

Smart Energy Communities Program

Bringing together families, communities, small business and landholders to deliver practical smart energy projects.

Australians love local renewables

Australia is a genuine world leader in rooftop renewables. At a local level the uptake of household PV is one of the highest in the world. However, energy efficiency, mid-scale and community-led renewables are areas where Australia is lagging behind many other places. For example, in Scotland there are over 500 community energy projects delivering affordable electricity, energy independence, and start-up funding for new regional enterprises. In the US, community solar is one of the fastest-growing markets for solar PV. This presents untapped potential.

Energy efficiency, renewable energy and the smart grid are the new frontier, not only for energy provision but for communities and organisations concerned with local economic development, climate change action and community empowerment.

Sounds great, but what actually is community energy?

The Coalition for Community Energy defines community energy as:

“The wide range of ways that communities can develop, deliver and benefit from sustainable energy.”¹

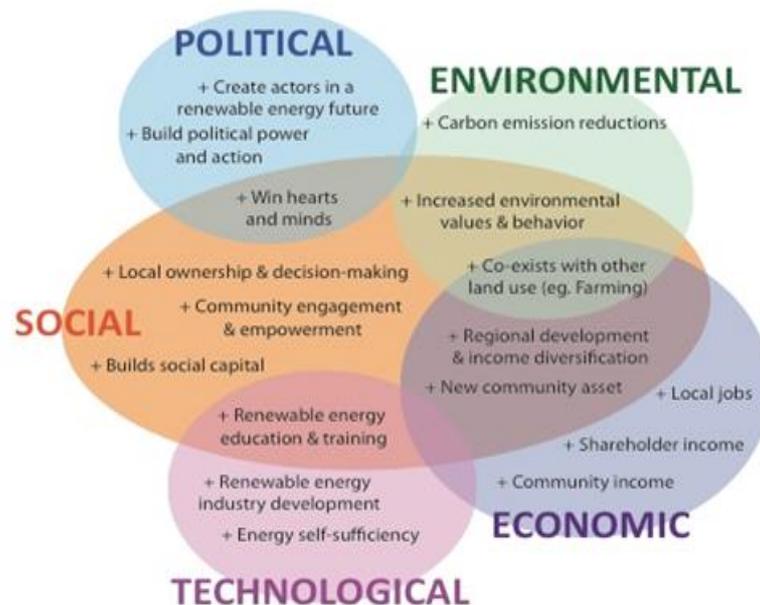
In practice, community energy projects include:

- communities fundraising to put solar on a community building, for example Adelaide-based [CORENA](#)
- people investing their hard-earned cash in a solar array on the local brewery or dairy, as was the case with [Pingala](#) in inner-Sydney and [Repower Shoalhaven](#) on the south coast of NSW
- a community-owned solar or wind farm at the edge of town, such as [Hepburn Wind](#) in Vic and soon [Solar Share](#) in the ACT
- communities developing 100% renewable or Zero-Net Energy Town plans, such as [Uralla](#) in NSW, which is starting with energy efficiency for local businesses and households (see Box 4)
- the first commercial micro-grid, which is a partnership between community energy group [Totally Renewable Yackandandah](#) and the local utility Ausnet Service
- community solar and battery bulk-buys, as is currently happening in New England by [Farming the Sun](#) and by [Victor Harbor Council](#), which led to 40% of residences having solar
- community pumped-hydro projects, as is being planned by communities in [Mullumbimby](#) in NSW and in the [Strathbogie Ranges](#) in Vic and
- the original community energy enterprise – Moreland Energy Foundation (see Box 1).

¹ Coalition for Community Energy, 2015, *National Community Energy Strategy*, accessible at www.c4ce.net.au/nces

With over 90 community energy groups and more than 80 operating projects, the list could go on. There are so many ingenious energy ideas that communities are pursuing, and they bring with them a range of environmental, social, monetary, technical and political benefits.

Figure 1²



Box 1: A Regional Energy Hub in Practice – Moreland Energy Foundation

There are many community energy enterprises implementing innovative community energy projects and programs, but Moreland Energy Foundation is the longest running and a model many communities are trying to emulate.

Moreland Energy Foundation (MEFL) was founded as an independent NFP in 2000 by Moreland Council with revenue from the forced privatisation of the council-owned Brunswick Electricity Supply Department. The Brunswick Electricity Supply Department pioneered a range of world-leading energy efficiency and clean energy programs in the 1980s and MEFL continues that legacy to this day. MEFL is Australia's leading organisation in the implementation of clean energy programs that deliver real value to councils, communities, businesses and households, particularly low-income households.

