

Community Energy for Venus Bay

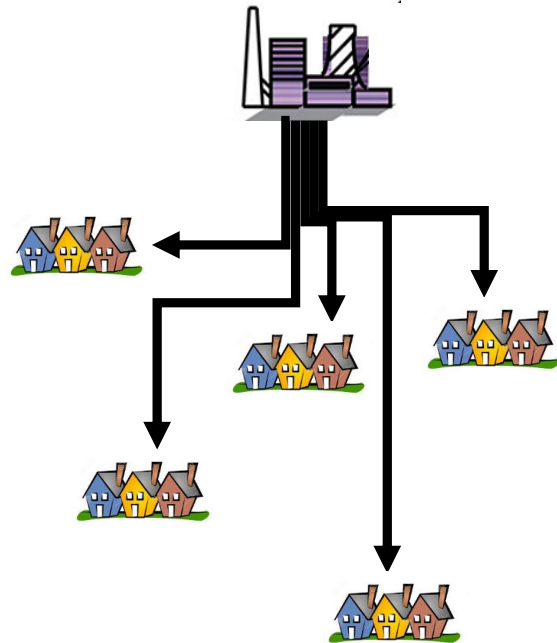


Heather Smith – May 2021

Today

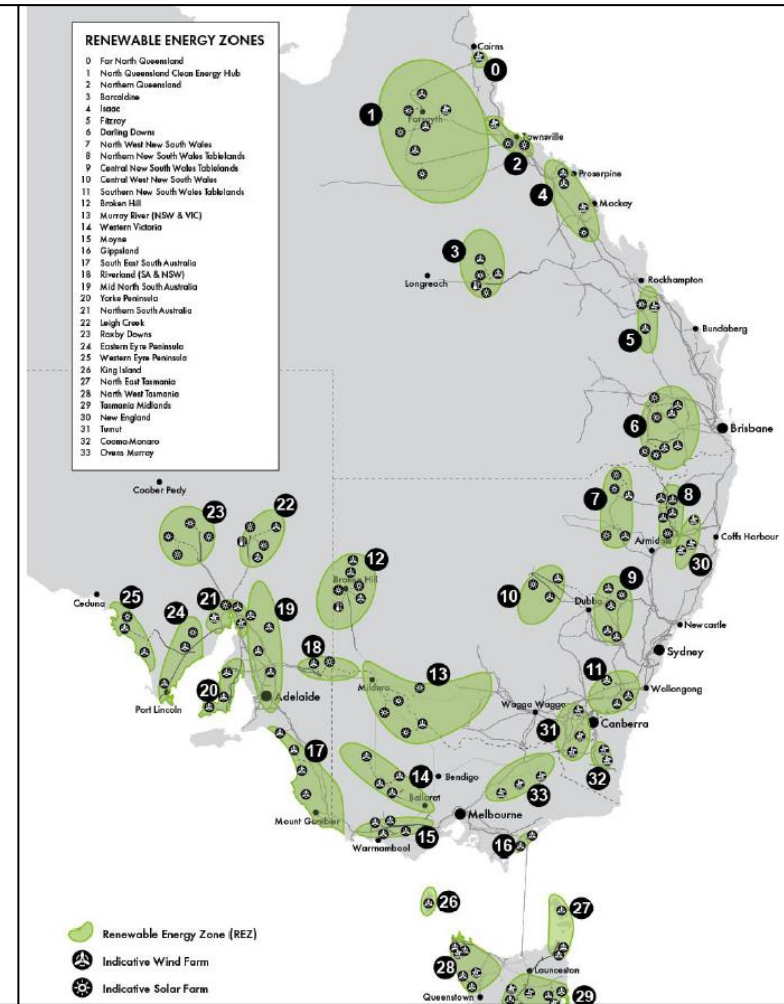
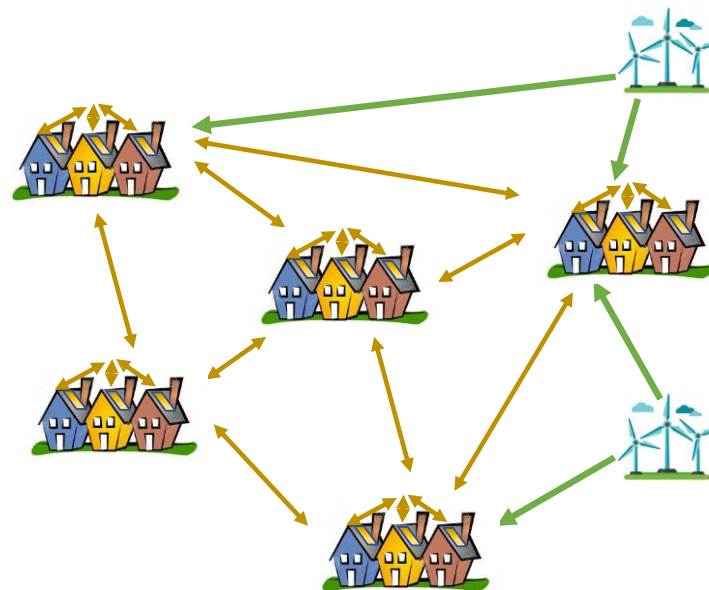
- Jargon – always ask!
- Introductions, hopes and dreams
- Summary of Community Energy presentations
- How do solar and batteries, microgrids or stand alone power systems (SAPS) work?
- What happens to energy in Venus Bay?
- What could Venus Bay do?
- Q&A
- Chatting – where all the important stuff happens

