a profit share or referrer fee).
- Brand, website, CRM, social media presence, phone line, volunteers.

**Value proposition**

A community led alternative to the major retailers. This energy retailer will:

- Reinvest profits into the community.
- Keep jobs and money in the local economy.
- Support customers to use less energy and save money.

**Partners**

- The Councils.
- Retailer to provide 'white label' and backend services.
- Community organisations.
- Business leaders.

**Marketing/Sales**

Council channels:

- Website.
- Social Media.
- Newsletters.
- Library.
- On hold messages.
- Local paper.
- Events.
- Local media.
- Media releases, photo opportunities, advertising.
- Consider a local partnership for competitions etc.
- May consider (in conjunction with the Retail Partner) offering an energy savings guarantee by offering an energy audit and identifying savings. This will need to be resourced by volunteers in the short term.

## 6.7 Finding the right partner - the RFQ

Developing the right retail partnership is critical to the early stages of success for this element of the Community Energy Program. Below is a list of the key elements we recommend need to be included in the RFQ to find a Community Energy Retail Partner.

**Key Elements of the RFQ**

It has to be simple. In order to create equal opportunities for community-led or lean, socially driven organisations to participate in the RFQ process as well as the well-resourced commercial operators, it is critical that the RFQ is simple and relatively easy to respond to. This could take the form of a high level RFQ with an invitation for detailed interviews with the Foundation for a select group.

The RFQ should include the proposed draft agreement with key terms set by the Foundation. This should include detail such as the length of the agreement (we propose two years), clear termination clauses, confidentiality requirements and intellectual property considerations.

It may be prudent to obtain energy market expert advice to ensure the RFQ and responses contain adequate rigour and realistic assumptions.

Ensure potential partners can articulate:

- How this program fits within their business model and strategic directions.
- How their proposed model offers community value - i.e. lower prices, local economic benefits, support for energy saving, any other opportunities.
- Their financial viability (and any key risks).
- What support they can provide to accelerate customer acquisition, sales and marketing.
- Their knowledge of the South Australian Energy Market and relationship with SAPN.
- Their proposed model for profit sharing with the Foundation (including any start-up funding required for customisation).
- Their targets for customer acquisition (Do they have minimum numbers that have to be reached and over what time frame?).
- Their ideas for how the partnership can be expanded (over time) to include further innovative energy projects and offers.
- Detail regarding customer management (i.e. how customers will be handled between the two organisations and considerations for who “owns” the customer and how customers can be managed in the event of termination of the contract).
- Opportunities to increase local ownership and control over time.

## 6.8 Summary of key recommendations

7. Secure $100,000 to $150,000 in start-up funding for the Community Energy Retail Offer (please note this is included in the seed funding outlined in the sample budget below). Funding will be used to build the brand, website, customer relationship management tool and marketing materials used to promote the offer.

8. Councils to provide ongoing support for promoting the Community Energy Retail Offer.

9. Support the Foundation to
   - commence community engagement and aggregation of potential customer data
   - lead the retailer RFQ process and partnership negotiations: i.e. identify the level of involvement / service delivery that the Foundation provides vs the retailer.

# 7 Energy activity delivery

## 7.1 Introduction

The fundamental way to create change in the community with the proposed model is to run a suite of energy activities. While some energy activities are simple and straightforward, such as solar bulk buys or education programs, those that create long lasting value and change in the community (e.g. community energy retailer, education programs) are generally complex or carry a higher level of risk.

The organisational structure proposed in this model allows the Foundation to carry that risk and undertake due diligence to ensure successful execution. It is worth noting again that the extent of energy activity able to be conducted in the region depends on the level of ambition of the Councils and subsequent resourcing provided to the Foundation (see Appendix D- Potential energy activities for further discussion).

Other sources of funding may set the priorities and the Foundation will need to assess the easiest activities to understand those which might produce quick wins and momentum for community energy in the region.

## 7.2 Prioritising energy activities

*As pensioners, we are very conscious of our energy use but we have limited funds. So, we're looking forward to a system that saves us money, without a great deal of prior cost to us, that also benefits the environment.*
***Community Survey Respondent***

Individual communities will have their own priorities and interests that will influence the energy activities they prefer to undertake. The majority of community survey respondents (64%) said that they currently invest in making their home more energy efficient and 51% said they shop around for their energy deal. Over 50% of respondents said that they already had solar electricity with a further 20% saying that they cannot have solar energy due to their circumstances. The desire to be rewarded by the way respondents use energy was high, with 59% expressing this view. 56% expressed the desire to have the ability to purchase energy that benefited the community.

The following table summarises community preferences for the activities covered in the community survey, where the lowest weighted average is the highest priority.

Table 3 - Preferred energy activities: community survey responses

| *Q10. Would you be interested in participating in any of the following community energy projects if they were available in your area?* | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Answer Choices** | **Yes, I'm enthusiastic** | **Yes, if there were community benefits** | **Yes, if there was a benefit to me** | **I don't know** | **No** | **Total** | **Weighted Average** |
| Switching to a community-based electricity retailer. | 102 | 111 | 112 | 31 | 13 | 369 | 2.3 |
| Supporting local renewable generation (e.g. wind, solar, biomass). | 184 | 103 | 61 | 17 | 8 | 373 | 1.83 |
| Receiving energy advice and services for homes & businesses. | 142 | 74 | 91 | 28 | 28 | 363 | 2.25 |
| Participating in a solar & battery bulk buy. | 143 | 63 | 110 | 35 | 21 | 372 | 2.27 |
| Solar and battery systems being coordinated for emergency power and/or better power prices. | 173 | 95 | 61 | 31 | 11 | 371 | 1.95 |
| Participating in peer to peer trading of surplus solar energy. | 126 | 77 | 65 | 82 | 19 | 369 | 2.43 |

This information from the community survey, together with workshops and stakeholder interviews contribute to understanding the region's priorities and needs. The energy activities described below include those from the survey and additional activities that may be conducted in the region.

They are listed broadly in priority order based on the findings from survey results, ease of implementation and potential income.

The graphic besides each activity indicates whether it is likely to:

- make money
- break even
- require funding

Appendix D – Potential energy activities contains detailed descriptions and financial analysis for each activity.

**Table 4 – Suggested priority order for energy activities**

| | |
|---|---|
| 1. Supporting local renewable generation |  |
| 2. Solar and battery systems for emergency power and/or better power prices |  |
| 3. A community-based electricity retailer |  |
| 4. Solar and battery bulk buy |  |
| 5. Energy advisory services for homes and businesses |  |
| 6. Peer to Peer trading of surplus solar |  |
| 7. Local action plans for energy and climate |  |
| 8. Collaboration with developers, e.g. to build microgrids |  |
| 9. Home renovation, building education and home improvement services |  |
| 10. Renewables for All |  |

In addition, the Foundation should be encouraged to establish a revenue stream and skill base by working with Councils as an early customer base providing energy efficiency and support for all local council operations.

The Foundation should also continue to engage the community and other energy organisations around Australia to identify the most appropriate activities to deliver in the region.

## 7.3 Quick wins

There was strong feedback from all engagement activities suggesting that the model needs to deliver a series of quick wins to build confidence in the community energy program.

Early momentum will be demonstrated by establishing the Foundation, commencing marketing and engagement work to aggregate demand, and launching the retail partnership.

As the Foundation starts to build relationships and embed itself in the region, it can consider delivering low cost activities that also provide engagement and reach, such as;

- events,
- market research,
- contacting local community organisations and local energy businesses, who can in turn engage their staff and volunteers,
- establishing low cost partnerships with these early ‘friends of’ the community energy program and connecting them to community energy resources.

As the Foundation gains momentum, it can focus on early activities that earn income or attract grants. Negotiations with the Councils, state and federal government can be catalysed with a range of well costed and researched proposals. Delivery partners may also bring funded opportunities to the region.

Potential partners and organisations that should be involved in a community energy program were the subject of a question in the community energy survey. The responses can be found in Appendix H – Organisations to engage with.

## 7.4 Funding

The delivery of energy activities is the fundamental purpose of this model. The breadth and depth of the activities that are delivered depends almost entirely on the level of ambition of the Councils and the ability of the Foundation to attract other funding (state and federal government funding primarily). The resourcing and support provided to the Foundation over time is the primary indicator of the success of the model and energy activities proposed. Further discussion of the impact of Council resourcing is found in Section 4.3.

## 7.5 Summary of key recommendations

10. Prioritise the development and delivery of energy activities in line with stakeholder engagement and feedback. This will include engaging with:
    - community groups, energy product suppliers, and experienced community energy service providers to identify potential partnerships and activities; and
    - community members to test ideas and participation rates.

11. Develop relationships with potential funders and develop a range of well costed and researched proposals for proactively funding preferred program of energy activities.

# 8 Next Steps

## 8.1 Summary of recommendations and proposed timeline

**Table 5 - Summary of recommendations and timeline**

| | Element | Recommendation | Proposed timeframe |
|---|---|---|---|
| 1 | General | a) Councils note recommendations contained in this report while deferring the main decisions on financing and legal structures for approval by new Councils in 2019.<br>b) RH&C Steering Committee maintain progress by applying for an LGA R&D grant to develop drafts of governance, legal, business planning and marketing documents and/or explore alternative mechanisms for maintaining progress should grant be unsuccessful | Initial |
| 2 | General | Councils to review report and recommendations and determine a shared level of ambition that determine a shared level of scale and ambition that will frame the remaining process. The level of ambition will determine the speed and scale of implementation and thus the amount of funding and in-kind support required. Develop indicative budget bids for the 19/20 financial year. | Following 2018 Elections |
| 3 | Foundation | Establish a volunteer interim committee consisting of a core group of community leaders that will work with RH&C to establish the Foundation, supported by council staff and funding. | Q1-2 2019 |
| 4 | Foundation | Transition the interim committee to become the founding board of the Foundation and continue supporting them to secure a funding agreement with participating Councils. | Q3-4 2019 |
| 5 | Foundation | Councils to provide funding over a five-year agreement with the Foundation which is aligned with council priorities and ambitions and the Foundation business plan (please note this is included in the seed funding outlined in the sample budget below). A figure of $100 to $150K has been identified as the minimum collective investment needed to cover set up costs in addition to an | 2019-20 budget cycle |

| | Element | Recommendation | Proposed timeframe |
|---|---|---|---|
| | | ongoing annual core payment. This is required to cover legal costs, the early community engagement work as well as attracting additional funding. Note that this investment does not include the funding required to establish, market and deliver the Community Energy Retail Partnership or any other energy activities. | |
| 6 | Foundation | Recruitment of a CEO and agreement on in-kind resources from councils to proceed as soon as financially possible. | Q3-4 2019 |
| 7 | Retailer | Secure $100,000 to $150,000 in start-up funding for the Community Energy Retail Offer (please note this is included in the seed funding outlined in the sample budget below). Funding will be used to build the brand, website, customer relationship management tool and marketing materials used to promote the offer. | 2019-20 budget cycle |
| 8 | Retailer | Support the Foundation to<br>- commence community engagement and aggregation of potential customer data<br>- lead the retailer RFQ process and partnership negotiations: i.e. identify the level of involvement / service delivery that the Foundation provides vs the retailer. | Q3-4 2019 |
| 9 | Retailer | Councils to provide ongoing support for promoting the Community Energy Retail Offer. | Ongoing as of Q3-4 2019 |
| 10 | Energy activity program | Prioritise the development and delivery of energy activities in line with stakeholder engagement and feedback. This will include engaging with:<br>- community groups, energy product suppliers, and experienced community energy service providers to identify potential partnerships and activities; and<br>- community members to test ideas and participation rates. | Q1-2 2020 |
| 11 | Energy activity program | Develop relationships with potential funders and develop a range of well costed and researched proposals for proactively funding preferred program of energy activities. | Ongoing as of Q1-2 2020 |

# 8.2 Timeline

**Table 6 – Visual timeline of recommendations**

| Recommendation | 2018 | Q1/2 2019 | Q3/4 2019 | Next 3-5yrs |
|---|---|---|---|---|
| 1. Interim Work to maintain progress | | | | |
| a. Councils to note recommendations | ★ | | | |
| b. Apply for LGA R&D grant | ★ | | | |
| 2. Councils determine shared level of ambition and budget bids | ▬ | ▬ | | |
| 3. Establish volunteer interim committee | | ▬ | | |
| 4. Transition interim committee to Foundation Board | | | ▬ | |
| 5. Provide Foundation seed funding | | | ▬ | ▬ |
| 6. Recruit CEO and agree in-kind resources | | | ★ | |
| 7. Provide funding for Community Energy Retail Offer | | | ▬ | |
| 8. Council to support Foundation to | | | | |
| a. Commence community engagement | | | ★ | |
| b. Lead Retailer RFQ process | | | ▬ | |
| 9. Ongoing promotion of Retail Offer | | | ▬ | ▬ |
| 10. Develop energy activities | | | | ▬ |
| 11. Partner with funders | | | | ▬ |

★ **Milestones**

# 8.3 Sample budget

A sample budget has been drafted to further assist decision making regarding the next steps for the community energy program design. As has been discussed throughout the report, the level of shared ambition and ability to invest in that ambition will dictate the scale and speed of the establishment and success of the Foundation, Retail Offer and any associated Energy Activities.

