



THE UNIVERSITY
OF QUEENSLAND
AUSTRALIA

CREATE CHANGE

Resilient, renewable Millaa Millaa

Towards scalable energy resilience for regional Queensland

Who are we?



Steve Snow

UQ

Energy audits,
behaviour change



Caroline Valente

*Energy Consumers
Australia*

Consumer advocacy,
energy poverty



Mashhuda Glencross

UQ

Human-computer
interaction



**Centre for Energy
Data Innovation**

UQ

Data science, electrical
engineering, interaction design

Energy Consumers Australia



The **national voice** for residential and small business energy consumers.

We work to **understand and ensure consumers have their expectations and needs met** through a modern, flexible and **resilient energy system**.



We proactively shape a vision for the future, **influence and work with others** to drive change across the energy system to benefit consumers.

We influence the shape of the energy system **now and in the future** by **creating a trusted voice** for residential and small business consumers.



Why are we here?

Big picture: Improve the resilience of regional Queensland towns affected by cyclones OR power outages

Millaa as a pilot for scalable energy resilience solutions (e.g. microgrids) to apply to other small regional towns in regional Queensland

Why Millaa? Location, local support-Lions Club, small size, strong community.



Source: Pnmm Francis- Millaa Millaa matters

Why are we here?

[Home](#) > [Funding](#) > [Regional Australia Microgrid Pilots Program](#)

Regional Australia Microgrid Pilots Program

In October 2020, the Australian Government announced the \$50 million Regional Australia Microgrid Pilots Program (RAMPP) to support pilot demonstrations of microgrids in regional and remote areas.

Feasibility study >>> Full costing >>> Construction

Why are we here right now?

Listen

Discuss

Hear lived experience, expectations, concerns

You!

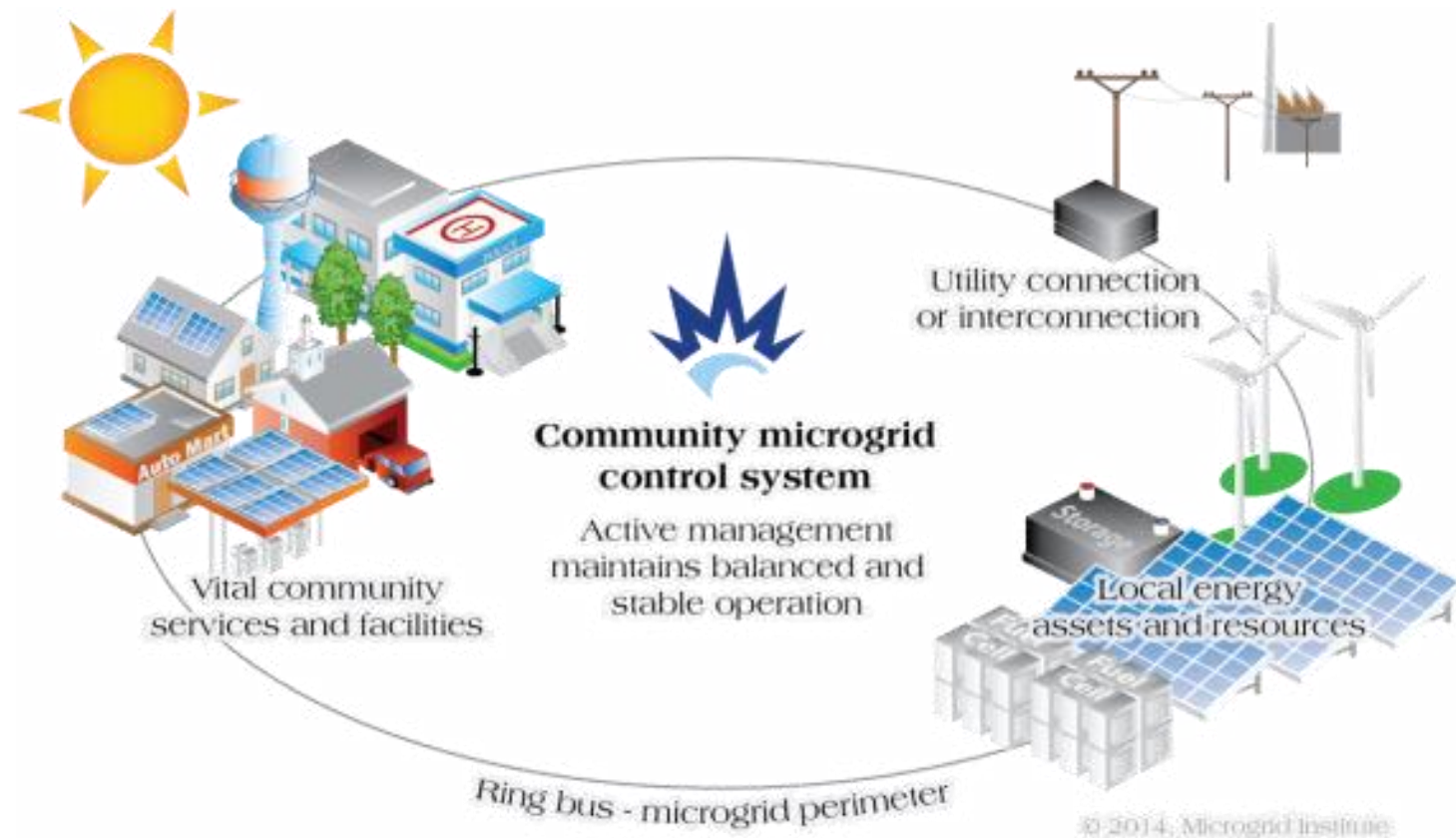
What is a microgrid?