Centralised Electricity System



OR

Network of Small Systems (Microgrids)



The Future?

Centralised

- Renewable energy zones

Individual

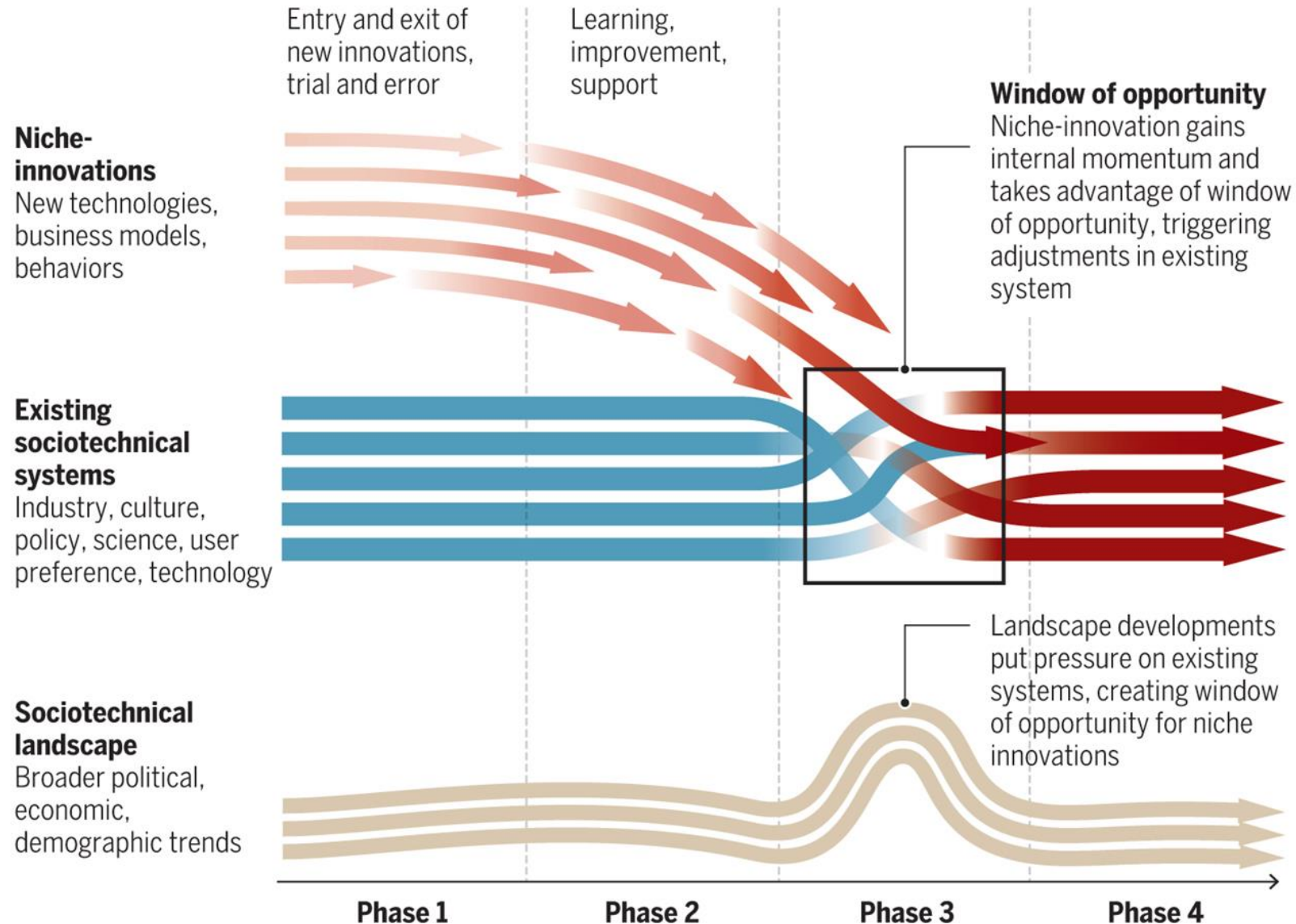
- Open energy networks

Somewhere in the middle

- Community energy

Foster innovations to take advantage of windows of opportunity

Internal and external forces pressure the existing system, which can realign around maturing innovations



