

**FINAL MILESTONE REPORT**

**July 2023**

**Community Resilience  
and Reliable Energy  
Feasibility Study for  
Venus Bay and Tarwin Lower**



**Australian Government**  
This project received grant funding from the Australian Government

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## Report Summary

The community resilience and reliable energy feasibility study has concluded but the energy journey for Venus Bay and Tarwin Lower has just begun.

The study has identified that serving only essential electricity needs can be achieved with modest investments. It has identified a starting point for delivering these investments and it has highlighted the wealth that can be retained in the local region as it becomes more self-sufficient for energy.

### April – July 2023

This report summarises the final activities for completing the study between late April and July 2023. We held the final Workshop 4, prepared a Harvest report and a draft action plan. We also prepared a feasibility study for neighbourhood batteries, consistent with the small cluster pathway from Workshop 3.

### Final acquittal

This report reflects on the full year long process and identifies the modifications made to the delivery schedule and study outputs. It became clear during the year that we needed to spend more efforts on community engagement and

that the community was not yet ready to absorb detailed analyses of technical solutions with matching business models and economic outcomes. In addition, the data we had expected in October was only delivered in March. To complete the study we have presented the full suite of detailed analyses but the final step of community engagement and feedback will occur after the conclusion of this study.

### Final deliverables

This report summarises the analyses delivered to reach the final milestone and fulfill the feasibility study outcomes.

- Draft Action Plan with social, technical and economic feasibility for each pathway.
- Technical feasibility report.
- Economic feasibility report.
- Resilience framework.

All reports can be accessed [online](#). Finalisation will depend on community endorsement and adjustment during the action plan launch.

### We've got this! - action plan launch

We highlight the commitments we have made to extend our efforts past the end of the study. We will run an additional workshop and officially launch the Action Plan. "We've got this! - a community plan for community energy."

The event will celebrate the efforts of community members throughout the past year and invite everyone to be part of building Venus Bay and Tarwin Lower's energy future.

### Study legacy

The feasibility study has raised community awareness: of the challenges associated with loss of electrical supply; of the increasing reliance of telecommunications and water on energy; and of the opportunities to increase local energy self-sufficiency. The project team believe that the final film, toolkit and reports will offer other communities inspiration and practical guidance for exploring their own resilience.

### Acknowledgements

The sometimes 'invisible' work of community organising must never go un-acknowledged. It relies on the generosity of community members and project partners who have all willingly donated their time, above and beyond initial expectations. We have detailed around \$300,000 of in-kind and voluntary contributions as well as additional funding. To all project supporters – Thank You.

## Workshop 4

In workshop 4 we explored the energy and value flows that could come from:

- increased renewable energy,
- flexible use of energy,
- conversion of hot water, cooking and transport energy use to electricity, and
- strategic use of battery energy storage to increase for essential energy needs.

All enabling the main outcome of an increase in energy reliability and community resilience.

We revisited three of the five pathways developed in workshop 3 and asked the question about how to organize our actions toward each pathway in ways that will build community wealth.

We looked at examples of other community energy programs, in particular, the activities of Z-net Uralla and Geelong Sustainability.

We revisited the principles of community wealth building through the example of the Yackandandah Development Company.

In considering each pathway for households, community buildings and businesses, we looked at the how we might achieve the outcomes. This included consideration of funding options and

the people power and resources that would be needed. We explored the ways this might be organized without any need to make firm decisions about new or existing organisations. One key lesson from other places was that organisations tend to evolve as the activities require.

Finally we also identified the first next steps to get started in progressing any action plan.

The results of Workshop 4 have been developed into the Draft Action Plan.

The [Harvest report](#) for Workshop 4 documents the proceedings of the workshop and its outcomes. The Harvest reports for Workshops 1 to 4 can be downloaded [here](#).

The Draft Action Plan can be downloaded [here](#).



## Neighbourhood Batteries

In April we prepared a feasibility study for neighbourhood batteries in four key locations:

- The Venus Bay cluster of shops
- The Recreation Reserve in Tarwin Lower
- The jetty and fishermans club in Estate 2
- The main street of shops and petrol station in Tarwin Lower.

These locations were identified by the community as the highest priority sites. Each cluster could provide high priority services and critical community support during outages and emergencies if it retained power supply.

The analysis helped us understand how a whole street of houses, community buildings and/or shops could support a shared battery and progress the concept of a small microgrid. This work is the first step along the small cluster pathway.

