

Community Energy for Venus Bay

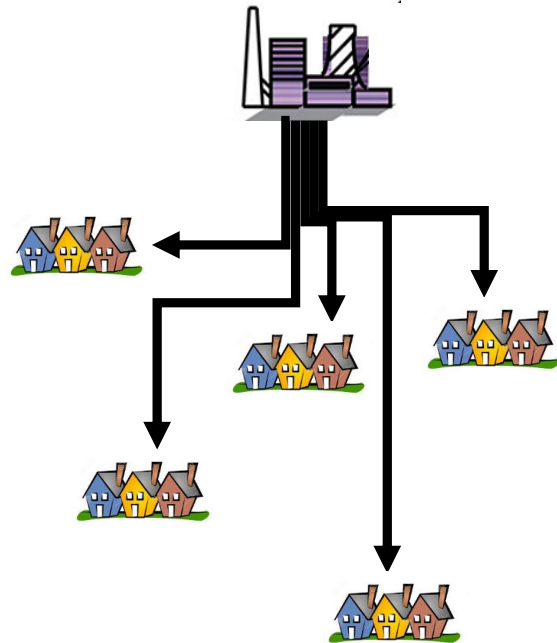


Heather Smith – May 2021

Tonight

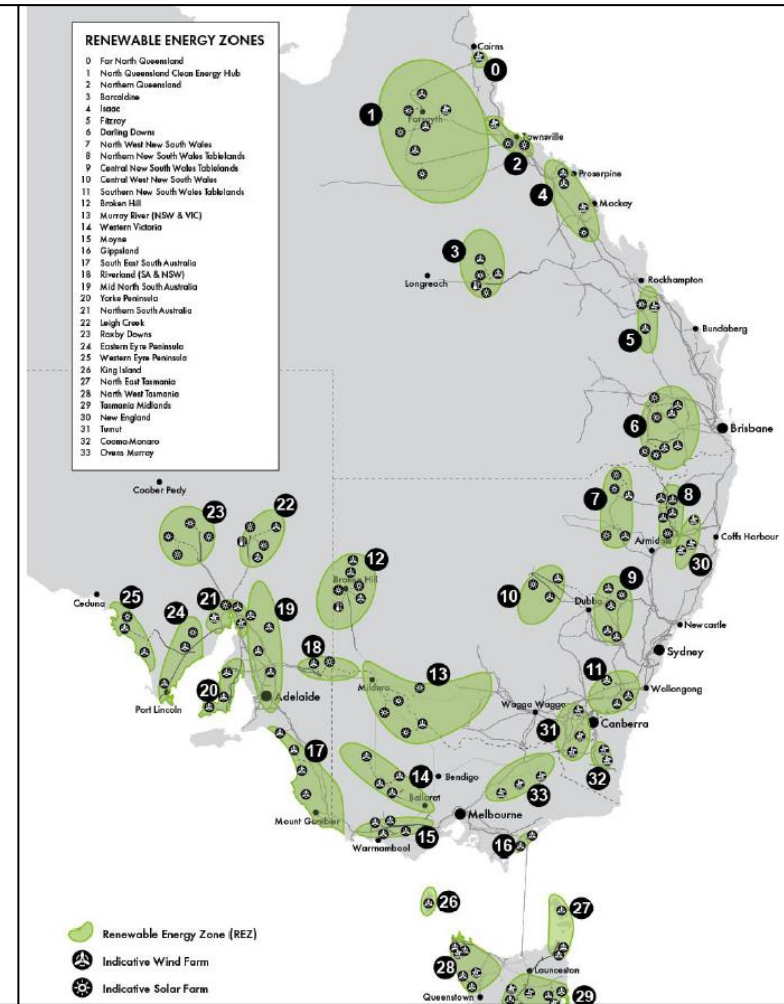
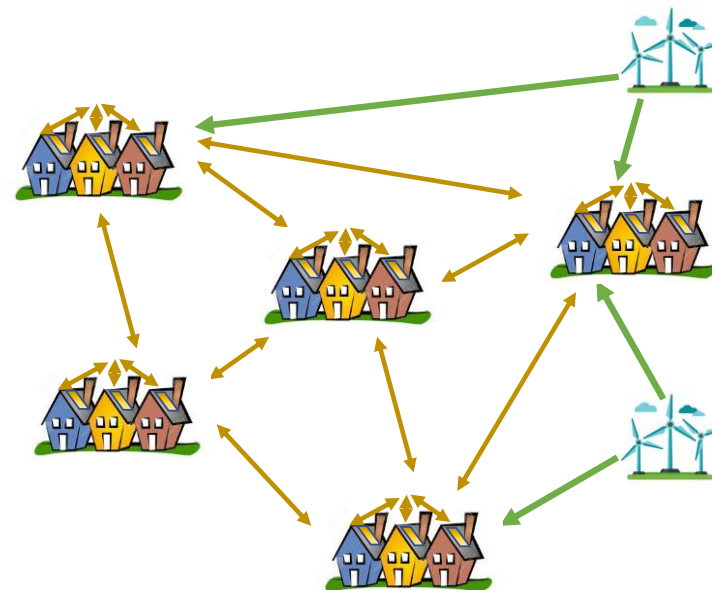
- What's happening Saturday?
- Jargon Jar
- Introduction to Community Energy
- Totally Renewable Yackandandah
- How do solar and batteries work?
- What happens to energy in Venus Bay?
- What could Venus Bay do?
- Q&A
- Chatting – where all the important stuff happens

