

embark



Community-owned renewable energy

“... projects where a community group initiates, develops, operates and benefits from a renewable energy resource or energy efficiency initiative...”

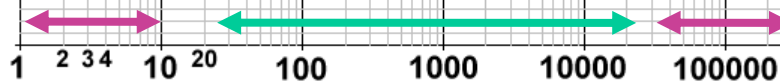
CE projects may be developed to:

- maximise local ownership and decision making
- generate jobs
- use resources efficiently and sustainably
- match energy production to local energy needs and circumstances
- help address climate change

Australian Renewable Energy



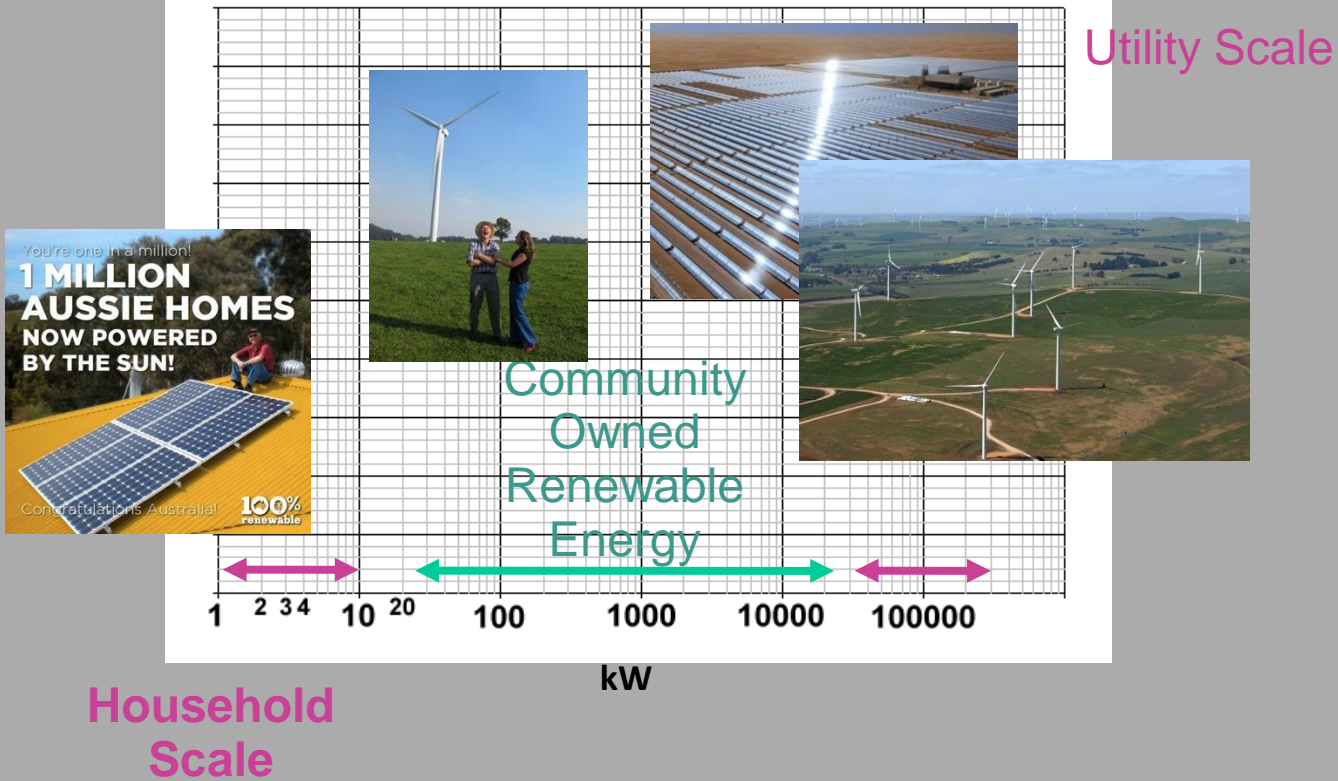
Utility Scale



kW

Household
Scale

Australian Renewable Energy



CE: An important part of the energy mix

Denmark

1980-90's: CE was the dominant form of renewable energy ownership

- CE provided support to the fledgling wind industry
- Vestas & Bonus are now world leaders in wind technology

2011: over 20% of Denmark's electricity is from wind power

- 25% community-owned
- community-owned wind supplies 3.5% of national electricity

Germany

2013: over 200,000 people own shares in wind farms

- 888 energy cooperatives
- 46% of RE capacity is owned by individuals & communities

How are we doing the energy bit?

