

Take Charge

Foresighting Forum 2021

The Digital Series.



Framing the future by learning from the shocks of 2020

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The Digital Series.



System Resilience

Online Webinar

Thursday August 12, 10.30am - 12.00pm



Nicola Hepenstall
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Insight Centre



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General Manager
Customer and Network
Services, Essential Energy



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General Manager Regulation,
AusNet Services



Lynne Gallagher
CEO, Energy Consumers
Australia



Get Involved

What role can your organisation play in bridging the gaps to meet community expectations before, during and after a crisis event?

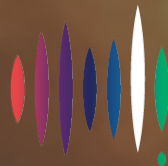
#TakeCharge21



@Energy Consumers Australia @Energyconsumersaustralia @energyvoiceau

Or email us info@energyconsumersaustralia.com.au

THE
INSIGHT
CENTRE



ENERGY
CONSUMERS
AUSTRALIA

THE CONNECTIONS THAT MATTER

East Gippsland Longitudinal Community Listening Project
August 2021

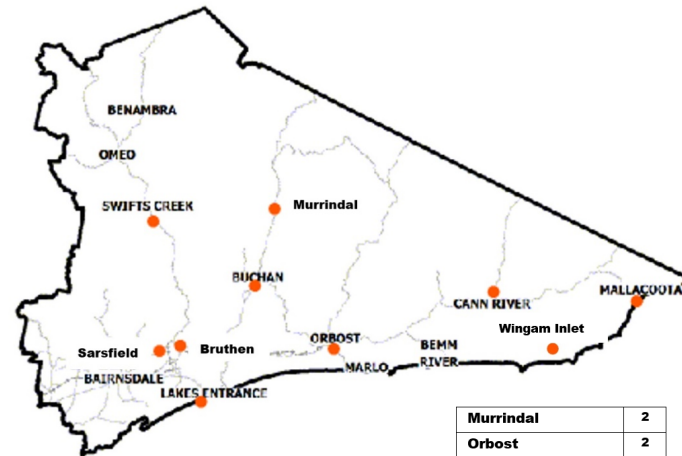
We acknowledge the impact of these devastating fires on the land of the Gunaikurnai, Bidewell and Monero (Ngarigo) people.

We pay respect to the thousands of years of their ongoing custodianship of the land.

We would like to thank Alida, Alison, Amber, Dawn, Donald, Donna, Evelyn, Ewan, Howard, John, Julie, Karen, Kathy, Kelly, Lauren, Lea, Lilli, Lisa, Liza, Michelle, Milena, Rachel, Rebecca, Ronald and Terri for sharing their experiences during the bushfire crisis and recovery journey so far.

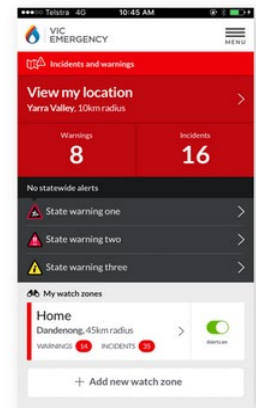
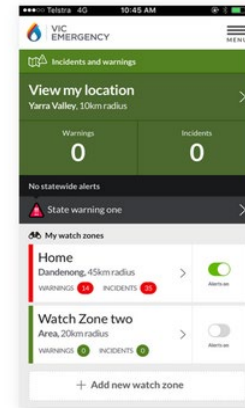
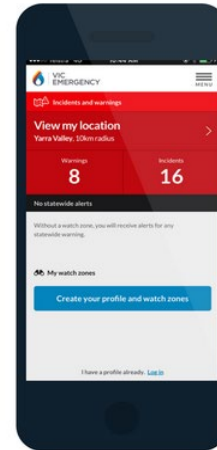
MAJOR FIRES IN VICTORIA

-  FIRE
-  FIRE UNDER CONTROL
-  WATCH & ACT
-  EVACUATE NOW
-  EMERGENCY WARNING



Murrindal	2
Orbost	2
Swifts Creek	1
Buchan	3
Mallacoota	6
Cann River	2
Sarsfield	3
Bruthen	2
Lakes Entrance	2
Wingam Inlet	1
Nowa Nowa	1

The relationship between energy security, technology and responding in a crisis



Energy insecurity was a big issue during the fires

“You just kind of sit there and wait. You think that you’re prepared to a degree, but you’re really not.