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



Bulk Buy models

- CE group partnerships with bulk buy providers
- Local government support
- Technical support
- Support local businesses

New markets

- New developments
- Some shared ownership – eg strata
- Renters
- Electric vehicles and charging infrastructure
- Heat pump hot water systems

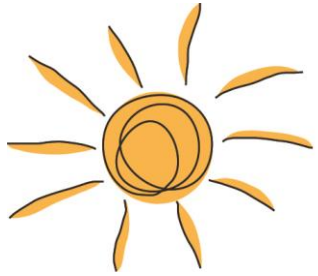


Donation models



- Revolving funds
- Cheap finance
- Community beneficiaries

Small-scale ownership/investment models



Solar Harvest

Fair Clean Energy



ClearSky
SOLAR INVESTMENTS



Pingala

HOW OUR COMMUNITY SOLAR MODEL WORKS

LOCAL BUSINESS



LOCAL PEOPLE



\$ Community pays for
solar power system

REPOWER
SOUTHERN HIGHLANDS

\$ Business buys solar electricity
until system paid off

- Typically rooftop solar behind-the-meter arrays under 100kW
- 4-8% returns
- Trusts, co-ops, not-for-profits, companies

Mid-scale ownership models



- 1-10MW
- Cooperatives
- Companies
- Innovative retailing is occurring

Large-scale commercial co-investment

- First project was Sapphire Wind Farm – 275MW
- Utilised DomaCom fractional investment
- Next will be 50MWh battery in Canberra – Neoen



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SAPPHIRE WIND
FARM COMMUNITY
CO-INVESTMENT

TARGET AMOUNT
\$10 MILLION

APPLY NOW



Whole of community planning



3 targets

- 100% renewable
- Zero-net Energy
- Zero-net Emission
- Generally overseen by a masterplan/roadmap



Indigo Power

Community Energy Retailing

2 models:

- Community owned and operated
- 'White-labelling' with a back end retailing service

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



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 basis 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, Australia's first community-owned wind farm, many other communities are keen to participate and benefit from, the move to a low carbon economy. The Embark 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