Introductions



Community Energy models



- Bulk Buy
 - Solar
 - Batteries
 - Heat pumps
 - Electric vehicles
- Donations
- Investment – small to v.large
- Whole of community planning
- Retailing
- Emerging “change the grid” opportunities

Models with Energy Companies



Renewable Newstead



Newstead in transition to 100% renewables



- Neighbourhood Battery Initiative
- Newstead tariff trial
- Heyfield microgrid
- Virtual Power Plants

Ideas for getting started –C4CE Knowledge Hub

- a Wiki / blog for Venus Bay



c4ce.org.au

What is in the Knowledge Hub?

You'll find a broad range of topics including reference material, practical guides, articles and case studies. The background of the Knowledge Hub is the Embark wiki. Embark was established to facilitate the development of vibrant community renewable energy sector in Australia. Inspired by the success of Heron Island, Australia's first community-owned wind farm, many other communities have kept to participate and benefit from, the sector has grown to a low carbon economy. The Coalition for Community Energy joined together with Embark to create the one organisation.

We have the Knowledge Hub in four sections:

- [Guides, Tools & Templates](#)
- [Articles Library](#)
- [Case Studies](#)
- [Webinars](#)

Key resources



Articles Library

7 Apr 2020 • Nicola Mares

[Read more](#)



Guides, Tools & Templates

12 Sep 2018 • user1



Case studies

13 Mar 2020 • Nicola Mares

[Read more](#)



100% Renewable
electricity by 2022.