The first night was horrifying, that was the moment that I looked at my daughter and thought, oh my god. I did a lot of soul searching.

Power lines were destroyed, the landlines and mobile service were down and the power stayed off for about 20 days.”

LAUREN, 33, living in rental property with her husband and 2 children. Totally reliant on the main energy grid.

The crisis experience heightened the desire for self sufficiency

“I was surprised at how vulnerable I actually felt. I was surprised at the level of anxiety I felt. What did I learn? That I need to be better prepared for next summer”

EWAN, 44, small business owner

“I learned that you need to have a good generator. The power will go out in a crisis, you can’t rely on anyone but you!”

ALIDA, 38, mother with school age son



Community resilience and recovery

Communities that pulled together were more resilient

“We (the community) lost around 26 homes and an awful lot of farmland, fencing and our forest. It should probably not surprise me but the way that the town worked together, the way that the natural leaders came to light, the fact that they organised themselves so well and the fact that they supported each other. Extremely resilient”

EVELYN, over 50, solar panels, active community member.

**But not all
communities can
recover easily from a
crisis**

“Our community is not the same, people aren’t the same as before. People have moved on because of the trauma of it all. The bushfires highlighted the lack of services in our community. No doctor, no physiotherapists, it really just adds to the sense that its time to move on”

JULIE, 65 lives with her husband

“The recovery process is really long. There is no capacity to relax these days, everything is just a lot right now. I worry about our community, it was booming after the fires but its sad to think of how disconnected we all are now.”

MICHELLE, 41, support worker living with her partner and kids.



Energy sector response and community engagement

A sense that the rebuild has not delivered a more secure energy supply

“We still have regular outages here. They’re doing constant work. Our network down here, we still have a lot of timber poles, but they’re replacing those all the time. We’ve got another planned outage coming up from 11 o’clock at night until 6 in the morning, they’ve doing it so it doesn’t disrupt business while they’ve running, but for us we’ve got fridges full of milk and freezers full of product, what do we do with that for the night?”

EWAN, 44, small business owner

“I have no confidence or trust that we can rely on the power to be there when we need it. We are absolutely trying to be less reliant on the main energy grid.”

MICHELLE, 41, totally reliant on the grid

“If it rains and we have thunderstorms, we know the powers going to go out, you just bear with it, they’ll get it back when they can. The big change is that all the poles are now concrete, which is wise.”

KAREN, 59, retired living with partner, solar panels

A desire to build back better

“The experience has very much compelled us to buy a generator which we are in the process of doing. And as soon as reasonably priced storage batteries come onto the market we will go to becoming self sufficient. We are happy to feed into the grid too.

I think Mallacoota has the highest uptake of solar panels of any Victorian town. However, I'd like to see Mallacoota become self-sufficient. To have the capacity to generate its own power. That's my wish for our future and I know the committee is looking into all these options for us.”

Liza, 74, semi-retired living with her husband.

“[Community-wide battery storage solutions] That's definitely something that should be considered for other places [not just Mallacoota].

A lot of people have backup generators but a lot of people don't. A lot of people in the bigger towns like Bairnsdale or Lakes Entrance, the more urban areas, there is no way they'll have generators.

It would be an awesome idea.”

RONALD, 50, lives with wife and young child

A sense of control over their own destiny

“People feel like as a town we have control over our rebuilding. It’s given us a structure so its clear how you get your views to them so that everyone can have a voice.”

REBECCA, 43, totally reliant on main energy network

“AusNet was working around the clock (in Mallacoota). We still get monthly power outages but they have built a battery station near town so we can store some power near town.”

ALIDA, 38, mother with school age son

Community engagement is a long-term dialogue

***“I like the idea of a stand-alone
system for isolated communities.
But I’ve got lots of questions.***

When would it kick in?

How long would it last for?

