

Background - Community Renewable Energy

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 with more than 2 million rooftops covered with solar panels between Perth and Sydney, and Adelaide and Darwin. 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.

It's popular: 63% of Australians would be more likely to vote for party with a policy to ensure solar is installed on every home that is suitable and on buildings like hospitals and schools.

It's affordable: average installed solar PV prices have fallen 30% since 2012.

It's spreading fast: There are now over 105 community energy groups and over 150 operating community energy projects. 27% of the voting public now live under a solar roof.

Figure 1: Community energy groups across Australia



Source: <http://cpagency.org.au/resources/map/>

It's an international trend: In Germany, in 2012, 47% of all installed renewables was owned by citizens and communities. In Scotland there are over 500 community energy projects, delivering affordable energy, independence and start-up funding for new regional enterprises.

What is Community Energy?

Community energy projects are social or community enterprises, driven by local people. That is, community energy groups tend to have a social and environmental driver, as well as an economic one.

Community energy projects encompass a range of technologies and activities across a breadth of scales, determined by the community needs, availability of local natural resources, technologies and funding, and community support.

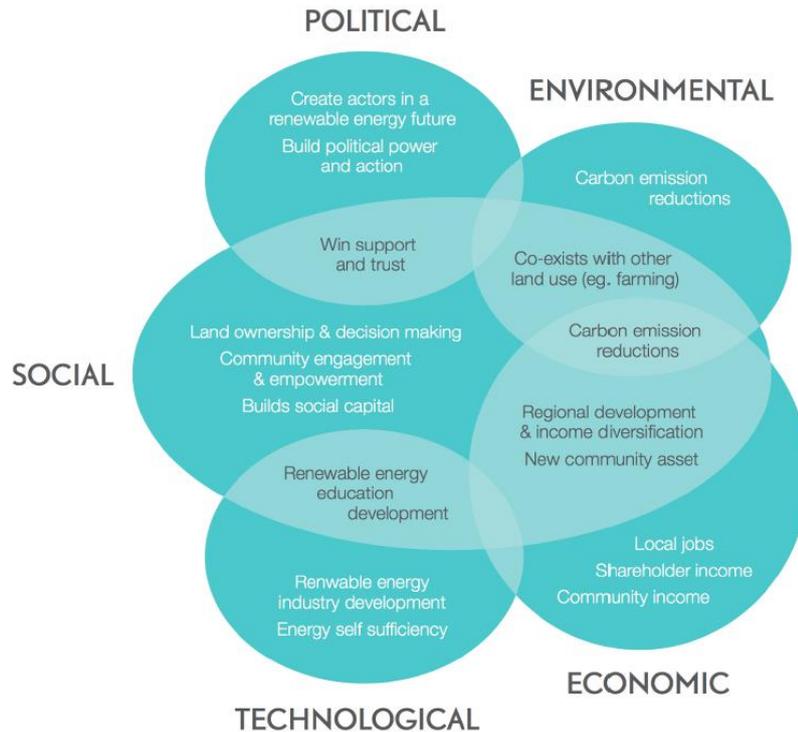
Community energy projects often allow individuals to be involved in clean energy beyond the bounds of their own home or business and in so doing bring a range of benefits and opportunities for their household and for the wider community. Community energy enables collective action, which can go beyond what is possible by individuals acting on their own. A community energy project is founded on more than one of the following elements:

- Ownership and/or decision making power involves local individuals and stakeholders
- Project development and design is driven by local individuals and stakeholders
- Benefits from the project go to local individuals and stakeholders
- The amount of energy produced matches local energy needs
- While communities of place are emphasised in referring to 'local' communities, communities of interest are also relevant – such as the Coalition for Community Energy (C4CE).

Community Energy Benefits

There are a number of motivators and drivers for community actors as shown in Figure 2. It is important for a community to understand those elements at the beginning of a specific project direction. This will ensure that the motivators ultimately translate into benefits the project is going to seek.

Figure 2: Motivators and benefits of community energy



Source: Hicks, J. & Ison, N., 2012.

Main Models of Community Energy

Models of community energy vary on a number of factors, including but not limited to technology, scale, legal and ownership structure. The [Embark Wiki documents a number of case-study examples](#). However, there are four main types of community energy projects in Australia:

1. Donation models



These models of community energy involve a community raising funds through donations (either using a crowd funding platform or more traditional fundraising) to install renewable energy systems or undertake energy efficiency measures. Typically, the host site and beneficiary of this model is a community organisation such as a school, surf-lifesaving club, fire station etc. Examples of groups who are using this class of model include Bendigo Sustainability Group, Totally Renewable Yackandandah, CORENA and the People's Solar.