Resilience

**Climate
change**

Bills

Savings

**Local
economy**



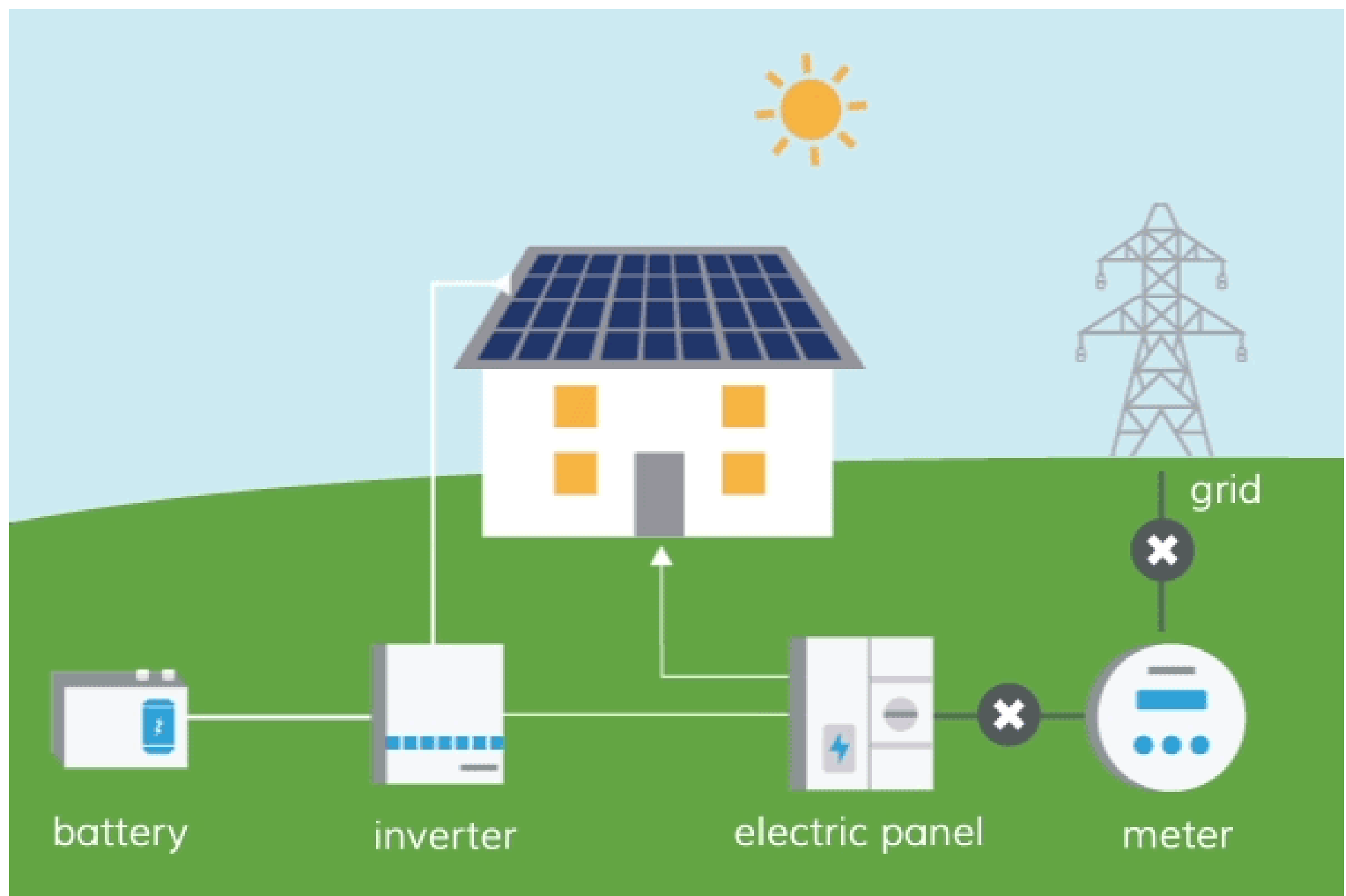
**Stage 2
Rooftop**

**Stage 3
Batteries**

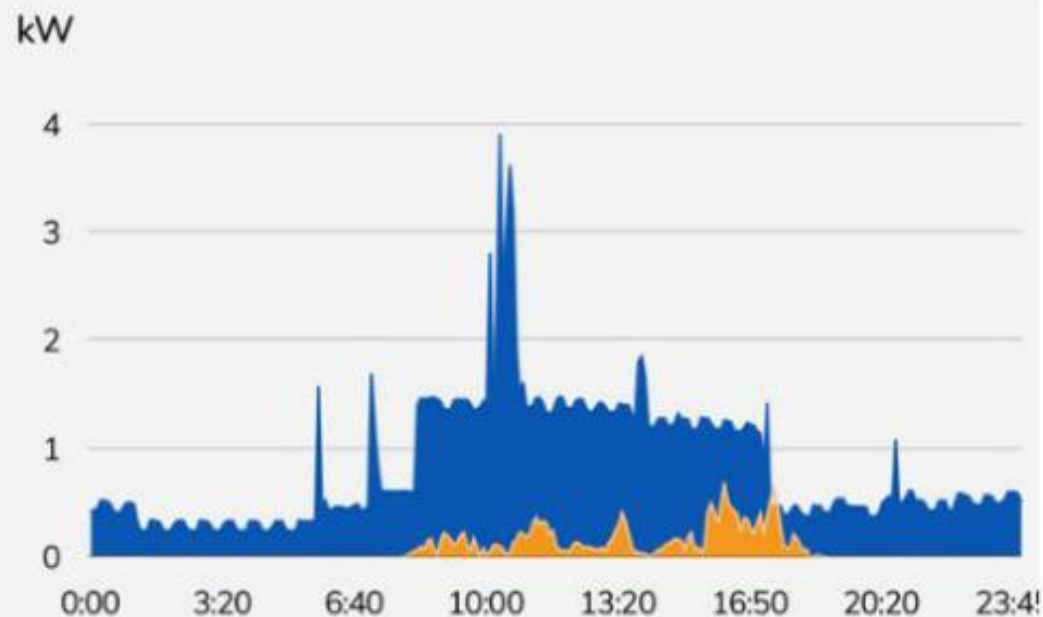
**Stage 4
Community
Retailer**

**Stage 5 Scaled
Generation and
Storage**





← History: Solar