This budget has been drafted with consideration for the potential of funding available (i.e. likely to be limited) and based firmly in the experience of similar organisations such as the Moreland Energy Foundation, Yarra Energy Foundation and Darebin Climate Emergency Foundation.

Out of necessity, assumptions have been made regarding the budget, these include:

- Seed funding is required to appoint inaugural CEO, additional budget is allocated in Year 1 to pay contractors and consultants to support the CEO.
- Seed funding in Year 1 will also cover the costs associated with appointing a Retail Partner and launching the Community Energy Retail Offer.
- In Year 2, the Foundation will grow to include an administrative / project support role.
- Significant in-kind support is provided by partnering Councils (as per earlier recommendations).
- Conservative estimates for grant / project income from state and federal government assume that delivery partners or contractors will be appointed to deliver the project i.e. it won't be the already employed Foundation staff delivering the project. However, Foundation to budget to ensure a minimum 20% of project income is maintained to support operational costs).
- Income estimates for the retailer sales are very conservative.
- Additional income estimates are also very conservative.

It is suggested that the Southern & Hills Local Government Association funding formula be applied to ensure equitable funding of the project between the Councils.

**Table 7 - Sample budget for Foundation and retailer**

| | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | TOTAL |
|---|---|---|---|---|---|---|
| INCOME | | | | | | |
| Council Seed Funding (shared across all partners) | $300,000 | $150,000 | $75,000 | $50,000 | $25,000 | $600,000 |
| Grant Funding (Local, State or Federal) | $0 | $100,000 | $150,000 | $250,000 | $300,000 | $800,000 |
| Sales – Retailer | $0 | $75,000 | $125,000 | $200,000 | $300,000 | $700,000 |
| Sales - Energy Services (i.e. Energy Assessments) | $0 | 0 | $10,000 | $12,000 | $15,000 | $37,000 |
| Sales - Other Products (i.e. solar, batteries, LED) | $0 | $0 | $25,000 | $50,000 | $75,000 | $150,000 |
| **SUBTOTAL** | **$300,000** | **$325,000** | **$385,000** | **$562,000** | **$715,000** | **$2,287,000** |
| EXPENSES | | | | | | |
| **Set up costs**<br>- Constitution<br>- Board Recruitment<br>- Brand, Website etc.<br>- CRM | $34,500 | $0 | $0 | $0 | $0 | $34,500 |
| Community Engagement & Marketing | $60,000 | $25,000 | $35,000 | $40,000 | $50,000 | $210,000 |
| Staffing / contractors | $150,000 | $165,000 | $175,000 | $250,000 | $300,000 | $1,040,000 |
| Office costs (rent, stationery etc.) | $5,000 | $10,000 | $12,000 | $15,000 | $25,000 | $67,000 |
| General Administration (bookkeeping, insurance etc.) | $12,500 | $15,000 | $17,500 | $20,000 | $25,000 | $90,000 |
| Project Expenses (assumes 20% margin) | $0 | $80,000 | $120,000 | $200,000 | $240,000 | $640,000 |
| Other projects (community fund) | $0 | $0 | $15,000 | $20,000 | $25,000 | $60,000 |
| **SUBTOTAL** | **$262,000** | **$295,000** | **$374,500** | **$545,000** | **$665,000** | **$2,141,500** |
| Net Position (for the year) | $38,000 | $30,000 | $10,500 | $17,000 | $50,000 | |
| | | | | | | |
| Balance (cumulative) | $38,000 | $68,000 | $78,500 | $95,500 | $145,500 | |

# 9 Glossary

**Behind the meter**: energy generated and used separate to the main energy grid, which by law stops at the customer meter.

**Board**: the Board in this model is responsible for overseeing the operations and direction of the Foundation.

**Community Energy Foundation, Foundation:** a decision-making body (including a Board) with its own organisational structure that can retain resources, recruit staff, make decisions and prioritise funds, on behalf of the community, to deliver a range of community energy activities.

**Community energy retailer**: this term is used throughout this document as a conceptual term to describe the proposed entity that is able to buy and sell electricity to local consumers. It is recommended that this entity is formed via a contractual relationship between the Foundation and an existing energy retailer (the Retail Partner).

**Community energy retail offer**: contracts designed by electricity retailer to deliver energy to the consumer

**Community energy retail partner**: the retailer selected by the Foundation to establish and deliver the community energy retailer and associated retail offers.

**Community survey**: a survey consisting of twelve questions which was promoted by the Councils and completed by 380 community members to help determine the level of support for a community energy program.

**Councils**: specific reference to the six councils that are partners in Resilient Hills and Coast, being Adelaide Hills Council, Alexandrina Council, City of Victor Harbor, District Council of Mount Barker, District Council of Yankalilla and Kangaroo Island Council.

**council, councils (uncapitalised):** generic reference to local government organisations.

**Informant interviews**: interviews conducted with 18 key informants to gain critical insights and lessons learned from their experience either as a retailer, community energy organisations or community leader.

**Interim Committee**: organisation founded and supported by the Councils to guide formation of governance and funding requirements for the Foundation.

**LGA** (Local Government Authority): the organisation providing support and services to all SA councils.

**MEFL** (Moreland Energy Foundation): one of the two partners delivering the Resilient Hills and Coast energy model.

**PPA, power purchasing agreement**: a contract between two parties, one that generates electricity (seller) and another who purchases the electricity.

**Public Resource Folder** - an online collection of reports, data and other documents used in the collation of this report.

**PV**: photovoltaic cells are a technology used to convert the sun's energy into electricity.

**Region**: refers to the area of the six Councils engaged in this process (Adelaide Hills, Fleurieu Peninsula and Kangaroo Island region of South Australia).

**RE, renewable energy**: energy that is generated from renewable sources such as solar, wind, geothermal, hydro, and tidal.

**RH&C**: Resilient Hills & Coasts: a collaborative project formed to develop a regional climate change Adaptation Plan for the Adelaide Hills, Fleurieu Peninsula and Kangaroo Island region of South Australia, and the organisation that commissioned this report.

**SAPN** (South Australian Power Networks): sole electricity distributor in South Australia.

**Tandem Energy**: one of the two partners delivering the Resilient Hills and Coast energy model.

**Thin wire**: describes the thin connection that a behind the meter system has to the main energy grid and cannot supply all the electricity loads behind the meter. By contrast, SAPN will normally connect (and charge for) larger infrastructure to meet the full capacity of every load and ignore renewable generation and storage that can offset some of that capacity.

**VPP, Virtual power plant**: a virtual power plant is created by a network of solar photovoltaic (PV) and battery systems all working together to generate, store and sell energy back onto the energy market.

**Workshops**: three workshops designed and conducted as part of this project and attended by Elected Members and Council staff to seek their views on the design of a community energy program for the region.

# 10 Appendices

# Appendix A - Project Methodology

**Introduction**

The methodology used for the Resilient Hills and Coast Community Energy Program report for this project was designed by MEFL and Tandem in collaboration with the RH&C steering committee to capture community and stakeholder input while ensuring we capitalised on the experience and knowledge gained by other communities and councils grappling with similar issues and finding ways to empower themselves.

The agreed key deliverables of the project were to provide:

- Recommendations for program design
- Indicative costs, business model and recommended governance structure
- An agreed approach to establishing H&C Community Energy Board
- Advice for attracting customers and requirements to achieve sufficient aggregation for sustainability of recommended model
- Recommendations for procurement approach for energy procurement with effective delivery of benefits to the community
- Identification of community priorities and preferred business model for delivery of first program/projects
- Early engagement and identification of community leaders and key stakeholders (to be completed during the process.

**Program Principles**

Program design principles (Figure 1)were outlined by RH&C in a briefing document which can be found in the RH&C Public Resource Folder.


**Figure 1 - Program design principles**

**Information gathering**

Background research

Extensive background research was conducted to understand the context of the region including demographics, renewable energy uptake, existing electricity infrastructure and energy consumption for Council and the community. This helped build the evidence base and identify opportunities for

further investigation. The outcomes of this research are summarised in Section 4 with further detail in the Appendices where appropriate.

Stakeholder Workshops

In May/June 2018, the project team delivered three workshops across the region for elected members, council staff and key stakeholders. The workshops aimed to inform and gain support for the Program from key council members to ensure success and longevity. The workshops were designed to present an overview of community energy and potential design options for the Program and seek feedback from attendees on the information presented. The workshops were well attended, with an estimated 60 attendees across the three events.

The clear outcomes from the workshop were that the program needed to:

- Deliver reliable and affordable energy for all community members
- Have the community needs as its core
- Increase local investment and jobs in the region
- Have council support but not owned or run by council
- That a board be put in place make decisions and to deliver projects
- Gain community trust and support by a well-executed communication plan
- Be agile to adapt to a changing environment (energy and natural environment)
- Have a risk mitigation strategy that covers things such as a lack of uptake, lack of resources and external factors

There was strong support for the program overall with participants giving an average score of 4.2 out of 5 indicating their level of support for the initiative. Out of all the projects that the program could potentially deliver, energy education, the introduction of a community based retailer and solar/storage bulk-buys were the most popular.

The key themes emerging from the workshops have been reflected in the detailed program design and recommendations. Refer to Appendix G for a summary of the workshop outcomes.

Key Informant Interviews

Detailed interviews were conducted with 18 key stakeholders to gain critical insights and lessons learned from their experience either as a retailer, community energy organisation or community leaders. Interviews conducted are detailed in the table below. Interviews were requested from community leaders, identified by elected members and Council staff, across all six Council regions.

**Table 1 - Informant interviewees**

| Retailers | Community energy organisations | Community leaders |
|---|---|---|
| Enova | Totally Renewable Yackandandah | 7 x Adelaide Hills |
| Powershop | Bendigo Sustainability Group | 3 x Yankalilla |
| Energy Locals | Darebin Council (Climate Emergency Foundation) | 1 x Kangaroo Island |
| DC Power Co | | |

Retailer and community energy organisations interviews were conducted by MEFL and covered a standard set of questions. Community leader interviews were conducted by Tandem Energy, with stakeholders identified through the workshops, council recommendations and consultant knowledge. These interviews also covered a standard set of questions. The questions asked and a summary of findings from the interviews are included in Appendix E.

The key issues raised by community leaders were:

- The importance of establishing long term support from councils and ensuring stability away from the political fluctuations that occur at councillor level.
- Every community may focus on quite different and local energy issues. Finding the motivations of individuals is important.
- Helping people understand energy issues and painting a future they can imagine is essential.

The key issues raised by retailers were similar and included feedback around:

- The need for long term, public council endorsement and support of the community energy program/retailer.
- The broad spectrum of models available for a community energy retailer or retail offer (made via a partnership) means that the design can only be finalised once the level of aspiration is finalised (the speed, scale and impact will all be determined by the investment of money, in-kind and political support).

The key issues raised by community groups were:

- The activities undertaken by groups at the local level must match the local context, needs and capacity to deliver
- If pursuing an electricity retail offering in their local region, the potential benefits of the approach must be balanced with the potential risk taken on by the group and other local partners
- Establishing and maintaining momentum towards delivering community energy projects is key – prioritise and re-prioritise energy activities if necessary to ensure low hanging fruit and quick wins are capitalised on to build local support and participation.

In addition, exploratory meetings were held with SA Power Networks to gauge the extent of their interest in the project and attempt to map the organisation's reach within the region, and this is described in Appendix C.

Community Survey

To help determine the support from the community for a community energy program, a survey consisting of twelve questions was constructed and circulated through the RH&C and Councils social media and contact channels. In total, 380 people responded to the survey.

When asked to rank which energy issues concerned them the most, energy costs and the impact of our current electricity system on our climate and environment were of most concern. The impact of energy costs to the community (particularly vulnerable citizens) was also a focus, as well as the reliability of the system.

Respondents expressed a desire to be rewarded by the way they use energy as well as a desire to have the ability to purchase energy that benefited the community.

Respondents were most enthusiastic about energy projects that supported local renewable energy

generation and for solar and battery systems that provided emergency power and or better prices. The vast majority of respondents were enthusiastic about switching to a community energy retailer if there were benefits to the community or to themselves.

This information has informed the detailed program design and recommendations. Refer to Appendix F for a summary of the findings.

Steering Committee guidance

The RH&C Steering Committee, consisting of one council staff member from each Council, provided assistance with promotion of survey and following up workshop invites, attendance at workshops and general project oversight.

# Appendix B - Electricity Retailer Models

The electricity retail sector continues to be criticised for failing to deliver customer value. A recent AEMC review highlighted that trust in the energy sector has dropped from 50% last year to 38% in 2018[1]. Satisfaction and confidence are also down. The models that retailers use to capture customers can contribute to this lack of trust with opaque financing of brokers and discount rates across the sector having no standard basis. Retailers know that customers will not shift frequently and use this 'stickiness' to their advantage. In South Australia 'residential customer bills have increased by 19% and small business bills by 24% in the past year. The representative consumer in SA could save $832 by shifting from the median standing offer to the cheapest market offer'[2]. There have been many attempts to improve the situation and some retailers are innovating for the benefit of customers. The list below explains the range of models that are interesting to note when considering the retailer approach that would best suit the community.