The study served as a foundation for two applications for battery funding:

- The Victorian Government Neighbourhood Battery program, seeking funding to develop the full business case and work with Ausnet services to explore microgrid capability.
- The ARENA funding for 400 community batteries.

The feasibility study can be downloaded [here](#).



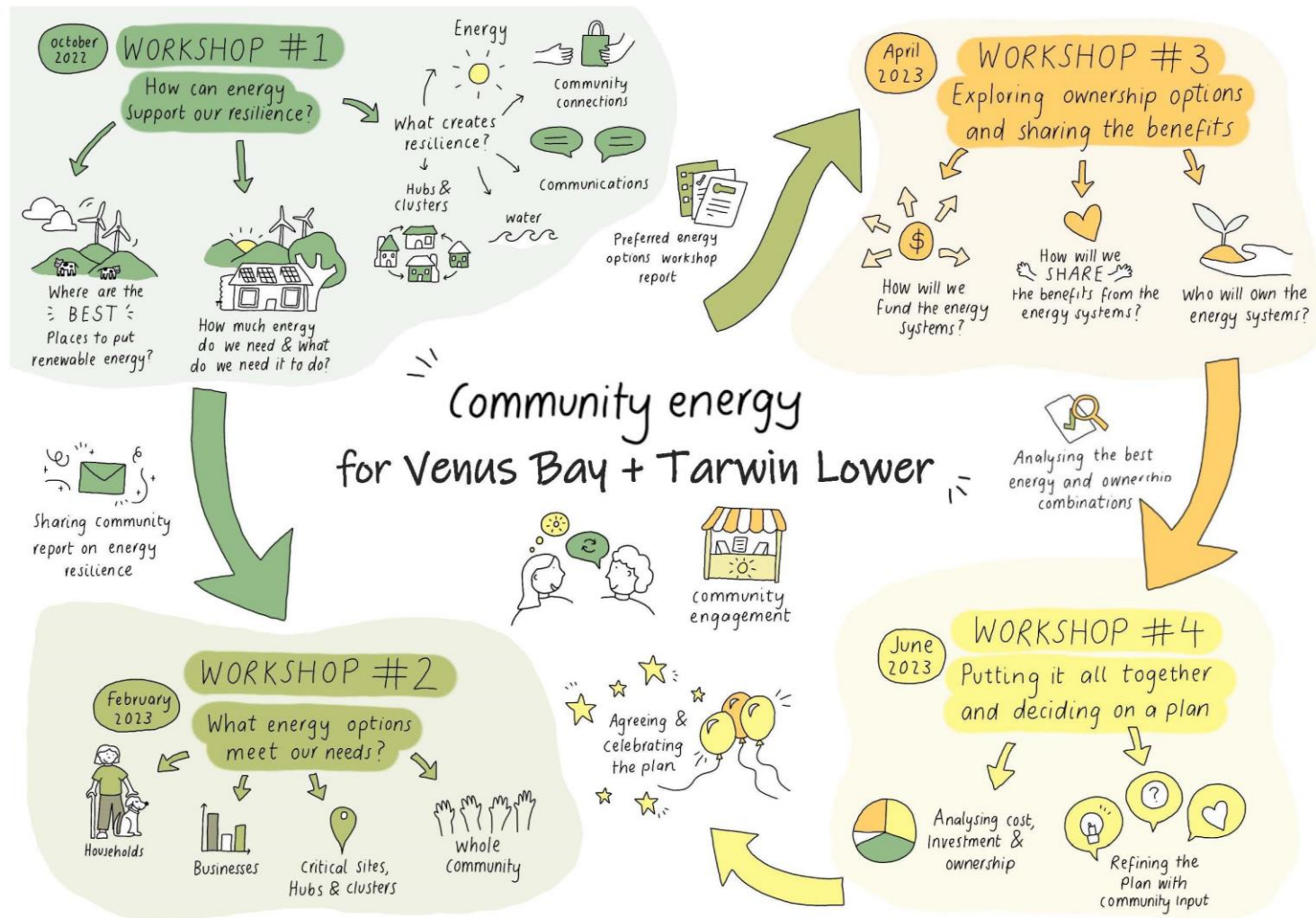
# Project Recap

The project was imagined as a year-long feasibility study incorporating four workshops to ensure a community-led approach to developing reliable energy options, and improving community resilience.

We launched the project with a community information session in July 2022 and set the dates for all four workshops at the same time. We also established the governance arrangements with an accountability group to provide oversight of budget and reporting, and an advisory group to guide the project team and provide feedback on the interactions between the project and community.