***What interruptions to my services
would occur?***

Will everything operate the same?

What do I need to do to prepare?”

Kelly, 35, mother with young children

Aug 2021

ENERGY RESILIENCE SOLUTIONS

Building energy resilient communities



Before, During and after Events: Network BAU



Preparation for events

Depends on the nature of the event and the amount of forewarning



1

Corryong

Omeo

2



3

Newmarell
a

Mallacoota

4

1. Crews are rested from planned work and deployed in anticipation with surge capability
2. Materials are prepared (e.g. poles and conductors)
3. Control centre, call centre and customer assistance resources briefed in detail and surge capability put in place
4. Successfully trialled pre-placement of generation at 4 key communities prior to event



How we rebuild after events

We have a duty of care (and explicit obligations) to restore supply as quickly as possible, this limits our options

1. On the ground relief centre face to face presence
2. Infrastructure is rebuilt stronger where cost effective (e.g. concrete poles replacing wood poles)
3. Vegetation is aggressively cleared during clean-up
4. We don't have quick to roll out non network solutions such as SAPS

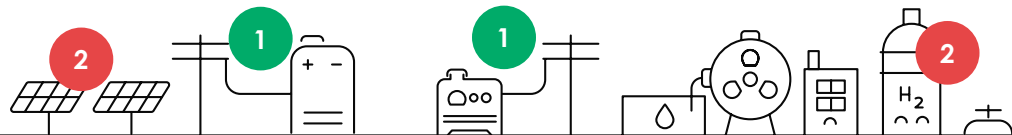
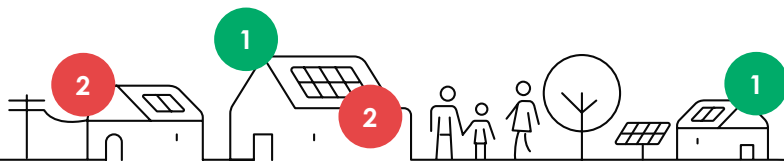


AusNet Vision: Building Energy Resilience in Regional and Remote Communities



OUR VISION

Building Energy Resilience in Regional and Remote Communities



Phase 1 – Modernise Local Energy Grid

Build the energy infrastructure foundation and local capabilities to enable the transition and acceleration to energy self-sufficient communities through deploying:

- **Microgrid technology**
- **Stand-alone power systems**
- **Solar generation**
- **Battery Storage**
- **Electric Vehicle charging**

Phase 2 – Accelerate Local Generation

Incentivise investments in local generation and circular economy to accelerate journey towards 100% local generation

- **Alternative generation and storage options**
- **Energy Efficiency**
- **Integrate Energy and Transport infrastructure**

Ultimate Goal: Modernise energy systems using microgrid technology to create future “Smarthoods” within communities where circular flows of water, food and energy enable communities to be entirely self-sufficient, recycling water, materials and waste wherever viable.

PHASE 1 – LOCAL ENERGY SYSTEM MODERNISATION

Key benefits of connected, resilient communities



This is a unique opportunity for Victoria to lead energy transition by building islandable, grid-connected microgrids that increase reliability and improve community resilience.



Increased reliability to remote communities during high risk periods



Energy savings for customers through 'Behind the Meter' energy solutions



Improved resilience for local essential services, including back-up supply



Reduce network costs associated with operating and maintaining remote area systems



Connected communities through generating and sharing energy locally and creating jobs to support energy infrastructure