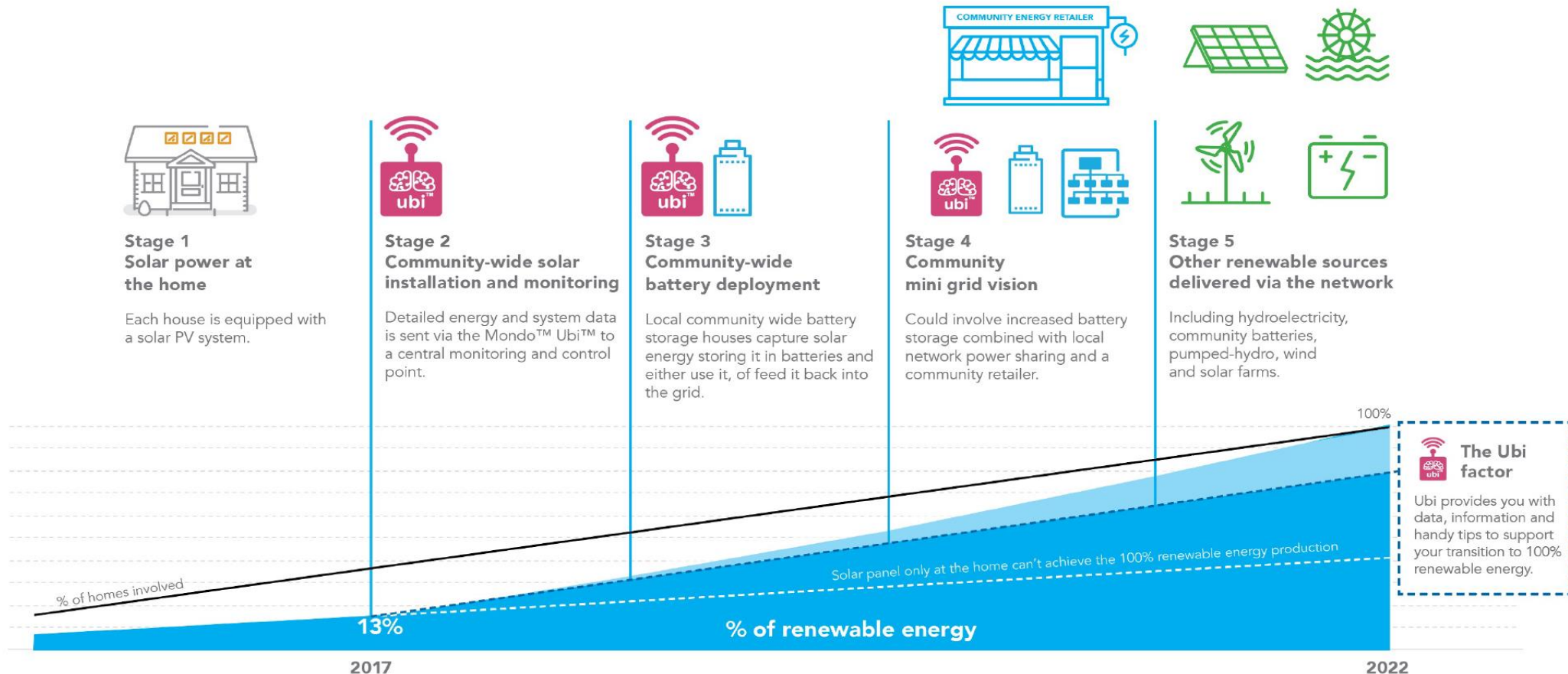
Bills Savings



Local economy



THE MINI GRID VISION



Mondo Ubi micro grid controller. Monitors and manages home energy use.



Battery storage at the home.



Local mini grid network managed by a community retailer.



Renewable energy delivered via the network.