For example, in partnership with Darebin Council and Energy Matters, MEFL implemented Australia's first residential rates-financing program for solar. The Darebin Solar Savers project installed solar on 300 low-income pensioners' roofs in Darebin (a suburb of north Melbourne). The participating households are better-off from day one. They paid zero

² Hicks & Ison (2012) Community Energy Generation. In: Shepherd et al. The Home Energy Handbook. Powys, Centre for Alternative Energy.



upfront for the solar and pay back the cost through their council rates over 10 years, with the additional rate payments coming to less than the savings on their electricity bills.

Why do we need community energy policy?

While community energy groups have enthusiasm, time, commitment and great ideas, they can lack the legal, technical, and financial support needed to deliver these projects. This means communities are missing out on local jobs and opportunities to reduce power bills while cutting greenhouse gas emissions. As we've already stated, some people are missing out on clean energy all together.

Perhaps the biggest barrier community renewables projects face is finding the financing to transform an idea for a project into a tangible plan, which involves going through the pre-feasibility, feasibility and planning approval stages. These stages are the most risky for any renewable energy venture, however unlike private enterprise or even government bodies, community actors do not typically have large reserves of capital to draw on. A relatively small amount of money in the form of a government grant to address this financing gap has been shown to make a significant difference to the development of a community renewable energy project.

Smart policy interventions like this can enable the community energy movement to unlock vital organisational resources including time, money, and land/roof space of thousands (if not millions) of new actors to deploy renewables.

Community energy also has the ability to assist lower income people who are struggling to pay their ever rising bills. By actively being a part of the market, community energy organisations also help to bring down energy costs by challenging the high mark-ups charged by incumbent businesses. Community energy can also increase the social licences for larger scale renewables projects; increasingly communities are looking to partner with renewable developers, water utilities, councils and more to deploy renewables at scale, for the benefit of their local communities.

All sides of politics are embracing support for community energy. In NSW, the Coalition Government has funded 27 community energy feasibility studies through its Growing Community Energy Program, and we expect an announcement of a new community energy program as part of the next five years of the NSW Climate Fund. In Vic, the government has funded over 30 community energy feasibility studies and has just launched three pilot Community Energy Hubs, based on the Smart Energy Communities concept.

Introducing the Smart Energy Communities Program

The Smart Energy Communities Program would draw from the best examples of local clean energy organisations springing up across the world. It would include 50 Regional Energy Hubs, supporting hundreds if not thousands of volunteer groups, supported by a People's Power Fund and Network.

Box 2: Landcare in a nutshell

“Landcare is a grassroots movement that harnesses individuals and groups to protect, restore and sustainably manage Australia’s natural environment and its productivity.”³

Landcare is the brainchild of Rick Farley of the National Farmers Federation and Phillip Toyne of the Australian Conservation Foundation. It was formally established in 1989 when the Australian government with bipartisan support committed \$320 million to fund the National Landcare Program for a decade. Landcare continues to this day with over 6000 Landcare and Coastcare groups across Australia.

The current iteration of the National Landcare Programme provides three funding streams:

- Regional funding stream: this is investing “over \$450million throughout Australia’s 56 natural resource management organisations over four years. This funding recognises the crucial role the 56 regional NRM organisations play in delivering NRM at a local and regional level.”⁴
- National funding: this funding is delivered directly by the Australian government to support local implementation of priority programs such as Clean Up Australia, whale and dolphin protection and 20 million trees.
- Network and capacity building funding: funding is provided for strategic support that increases the capacity of Landcare Networks, including through information sharing programs and initiatives such as the Landcare Conference and the National Landcare Facilitator.

Structured similarly to the National Landcare Program (see Box 2) the Smart Energy Communities Program is a 10-year program that works as follows:

Organisations	Establish 50 Regional Energy Hubs – not-for profit organisations in 50 regions (urban, regional and remote locations) across Australia. ⁵ Start-up funding for two years and ongoing matched operational funding. These Regional Energy Hubs would support many local volunteer community energy groups in their regions. They will also assist with advice about ways that lower and modest income households can reduce their energy costs.
Programs and Funding	A Smart Energy Communities Fund would provide funding for community clean energy organisations (both those with and without start-up funding) to:

³ Landcare (2016) ‘What is landcare?’

⁴ Australian Government (2016) ‘National Landcare Programme. Regional Stream,’ Department of the Environment and Department of Agriculture.