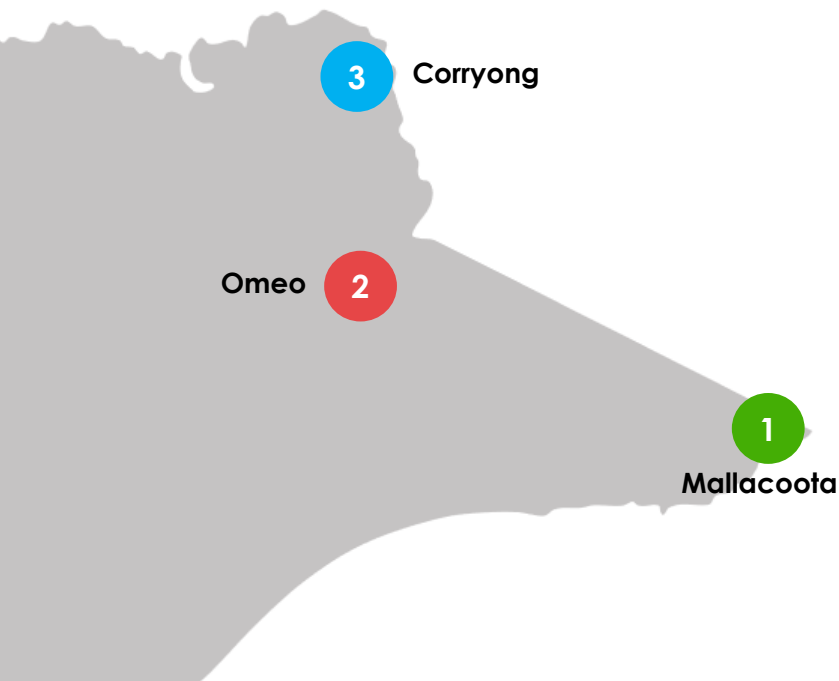
Fast-tracking EV Infrastructure to help build community resilience and support destination tourism within Victoria

2020 Victorian Bushfire: the Long Term Response



2020 BUSHFIRE RESPONSE: PHASE 1 - BUILDING THE FOUNDATION

Developing energy resilience solutions for three communities affected by the 2020 Bushfires



Complex Grid-Connected Microgrid

1. Mallacoota

- Community Scale Microgrid
- Centralised Grid Connected Systems (Solar/Battery & Generator)
- Energy Solutions (Stand Alone Power Systems) for Essential Services and Businesses
- Energy sharing technology
- Residential Demand Management

Standalone Systems for Essential Services and Commercial & Industrial Customers

2. Omeo 3. Corryong

- Deploy reliable, economical, Stand Alone Power Systems (SAPS) for Essential Services and Businesses
- Residential Solar and Storage