Stage 2 Rooftop



Stage 3 Batteries



Stage 4 Community Retailer

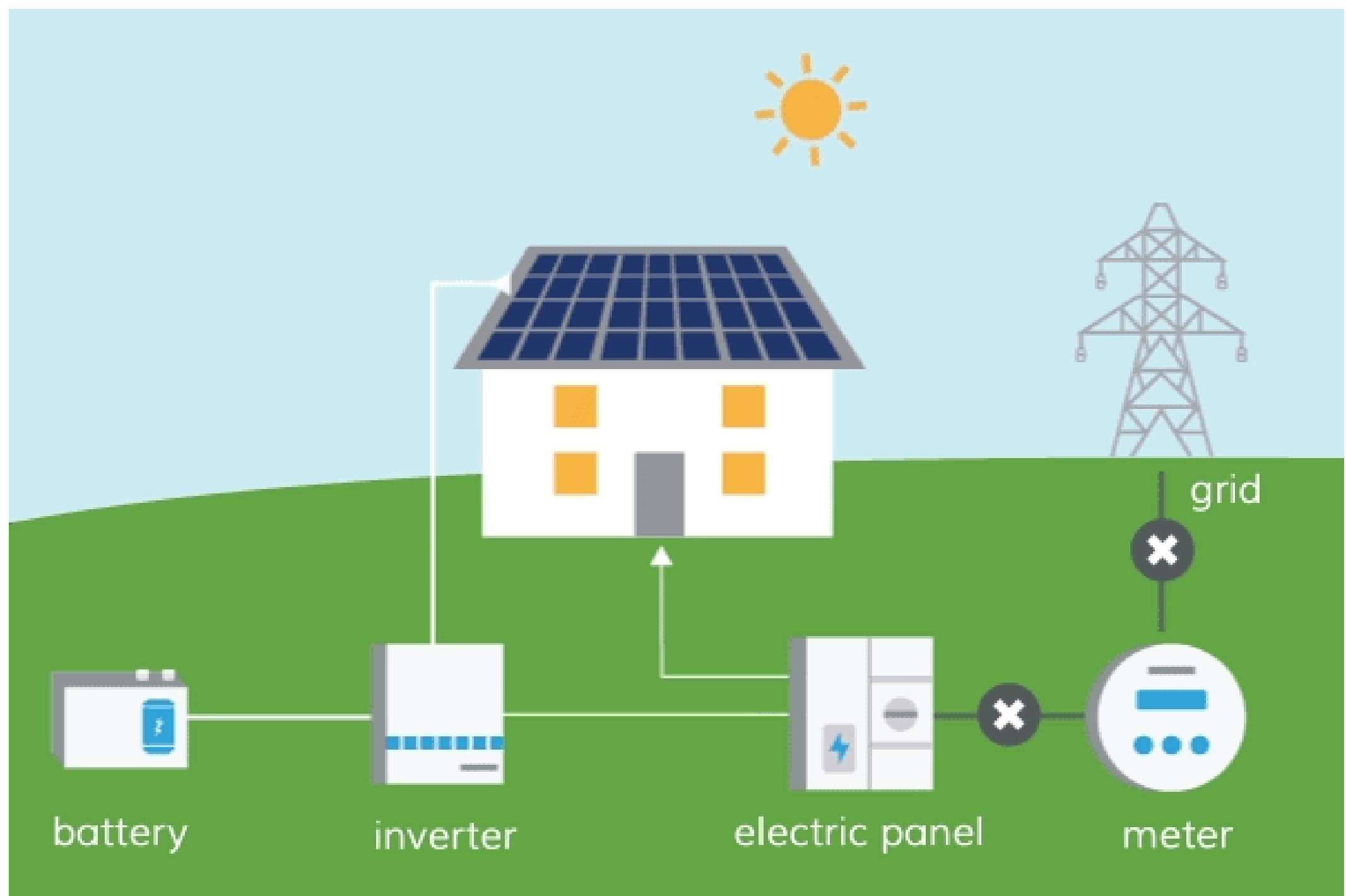


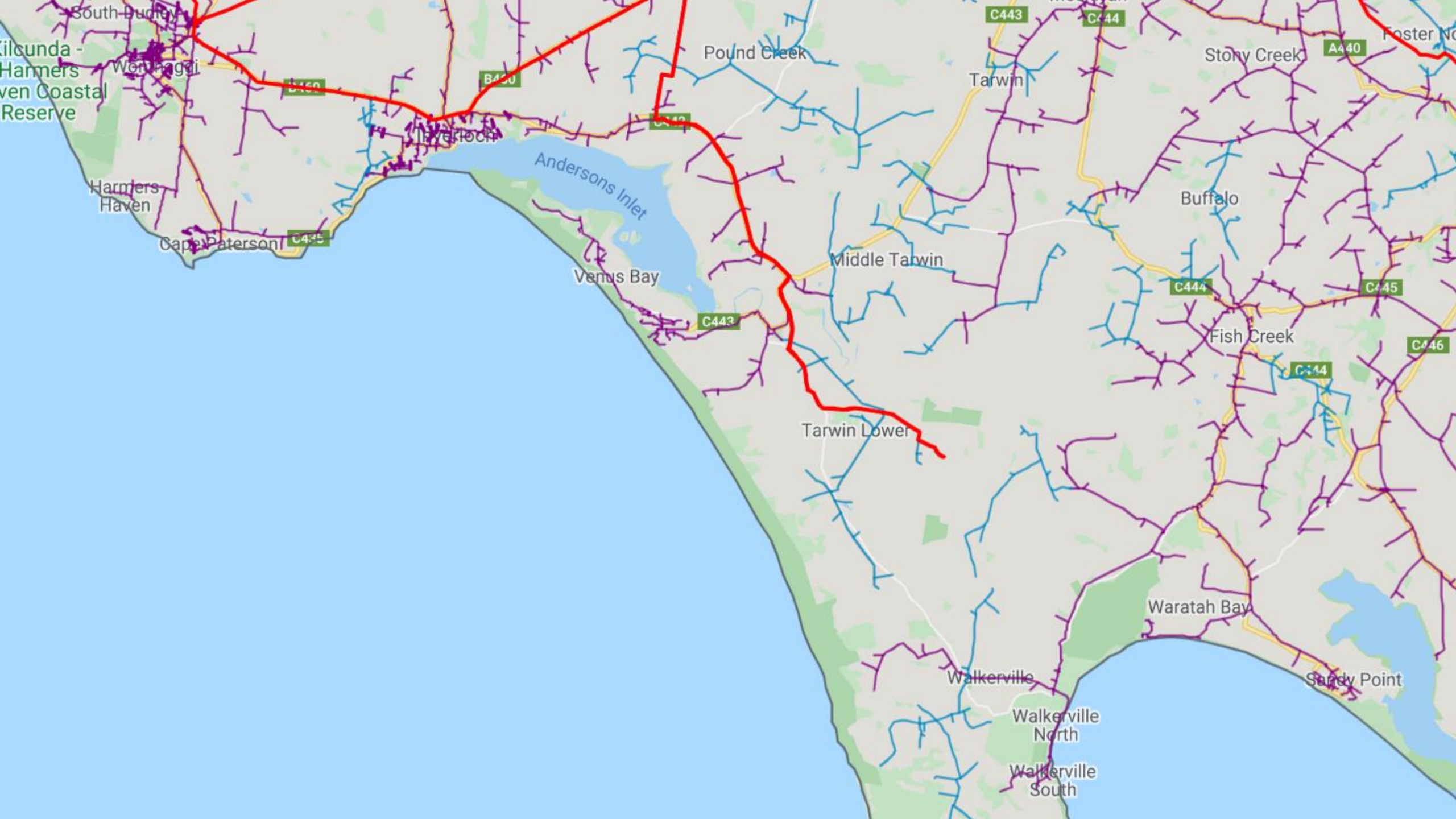