**AGL community:** For the past year AGL has moved to rebranding some of its products with "community" branding. One key informant highlighted how much better AGL had become in their attitudes to the electricity transition and at listening to consumers. The community energy sector has been wary that AGL is leveraging off the brand and goodwill that the sector itself has created. Many of AGL's community products relate to solar, eg premium feed-in rates, the ability to purchase surplus solar from other roofs etc. There is a risk that solar payments are being cross-subsidised by higher rates for normal energy and many customers may not be better off. There is also a risk that these products appeal to those with solar, leaving the low income and rental markets without competitive offers.

**Powershop:** Powershop has been a supporter of the community energy sector by promoting local energy to its customers. It regularly collects enough surplus from customers to provide a $10,000 grant to a community energy project. This has been a product that customers have opted into called Your Community Energy. Powershop has also explored local energy products where customers can buy green energy from their local postcode. Powershop have indicated a willingness to provide a white-label product and have experience of doing so through a rugby club in the UK[3].

**Enova Energy:** Enova Energy is community owned. Its company structure has a limit on the voting rights of each shareholder to ensure every shareholder can have a say in the organisation. Its dividends are shared 50/50 between a community organisation, Enova Community and shareholders. Enova is still maturing as an organisation and yet to break into profit after the original $3m fundraising through a share offer. Enova's ambition is to be a model that can be used around Australia. As it has yet to establish a branch or franchise in another region, it is open to the model through which this might best be done. From its own experience, it can see that managing electricity market licences, the risks and overheads associated with interacting with the electricity market create expenses that are best shared by providing a solid 'back-end services' model. Marketing, sales and possibly support can all be provided locally and contribute to a local regional economy.

[1] AEMC Retail Energy Competition Review 2018 https://2018.aemc.gov.au/competition-review/
[2] Ibid
[3] https://www.waspsenergy.co.uk/home/

**Energy Locals:** Energy Locals is a privately owned social enterprise. It aims to disrupt the current electricity market by slashing retailer profit margins and giving that economic power back to the consumers. It operates an extremely lean back end retail model with a range of wholesale partnerships. Energy Locals reaches electricity customers through white label arrangements with other organisations, community based as well as commercial partners. Each partnership has a different model for how the white labelled retail offer works, flexibility and agility is built into the model. One of the successful products has been in partnership with Sonnen, a battery manufacturer. Customers are charged a flat rate and the batteries are operated like a virtual power plant. Energy Locals currently has 5000 customers across QLD and NSW, is almost ready to launch in SA, VIC and ACT.

**Origin Energy won aggregated contract for low income consumers in SA:** The former state government went through a comprehensive process to choose a preferred retailer for low income consumers[4]. The government then wrote to all concession holders to offer them the discounted rate. As a single offer it did not suit all users, especially those who produce solar energy or buy green power. For consumers who regularly shop around, an 18% discount may not result in any savings. This approach is valuable for creating a benchmark offer that is competitive, has been assessed by experts and considered value-for-money.

**Comparison sites, OneBigSwitch and Choice:** Retailers have arrangements with brokers and traders and they are either paid up front referral fees or an ongoing minor proportion of the customer bill. Comparison sites make their money by signing up customers[5]. They are paid if a customer switches over and can be quite persistent in chasing someone who has logged in to browse pricing. OneBigSwitch aggregates, goes to market and then makes the best offer back to those who signed up (some proportion of whom might take up the offer). Choice has recently launched its transformer program[6] arguing that customers should switch every quarter to keep on top of the best pricing. Its model is to charge the customer $99 per year and automatically switch them whenever it makes financial sense. The Choice model highlights the transparency and independence that is needed to be a trusted organisation.

**Preferred retailer model - CCSA and Diamond Energy:** Many retailers offer a referral bonus of $30-$100 when you sign up a friend. In a similar vein, groups like the Conservation Council of SA can choose a preferred supplier (In this case because Diamond Energy was considered the greenest electricity retailer in SA) and opt to receive the referral fee every time one of their members switches to Diamond.

**DC Power:** DC Power has recently raised $7m in crowdfunding, mostly in $50 investments because business crowdfunding became legal in late 2017. It proposes to be an organisation that can effectively serve solar customers with a mixture of good retail products and technology to improve household use of energy and optimisation of solar.

**Energy Democracy and RAA:** Energy Democracy aims to be a cooperative based electricity retailer. This model well established in the UK and Co-op Energy is the lead retailer supporting community energy, mainly through power purchasing agreements with community energy generation projects. Cooperatives are also the main model for community energy in Germany with local government being substantial investors alongside ordinary members in German coops. The Royal Automotbile

[4] https://www.originenergy.com.au/for-home/campaign/origin-value/sa-concession.html
[5] The government's comparison site energymadeeasy.gov.au does not and can also be quite difficult to decipher. The best offers may still be found by ringing the retailer directly.
[6] https://canisaveonenergy.com.au/

Association of SA (RAA) is a mutual service organisation which functions like a cooperative in that members control the organisation. RAA has been investigating a potential role in electricity retailing and RH&C and the Foundation should keep a watching brief on developments in this area.

***Commercial models***

**Origin Energy won local government joint purchasing:** Local Government went to market in October 2017 and Origin Energy won the tender. Some councils brokered their own deals outside of the main tender arrangement but there is little evidence of better pricing. Competitive pricing can depend on the volume and timing of electricity tendering.

**SA Water model:** There is little evidence of innovative retailing products that can reward customers if they reduce retailer risk and price. SA Water recognised that it could time its pumping strategically to lower prices. The lack of benefits offered by the retailer led to SA Water starting its own wholesale purchasing almost 8 years ago. SA Water has recently announced that it will aim for zero energy costs by 2020 and invest in renewable electricity generation across its sites.

**SIMEC Zen Energy won state government and SACOME bulk purchasing contracts:** Sanjeev Gupta is now a majority shareholder of Zen and has supported its transition to electricity retailing, partly based on the need to secure electricity supply for Whyalla Steel Mills and to support the renewable electricity investments that the Steel Mill will be powered by in the longer term. Zen has announced almost $1bn in renewable energy and storage investments, creating diversity in its renewable energy portfolio. The deal with state government provides power until the solar thermal plant is operational. The deal with the SACOME bulk purchasing group is for 8 years and has been announced as a 20-50% saving on electricity pricing for those large industries.

**PPA signed with Aurora solar thermal plant:** The State Government spends up to $50m on electricity per year to power hospitals, schools and office buildings. The Power Purchase Agreement (PPA) signed with the proposed solar thermal plant lasts for 20 years. The long term in the deal provides the financial foundation for the plant to be built. The storage in the thermal project mitigates its electricity market risk, allowing it to provide guaranteed pricing to the state government. Other major renewable generation projects have indicated that PPAs with end customers rather than electricity retailers are becoming increasingly common and may be used to underpin project finances. The challenge with all deals is the ability to match supply and demand and manage the risk where there is shortfall.

**Flow Power:** Flow Power offers a wholesale market product where customers take the risk of occasional extreme prices, in order to make money from lower average prices. It's digital interface helps customers know when to respond and reduce energy consumption.

**Redmud energy:** Redmud energy has been an innovator, installing 200-400kW solar plants on low value land across the Riverland. The income of these sites is dependent on the value generated by the Renewable Energy Target over the next 12 years and so Redmud is actively exploring customer PPAs and small-scale retailing to optimise the solar value.

# Appendix C - Research and results detail

## Who is responsible for energy?

Understanding the organisations involved in the energy market assists in identifying those parties that should join the community energy program as partners and funders. Relationships with each should be explored as well as frank conversations about whether the region should be better served.

**Retailers**

AGL and Origin Energy are the two dominant electricity retailers in South Australia. They also own and operate most of the fossil fuel power stations and have been accused of extracting outsize profits from the retail and wholesale energy markets in SA. Many smaller retailers have not entered the SA market due to challenges in adequately hedging risks and the ability to purchase competitively priced power. The market structure of the SA electricity system means the main relationship for any customer is with its electricity retailer. The regulatory system emphasises the importance of competition and choice for customers. At the same time, the recent review of retail energy competition[7] was scathing about the numerous ways that customers' needs are not being met. A community-focused retailer is at the heart of this proposal as a sensible approach to ensuring a customer friendly focus. Appendix B - Electricity Retailer Models highlights a range of retail and contracting models that are emerging.

**Poles and Wires - Distribution Network**

SA Power Networks is the monopoly provider of South Australia's distribution network. Its relationship with the customer stops at the electricity meter. In some cases, multi-tenant sites such as nursing homes and apartment buildings operate their own internal electricity system with a single meter to the site. These are known as embedded networks, with regulatory arrangements to guide their operation and protect consumers. Every customer has a relationship with SA Power Networks and might have contact during blackouts, faults and maintenance works. The challenge for SA Power Networks is to direct its investment appropriately. The ability of communities to produce their own power means the funds for continuously growing and strengthening the network are no longer available. SA Power Networks predicts it will move to a 'thin wire grid' in the long term but it is still learning about how to make that transition at the moment. The thin wire refers to electrical capacity for a locality being provided only partially by the network with the rest generated locally. This vision of the future can only be achieved with some orchestration of energy loads to ensure that the energy is used or stored whenever it is available with the ability to manage peak loads. Councils are already faced with decisions regarding energy supply for new developments. If local energy assets are needed but not part of the SAPN asset base, the long term operation and maintenance of these assets needs to be secured for communities.

SA Power Networks have numerous interactions with Councils including:

- Regional network planning. SAPN publishes an annual planning report and data from the substations across the region that are monitored. For some investments it is obligated to approach the market for alternative solutions such as local generation and grid support.
- System reliability is monitored and regional issues may involve conversations with local SAPN staff or stakeholders.

[7] https://2018.aemc.gov.au/competition-review/

- Operations and maintenance staff in the region are managed by the customer service manager at either the St Marys or Mt Barker depots. A smaller local presence exists at Victor Harbor, Kingscote, Gumeracha and Murray Bridge.
- Street lighting is often owned, operated and maintained by SAPN. The tariffs for streetlights are set in advance because the actual energy consumption is not individually metered. The desire to install energy efficient street lights and reduce council costs has triggered a fraught negotiation between the LGA and SAPN over the past decade which has not yet been fully resolved.
- Tree lopping and bushfire hazards can also cause tension between councils and SAPN. A dedicated reference group involving councils' representatives and arborists has been running for 5 years and is starting to see positive results based on a stronger relationship.
- The innovation team and network solutions group within SA Power Networks have a number of trial project concepts, sometimes linked to innovation funding through ARENA or Energy Networks Australia. These may find suitable challenges within the region and a willing local presence will always make a project more viable for SA Power Networks.
- SAPN is committed to improving its engagement approach and has a consumer consultative panel and dedicated reference groups focused on renewable energy, low income consumers, business and councils.

Further details of the region's SAPN assets and performance are covered in the discussion on regional energy assets and Appendix C - Southern Hills and Coasts Electricity Assets.

**State Government**

State governments are committed to the national electricity market and retain their ability to jointly set policy and instruct the regulatory bodies. The mechanism for this is the Ministerial Council on Energy and the Council of Australian Governments. Individual state legislation creates the electricity market so there remain some differences in each state. Reforms are largely driven by the regulatory bodies although attempts at changing the policy context can be seen in the Finkel Review and the National Energy Guarantee. The conclusion is that our state government could play a stronger role in ensuring market changes if it chose to and therefore should be given the opportunity to experience the community energy program and understand its value and the market barriers it faces.

Energy efficiency is widely acknowledged by all governments as a market failure and the resources for supporting energy efficiency have varied significantly over time. Australia has the worst energy efficiency performance internationally of all OECD countries[8]. "Poor standards in energy efficiency have considerable consequences for those most vulnerable in our society"[9] By contrast, Europe sees energy efficiency as the cheapest and most effective replacement for a power station and has a target for a 27% improvement by 2030[10], a target the same size as its renewable energy target.

Energy efficiency is a neglected program area in SA. The Energy Division in state government operates a helpline and telephone/website advisory service with a small number of staff. An Energy Partners program supports council staff and energy auditors in the low income sector with a regular newsletter and has provided training in the past. The Retailer Energy Efficiency Scheme obligates electricity retailers to purchase a set amount of energy efficiency each year.

Demand management and the ability to navigate future energy technology decisions could equally be termed market failures as there is an enormous information and knowledge imbalance between customers who could act to reduce their energy bills and the energy sector who know which actions

[8] http://aceee.org/research-report/i1801
[9] Tim Storer, SA Independent Senator, announcing his proposal for stronger standards in rental housing
[10] https://ec.europa.eu/clima/policies/strategies/2030_en

will genuinely reduce the cost of the system over the long term. The current Liberal Government came to power with strong election promises to unlock demand management opportunities and implement the recommendations of the Finkel review. It is working on three new programs:

- $10 million towards demand response trials to demonstrate how consumers can benefit financially from changing their consumption patterns
- $10 million towards demand aggregation trials to reward consumers for demand flexibility and reduce peak demand to lower energy system costs
- $10 million towards integrating distributed generation assets into the network to address challenges associated with this technology and maximise the benefits it can provide.