PHASE 1 – ENERGY SYSTEM MODERNISATION

Mallacoota Overview

1 MWh

Battery Storage

Power Town for 60 mins

1 MW

Diesel Generator

Power Town up to 5 days

Community Microgrid

7 x

Essential Services and Businesses

Power Businesses
for up to 5 days



Mallacoota
Police station



Mallacoot
a Fire
Station



Caltex
Service
Station



3MGB Radio



Mallacoota
P-12
College



Mallacoota DH
& Mallacoota
MC

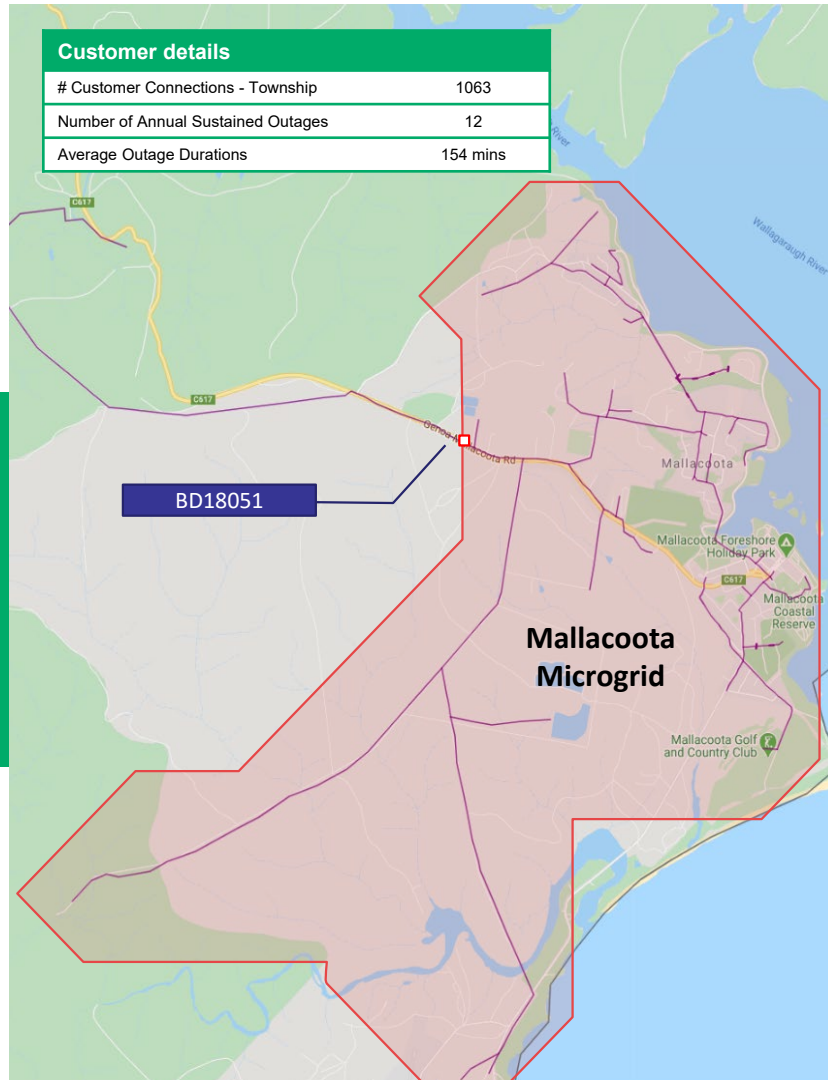
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Residential Demand Management

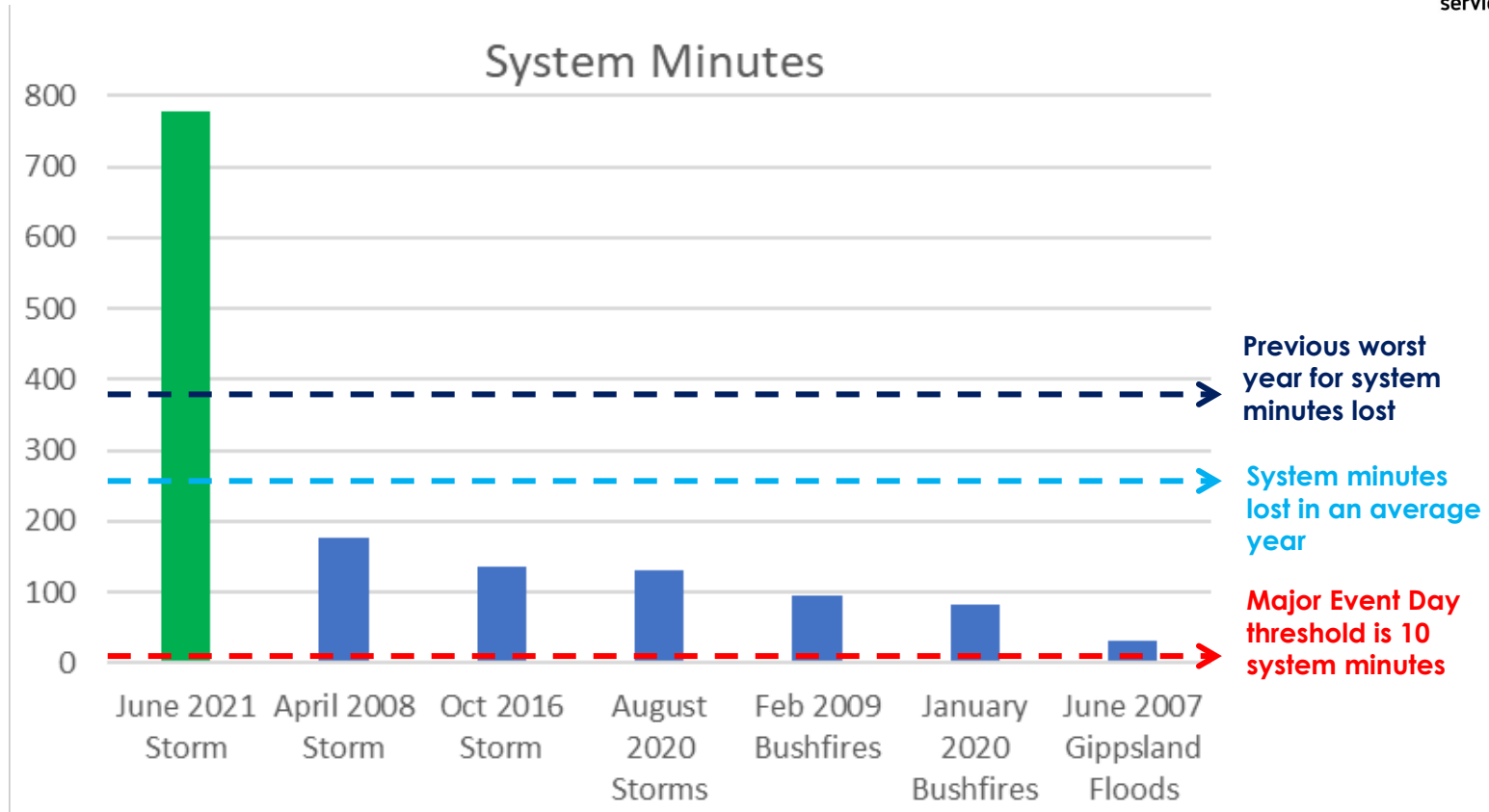
Improve energy efficiency & smooth
demand across microgrid