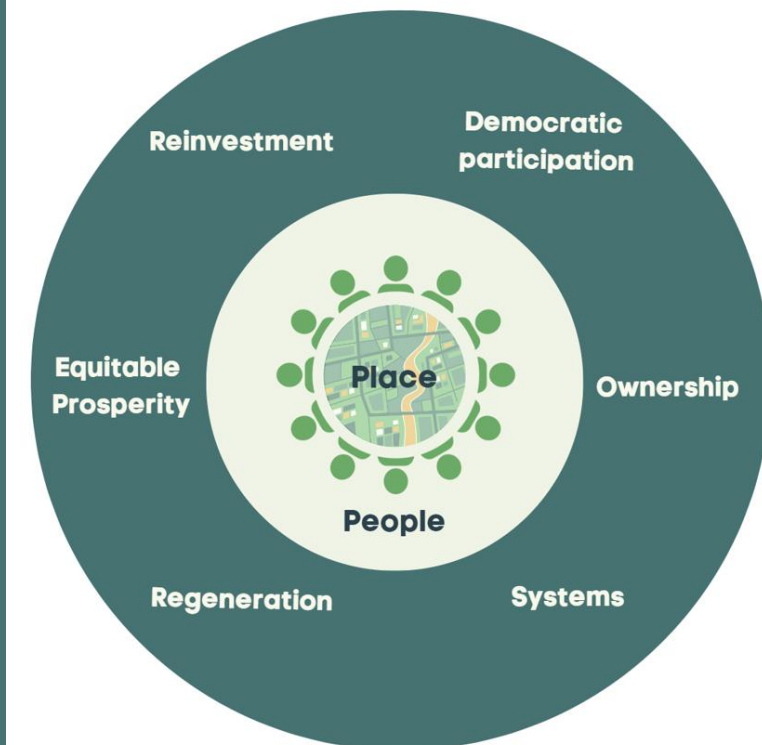
The results of each workshop were captured in a workshop Harvest report. Two Milestone reports were delivered in December and April.

In addition, we committed to regular communication across the community - via email bulletins, via social media and through face-to-face interactions. Project progress was documented on the Venus Bay Community Centre website. We included surveys both online and through discussions at the Tarwin Lower markets. These were designed to capture input from participants who couldn't attend workshops. Project outputs are available [here](#).



# Community Wealth Building

is based on a common set of principles of how to structure and operate our local economies...



## Milestone Variations

The project evolved over the course of the year. We faced a number of challenges and opportunities, and adapted to them accordingly:

### Engagement

We had always intended to engage beyond workshops because it was expected that many people would not be able to attend for four hours on a weekend. To reach key stakeholders we expanded our commitment.

- We added workshop illustrations and film making to our communications investment.
- We convened the business owners in a specific event to develop insights into their concerns and perspectives.
- We ran an additional workshop in Tarwin Lower to reach the bowls and footy communities who are often competing on weekends.
- Advisory group and project team members volunteered at the Tarwin Lower Markets to talk about the project and solicit community feedback.
- We worked with the post office to add material to everyone's letterbox.

These additional investments have been considered invaluable for project outcomes.

### Data and Technical analysis

The data on energy consumption across the community was only released by Ausnet Services in March 2023, delaying the analysis. A positive outcome is that the technical insights have not dominated the necessary conversations.

In reality, any community will move slowly toward developing energy knowledge and building consensus around sensible options. It has worked in the project's favour that this process has had a larger focus on values and organising principles, rather than technical feasibility.

### Economic analysis

Our original budget intended to view the economic outcomes through traditional regional economic modelling. We took the opportunity to use a community wealth building approach instead. This has been motivating for all participants because everyone can imagine making an effort to spend differently and structure activities so that our local community benefits first.

An [economics report](#), as a final project output, has been delivered detailing the opportunities for Venus Bay and Tarwin Lower.

# Final Project Reports

## Final Deliverables

The Draft Action Plan emerged from the workshops, particularly the final two workshops where we focused on five pathways to produce action and results for:

- Households, including part-time, full-time residents and visitors,
- Community organisations and buildings,
- Businesses and telecommunications infrastructure,
- Small clusters of homes and other energy users that are defined by the electricity network that connects them,
- Large clusters such as Estate 1, Estate 2, Tarwin Lower or the whole community.

The ambition for each pathway draws from the technical analysis and economic analysis, each of which has been produced as a stand alone report.