Energy standards for buildings, new build and renovations, can also be significantly improved. This involves all three tiers of Government through building codes, performance standards and approvals.

**Federal Government**

There is limited federal government support for energy programs at the moment. Its latest National Energy Productivity Plan is focused on its role in energy standards and its support for energy market reforms to lead changes. Its target is a 40% improvement in energy productivity by 2030. ARENA is the renewable energy agency for advancing the energy sector and a possible source of funding support for innovative projects.

**Regulatory Bodies**

The national electricity market (NEM) is regulated and managed by the Australian Energy Regulator (AER), the Australian Energy Market Commission (AEMC) and the Australian Energy Market Operator (AEMO). The local regulator, ESCOSA (Essential Services Commission of SA) has a role for a number of licensing and off-grid activities.

The regulatory environment has specified engagement processes for learning about real world challenges and opportunities. Any community energy program is unlikely to have the resources to engage effectively with the regulatory environment and will therefore need to rely on program partners like SAPN and the State Government to use the community energy experience to inform regulatory changes.

**Councils**

Councils can take an active role in energy efficiency and have done so in the past. Climate change leadership, community support and access to state and federal funding are all reasons that such programs have existed. The emergence of energy advisory services within many community-led programs suggests that communities continue to value access to trusted energy advice.

Councils have a key role in approving building works and could look more closely at the long term social and energy vulnerability ramifications of poor building design.

Councils need to consider a future responsibility for energy assets because the distributed energy model is becoming prevalent and communities may advocate for new communal assets.

Councils have always played a leadership role in their communities. Councils' approach to the energy transition and future energy sets a standard for the broader community.

Regional development (like energy) is not a policy area that sits with any one tier of government. Cross-government collaboration is required to ensure the benefits are experienced on the ground by communities. Councils have a stake in the economic outcomes of the energy transition.

**Commercial Providers, small businesses and trades**

Energy outcomes are often determined at the point of purchase and design and these decisions go on to determine the energy bill for the next 15 - 30 years. Customers might rely on electricians, plumbers and builders to provide advice. Businesses might use professional advisers like architects, engineers and auditors. Many decisions are simply based on the advice received from the businesses selling the appliances, solar panels, batteries etc. One of elements of success for the solar bulk buy programs that have been run in the region is that it provided a technical assessment of products and gave participants peace of mind around the technical robustness of the solution offered. Any community energy program needs to be committed to supporting local businesses and partnering with them. A goal for the whole region can be to improve the skills and knowledge around new energy technologies because this has positive implications for every customer that interacts with the variety of commercial providers across the region.

## Electricity infrastructure[11]

Electricity and LPG are the main sources of energy for the region, with only a limited number of properties using natural gas via the Adelaide-Murray Bridge pipeline and homes also accessing wood for heating.

There are 38 substations across the region. Many are very small and the main towns have supplies ranging from 10MVA at Aldgate up to 64MVA at Mount Barker. There are three high voltage sources of supply for the region. The northern hills is fed through Angas Creek. The southern hills to Milang is fed through Mount Barker and Kangaroo Island is at the end of the line from the southern city that feeds all the way down the coast through Yankalilla.

80% of the transformers appear to be exporting power at times. More solar in the region will exacerbate this trend for SA Power Networks and speed up efforts to move load (such as hot water) into the middle of the day.

Most of the peak loads occur in summer on a February evening, with the exception of the Hills where winter peaks still dominate. The minimum loads occur in the middle of the day during milder months when solar export is high and air-conditioning is not needed.

SAPN is faced with many new options for solving problems on the electricity network. It can no longer rely on growth to justify investments in new network capacity. The last house on the street may have suffered from low voltages in the past, but can now worry about excessive voltage when its solar surplus drives electricity flows in the opposite direction. SAPN might need to limit the export that every house is allowed or install battery capacity in order to overcome such a problem.

The average utilisation factor of the customer feeders is 20% and the peak loads only occur for a few hours per year. In the long term, doubling the utilisation of SAPN assets should contribute to halving network costs. The region contributes around $50m per year towards distribution network assets.

The capacity across the region should therefore be seen as an asset because, in many cases, it will not be increased in the future. Instead the future energy outlook sees renewable generation, batteries and electric vehicles - all controlled via smart devices - working within the capacity constraints and making the most of the asset.

## Renewable energy resources

The region has assessed its renewable energy resources through a number of studies looking at energy security:

- Local Energy Security Study for the SA Murray-Darling Basin Community (2011)

[11] Further details on the regions feeders and loads are provided in **Error! Reference source not found.** - Southern Hills and Coasts Electricity Assets

- Demand Side Opportunities in the Fleurieu Region (2012)
- Energy Security Strategy for Adelaide Hills Council (2012)
- Toward 100% Renewable Energy for Kangaroo Island (2016)

Some of the reports also focus on the importance of energy efficiency and demand management.

Solar and wind are variable sources of supply and need additional investment in batteries, load control or complementary 'dispatchable' generation.

For example, the Kangaroo Island study which aimed to make the island self-sufficient modelled the following:

- 4MW of solar, slightly more than double the current solar usage. Approximately half on rooftops, with the rest requiring land.
- Up to 17MW of onshore wind.
- 5-10 MW of biomass generation from on-island blue gum forests.
- 3-4MW of batteries.
- 8-16MW of diesel capacity which could be converted to biodiesel in the longer term.

The Adelaide Hills Council report recommended a focus on rooftop solar and biomass. The best use of the 4,000 tonnes/year of green waste was considered to be a combination of compost and pelletising for fuel, especially as many Hills residents have wood heating. The wind resource for the region was considered highly variable and difficult to exploit. Likewise, methane from existing landfill was likely to be difficult to convert to electricity at a commercial scale.

The Basin communities study mapped the wind and solar resources and highlighted some locations near to electricity infrastructure worthy of further investigation for MW scale generation. It concluded that the region had significant renewable resources and the bio-energy potential was worthy of further investigation. It particularly looked at agricultural waste, landfill, industrial process and animal waste and energy crops. Councils have direct responsibility for landfill and recycling so this topic is covered in more detail below.

## Waste resources and value chains

Household and commercial waste has a range of potential overlaps with a community energy program:

- Landfill sites produce gases and greenhouse emissions for decades after a landfill is closed as the waste material continues to rot and breakdown. Some sites flare this gas to reduce its greenhouse impact, some convert it to energy through a landfill engine.
- Old landfill sites can provide low value land which is unsuitable for development but could be used for solar energy instead.
- Wastewater treatment is another source of bio-resources which produce methane as the biological component is digested.
- Waste can be converted to energy. There are a range of technologies from incineration to pyrolysis that seek to produce energy in a useable form and to appropriately manage the toxins, pollution and residues from the process.
- Reducing waste, like reducing energy, can be a cost-effective activity to promote to households and businesses.
- The surge in solar uptake and potential surge in battery technology will present an end of life challenge for waste authorities.

The region manages waste resources through the Fleurieu Regional Waste Authority and the Adelaide Hills Region Waste Management Authority. The State Government guides the flow of waste resources through its state strategy, supported by funding from waste levies managed by Green Industries SA (GISA). The sector has recently experienced changes in the China market. The Chinese *National Sword* program tightened the standards for recycled waste streams that would be accepted and many Australian streams have too much contamination or mixture of materials to be acceptable. In the wake of the changes, GISA is promoting grants for recycling market development and recycling infrastructure to assist the sector to become more robust because the value in recycling markets always fluctuates. For Councils this means that the cost of waste programs vary in relation to the costs or value in recycling markets as well as the contractual arrangement each Council has.

The latest state waste strategy[12] recognises the waste-to-energy opportunity and the latest consultation from the Environmental Protection Agency (EPA)[13] promises to deliver a technical standard to ensure emissions from such activities are appropriately regulated. A number of considerations are raised from the work of these two agencies:

- Energy production should be a lower value activity than recycling which is higher up the value chain.
- Waste to energy exists in other countries but has limited development in Australia and one major reason has been the scale of facilities and therefore the volume of waste needed for viability.
- Some niche opportunities may exist across the region and will depend on the resource, the business model, the technology and the longer term outlook of market alternatives.

"Energy from waste has the potential to deliver renewable or low carbon energy in a cost effective way. Because it is a constant (not intermittent) energy source, this supports energy security. Energy recovery can also support smaller decentralised energy generation."

South Australia's Waste Strategy 2015 - 2020

The EPA has provided maps of all landfill sites across the region. These are provided as additional resources in the RH&C Public Resource Folder.

[12] http://www.greenindustries.sa.gov.au/publications-waste-strategy-2015-2020
[13] https://www.epa.sa.gov.au/environmental_info/waste_management/reforming-waste-management-2015

# Appendix D - Potential energy activities

1. **Supporting local renewable generation (e.g. wind, solar, biomass etc.)**

*Description*: There are a number of ways that local renewable energy (RE) can be generated and distributed for community benefit. This can involve community-ownership and operation, or a partnership between a local community organisation and Council. It can also be driven and financed by a community retailer.

*Examples:*

- **Lismore Council** borrowed from local investors to install a large scale solar on its waste-water treatment plant.
- **Power Purchase Agreements** - Retailers or end-use customers can write long term agreements to purchase power supplied from a renewable generator. This is common for underpinning the finance arrangements for many larger renewable energy generators.
- **Clear Sky Solar** - Develops solar projects on customers' roofs and attracts community investors to fund the project with attractive returns on investment.
- **Hepburn Wind** - The first community-owned wind farm in Australia; built, owned and operated by the community co-operative Hepburn Wind.

*Value propositions:* 93% of community survey respondents indicated interest in this activity, making it the highest rated activity mentioned in the survey.

The value of energy generated locally is realised locally and returned to the local community.

The Councils can support this activity directly by contract agreements to purchase locally generated electricity. This would be best facilitated via a community energy retailer.

The knowledge that electricity is being generated locally will assist in capturing and retaining customers for the community energy retailer.

Large scale renewable energy projects can be designed for profit, improve regional electricity supply, reduce carbon emissions, and in some cases help solve waste issues as well. Consideration has been made to the inclusion of a waste to energy plant as part of the mix of solutions for this community energy program and some supplementary recommendations are included in the footnotes below[14].

[14] **Waste to Energy Recommendations for community energy program**

1. Engage with well-developed generation proposals to:
    1. Understand the additional electricity market value the community energy program can offer to the generation project.
    2. Understand the drivers for councils, businesses and waste authorities to develop renewable energy generation projects.
    3. Understand any community benefits the project supports and government grant possibilities.
    4. Enter partnership arrangements if suitable.
2. Watch the product stewardship regulatory environment to ensure products promoted by the program don't cause long term waste difficulties for the region - especially in relation to solar panels and batteries.

The community engagement as part of a large RE project strengthens community connectedness and resilience and well as building local skills. Communities are well positioned to do the work of relationship building and community engagement and can take a 'sweat equity' stake for this vital upfront work.

The sense of community ownership that comes with personal investment in a large RE project also enhances community relationships and improves energy behaviours.

*Key partnerships:* Retailer for power purchase agreements, SAPN for project locations, Suppliers.

*Funding sources:* The ability of the retailer to on-sell generation may allow it to be the main project backer, Community investors, private investors (PPA model), philanthropists, grant funding.

*Financials:* Purchasing local RE directly would arguably provide a greater return to the generator than sale to the wholesale market. This would serve to create greater economic value within the region. Each project backed by the Foundation differs and due diligence must be applied on a case by case basis. As a benchmark, every 1MW of solar generation can be expected to cost $1m - $2m with a payback of around 6 yrs. A 5-10% return on investment could be anticipated.

**2. Solar and battery systems for emergency power and/or better power prices**

*Description:* Energy companies across Australia are looking for opportunities to own or control batteries in order to stimulate virtual power plants and give the companies flexibility during price events or network constraints. These efforts can go part way to funding battery investments. Solar and battery systems could be installed on emergency and other key community facilities to provide additional energy security and a place of refuge during emergencies such as bushfires and extreme heat events. These facilities often do not use large amounts of energy therefore have good storage capacity which could be drawn on when necessary.

*Examples:*

- **SAPN trial** for a virtual power plant was rolled out in Salisbury to avoid the costs associated with upgrading a feeder.

*Value propositions:* More robust emergency facilities and secure homes can be resourced by partnering with energy companies or suppliers.

Emergency support can be the starting point for virtual power plants (VPPs) and developing local network services.

89% of community survey respondents indicated they would be interested in this activity.

*Key partnerships:* SAPN, energy retailers, solar and battery suppliers

*Funding sources:* Grant funding, partnerships with suppliers

3. Explore opportunities to deliver waste programs alongside energy programs on behalf of councils and state governments as a source of income for the program.