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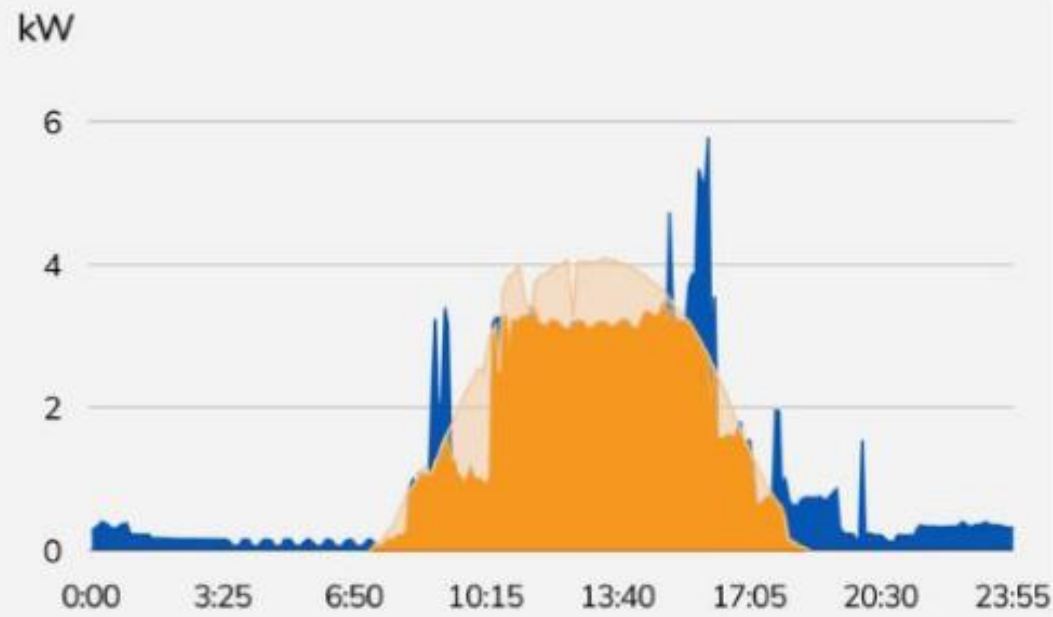
Next >

For 20 Mar

kWh

Consumption/Usage	19.92
Solar used on site	1.81
Solar sent to grid (Exports)	0.03

← History: Solar



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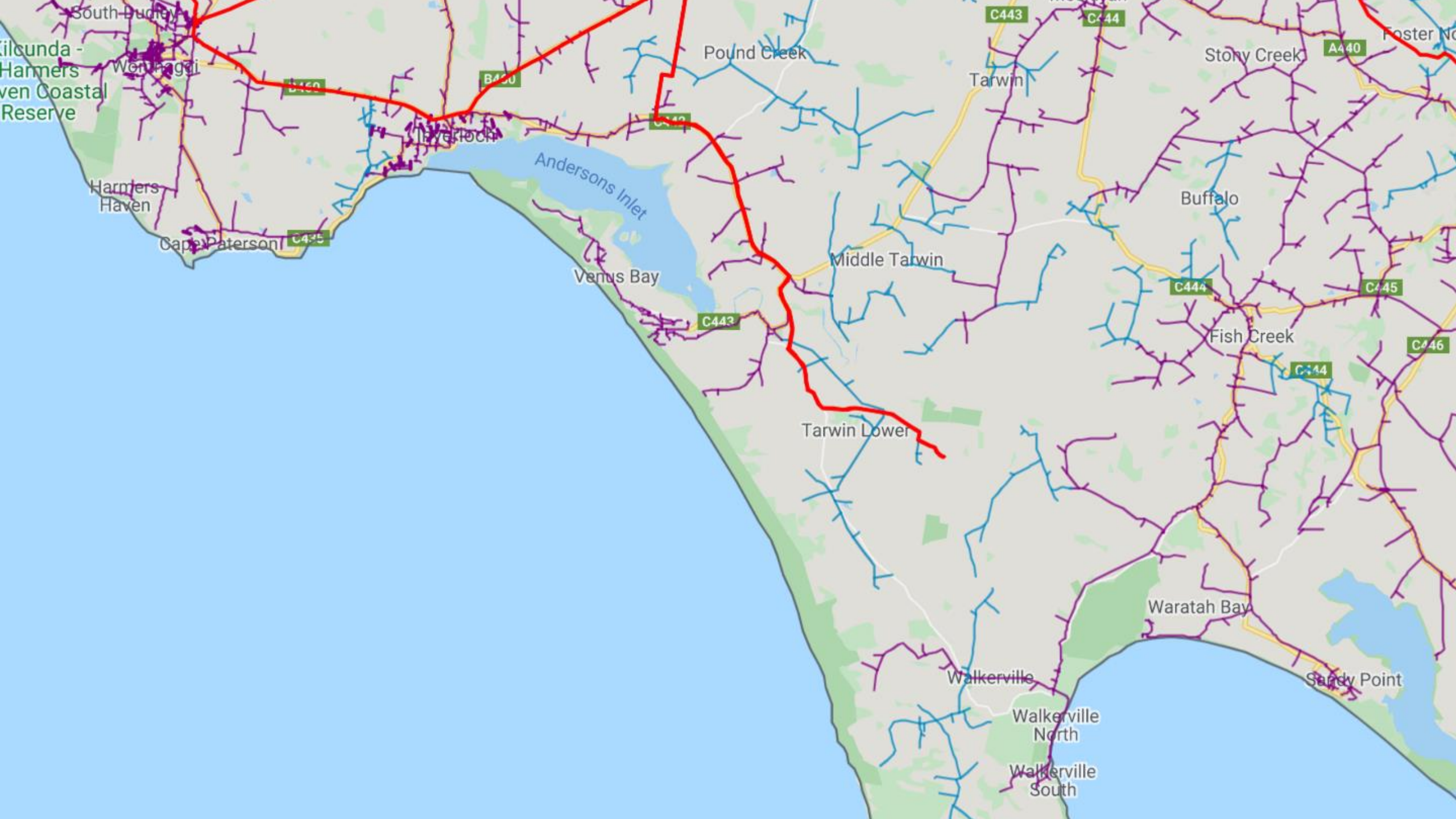
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For 02 Apr