A self-sufficient energy system that serves a discrete geographic footprint... utilises one or more kinds of distributed energy

Local: Discrete electrical boundaries

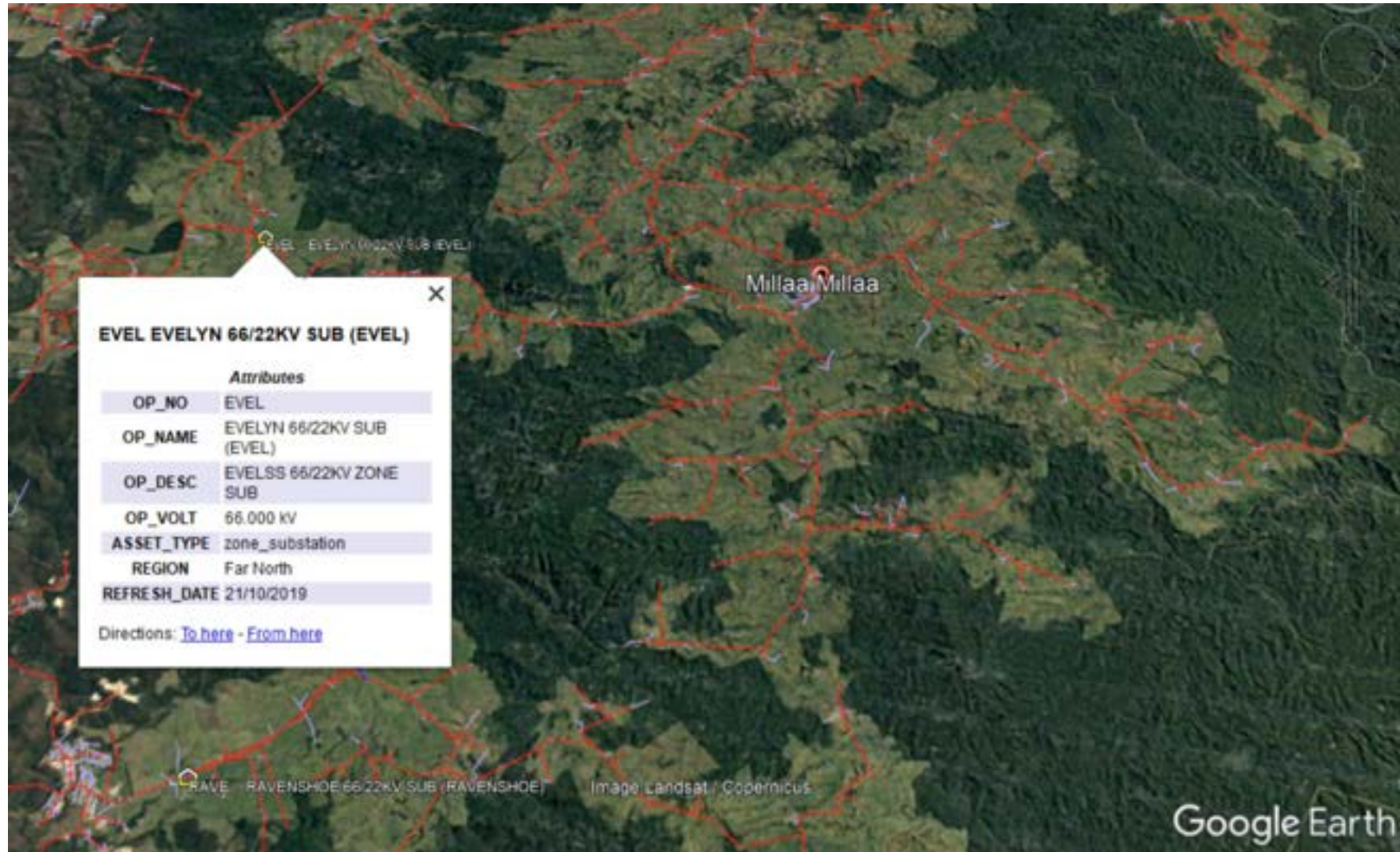
Independent: Can operate as part of OR independent of the local electricity network