*Financials:* Costs will vary depending on the size and scope of projects. This activity requires further investigation by the Foundation.

**3. A community-based electricity retailer**

*Description:* A community-based electricity retailer offers an alternative model to a traditional electricity retailer as it usually established with the aim to deliver benefits locally. This can include purchasing from local generation projects, offering competitively priced energy, employing local staff and channelling profits into local energy projects. The retailer facilitates the retention of expenditure on electricity within the region. This is a core element of this model and discussed in detail in Section 7 and Appendix G - Electricity Retailer Models.

*Examples*:

- **The Northern Alliance for Greenhouse Action** is a council body similar to Resilient Hills and Coasts which is investigating establishing its own energy retailer.
- **Enova Energy -** Australia's first and only community-owned energy retailer
- **Powershop 'Your Community Energy'** - customers can pay a premium on their electricity, with the premium amount going into a fund to support renewable energy projects across Australia
- **Energy Locals** - a social enterprise that retails electricity through community organisations

*Value propositions:* 88% of community survey respondents indicated interest in this activity, making it the equal second rated activity in the survey (along with emergency capability development).

*Key partnerships:* Councils, community energy retail partner, community.

*Funding sources:* Grant funding (for example the state government's Regional Growth Fund[15]) might be available to assist in developing a community energy retailer/retail offer. Alternatively, Councils will be required to fund this activity.

*Financials:* $100-150,000. Further discussion on financials for the retailer is found in Section 7.

**4. Solar and battery bulk buy (can include other technology)**

*Discussion:* Bulk buy programs can reduce energy consumption by providing cost effective options for energy efficiency and renewable energy products. Council-supported programs give households and businesses the confidence that the offer is commercially competitive and technically sound. A number of solar bulk buys have already been conducted in the region. Solar take up is already high. Competitiveness in the solar industry has made it increasingly difficult for a bulk buy to deliver surplus. Profit to the organisation is delivered only after reducing capital costs for customers, and can easily be reduced by ensuring reasonable customer service on products. Bulk buys for other

[15] www.pir.sa.gov.au/regionalgrowthfund

products, such as batteries, electric vehicles and monitoring equipment may provide better take up in the region.

*Example*:

- **MEFL** runs bulk buy campaigns as part of its contracts with various councils.
- Suncrowd - a social enterprise that partners with community groups to run local solar and battery bulk buy campaigns. The model provides operational income for local community groups through a small percentage added to the cost of the systems. (merged with ShineHub)
- BREAZE - Ballarat renewable energy and zero emissions is a community based non-profit with a focus on installing solar and energy efficient solutions in homes, schools and community buildings.

*Value propositions:* 85% of community survey respondents indicated they would be interested in participating in this activity.

The Councils already know how to conduct bulk buys and have done so successfully.

A similar program administered by the Foundation will help to build trust in the organisation, generate an income and help refine the bulk buy model.

Existing infrastructure concerns with excess solar in the region could be managed by encouraging uptake of batteries through a bulk buy. A battery bulk buy could also take advantage of the new state government battery subsidy.

A bulk buy using local service providers helps build regional capacity, provide good customer service and provides economic benefits to the region.

*Key partnerships:* Suppliers, wholesalers, installers.

*Funding sources:* The proposed state government battery subsidy of $1000 per household could enhance the benefits of a battery bulk buy. Otherwise this is a low-cost program to run.

*Financials:* This program can be designed to be cost-positive. Any upfront costs in marketing and supplier engagement can be recovered through sales of equipment. 1000 sales (2% of households in region) with $350 profit per sale (based on MEFL experience) => $350,000 per program

*Delivery considerations:* Low cost, low risk program that can obtain good results. This can be run by councils or community groups without need for the Foundation. Recommended as an early project to provide income for the Foundation and other positive effects.

**4a. Energy efficiency and support for all local council operations**

*Description:* The Councils will have capital works and project management programmed for their internal operations over a period of years. These works would be intended to improve energy efficiency and reduce climate impact in council buildings and operations.

*Value propositions:* By delegating responsibility for these operations to the Foundation, Councils can provide a safety net of revenue to the Foundation in the traditionally low-revenue early years of existence.

This will allow the Foundation to develop relationships with Councils and with local service providers. It will ensure that expenditure on these works remains largely within the region, and enhance the skills within the Foundation's staff.

*Key partnerships: (to shape delivery model):* Councils, local service providers, expert consultants.

*Funding sources:* Internal council budgets, grants or other funding as part of normal council business

*Financials:* Available funding varies greatly depending on the Councils' level of ambition to improve their own energy efficiency and capacity to divert operations to the foundation.

**5. Energy advisory services for homes and businesses**

*Description:* A service or program that provides easy to understand and trustworthy advice to the general public to enable them to make simple informed decisions on how to reduce the cost of energy use in their homes or businesses. These services can be developed based on the region's priorities and can include advice on energy efficiency and home improvement, as well as education and service delivery in these areas. These programs are seldom delivered by the market as they are cost-negative to deliver.

*Example*:

- **Positive Charge** - A program delivered by the Moreland Energy Foundation (MEFL) that provides energy saving advice, and links customers to selected suppliers and installers of energy efficiency and renewable energy products and services. MEFL's Positive Charge program is funded by councils for their constituency.

*Value propositions:* 85% of community survey respondents indicated they were interested in this activity.

A local program would benefit by leveraging purchasing power and discounts driven by government policy. A local scheme would potentially be able to access the South Australian Government's Retailer Energy Efficiency scheme to improve outcomes

Delivery of these programs by a foundation rather than individual councils improves efficiency and outcomes.

The existence of an organisation motivated to pursue grants and programs of benefit to the region may be successful in attracting a good proportion of available funding.

Home renovation and improvement services can improve outcomes in other council services such as planning and approvals.

*Key partnerships:* Expert consultants for program development, volunteers, suppliers, low income support services, REES (State Government), building industry

*Funding sources:* Councils, grant funding

*Financials:* Funding required will vary depending on the type of advice and support offered - high level information and short courses can be provided by volunteers, while detailed information and extensive education campaigns will need to be appropriately funded and resourced. Many community energy groups run programs of this nature, and the Foundation should conduct further research as part of program design.

**6. Peer to peer trading of surplus solar energy**

*Description:* Peer to peer trading gives households the opportunity to sell their excess solar generation locally, selling it direct to neighbouring households rather than back to the grid. This helps to maximise the benefits of renewable energy locally, manage demand and reduce network costs. Technology and regulatory rule changes will be needed to allow direct trading and in the meantime, the retailer can facilitate this activity. This is an emerging opportunity that will allow for greater local consumption of renewable energy.

*Example:*

- **The Community Grid Project -** A partnership between United Energy (distributor), the Mornington Peninsula Shire (Council) and GreenSync (energy technology company) to offer a solution that sees electricity loads shifted and managed in peak times, using a software platform to manage local loads, batteries and solar energy.

*Value propositions:* 73% of community survey respondents indicated interest in this activity.

The ability to connect sites to share electricity means that the imbalance of solar production (businesses continue to produce energy on weekends when they are not operating, while homes produce energy during the weekdays when occupancy is lower) can be reduced.

*Key partnerships:* Developer, supplier

*Funding sources:* The infrastructure to support peer to peer trading is currently funded by start-up investors and energy companies as they try to develop the model and business case for these innovative technologies. The technology offers efficiencies that are expected to lower electricity costs.

*Financials:* Costs will vary depending on the size and scope of projects.

**7.Local action plans for energy and climate (and resilience)**

*Description:* A community-wide strategy/action plan that sets renewable energy or carbon reduction targets to drive local action. This is often developed by Council with strong involvement from the local community, or in some cases driven by the local community. Community plans require volunteer involvement and drive from local community members. These initiatives can be assisted and inspired by modest funding for facilitators and community energy expertise.

*Examples:*

- **ZNET Uralla** - A program originally delivered in Uralla in response to a council competition between communities to be the first zero-net energy town. This model is currently being developed for Hepburn Shire in Victoria.
- **Totally Renewable Yackandandah** - Bottom up approach where a local community group was established with the aim of Yackandandah being 100% renewable energy by 2022
- **Beyond Zero Emissions** - BZE recently released a guide to zero carbon communities and facilitates workshops in communities.

*Value propositions:* Local action plans enable the community to identify priorities and progress towards reaching a shared goal.

The expertise gained by community members through the process will allow them to share these skills with the broader community. Unemployed or marginalised groups could be targeted through this process for skills development.

*Key partnerships:* Community groups and organisations

*Funding sources:* Grant funding, Council

*Financials:* Approximately $5,000 cost for each community group which could pay itself back in volunteering and project development

**8. Collaboration with developers – e.g. to build microgrids**

*Description:* The opportunity exists, both in new housing developments and remote areas such as KI, to develop microgrids (stand-alone or thin-wire connected) which reduce costs and return benefits to the community. Microgrids are a small-scale power grid that can operate independently or in conjunction with the area's main electrical grid. This can be a cheaper and more reliable solution than connecting to the main grid, particularly for new developments or locations with capacity constraints.

*Example:*

- **White Gum Valley housing development** - Solar and battery storage trial on an apartment building where solar will be traded between apartments

*Value propositions:* New developments involve significant capital investment in energy infrastructure and micro-grids offer a cheaper alternative.

Micro-grids can operate as an embedded network, with different rules compared to the main electricity network, one of which is lower contributions to SAPN for use of the wider grid.

Developing local skills in integration of infrastructure.

Reducing dependence on SAPN and the connected electricity grid.

Create awareness in the developer community about energy considerations for new developments.

*Key partnerships:* Developers, SAPN.

*Funding sources:* As microgrids can usually offer a cheaper alternative to traditional connection to the grid, funding can come from savings to the developer.

*Financials:* Costs will vary depending on the size and scope of projects.

**9. Home renovation, building education and home improvement services**

*Description:* Housing performance standards directly affect energy use and costs associated with running a house. Programs that look at improved home design and large scale retrofits as well as energy education can have a significant impact on emissions reduction. The scale and upfront financial requirements often mean these programs need be funded by State or Federal Government.

There are a number of opportunities to influence the design and construction of buildings to improve energy performance in the long term. Initiatives that intervene at critical decision points, promote best practice and encourage householders to demand that their buildings are future proofed for energy and climate are key.

*Examples:*

- **Moreland Home Renovator Service** - Free one hour consultation to help residents make sustainable design, material and product choices when renovating. The service is funded by Council and delivered as part of MEFL's Positive Charge program
- **Cooling Communities Project** - Delivered by MEFL through a State Government grant that looked at what could be achieved with a small retrofit budget using passive methods on 10 existing homes.

*Value propositions:* Improving homes can have long term benefits and the renovating process is a key time to influence home-owner decisions.

The trades and professions across the building and construction sector can benefit from a skill set that better accommodates knowledge of the changes in energy systems.

Planners within councils can also increase skills and can be presented with projects that are more likely to fulfil regulatory requirements.

*Key partnerships:* planners, builders and associated professions, suppliers.

*Funding sources:* This can sometimes work as a fee-for service but the examples above have been supported by council and government funding.

*Financials:* This activity would be positioned as a break-even proposition, to ensure maximum value is returned to the participants.

**10. Renewables for All**

*Description:* Many people are unable to access solar or other renewables due to suitability issues, rental or income concerns. Energy equity programs such as solar gardens (small-scale solar installations shared by groups of homes and businesses) aim to improve access.

*Examples:*

- **Darebin Solar Savers -** Council-led program targeting ratepayers on an old age pension that provided households with a no-interest loan to purchase solar panels with repayments made through the household's rates
- **Solar gardens** - Centralised solar array that offers people the opportunity to purchase or lease solar panels with the electricity generated credited to the customer's energy bill. This concept is being explored by a number of organisations in Australia.

*Value propositions:* Improving the accessibility of lower-cost RE can assist in protecting the most vulnerable households in the community from energy poverty.

*Key partnerships:* Low-income housing, suppliers, community.

*Funding sources:* The solar gardens program is exploring a number of financing models however is still in the trial phase. For low income consumers, access to cheap finance is essential but credit risk can make the sector unattractive to normal financial institutions. Micro-finance and No-Interest-Loan-Schemes are also possibilities for this sector.

*Financials:* This activity would be positioned as a break-even proposition, to ensure maximum value is returned to the participants.

# Appendix E - Informant Interviews

## Interview Questions

**Interview Questions – Retailers**

Now that you understand a bit about the proposed model how do you think you might engage with a program like this?

How does community energy (in all its forms) fit within your strategic direction/ business model?

What sort of community benefit mechanisms would you include in a program like this?

Types of unique products that could be offered to local consumers i.e. no-upfront cost solar combined with PPA

Types of collaborative services that could be offered by retailer ie VPP and micro grids

Facilitate grant programs ie SA Governments battery rebate

Are there opportunities for local economic development? What are they? i.e. Is there any potential for you to build a local presence…

How would you see the community being involved in a program like this? Opportunities for community ownership? Or investment? Or in the governance?

what do you think the likely take-up will be by the community and what are the compelling reasons for their participation

What do you see as the key governance considerations for a program like this? i.e. how would you interact with a local board? What are your governance arrangements? What sort of oversight? Opportunity for auditing etc.