kWh

Consumption/Usage	29.27
Solar used on site	23.09
Solar sent to grid (Exports)	5.14



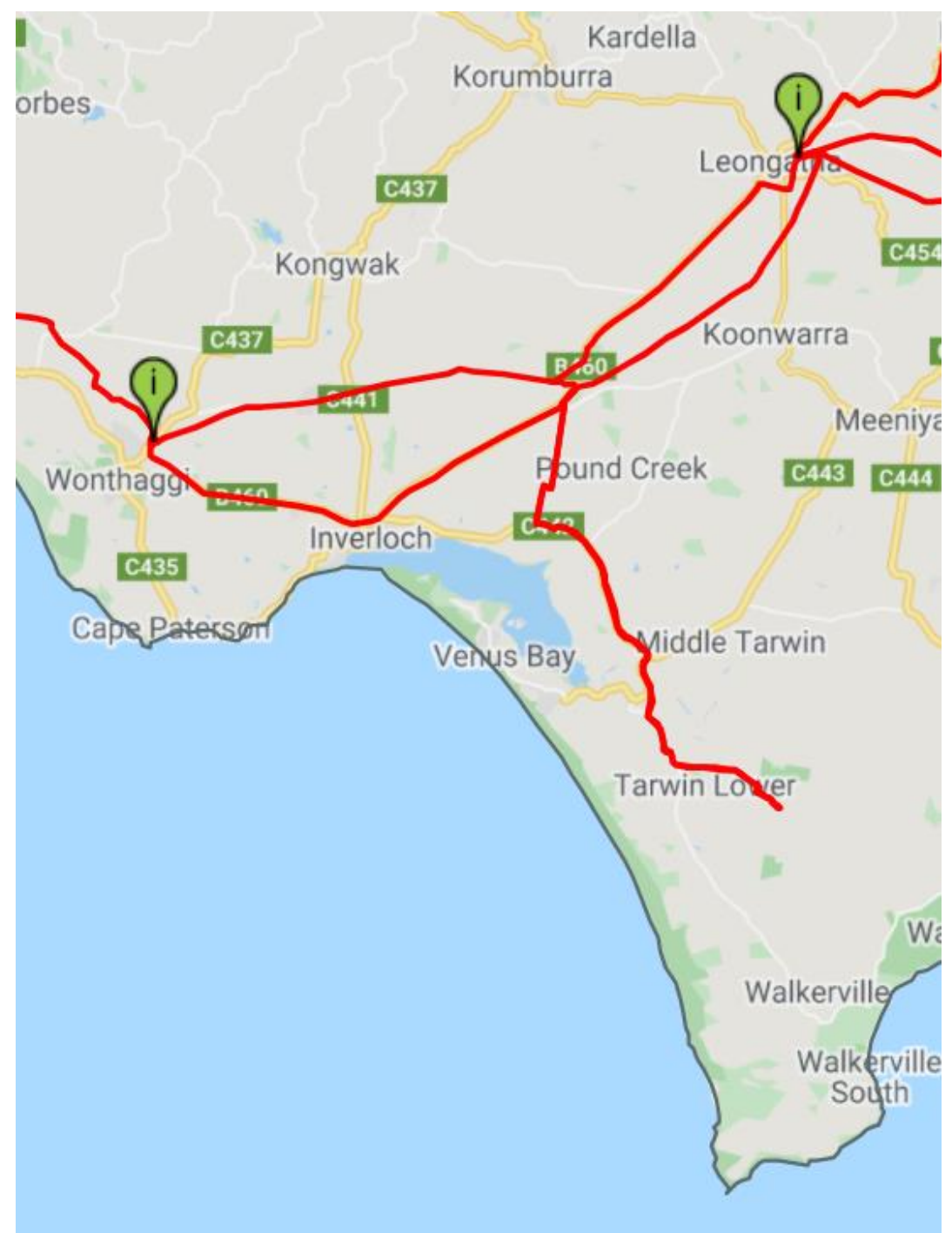






Scales:

- Wonthaggi ~ 40MVA
- Bald Hills wind –
52 x 2MW ~ 100MVA







- Venus Bay ~ 2MVA
- Hepburn wind –
2 x 2MW ~ 4MVA
+ solar ~ 7.5MW



1MW solar – Melbourne shopping centre



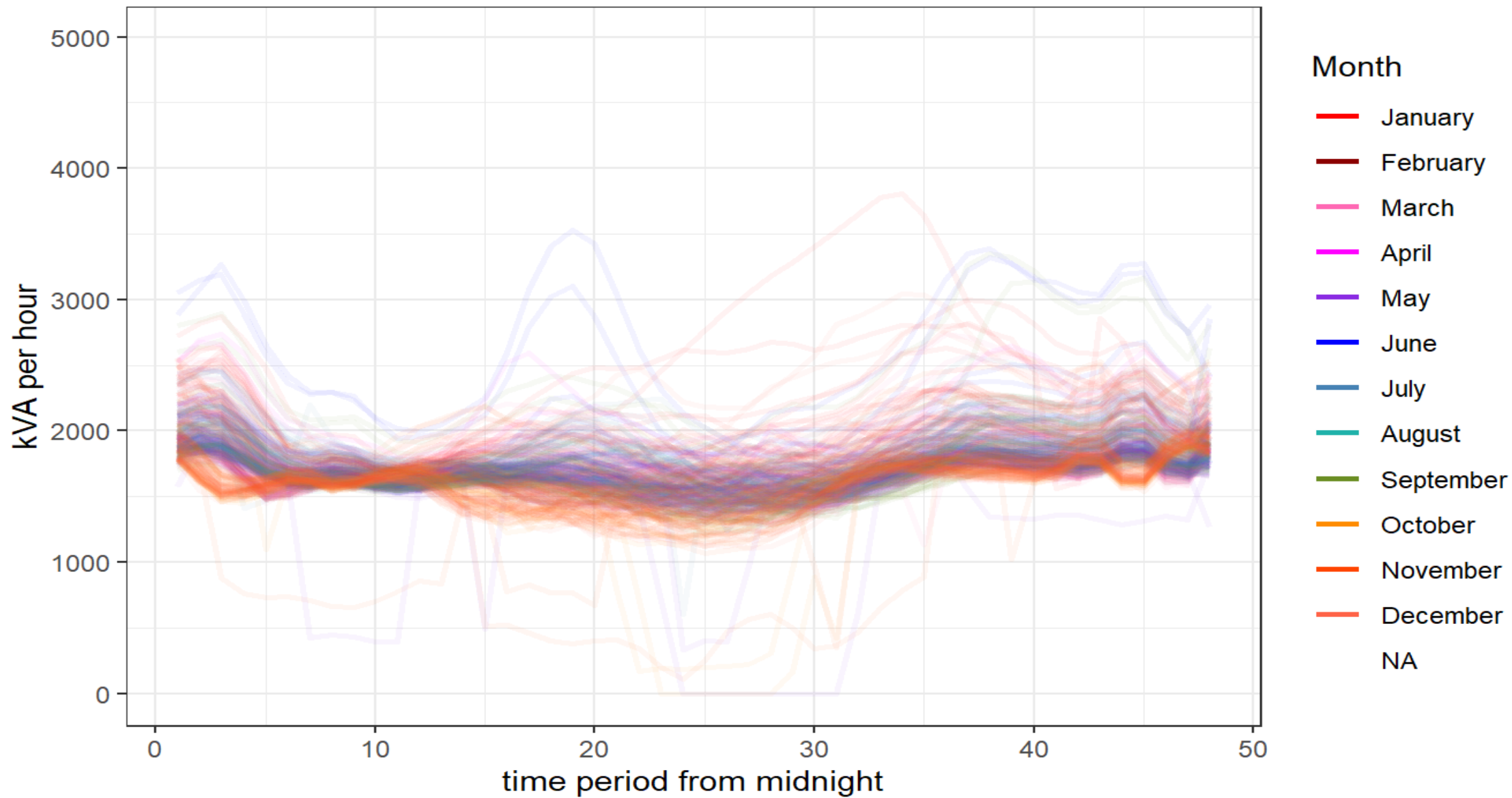




1888 houses
~400 permanently
occupied x 5kW each
= ~ 2MW

Average Venus Bay load profile