Renewable: Replacement for diesel generation/backup

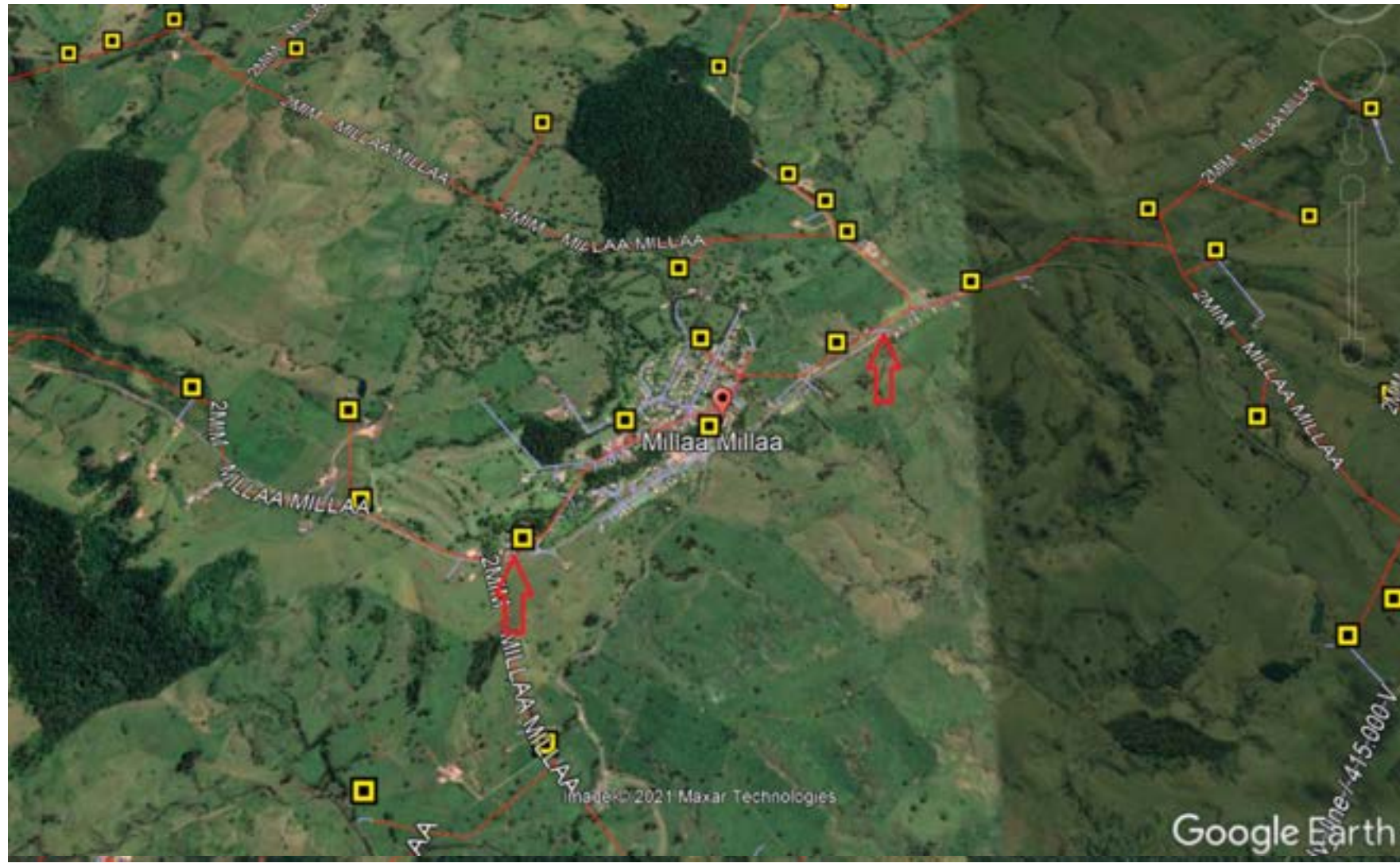


Source: Microgrid institute: <http://www.microgridinstitute.org/>

How could it work?



How could it work?



Rooftop solar / battery



Shared (or community) battery



Small-scale solar farm (?)



What do we mean by resilience?