What do you see as the key financial considerations for a program like this? i.e. income thresholds? Investment in marketing? Customer numbers (cost of acquisition) etc.

What do you see as the legal considerations for a program like this? i.e. contract? MOU? Length?

Tell us a bit about how you manage customers, going beyond basic customer service, are there opportunities for broader engagement or education?

Any other feedback?

**Interview Questions - Community Energy Groups (who've done it/are doing it)**

Tell us your story

Where did the concept originate? What was the problem you were trying to solve?

Are you solving it?

How long did it take to build from concept to reality

What were the critical success factors?

How was the project managed?

What governance structures did you/ do you have in place?

What sort of funding was required? Where did it come from?

Who were your key partners? What were their roles and responsibilities?

How did you address blockers ? and what were key concerns raised by the community

How do you describe your model and specifically the community benefit that is at the centre of your model?

Any feedback for the team?

If you had your time over again what would you do differently.

If not already answered …. what involvement has local government had in supporting your project. What have been the benefits/challenges of working with local government?

**Interview questions - Community leaders**

What interests you about this model? Why did you agree to be interviewed?

What concerns you about the proposed model?

What would you need to get involved? Information, support etc

With what you know about your local community, how do you think they will respond to this concept? How could we improve the concept to get more community buy-in?

What are the key ingredients? The key messages? The key stakeholders etc.

This program is responding to the current challenges the community is facing with regards to energy affordability and security, it is also about building an energy solution for the future. What do you think the region will look like in 2050? How do we best future proof the region?

Can you recommend any other people/groups/community leaders who you think would like to get involved?

## Summary of interview responses

### Reasons for supporting the Program

**Reliability**

- Everyone is concerned about the cost and reliability of energy
- Reliability comes from ability to generate own power
- One of the biggest issues is around reliability - need locally sourced power
- Link between power and communications very strong – need reliability (fire risk)
- Self-sufficiency reduces reliance

**Affordability/financials**

- Could mean buying in power, have some sort of way of collective bargaining of energy generated somewhere else
- Option in to buy-in/invest
- Businesses can't afford to insure against an extended outage - potential loss of income
- Many people can't afford systems on their own
- Economics – adds competition to the market
- A way to achieve immediate benefits

**Community**

- Localised energy production means communities are more connected
- Solutions grass roots up
- Bespoke solutions for communities because they all have such different needs
- Empowers local communities to take some control
- I would like to empower local communities to be able to claim the carbon credits that it makes
- Community owned, so the shareholders need to be community therefore board will be accountable – look for many ways to engage with the community
- Empowering the most vulnerable in the community to take action

**Renewables and Storage**

- People very enthusiastic around solar - some people can't have solar panels because they are shaded etc. want something to tap into
- Lots of solar, next development should be around battery
- Need localized storage – people own poles and wires again – be able to pass on to someone else
- There are lots of community buildings to put solar on

**Other**

- Number one focus should be around education – how to save money by switching energy retailers – direct debit brings biggest savings across the plans
- Energy Efficiency should be targeted but payback periods are an issue
- Sensible way to start is to be more efficient first before looking at investment
- Initially could look at using existing retailer – long term for local organisation to take over
- Start with program that offers them the best deal – then later on think about investing in their own retailer
- Peak demand management is critical for region

## Considerations

**Board/Organisation**

- Believe board needs to be established first to make decisions
- Would like to see it as a not for profit model
- Setting up board needs to happen first – recommendations from MEFL/Tandem – make appropriate decisions
- People on board need to be appropriate people that can be trusted stakeholders (customers) need to be on it - experts to show alternatives
- Imperative that a financial person sits on the board so that they can identify risks
- Sufficient skill mix – operational business people rather than policy business people
- Framework to support the people on the board – don't want to pay them too much or nothing
- Board making the business shots but within the aspirations of the community

**Commercial**

- Commercial businesses are the ones that we really need to look at
- Look at new housing developments - council could enforce that new development incorporate solar on roof tops and battery storage that is community owned
- Businesses should also be targeted
- Lots of housing being built – grossly inefficient

**Financial**

- How much seed funding is needed
- Sufficient seed funding to do feasibilities and set up governance framework. Don't create another poor NGO - have sufficient baseline projects ready to go
- Major sponsor – a promotional face
- Need staff to manage and administer things, even if they are dealing with an outsourced provider
- NFP, run on volunteer time with a bit of support and the funds to operate the essentials
- Need to know there is no risk for council - if things go wrong, who gets sued?
- Need someone look at the analysis on the financial viability – need to agree with the model and assumptions, firm plan in place
- The devil is in the detail. Need to have more specifics.
- Probably needs a double check/reality with independent outsiders

**Renewable and storage**

- Need to be able to consume as much of the locally generated energy as possible rather than exporting
- Someone looks at all of the retailers – like with super - tell you what the best options are – give you the option of 5 different retailers
- PPA model has a place for specific target market

**Retail/SAPN**

- Someone looks at all of the retailers – like with super - tell you what the best options are – give you the option of 5 different retailers
- How to convince SAPN to pay for the services
- Make the retailer a buying group rather than a retailer
- Prefer to see retailer/board that brokers an energy deal that is better for the community – aggregation bulk power – needs to be consumer saving – lower the price of energy rather than profits made

**General**

- Transport accounts for much higher resource use than anything else in the region – need to look at this
- Will take a long time establish own renewably sourced energy, need other options in the meantime
- Add in intermediate technology solutions.

- Regional priorities – climate change sits up there
- Why is Onkaparinga not part of it? That would make a big difference
- Opportunity to engage heavily with SAPN to supply network services, demand management
- Arena should be throwing buckets of money and to get it right. SA consumers shouldn't have to carry the cost if fixing this problem badly because the rules dictate it
- Ensuring that the NEG supports these arrangements.

## Concerns

### Renewables/Storage

- Solar - VH has a ton of solar – market might already be saturated
- 35% of home in the area already connected to some sort of solar energy – perhaps those customers don't want to get involved
- Who is owning the renewable energy – who is buying it, who can claim carbon reductions

### Customer base

- If you can't get the customers, you haven't got a business - needs to go beyond councils as the main customer, method of growing shareholding and customer base
- Not enough people buy into it – not having LG support
- Aggregation could prove to be difficult – if you go in for group deal (e.g. best energy contract for group buy) what if people decide to break away from the group. Individuals could compromise
- Is scale going to be a problem – not enough people to transition over

### Financials

- How do we operate – how do we raise money – how is the council involved – needs to stack up financially
- What happens if initiatives go bust – who wears risk?
- How do savings get split if the retailer model is put in place?
- Huge risks if we don't get the fundamentals right.
- Everything double counted twice over
- Developing a 10 year plan – how will energy needs change with new developments

### Retailer

- There should be an option not to tie in retailer for too long
- If Councils/state gov are spending money on this project is it going to commercial retailer?

### Board

- That the board members are not all suits – they need to include people that are in touch with community
- Need to make sure that conflict of interest is removed.
- Who is the watch dog for the board?
- Is there enough expertise in the region for the board?
- Needs comms person on the board
- Higher risk of being undermined unless we have the advocacy

- Regional is a problem – how to allocate benefits in different regions, needs strong governance
- Guidelines and rules incentives this, transparency?

**Community**

- People in the hills are quite reserved people – slow to take up
- If households are the lynchpin then forget it because disengagement is too high to rely purely on this model
- Scepticism cynicism by some blocks of folk in community. Unravelling in community, drivers seem to be moving into two different camps.
- A key couple of drivers bring something into being but if they leave the whole thing falls in a heap
- Need to engage someone, and then a firm commitment to stay the course – 3 to 5 year plan.
- Council risk, totally directionless and will end up doing nothing. Mustn't be undermined by a new climate sceptic mayor, for example.

**Communication**

- Successful business case – once the board is setup, this should be the first step
- Having clear objectives
- Start conversation at a community level
- Have public meetings – good way to engage with the community – face-to-face
- Paint a picture of how the region will look in 10 years – here's an opportunity to plan for it
- Take technical aspects and put into terms that the community understands
- Info sessions, webpage – but need face-to-face contact - people need a face to be able to trust
- Need to give a reason for them to get involved – why it is important
- Clear one pager to describe how to get involved, what benefits are
- Shift the questioning to what's needed and what gets in the way of the solutions
- Show me something that is working - examples

# Appendix F - Community Energy Survey

To help determine the support from the community for a community energy program, a survey consisting of twelve questions was constructed and circulated through the Resilient Hills and Coasts social media and contact channels. In total, 380 people responded to the survey, providing us with a good understanding of community sentiment.

The majority of the respondents live and or work in the region. Other responses came from those who have a holiday home or are interested in investing in the area. A small amount of responses came from outside of the six Council regions.

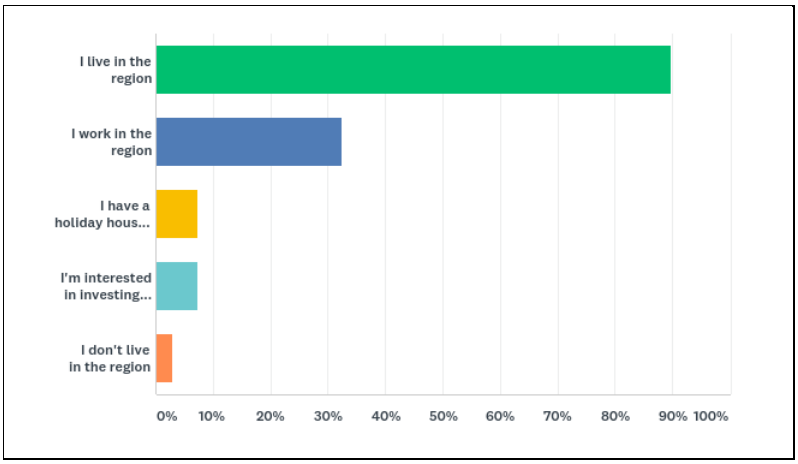


**Figure 2 - Relationship to Hills and Coast region**

The average age of respondents was dominated by those over 45, with 194 respondents being over the age of 55.

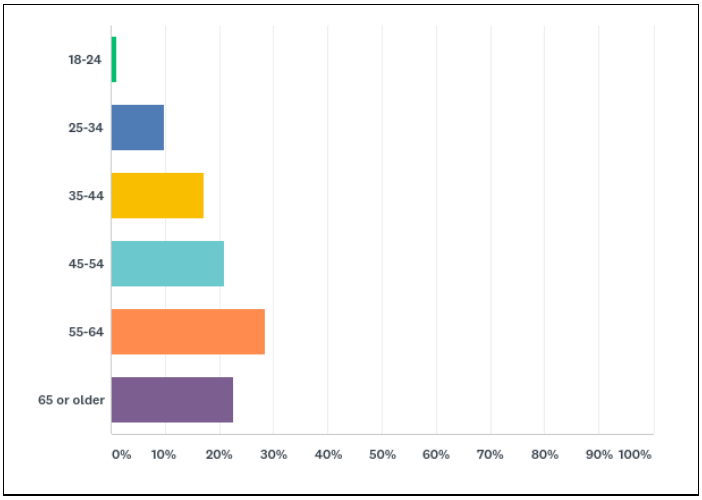


**Figure 3 - Age of respondents**

Out of the 380 responses, Alexandrina Council had recorded the highest participation in the survey, followed by Adelaide Hills and Victor Harbour.

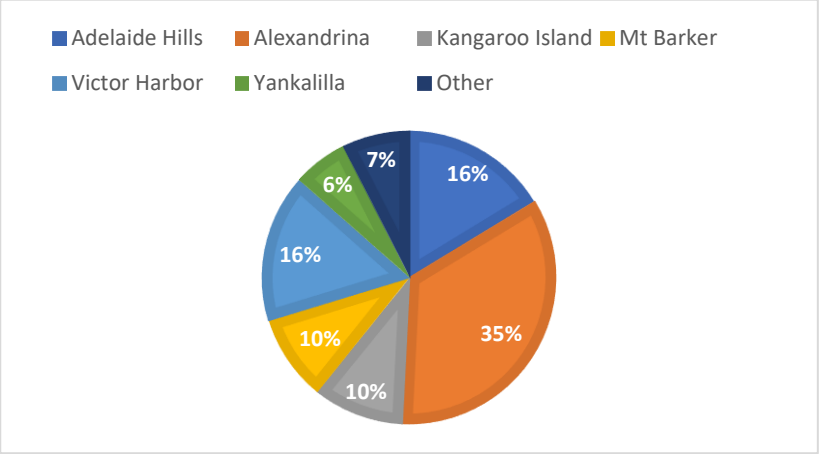


**Figure 4 - Participation by council area**

### Understanding of energy and community energy

Most respondents rated their understanding of the South Australian energy market to be modest to good, erring towards modest. When given the opportunity to respond openly, much of the lack of understanding came from lack of trusted sources of information and a lack of transparency within the energy market. It was also commented that there is no simple way for consumers to know if they are getting the best energy deal.