⁵ There should be flexibility on the exact governance arrangement, clean energy programs delivered, and actors involved. Existing relationships and institutional structures should be leveraged from Regional NRM organisations, councils, regional development authorities, community organisations, etc. However, existing groups on the ground shouldn’t be a requirement, as the purpose of this program is to seed new organisations that will hopefully exist beyond the length of the program.

	<ul style="list-style-type: none"> • develop local renewable energy plans • develop, pilot and scale-up new models of community clean energy that enable community members, renters, low-income Australians, Aboriginal communities, farmers, small businesses and more to participate in and benefit from clean energy.
Capacity Building Network	A Smart Energy Communities Network would ensure that models, business plans and implementation strategies developed are shared across the six hubs established, as well as more broadly to regions and communities that were not successful in receiving start-up funding. The network would also be tasked with developing case studies, running trainings, and holding a bi-annual conference.

The Smart Energy Communities Program would leverage the efforts of existing volunteers, willing contributions from the private sector and community enthusiasm for renewables to support access for all Australians to innovative and emerging energy technologies such as solar and battery storage.

Just imagine if there were clean energy organisations across Australia at the scale of Landcare with the energy skills of MEFL.

Unlocking more than community energy

The Smart Energy Communities Program would, through the Regional Energy Hubs, provide legal and technical expertise and start-up funding to help kick-start DIY clean energy projects in towns and suburbs across Australia. Projects eligible for funding in communities across Australia could include

- 'solar gardens' for renters
- farmer bioenergy hubs
- low-income energy efficiency (including retrofits of existing social housing stock)
- solar programs using innovative finance like council rates programs
- community wind farms
- local clean energy fair days and open days and more
- community-wide plans to transition to clean energy like Kangaroo Island would like to develop (see Box 3).

As Naomi Klein puts it, when it comes to local energy “there are no hard-and-fast formulas, since the guiding principle is that every geography is different and our job... is to ‘consult the genius of the place’.”⁶ That is why we have suggested Regional Energy Hubs located in 50 places across the country. That way, the programs delivered can be tailored to the needs and opportunities specific to that region. It is also at a scale that is manageable, not too costly – as would be the case with hubs located in every community – but not so few as to be distant from the people and organisations on the ground. The National Network, would then act as a way to ensure information is shared across the country and reduce reinvention of the wheel.

⁶ Naomi Klein

Box 3: Community Power – increasing reliability on Kangaroo Island

Kangaroo Island has always struggled with adequate power supply. The island stretches 150km long, with a single connection to the mainland at one end and kilometers of network to support the tourist destinations toward the other end. As a result, reliability is worse on the island compared to the mainland. The population of less than 5,000 people needs to work hard to ensure the infrastructure on the island can welcome over 200,000 visitors each year. New developments often have limited access to electric capacity, meaning they have to fork out for expensive network upgrades or invest in their own onsite generation. Major businesses like the abalone farm rely at least in part on expensive and polluting diesel generators. All of this makes development on the iconic island expensive and unnecessarily complex.

As renewable energy has fallen in price, the Kangaroo Island community has actively sought to unlock its benefits and advocated for local projects. Since 2011, residents have been exploring community-owned power options, struggling with the constraints of the electricity market rules. As the undersea cable is now scheduled for replacement in late 2017, the island has investigated how to realise a vision of 100% renewable electricity and the possibility of becoming an exporter to the mainland.

A regional energy hub on Kangaroo Island would provide the expertise and coordination required to make this vision a reality. It would help optimise energy resources and network assets throughout the island by working with the community to deliver energy efficiency, storage, and supply/demand balancing. This in turn would free up of network capacity, enabling more activity on the network, strengthening and expanding the local economy, and creating the potential to export renewables to the mainland: a win, win, win!

However, while the Smart Energy Communities program has a focus on unlocking community energy projects, a well-designed policy can also address a range of barriers holding back a fair transition to clean energy.

Trusted information

Regional Energy Hubs could provide a “Home Health Check-Up” service, particularly for low-income households. They would become a ‘one stop shop’ for information and delivery service. For example, when you’re sick you go to the doctor and get a range of referrals, e.g. a prescription you can get filled at the pharmacy or a referral to a specialist. You also can get bulk-billed – they handle the financial transactions for you. Regional Energy Hubs could do the same but for energy.

- They would provide a portal to independent advice and information services for homeowners, landlords, tenants, small-businesses and more. The advice available could cover tariffs, power plans, tailored efficiency options, fuel-switching and accessing renewable energy options (rooftop solar and community power / solar gardens) and more. This advice process should build on the learnings from the Low-income Energy Efficiency Program around engagement of diverse groups and need for delivery through trusted channels. It would also overcome the complexity and confusion barrier.