Customer details

# Customer Connections - Township	1063
Number of Annual Sustained Outages	12
Average Outage Durations	154 mins



Disaster size and number increasing



Take Charge – Energy Consumers Australia's Foresighting Forum

Luke Jenner, General Manager Customer & Network Services

Essential Energy



Bushfires



Bushfires

Bushfires caused unprecedented damage causing power outages for over 104,000 customers over the two major events of the 2019/2020 summer. We instituted a range of assistance:

- contributing \$600 toward supporting customers in the cost to re-connect to our network within our network for a period of 2 years
- Pausing all Disconnections for non-payment
- Pausing customer communications regarding private asset defects
- Repairing or replacing any private assets damaged or destroyed by bushfire on a like-for-like basis at our cost
- Worked closely with Emergency Operations Centres, Councils, community organisations, local MPs and media to update information, including simply providing hard copy updates
- Delivering generators to individuals with long-term power outages
- Providing fuel cards to customers with private generators
- Calling nearly 5000 affected registered life support customers checking on their welfare
- Installing nine temporary Stand Alone Power Systems to bushfire affected customers to facilitate power restoration and resilience
- Planning to install composite poles in especially fire-prone areas to increase network resilience

Floods



Floods

Over twelve days in March 2021, we restored supply to more than 57,000 flood-affected customers and ensured they could be safely re-energised.

Within days we were able to communicate to customers that we were:

- Waiving reconnection fees for customers who have had to be disconnected from the network for safety reasons
- Pausing all Disconnections for Non Payment in flood-affected areas during floods
- Pausing customer communications regarding private asset defects in flood-affected areas
- Repairing or replacing any private assets which have been damaged or destroyed by flooding on a like-for-like basis at our cost
- Providing fuel to community groups to distribute to customers utilising their own generators
- Providing generators to community groups and halls and establishing 'community charging hubs' at these locations
- Calling nearly 500 registered life support customers checking on their welfare
- For customers whose house was lost, contributing \$600 toward supporting customers in the cost to re-connect to our network for flood impacted customers within our network for a period of 2 years.



Panel Discussion

Drop your questions to our panelists in the Q&A tab on Zoom



Upcoming dates to note

System Design

Webinar Three
September 7, 2021

Foresighting Forum 2022

Venue TBC
February 16 and 17, 2022



Let us know

What role can your organisation play in bridging the gaps to meet community expectations before, during and after a crisis event?

Email us at info@energyconsumersaustralia.com.au or join in the conversation on LinkedIn, Twitter or Facebook.

#TAKECHARGE21

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Thank you

Stay safe