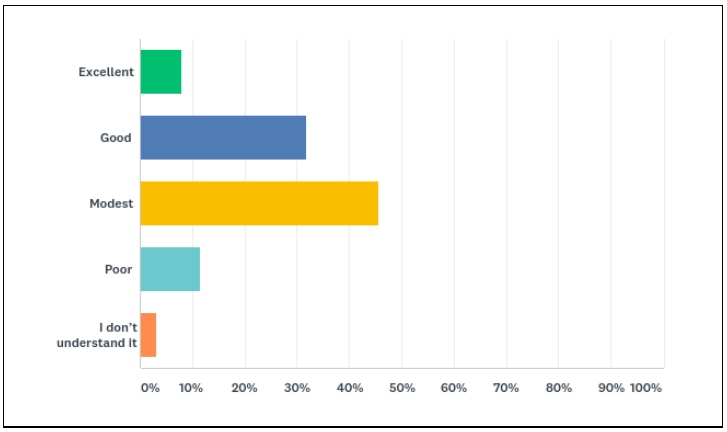


**Figure 5 - Understanding of the South Australian energy market**

When asked to explain their thoughts on community energy, 24% said that they were not sure but were interested to know more about community energy, 35% thought it sounded like a good idea, and 36% believed that greater community participation and community energy initiatives could help solve energy system challenges.

### Energy concerns

When asked to rank which energy issues concerned them the most, **energy bills** and **the impact of our electricity system on our climate and environment** were of most concern, with 38% and 35% of respondents respectively rating them the number 1 issue. The impact of **energy costs to the community** (particularly vulnerable citizens) was also a focus, as well as the **reliability** of the system.

**Table 2 - Concerns of respondents**

| Concern | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Additional Comments * |
|---|---|---|---|---|---|---|---|---|
| Energy bills | **38.31%** 136 | 12.39% 44 | 12.11% 43 | 8.17% 29 | 13.24% 47 | 14.08% 50 | 1.69% 6 | 4 |
| Impact of energy affordability on the community | 11.33% 41 | **27.07%** 98 | 22.65% 82 | 19.89% 72 | 13.81% 50 | 4.70% 17 | 0.55% 2 | 61 |
| Reliability of supply | 8.52% 30 | **21.59%** 76 | 14.49% 51 | 19.89% 70 | 20.45% 72 | 13.35% 47 | 1.70% 6 | 24 |
| Impact of energy reliability on community | 3.81% 14 | 12.81% 47 | 23.71% 87 | 25.61% 94 | 20.44% 75 | 13.35% 49 | 0.27% 1 | 7 |
| Impact of energy system on climate and environment | **35.44%** 129 | 15.66% 57 | 14.56% 53 | 11.26% 41 | 12.64% 46 | 8.52% 31 | 1.92% 7 | 42 |
| Ability to make good energy decisions with frequent changes to energy system | 4.70% 17 | 11.88% 43 | 12.43% 45 | 12.71% 46 | 16.85% 61 | 39.50% 143 | 1.93% 7 | 11 |
| Not worried at all | 2.74% 9 | 0.61% 2 | 0.91% 3 | 1.82% 6 | 1.82% 6 | 0.91% 3 | **91.19%** **300** | |

An opportunity to provide open comments on the topic was given, with many of the responses being an elaboration of the sentiments already displayed. Other comments included the desire to see more alternative energy sources as well as the types of sources desired. The majority wanted to see more solar, wind, wave and hydro, with a few concerns around why other opportunities were not being explored such as capturing methane from steds plants for energy and nuclear based generation (3 responses).

Frustration was expressed towards the privatisation of our energy network, and the reliance on SAPN. There were also comments around lack of action at State and Federal Government levels.

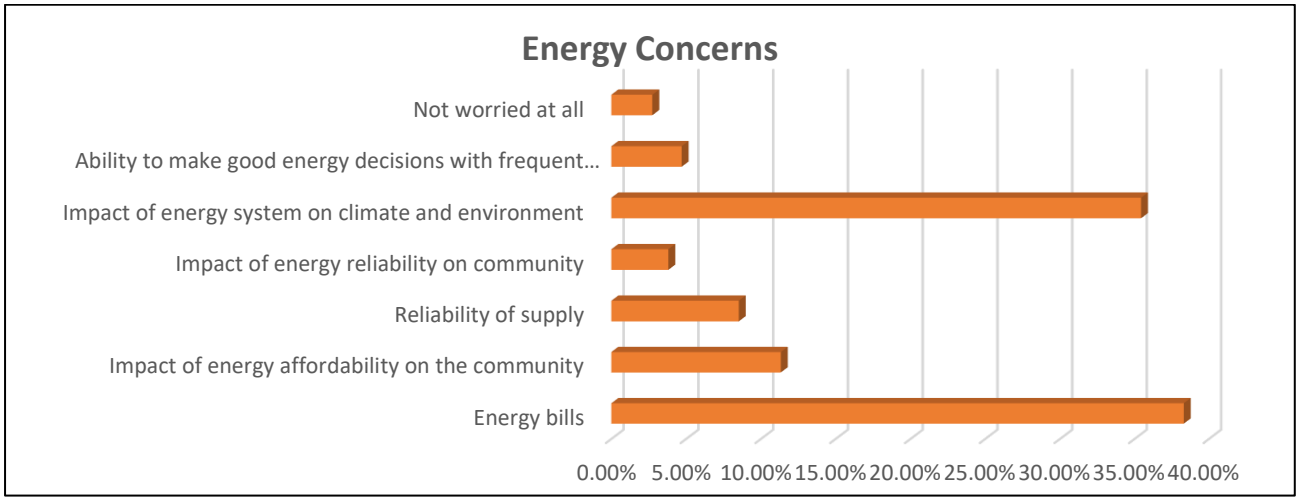


**Figure 6 - Energy concerns ranked highest**

### Current actions

Respondents were asked to provide feedback around the types of energy actions that they are currently involved in or that they are interested in being involved in. The majority of respondents (64%) said that they currently invest in making their home more energy efficient and 51% said they shop around for their energy deal.

Over 50% of respondents said that they already had solar electricity with a further 20% saying that they cannot have solar energy due to their circumstances.

None of the respondents responded to the question around contributing to a local energy project or organisation or that they contribute to energy savings at work.

**Table 3 - Participant energy actions**

| Action | Currently does this | Planning to do this | Interested but needs more information | Can't do due to circumstances | Doesn't do and not interested | Doesn't know |
|---|---|---|---|---|---|---|
| Has solar hot water | 31.42%<br>115 | 11.75%<br>43 | 17.49%<br>64 | 26.50%<br>97 | 10.38%<br>38 | 2.46%<br>9 |
| Has solar electricity | **52.13%**<br>196 | 15.16%<br>57 | 11.70%<br>44 | 18.88%<br>71 | 0.80%<br>3 | 1.33%<br>5 |
| Work has solar electricity | 22.02%<br>72 | 5.20%<br>17 | 4.28%<br>14 | 29.05%<br>95 | 10.09%<br>33 | 29.36%<br>96 |
| Seeks expert advice on energy choices | 38.76%<br>138 | 17.98%<br>64 | 25.56%<br>91 | 4.21%<br>15 | 8.71%<br>31 | 4.78%<br>17 |
| Invests in making home energy efficient | **63.98%**<br>238 | 14.78%<br>55 | 10.48%<br>39 | 8.06%<br>30 | 1.34%<br>5 | 1.34%<br>5 |
| Has a battery | 4.71%<br>17 | 26.04%<br>94 | 35.73%<br>129 | 26.32%<br>95 | 3.88%<br>14 | 3.32%<br>12 |
| Has a generator or power supply | 15.63%<br>55 | 8.52%<br>30 | 14.77%<br>52 | 23.01%<br>81 | 32.67%<br>115 | 5.40%<br>19 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Shops around for energy deal | **51.09%** 188 | 16.30% 60 | 17.66% 65 | 4.89% 18 | 6.52% 24 | 3.53% 13 |
| Buys from retailer that contributes to community | 10.92% 38 | 6.61% 23 | 27.59% 96 | 7.76% 27 | 6.32% 22 | 40.80% 142 |
| Buys GreenPower | 15.63% 55 | 10.23% 36 | 24.72% 87 | 11.93% 42 | 14.77% 52 | 22.73% 80 |
| Has an electric vehicle | 3.18% 11 | 11.85% 41 | 15.90% 55 | 33.24% 115 | 30.35% 105 | 5.49% 19 |
| Uses smart control or energy monitoring | 11.05% 39 | 9.92% 35 | 35.41% 125 | 16.71% 59 | 17.85% 63 | 9.07% 32 |

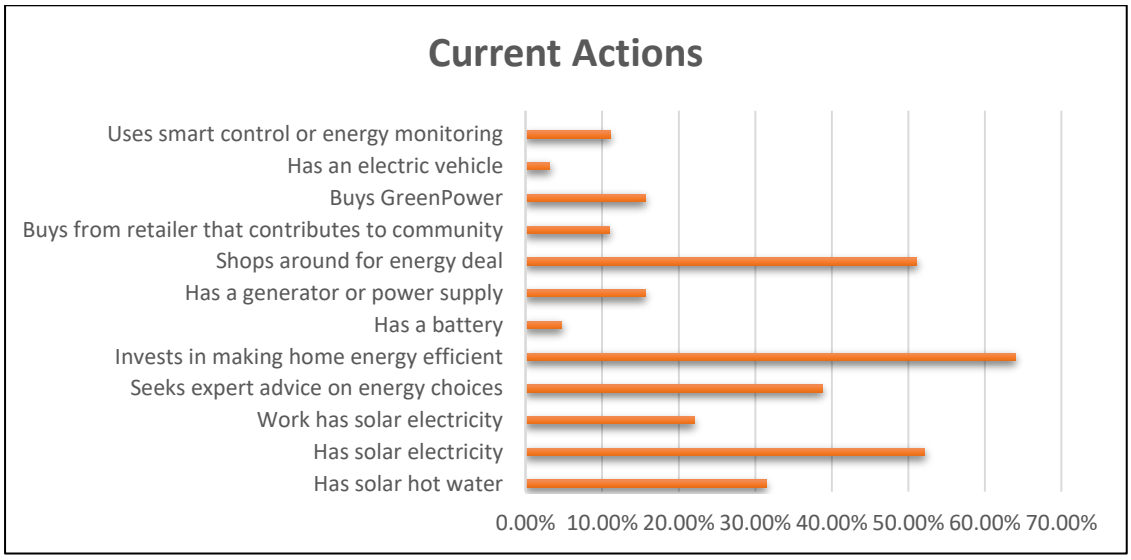


**Figure 7 - Current actions**

**Responsibility**

Respondents were then asked how much certain groups should be responsible for supporting local opportunities to generate renewable energy and to reduce energy demand. The overwhelming response was that State Government (78%), Federal Government (74%), and electricity companies (73%) are highly responsible. 32% felt that Local Government were highly responsible.
When analysing responses ranked very or highly responsible, 353 votes were given to State Government, 337 to Federal Government, 330 electricity companies, and 258 to Local Government.

**Table 4 - Responsibility for renewable energy and energy efficiency**

| Responsibility | Not at all responsible | A little responsible | Moderately Responsible | Very Responsible | Highly Responsible |
|---|---|---|---|---|---|
| Local Council | 2.90% 11 | 6.33% 24 | 22.69% 86 | 35.62% 135 | 32.45% 123 |
| Individual Residents | 1.86% 7 | 9.02% 34 | 31.83% 120 | 33.42% 126 | 23.87% 90 |
| Local Businesses | 3.46% 13 | 10.64% 40 | 29.52% 111 | 36.97% 139 | 19.41% 73 |

| | | | | | |
|---|---|---|---|---|---|
| Local Community Groups | 3.75%<br>14 | 15.01%<br>56 | 39.95%<br>149 | 26.01%<br>97 | 15.28%<br>57 |
| Federal Government | 1.06%<br>4 | 2.91%<br>11 | 6.88%<br>26 | 14.81%<br>56 | **74.34%**<br>281 |
| South Australian Government | 0.53%<br>2 | 1.32%<br>5 | 5.01%<br>19 | 15.30%<br>58 | **77.84%**<br>295 |
| Electricity Companies | 2.13%<br>8 | 3.19%<br>12 | 6.91%<br>26 | 14.10%<br>53 | **73.67%**<br>277 |

**Participation**

When asked how respondents would like to take part in our energy system, the desire to be rewarded by the way respondents use energy was high, with 219 (59%) expressing this view. 208 respondents (56%) expressed the desire to have the ability to purchase energy that benefited the community.