- They would provide household energy retrofit services including audits, affordable finance, accredited local trades and service providers.

Overcoming market barriers

In the Homegrown Power Plan, we have tried to hammer home that there are fundamental market barriers such as split-incentives in the energy system that have stumped policy makers for years. The good news is that there are models outlined in the Homegrown Power Plan that can overcome these barriers, from social access solar gardens to rates-based financing.⁷ The bad news is that these models come with their own set of challenges, namely higher complexity and thus high transaction costs.

These socially beneficial models of clean energy involve multiple partner organisations, which add transaction costs, which in turn means these models are more expensive for end users. In addition, these models require a duty of care to vulnerable households and require significant face-to-face time to build trust. These models are unlikely to be delivered by the market alone.

The Smart Energy Communities Program is designed with this in mind. There is funding proposed for developing and deploying programs, hubs with the expertise and social purpose to coordinate the public and private partners involved, and a network to share information about what works and what doesn't. Furthermore, the hubs and/or regionally based welfare organisations could be the local delivery agencies for a range of other policies and programs including partnering with PowerAccess, helping to deploy energy efficiency and renewables solutions that will lower low-income households' power bills, while also stimulating local employment in the delivery of regional energy programs.

Evaluating the impact

To ensure that public funding is being spent well, it will be essential for the impacts of the Smart Energy Communities and other people-focused energy programs to be evaluated. The Smart Energy Communities Network should be charged with developing and implementing an evaluation framework that has all Regional Energy Hubs and local energy projects reporting their impacts – benefits and costs. An online portal and map could help visualise these impacts, showing how the local transition to clean energy is flourishing across the country.

How much would it cost?

The Smart Energy Communities Program would ideally be implemented as a partnership between federal and state governments. However, in the absence of federal leadership, states could pilot their own programs, as Vic is. Over time, the Smart Energy Communities Program would leverage community, local government and private investment through a range of innovative approaches. Indeed, modeling undertaken by Marsden Jacobs and Associates found that, given time, community

⁷ See the Renewables for All project – www.cpagency.org.au/renewables-for-all-resources for case studies of these and other models of socially beneficial clean energy provision.



energy projects could leverage up to \$17 of community funding and in-kind contributions for every \$1 of government funding.⁸

Overall, the Smart Energy Communities Program would require a minimum investment of \$149 million in federal and state funding over the forward estimates period and a total of \$460 million dollars over 10 years.⁹ It is critical that, as with Landcare, there is a decade-long commitment, to ensure that long-term support programs, particularly for vulnerable households, can be implemented. In this space, it has been a case of too many pilots and not enough airplanes. A long-term, well-funded Smart Energy Communities Program would make the local transition to clean energy fly, while ensuring that all Australians, no matter how much they earn or where they live, are able to take control of their power bills and access affordable, clean and renewable electricity.

Box 4: Uralla, from the forefront of Landcare to the forefront of community clean energy.

Inspired by the small town of Wildpoldsried in Germany that generates more than 300% of its energy needs from renewables, Uralla in the New England Region of NSW is the first town to create a blueprint to transition to 100% renewables. Uralla is the first pilot town for the Zero-Net Energy Town model. It is stepping up, creating a shared vision and now getting on with implementing a transition to 100% renewable energy. It is working with local businesses to improve energy efficiency, landlords to provide tenants with solar and homeowners to reduce unsustainable firewood use. Uralla is leading the way and showing other communities how it can be done.

Uralla is no stranger to environmental leadership. In 1992, the early days of Landcare, Uralla hosted the inaugural National Treefest – now a biannual event. This was a field day attended by 6000 people and organised by Landcare groups.¹⁰

Uralla is just one of many communities that are leading the way and creating 100% renewable community plans. 'Totally Renewable Yackandandah' in North-East Vic was established in 2014 and is working towards 'energy sovereignty' for Yackandandah by 2022. In 2015, Byron Bay Shire made a commitment to becoming Australia's first zero-emissions community¹¹, which will involve transitioning to 100% renewable electricity.

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⁸ McKenzie, P., 2013, 'Community Renewable Energy Fund', Report by Marsden Jacobs and Associates for the Coalition for Community Energy

⁹ Costings N. Ison analysis.

¹⁰ NSW Government (2015) 'A Brief History of Landcare Support in NSW'.

¹¹ Byron Shire Council (2015) 'Byron Shire aims to become Australia's first Zero Emissions community.'