2. Investment models



These models are where community organisations develop a sustainable energy project and raise funds through opening up the project to community investors, on the expectation that these investors will receive a certain return on their investment. The legal structures for these models include cooperatives (Hepburn Wind), trust-based models (ClearSky Solar Investments), and share-based models (e.g. Enova - Australia's first community-owned retailer).

3. Community/developer partnership models



These models involve communities partnering with commercial renewable energy developers to deliver clean energy projects that are part community owned/financed and part commercially owned/financed. These models are prevalent in the US and Europe, but are new in Australia. Indeed the Danish Government requires onshore wind developers to open up part of all projects to community ownership. CWP's Sapphire wind farm in the New England is likely to be the first example of this.

4. Multi-household models of community energy



These models are about aggregating households to deliver sustainable energy solutions. Examples of such models include solar bulk-buys, the Moreland Energy Foundation rates-backed solar model for low income households (Darebin Solar Savers), Mount Alexander Sustainable Homes, Bendigo Sustainability Group and more. The most prevalent community energy models currently are behind the meter solar projects, which are set-out in detail in the [Guide to Community Solar](#).

History of Community Energy in Australia

Community energy projects firstly emerged in the 2000s in Australia, initiated by pioneers having experienced similar projects in Denmark or Germany. Since then a movement has started spreading across the country.

Milestones on the way are:

2000 - 2005 onwards – communities come together to do solar bulk-buys, helping to stimulate the rooftop solar boom, Moreland Energy Foundation (MEFL) was founded by Moreland City Council after the privatisation of the Victorian electricity supply to work with local people to reduce greenhouse gas emissions e.g. through renewable energy and energy efficiency projects.

2011 – First two community wind farms start operating – Hepburn Wind (Victoria), Denmark Community Wind (WA). Supported respectively by the Victorian Government and the Howard Government's Remote & Regional Power Generation Program (RRPGP).

2013 – NSW Coalition Government releases their first community energy grant program. First community solar project starts operating – Clearsky Solar Investments

2014 – First Community Energy Congress held in Canberra bringing together 340 people from across Australia. Three more community solar projects start operating including CORENA – a revolving fund donation model for community organisations. ACT Government announces a community solar program. NSW Government opens their second community energy program.

2015 – Victorian government funds two community energy projects. First community-owned retailer – Enova completes their share offer. Many more community solar projects start operating.

2016 – The community energy sector grows rapidly to more than 80 community energy groups and more than 50 operating community energy projects. The Victorian Government



opens their New Energy Jobs fund to community energy groups, both the NSW and Victorian Governments include community energy in their strategic energy planning.

2017 – Second National Community Energy Congress was held at Melbourne and brought more than 600 people from across the country together to discuss how to strengthen Australia's growing community energy sector and make the transition to clean energy faster and fairer for all. More community energy groups have a commitment to social justice – want to help address fundamental barriers to provide access to renewables for all. Models become more complex so don't stack up by themselves (as overcoming fundamental market failures like split incentives). Yet there is still limited or no government support. Project examples include Stucco, Darebin Solar Savers and Solar Gardens.

Further resources and links:

C4CE (2015) [National Community Energy Strategy](#). Sydney

Lane T., Hicks J., Memery C. and Thompson B. (2015) [Guide to Community-Owned Renewable Energy for Victorians](#). Melbourne.

C4CE (2017) [Small-Scale Community Solar Guide](#). Sydney.

Rutovitz, J., McIntosh, L., Ison, N., Noble, E., Hicks, J., and Mey, F. 2018. [Social Access Solar Gardens for Australia](#). [Institute for Sustainable Futures](#), University of Technology Sydney.

Further resources on the Social Access Solar Gardens can be found on the project website: <https://www.uts.edu.au/research-and-teaching/our-research/institute-sustainable-futures/our-research/energy-and-climate/social-solar-gardens>

Hicks, J. and Ison, N. (2018) '[An exploration of the boundaries of "community" in community renewable energy projects: Navigating between motivations and context](#)', Energy Policy. Elsevier Ltd, 113(June 2016), pp. 523–534.

Mey F., Hicks J. and Ison N. (2018) Taxonomy of Citizen and Community Energy: Analysing the drivers, models and real world outcomes of community and citizen energy initiatives in Australia, Germany, Denmark and Scotland. Paper presented at the IPSA Conference in Brisbane July 2018.

Community Power Agency. [Renewables for All. Resources](#).

Ison N. (2018) [Repower Australia Plan](#). Prepared by Community Power Agency for Australian Conservation Foundation, GetUp!, Solar Citizens, the Nature Conservation Council, Environment Victoria, and 350.org.

Further links:

<http://c4ce.net.au/>

www.cpagency.org.au

<https://www.mefl.com.au/>

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