Powering up a Community

AUGUSTA MARGARET RIVER **CLEAN COMMUNITY ENERGY**

Shire of Augusta Margaret River

Population **14,258**

Dwellings **7,740**
Households (pop/2.5) **5,703**

Income
Household Median/wk **$1,285**
WA $1,438
Australia $1,595

E Consumption
Residential 42149459 Kwh
Commercial 39961824 Kwh
Total **82111283 Kwh**

E Expenditure
Household $ 2,265
Residential $11,380,354
Commercial $ 8,391,983
Total **$ 20 million**

PV Penetration
Margaret River 17.5%
WA 25-35%

Why AMR**CCE**?

community wishes to reduce emissions

2010 – Local Energy Action Plan:
Augusta Margaret River Shire sets emissions reduction target

2016 - Working Party

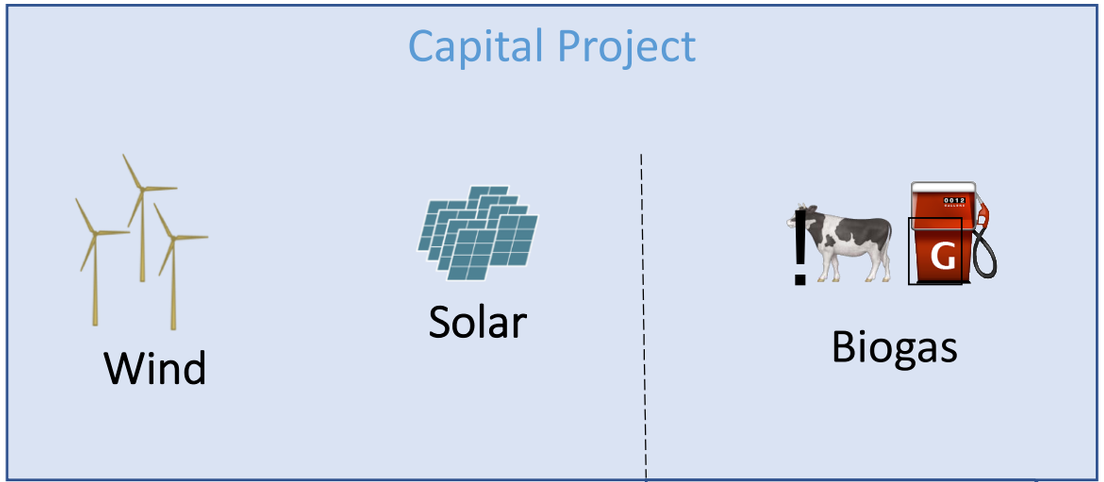
2017 - AMRCCE

Project 1
10 MW Grid Connected
Renewables Facility
Pro bono Input

Project 2
Community Projects
Reduce emissions by 20%
Community Asset

AMR**CCE** HIGH LEVEL STRATEGY

Phase One – Large Capital Project



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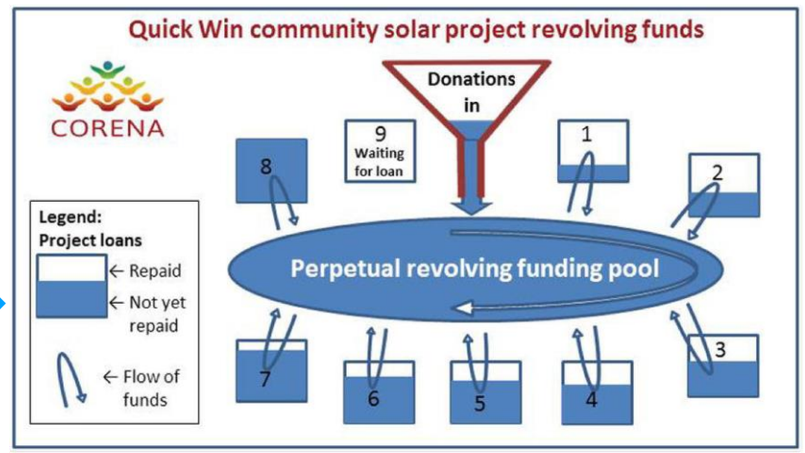
Phase Two – Social Enterprise