Indigo Power



Stage 5 Scaled Generation and Storage





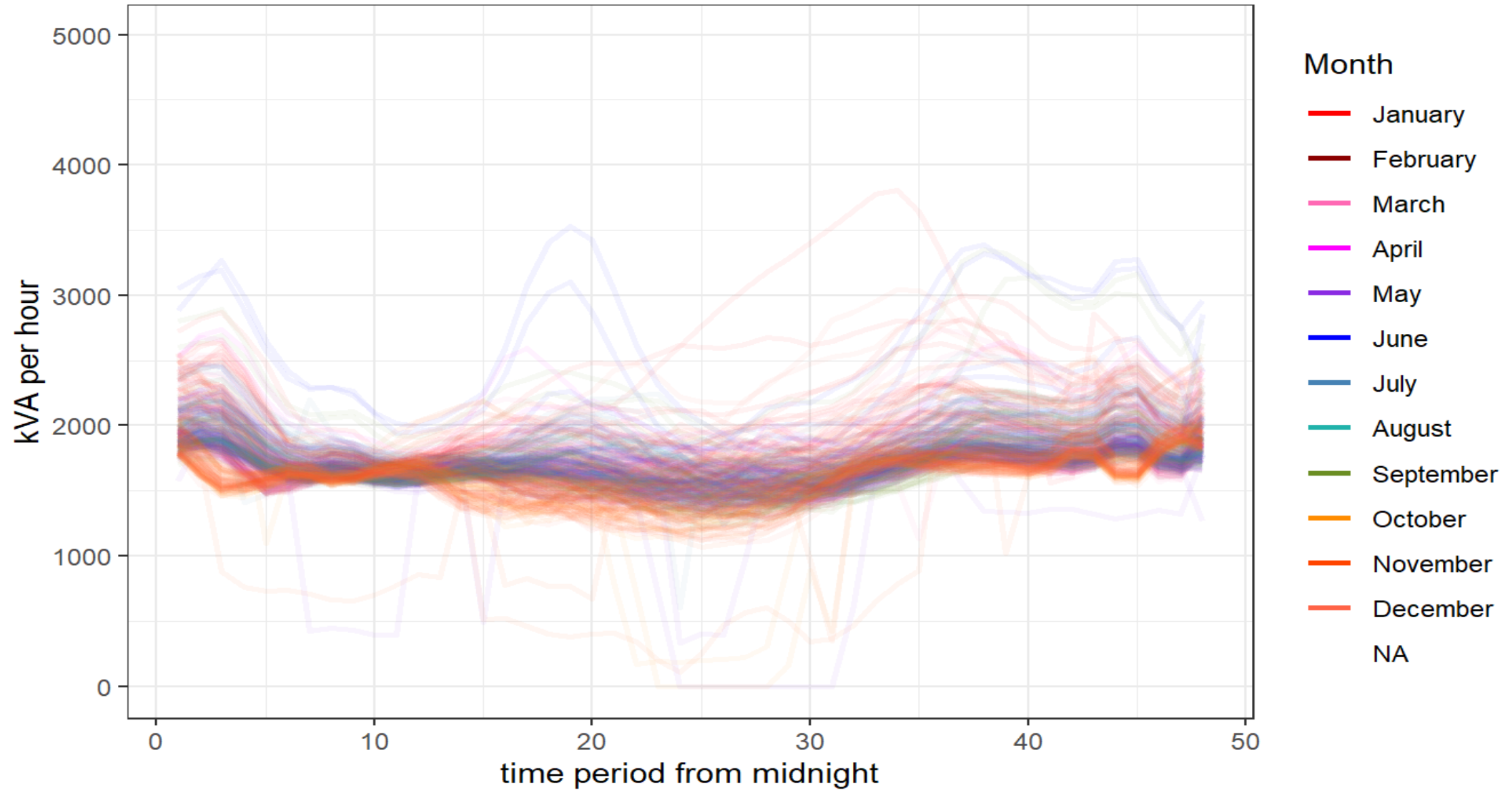






Average Venus Bay load profile