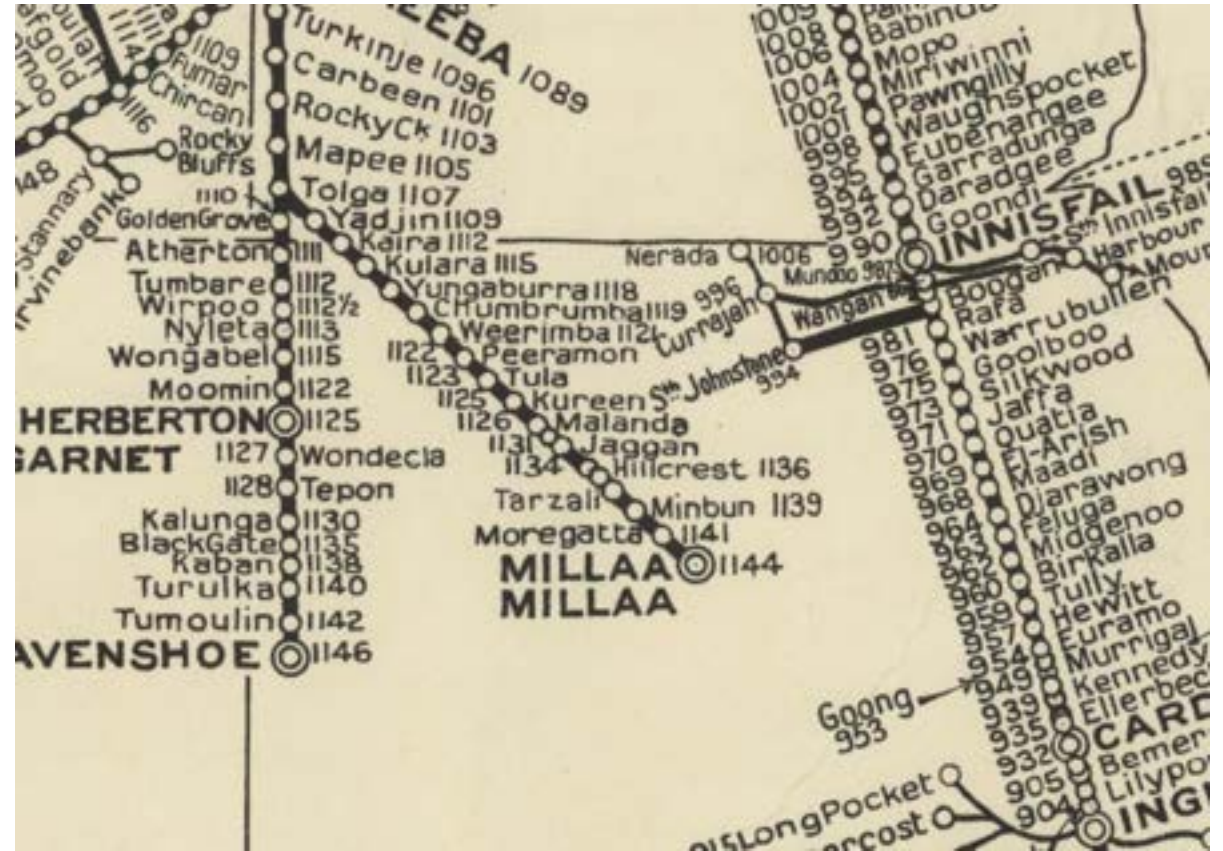
How could we make life a little more bearable compared to having no power

Use existing power sources plus some new sources to create enough power to

- Keep the fridge going?
- Get a few lights on?
- Laptop and phone charging
- Power the main street?

Feasibility study

1. Socially acceptable
2. Technically feasible
3. Economically feasible
4. Safe and within regulations



Feasibility study- How can I be part of it?

1. Socially acceptable

You are already part of it!
Perspectives, interviews,

2. Technically feasible

Adopt an energy monitor- for free!



3. Economically feasible

4. Safe and within regulations

Adopt an energy monitor

Talk to me tonight / tomorrow

Email s.snow@uq.edu.au

PM me on Millaa Millaa Matters Facebook



Questions

What do you understand about energy resilience? Why is it important?

Tell us about the power outages you've experienced in recent years

What is “essential” energy use?

Are you willing to limit electricity use during grid outages to retain power?

Questions

Could a microgrid could be the answer?

Would people consider buying and sharing solar + battery?

Is a community battery acceptable?

Is a small-scale solar or wind farm acceptable?



Questions

Is (some) diesel generation acceptable during microgrid operation?

If you had household-scale solar + battery would you allow someone to control it during emergencies?

What are your questions for us?



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CREATE CHANGE

Thank you

Dr Stephen Snow
School of Architecture
s.snow@uq.edu.au
0417079392

CRICOS code 00025B



LEVEL 1 (VFL) 66/22KV SUB (LEVEL)