**Table 5 - Ways to participate in energy system**

| Interest | % | Respondents |
|---|---|---|
| Not interested in energy | 3.48% | 13 |
| Would like to do more at home or work | 35.29% | 132 |
| Would like to see a system that rewards me for the way I produce and use energy | **58.56%** | **219** |
| Would like choices to buy energy and energy products that benefit the community | **55.61%** | **208** |
| Would like to be involved in making changes to our energy system in street or town | 35.29% | 132 |
| Would like to be involved in making changes to the energy system in the broader community | 36.90% | 138 |
| Would like to invest in local energy projects | 22.99% | 86 |
| Would like to be a community owner of my local energy system | 36.63% | 137 |

**Potential Energy Projects**

Respondents were most enthusiastic about energy projects that supported local renewable generation and for solar and battery systems that provided emergency power and or better prices. 102 respondents were enthusiastic about switching to a community energy retailer, with a further 213 respondents saying that they would switch to a community energy retailer if there were benefits to the community or to themselves.

**Table 6 - Support for energy activities**

| Project | Enthusiastic | If there were benefits to community | If there was a benefit to me | Don't know | No |
|---|---|---|---|---|---|
| Switching to a community-based energy retailer | 27.64%<br>102 | 30.08%<br>111 | 30.35%<br>112 | 8.40%<br>31 | 3.52%<br>13 |

| | | | | | |
|---|---|---|---|---|---|
| Supporting local renewable generation | **49.33%**<br>**184** | 27.61%<br>103 | 16.35%<br>61 | 4.56%<br>17 | 2.14%<br>8 |
| Receiving energy advice and services for homes & businesses | 39.12%<br>142 | 20.39%<br>74 | 25.07%<br>91 | 7.71%<br>28 | 7.71%<br>28 |
| Participating in a solar & battery bulk buy | 38.44%<br>143 | 16.94%<br>63 | 29.57%<br>110 | 9.41%<br>35 | 5.65%<br>21 |
| Solar and battery systems for emergency power and/or better power prices | **46.63%**<br>**173** | 25.61%<br>95 | 16.44%<br>61 | 8.36%<br>31 | 2.96%<br>11 |
| Participating in peer to peer trading of surplus solar | 34.15%<br>126 | 20.87%<br>77 | 17.62%<br>65 | 22.22%<br>82 | 5.15%<br>19 |

Finally, respondents were asked to share any other ideas they had relating to energy. Out of 208 responses, there were 6 main themes as well as some other general comments.

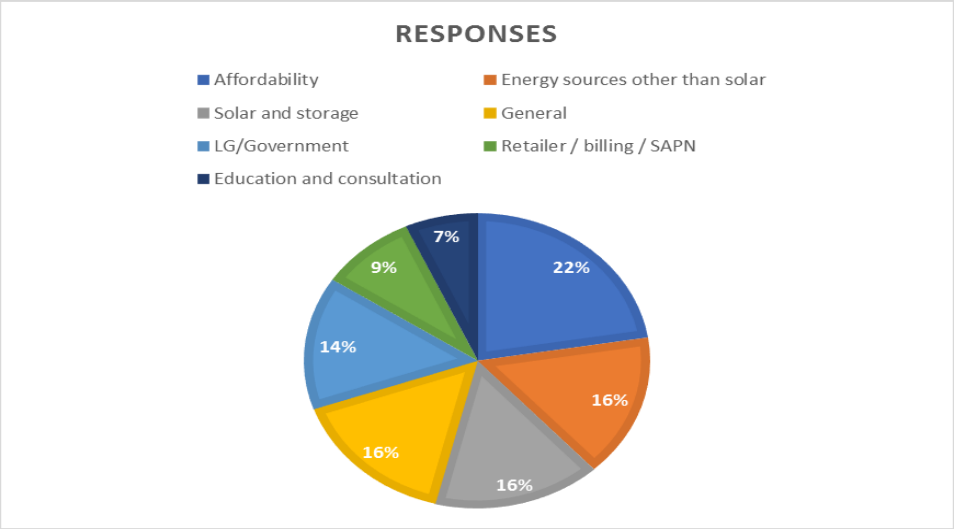


**Figure 8 - Themes for energy related ideas**

General comments provided in the free text sections of the survey have been collated and can be found in the Public Resource Library.

# Appendix G - Elected Members and Staff Workshops

Hills & Coasts Elected Members and Council staff were invited to attend one of three workshops across the six Council regions to seek their views on the design of a community energy program for the region. The workshops were held on Thursday 31st May at Alexandrina and Adelaide Hills Councils and Friday 1st June at the District Council of Yankalilla with approximately 60 attendees over all workshops.

Participants were provided with a briefing paper prior to the sessions which can be found in the Public Resource Folder. The workshops commenced with an overview of the project design and process to-date, an explanation of community energy, and the proposed model for a Resilient Hills & Coasts Community Energy Program.

Part two of the workshop provided Elected Members and Council staff opportunity to express their ideas and concerns around the project. The following is a summary of the feedback taken over the three workshops as well as data taken from a feedback form, which was issued at the end of each workshop.

**Vision**
Participants were asked *what elements they felt needed to be considered in the design of a community energy program*. A program that delivered reliable and affordable energy to all was a strong theme throughout all of the sessions. The concern around vulnerable citizens was high, as well as the region becoming more self-sufficient and less susceptible to system failures. Climate change mitigation was also highlighted as an important factor.

The need for the community to be at the centre of program was made clear, with ownership and benefits staying within the region. The opportunity for increased investment and employment in the region was an attractive proposition.

Most were of the opinion that Council's role in the program should be one of support; to provide support through the initial start-up phase and to potentially buy energy from the retailer, but not to be the face of the program.

**Success Factors**
Participants *were asked what they felt were the key ingredients were if the program was to be a success*. The need for community engagement was the strongest theme throughout this session with the understanding that without community trust and buy-in the project cannot move forward. Clear communication of the program, therefore, was deemed vital, with the narrative adapted to the needs of each region as well as examples of successful projects.

When it came to the model itself, many participants highlighted that a detailed business model and financial plan needed to be developed, stating "the devil is in the detail". Starting small and building on successes was a highlighted as a way to minimise risk, with a phased approach being most appealing. The need for the program to be agile in light of a rapidly changing market was also noted.

Setting up a board with well-articulated priorities and good governance was highlighted as an important first step. It was agreed that the board should consist of skilled community members with experience in relevant fields such as finance and energy – not members of Councils.

**Risk**

Participants were asked *what the potential risks were in undertaking the proposed model.* A lack of customers to establish a retailer or move ahead with various projects was of highest concern within the group (the need for a retailer, enough customers to support it, high penetration of solar).

Community participation and buy-in was also of high concern, as well as the abilities of the community itself (enough skills in the regions to deliver, the potential for champion fatigue or burnout). A potential lack of skilled and willing board members was also highlighted, with a lack of adequate governance and management being threats that could undermine the program.

Over promising and under delivering was key concern, particularly when it came to council reputation – it would reflect negatively on council if the project doesn't deliver or fails. Lack of funding and the cost of the program was also of high concern.

Other factors such as market competition, policy changes, pushback from SAPN and rapid technology changes were highlighted as risks, as well as the difficulty in obtaining support and consensus across the regions in general, and the potential for regions to segment.

**Ranked priorities**

Participants were asked to prioritise projects that could potentially be delivered by the RH&C Energy Program on a scale of 1 to 9. The following chart displays the number of number 1 votes given to the various projects.

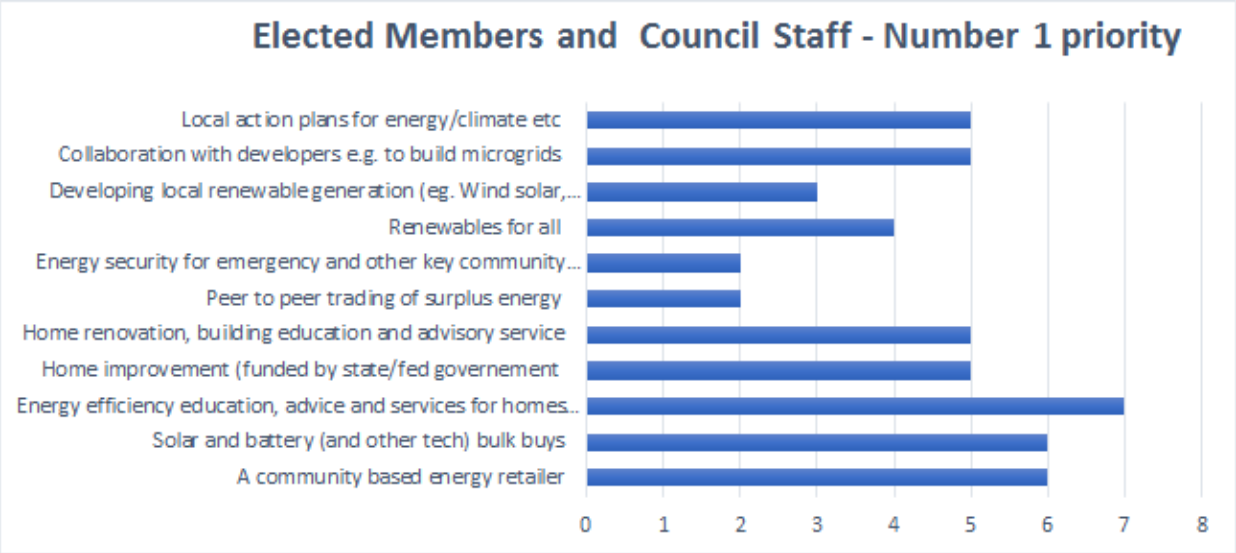


**Figure 9 - Workshop priority results**

Energy efficiency education was top priority for many participants with 7 votes, with bulk buys and a community-based retailer came in a close second with 6 votes each. Participants gave their second-place ranking to developing local renewable energy generation (3), energy security for emergencies (3), solar and battery bulk-buy (3) and a community energy retailer (3).The third-place ranking went

to collaboration with developers (3), bulk-buys (3) and a community energy retailer (3). Peer-to-peer energy trading was popular as a fourth choice.

**Support for the program**

As part of the feedback form, participants were asked to rate their level of support for the program, at this stage, on a scale of 1 to 5. The average rating was 4.16 with scores of 4 and 5 making up 76% of the total votes.

# Appendix H - Organisations to engage with

Through the survey, interviews and workshops, participants were asked to identify organisations that should be involved in a community energy model. Research conducted as part of this project identified other organisations. The following list is not exhaustive however can serve as a starting point for the Foundation's engagement strategy.

**Community Organisations**

Bright New World

Cittaslow Goolwa

CORENA

Enova

John Dee

Port Elliot Town & Foreshore Improvement Association

Resilient Communities Adelaide Hills

Shine Hub

Solar Citizens

Stirling Business Association and other local business associations

Tindo

**Commercial entities**

Beyond development

ITM

Local businesses eg Jurlique

Tesla

# Appendix I - Public Resource Folder

Due to the extensive nature of the research and data analysis for this project, a public folder holding additional information has been created as the Resilient Hills and Coasts Public Resource Folder. At the time of printing the following documents were in this library.

**Background Documents**

Draft Concept Document presented to Mayors and CEOs of the Southern Hills and Coasts, April 2018

Request for Proposals, Community Energy Program, November 2017

Moreland Energy Foundation Community Energy Program Proposal and presentation (March 2018)

Tandem Energy and Enova Energy Community Energy Program Proposal and presentation (March 2018)

Resilient Hills and Coasts climate change Adaptation Plan

**Community Surveys by Region**

Community survey results by Council area and other demographics (no of responses in brackets)

Full report(380), Adelaide Hills(62), Alexandrina(131), Kangaroo Island(38), Mount Barker(36), Victor Harbor(62), Yankalilla(23), Out of region(28), non solar owners(179), solar owners(196), Main issue is electricity bills(136), Main issue is climate impact(129).

**Energy Security Reports**

Local Energy Security Study for the SA Murray-Darling Basin Community (2011)

Demand Side Opportunities in the Fleurieu Region (2012)

Energy Security Strategy for Adelaide Hills Council (2012)

Toward 100% Renewable Energy for Kangaroo Island (2016)

Kangaroo Island Energy – Biomass study (2018)

Distribution Annual Planning Report 2017, SA Power Networks

**Regional Data**

Socio-Economic profile for the regional development zone, EconSearch 2017

Australian Bureau of Statistics Census 2016 Data for each council area plus linked spreadsheet to provide regional totals.

**Electricity Consumption by Transformer**

Substation data and graphs for substations across the Fleurieu and Eastern Hills, reported by council area:

Adelaide Hills(62), Alexandrina(131), Kangaroo Island(38), Mount Barker(36), Victor Harbor(62), Yankalilla

**Waste and Recycling Licenses**

Landfill maps. Waste and recycling licenses including historic landfill sites for each council area:

Statewide, Adelaide Hills, Alexandrina, Kangaroo Island, Mount Barker, Victor Harbor, Yankalilla

**Governance Resources**

Committee and Corporate Structures Available to Councils, July 2018

Evolution in Community Governance, Volumes 1&2

Local Governments and Communities Working Together – Induction Guide

Guide to Governing Shared Community Facilities

Various academic papers on community, renewable energy and climate change governance

**Resources not made publicly available (may be requested)**

Raw data from surveys, workshops and interviews.

Council energy data and related energy audits and reports

Solar analysis based on APVI data – spreadsheet

Consumption model based on a range of sources - spreadsheet