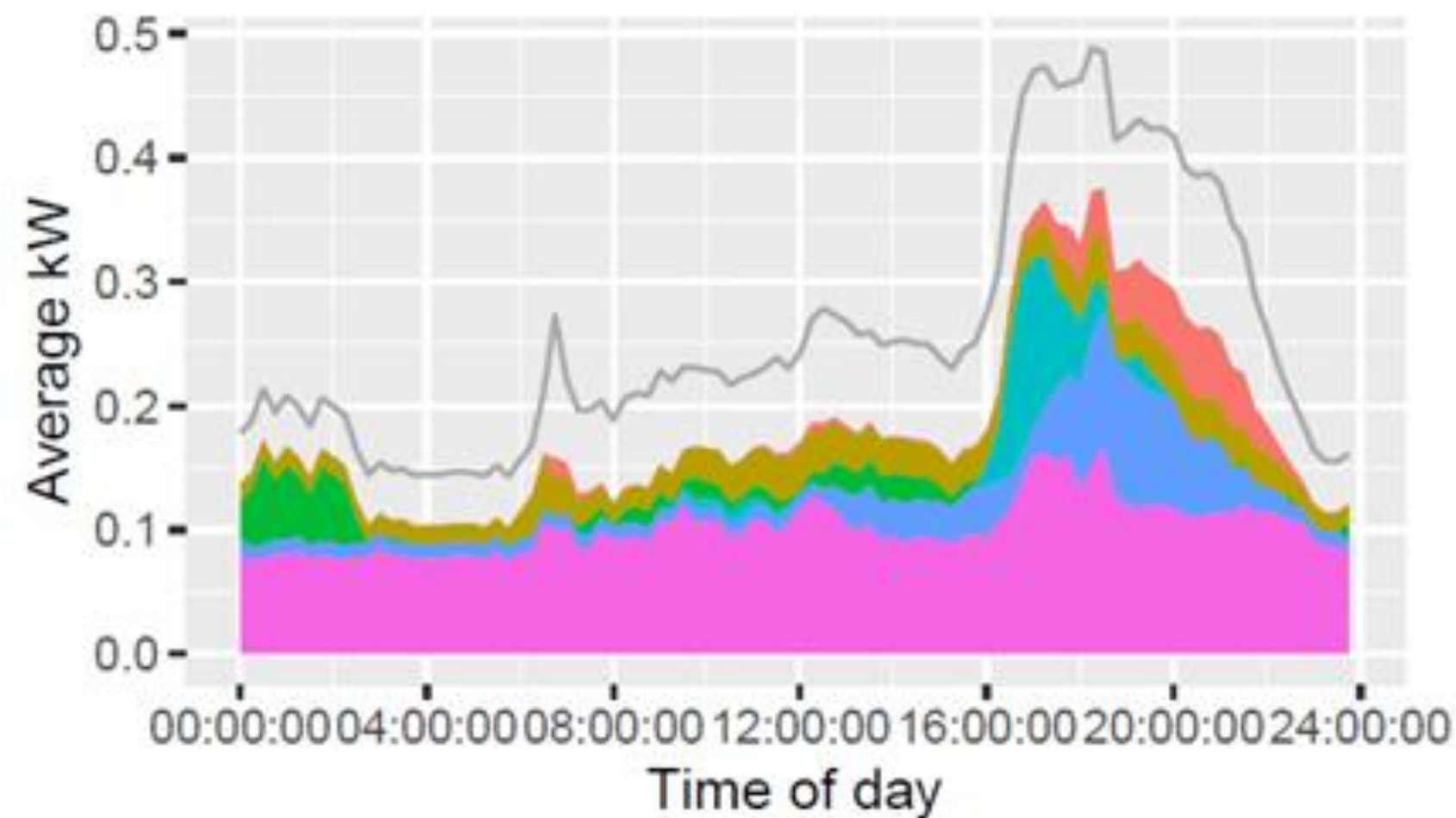
kVA from energy data



Source: Ausnet

Contributions across the average day

2018 Data for House no. 10



Load

- 4:Lighting 1:kW
- 5:Lighting 2:kW
- 7:Dishwasher:kW
- 8:Oven:kW
- 9:Air Conditioner:kW
- 10:Living Room Power:kW

Total Load

- Total Load