The technical analysis models a threefold expansion of rooftop solar and discusses wind energy options for building toward energy self-sufficiency. It highlights the importance of underpinning adequate generation with flexible energy use and control so that the purchase of expensive assets like battery storage can be reduced and well used.

The economic analysis highlights the ambition to invest in local projects, operate energy projects from a local base, develop employment and skills and preference local suppliers where possible. Transitioning energy systems offers a once-in-a-lifetime opportunity to ensure that the inevitable expenditure flows on to local benefits.

The resilience framework was used in the first workshop to map the relationship between energy and community. The framework, in its final form, now documents the journey of this Venus Bay and Tarwin Lower feasibility study. It describes why each step of the framework is useful and demonstrate how all workshops and additional analysis have provided elements to support community resilience.

All reports can be accessed [online](#). Finalisation will depend on community endorsement and adjustment during the action plan launch.



Resilience framework



Feasibility study



Technical Report



Draft Action Plan



Economic Report



Final Report



## Planned Outputs

Over 200 people from across the Venus Bay and Tarwin Lower communities came together to inquire into and challenge the thinking that went into this plan, to learn with and from each other and ultimately to contribute their ideas, needs and wishes. Over the course of the feasibility study, awareness of energy options has increased and project momentum has grown.

Some people have already nominated themselves to help take this initiative forward and our wonderful accountability and advisory groups have agreed to continue advising through to the next stage.

The project team has planned the following activities and additional outputs to progress the feasibility study and its draft action plan through its development phase and into the first series of actions:

- Wednesday August 9:  
A “what have we learned” webinar to present the project findings.
- Sunday August 20:  
An action plan workshop, film launch and project celebration – “We’ve got this! A community plan for community energy”.
- Initial meetings to develop working groups and organize working arrangements.

## Final Project Budget

**FUNDING:** The following contributions are part of the formal funding offered to the project and associated activities to develop and start implementing the final action plan:

Australian Government	\$195,000
Energy Consumers Australia	\$ 15,000
Venus Bay Community Centre	\$ 7,340
Mycelia Renewables	\$ 5,000
Gippsland Community Power Hub	\$5,000

TOTAL \$227,340

**IN-KIND:** A greater contribution has been made in-kind, often in terms of time but also as donated materials.

Project team – FUA, Mycelia, Changing Weather, Ethical Fields, 2 Road Films and VBCC:

Contracted In-Kind Amount	\$122,000
Additional contributions	\$70,000
Governance	300 hrs
Workshop attendance	1500 hrs
Additional communications, attendance at stalls and data gathering	150 hrs

TOTAL ESTIMATED VALUE \$270,000

We are grateful to every contributor, large and small – thank you for supporting this project for our community.



## Study Outcomes

The fire on 31 December 2021 demonstrates the vulnerability of the Venus Bay and Tarwin Lower communities. For around 7 hours, residents were unable to leave Venus Bay if an urgent need arose. Those in the cars photographed were unable to return to their homes.

The study highlighted the interdependence between the two communities. Venus Bay relies on a single access road and the majority of services are located a few kilometres away in Tarwin Lower. When mapping the interconnections between people in the community, the centre of gravity for communal activity shifts to Tarwin Lower, even though there are 2000 homes in Venus Bay and only 300 in Tarwin. The flourishing of Tarwin Lower is contingent on the people who live in and visit Venus Bay. After Workshop 2, where we held an additional event in Tarwin Lower, the study was officially expanded to include the whole community and key services across the two towns.

The feasibility study investigated improvements in community resilience that could be achieved during every loss of power event. In recent years the community has been cut off due to floods

and fire. It has suffered a series of multiday electricity outages.

By ensuring energy is made available locally for the most important energy needs the community can be better served during these events.

The community has prioritised its own critical sites and critical energy needs. As the energy project evolves from feasibility to implementation, these needs and locations will be first to receive energy investment.

The study has raised awareness of the options for people to develop local sources of electricity and use existing backup supplies. It has highlighted the importance of telecommunications and the increasing reliance on electricity to provide internet, mobile phone and EFTPOS services. The solar battery and generator system at Venus Bay Community Centre has been highlighted in each workshop so residents are more aware of the facilities on offer.

Finally, it is an ambition of the project to ensure that the project is of value across the region. The film, a toolkit and webinar and the published reports will all speed other communities in investigating their own resilience opportunities.

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# VENUS BAY COMMUNITY CENTRE