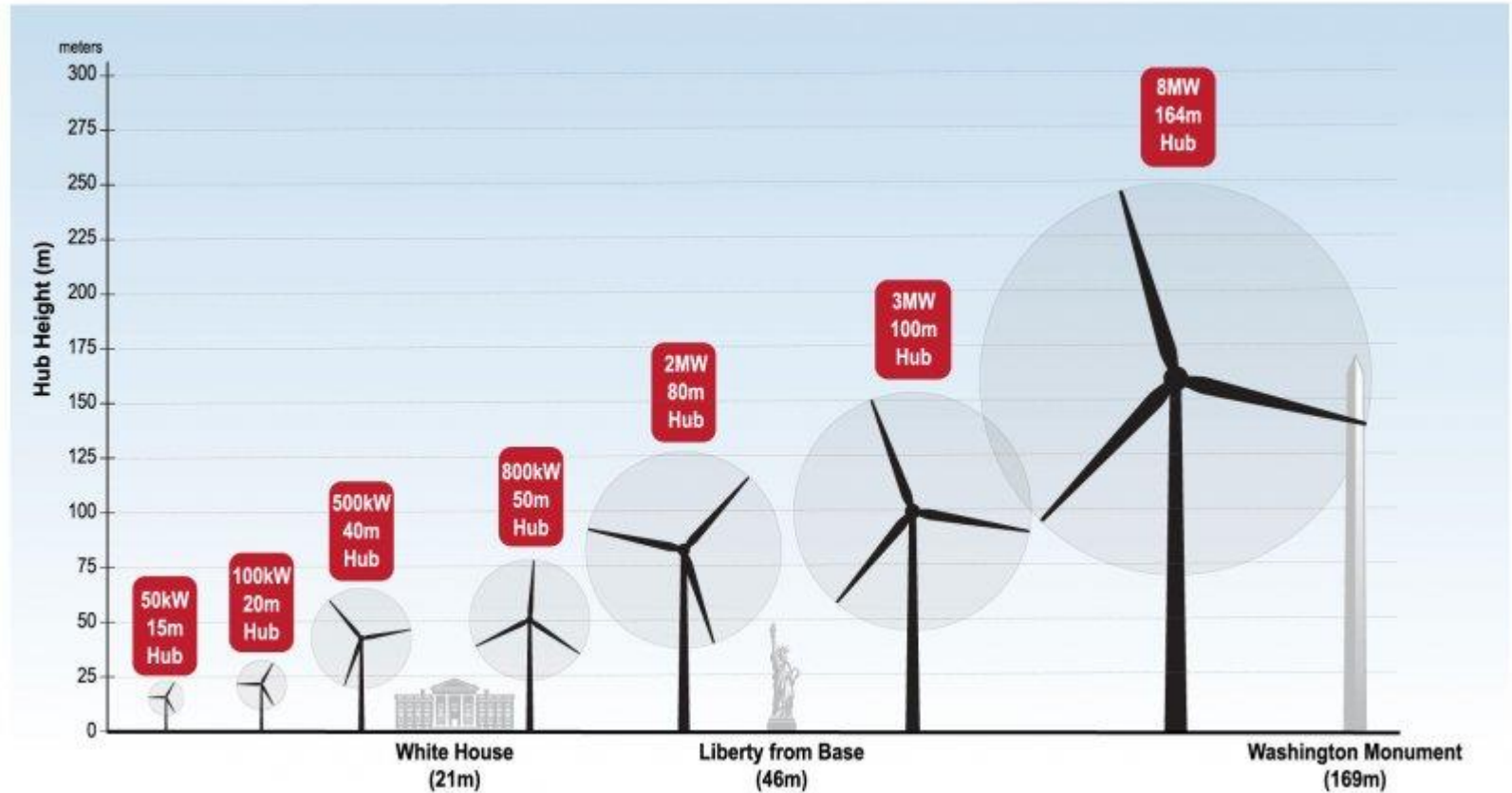
kVA from energy data



Source: Ausnet



100kW solar and wind



VENUS BAY COMMUNITY CENTRE

YOUR COMMUNITY
NEIGHBOURHOOD HOUSE

ESTABLISHED 1974

VENUS BAY
COMMUNITY CENTRE



VENUS BAY COMMUNITY CENTRE
27 CANTERBURY RD, VENUS BAY

P: 3663 7409
E: vbcc@bigpond.com
W: www.vbcc.org.au