Just getting on with it:

→ MASH @ 1.7MW & Hepburn Wind @ 4.1MW

Councils pulling their weight:

→ Lismore City Council 100% renewable energy by 2025

Sustainability groups leading the way:

→ MASG zero net emissions by 2025

→ Renewable Newstead 100% renewable energy by 2021

→ Totally Renewable Yackandandah 100% renewable by 2022

Hepburn Wind

- First community owned wind farm built in Australia
- 2 turbines generating since June 2011, enough to 'power the town'
- Local response to global issue
- Harness the skills and capital of the community
- Focus on returning benefits to community – community enterprise model
- Pioneering project – hasn't been easy



Benefits of highly engaged communities

There are a myriad of benefits including:

- empowerment of communities to be active in pollution reduction
- delivery of regional economic benefits
- acceleration of renewables industry development and impact
- tapping of a new funding source — the community investor
- bridging of the gap between individual and corporate action
- social license to operate – long term local acceptance
- Smoother approvals process and more peaceful on-going operations

Operating Models

SOLAR

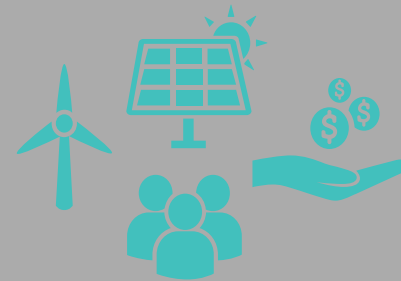
- Donation/ philanthropic (via NFP association)
- Behind-the-meter community investment (via cooperative or company)
- Multi-household bulk buy
- Community-council partnership

WIND

- Community investment (via cooperative or company)
- Community-developer partnership

BIOENERGY & HYDRO

- Still under development, not yet known what model will be



Community Solar Models



Successful Solar Models

Repower Shoalhaven

- Uses a SPV legal structure with up to 50 community members can invest (20 per annum)
- Repower 1 = 99 kW system
- Community investors provide capital and the SPV owns and operates the solarfarm for 7-10 years with a PPA or rental agreement in place
- Full templates are available for this model, dependent on regulatory changes in Victoria

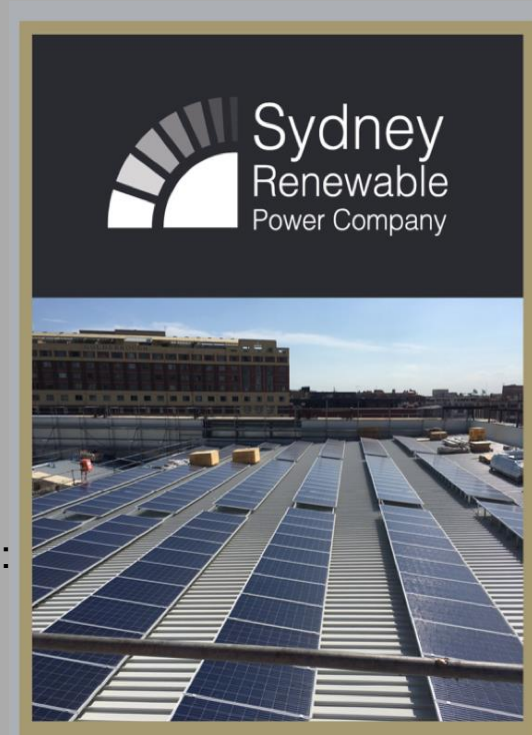
SolarShare

- Currently applicant in ACT Gov community solar auction
- Public company limited by shares
- 1.3MW greenfield solar project, grid connected
- Toolkit available

Successful Solar Models

Embark Model

- a site where the energy generated can sit 'behind the meter' of an existing business and be less than the minimum load profile to minimise grid connection issues and costs
- minimum scale of 100kW – this could be multiple sites adding up to 100kW or a single site
- Loan based model works without need for license, PPA version works in other states
- Embark is now rolling this out with 2 projects: Farming the Sun with Lismore City Council (200kW) and Sydney Renewable Power Company at Darling Harbour (520kW)



Policy reform underway

- Victorian Climate Change Act Review
- ESC Review and Exemptions Review
- VC82 and Community Wind – precedent with MRSG, discussion paper for community wind, PiLoR open now
- Government support – Newstead and MRSG
- Guide for Community Owned Renewable Energy for Victorians
- New Energy Jobs Fund Round 1 = 22 community projects
- Auction Submissions
- Parliamentary Inquiry into Community Energy
- Discussion paper on community energy