Eg. Revolving Fund for Roo@op Solar PV

Local Jobs & Exper@se in Clean Energy

NOW

2021

May 2017-2018

One year on:

- 250 members and a dedicated team of volunteers working pro bono
- commenced Western Power application process. Connection application prepared.
- clear vision for the renewables plant with three energy sources
- site and access agreements with landowners
- feasibility study for wind and solar energy underway
- commenced actual wind measurement on site
- wind data from a variety of sources including valuable 7 years of wind data from a close location - agreements for wind analysis from a couple of turbine manufacturers and an independent source


Bunker Bay
Dunsborough
Smiths Beach
Vasse
Carbunup River
CITY OF BUSSELTON
Metricup
Cowaramup
Margaret River
Gnarabup
Witchcliffe
Karridale
Karridale Eyeclare
Kudardup
Augusta
SHIRE OF NANNUP
Scott River Road
0 5 10 15 20 km

SITE

Wind Monitoring Equipment

FULCRUM 3D SoDar

May 2017 - 2018

- developed a viability study for the biogas component of the plant
- applied to a range of funding sources and some funding has been secured pending approval of study details
- initial discussions have been had with ARENA for remainder of the feasibility study and other possible funding sources for project going forward
- commenced study of options for selling generated power including obtaining possible in principle commitment from shire to become a customer
- Commenced in principle approval planning process at the Shire level
- DRG Charity Status
- Our project is seen as a vital part of the future development of the Scott River/Augusta area.

Visual Survey

THEORY OF CHANGE

PROBLEM

AMR is
not achieving
it's goal of sourcing
20%
of energy from renewables

The Lower Blackwood, Scott River and Hardy Inlet health is affected by nutrient and organic effluents from local farms

the facts...

AMR uses
80MWH
of electricity/yr
which generates
>60,000
tonnes of CO2/yr

and costs
>$20m

>6,000
tonnes of CO2e/yr
are estimated to be generated from methane venting from cow manure

farmers are estimated to use
2630 & 290
tonnes/yr of Nitrogen & Phosphorus fertilisers

the Blackwood and Scott Rivers have average annual loads of Nitrogen and Phosphorus of
>78.1 t/yr & 11.2t/yr

SOLUTION

Develop a
10MW
wind/solar/ anaerobic biodigester farm
with support from the Lower Blackwood LCDC, dairy industry and the community

use the income generated for
behind the meter
projects to achieve another
20%
reduction in emissions

ACTIVITIES

To achieve this AMR**CCE** will complete the **feasibility of the wind/solar farm** and, in conjunction with the Lower Blackwood LCDC, assess the feasibility of including an **anaerobic digester** to complement wind/solar energy production

an anaerobic biodigester
would provide a "best practice" effluent management system by reusing it in renewable energy and digestate fertiliser production

secure Western Power
connection offer

put in place
energy purchase agreements

select appropriate
partners
to finance, construct & operate the wind/solar/anaerobic biodigester farm

IMPACTS

AMR produces
40%
of it's energy consumption from renewables
which reduces emissions by
25,000 tonnes of CO2/yr

reduces methane venting from cow manure by an average of
>6,000 tonnes of CO2e/yr

improves the health of the Blackwood and Scott Rivers and Hardy Inlet by supporting the reduction of average annual loads of Nitrogen and Phosphorus to
78.1 t/yr & 8.1t/yr

environmentally friendly fertiliser
suitable for sandy acid soils is available to farmers

the wind/solar/anaerobic biodigester farm income funds projects that further reduce emissions by
20%

local investment & jobs
are created

improved profitability
of local dairy/cattle farms

greater uptake
of renewables

reduced reliance
on grid energy and other external inputs

green brand positioning
of AMR is supported

SUSTAINABLE COMMUNITY

Imagine

AMR**CCE** projects will benefit the local community, the Earth and future generations:

- increases renewables in the region
- value created by volunteers returned to the AMR community
- on-going funding supports behind the meter project
- access to renewable energy for those excluded for socio-economic reasons
- increases financial resilience by reducing energy costs from grid electricity and keep profits in the local area
- gives substance to **AMR** as a **GREEN** destination
- increases the understanding and awareness of renewable energy
- economic development through local investment and local jobs
- development of renewable industries, technology, jobs and training
- empowered by community engagement