Millaa Millaa



NSW QLD VIC SA TAS

Chart view

CURRENT SPOT PRICE

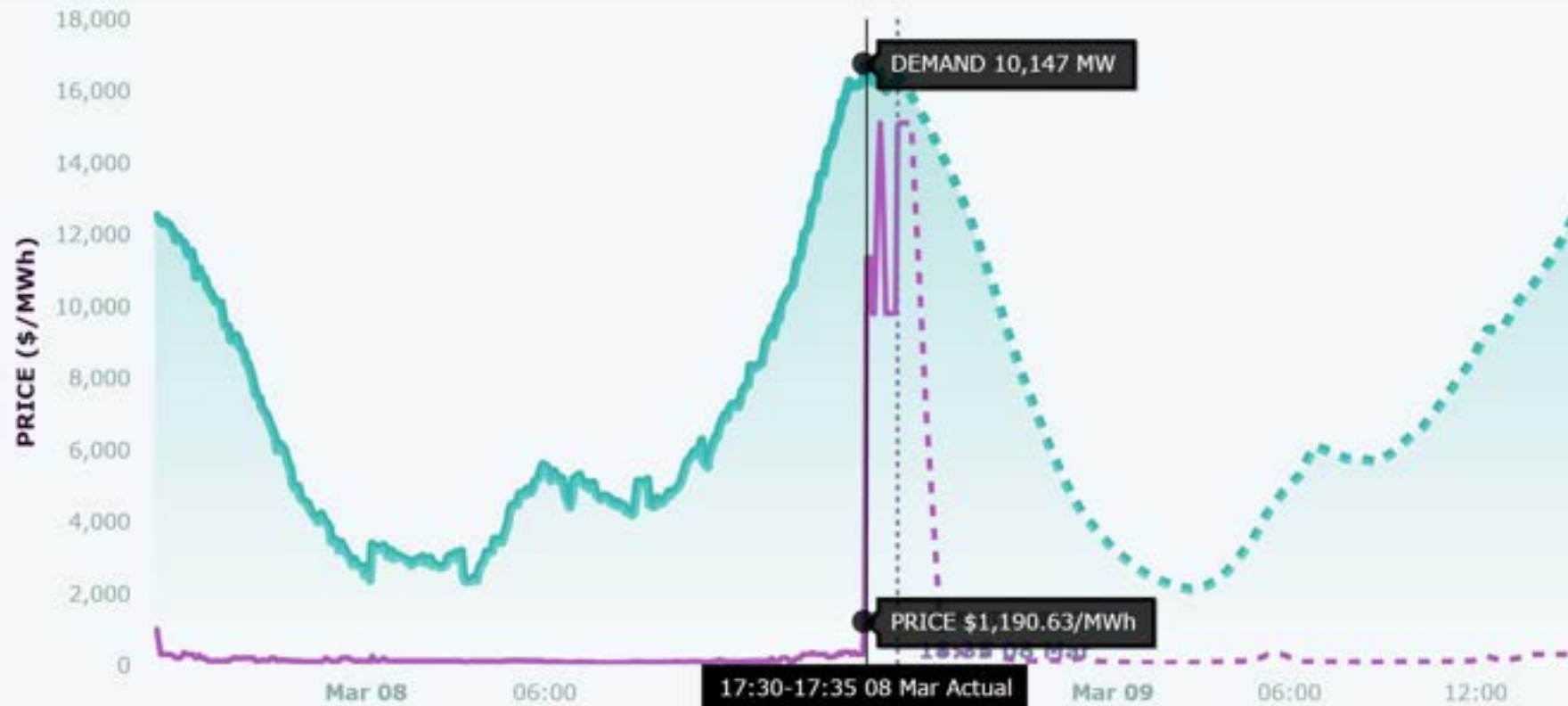
\$15,100.00 (MWh)

CURRENT DEMAND

10,085 (MW)

FORECAST PRICE (NEXT 30MIN)

\$15,100.00 (MWh)





Ergon Energy

November 20, 2018 · 🌐

The Pegasus unit that was used to power Ravenswood while the substation was offline for repairs has hit the road after another job well done. In emergencies, we can use this high-voltage injection unit with a large capacity generator to supply electricity into the distribution network.

Our team supported the gold mining community with mobile generation at multiple sites after a transformer at the substation was badly damaged. Thanks to crew members from Charters Towers, Inn... [See more](#)

👍 5

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