ISOLATED POWER SYSTEMS CONNECT

Cairns
Queensland

17-20 November 2025

International technology forum
For system operators and owners

4 days technical workshop including two days of field trips in the Cairns Region

Visit a range of Renewable Energy and Storage Facilities

REGISTER AT: www.ipsconnect.org/registration

Host:

UNIVERSITY of TASMANIA

Centre for Renewable Energy & Power Systems

Sponsors:

ARC FUTURE GRIDS TRAINING CENTRE

ERGON ENERGY NETWORK
Part of Energy Queensland

HNEI
Hawai'i Natural Energy Institute
University of Hawai'i at Mānoa

Isolated Power System Connect
Cairns, Queensland, November 17-20, 2025

Organising Committee

Isolated Power Systems Connect is organized by a committee, chosen to ensure that the venue, program, and demonstration projects represent the latest innovations to meet the expectations of delegates, public utilities, independent energy producers, and developers. This committee includes:

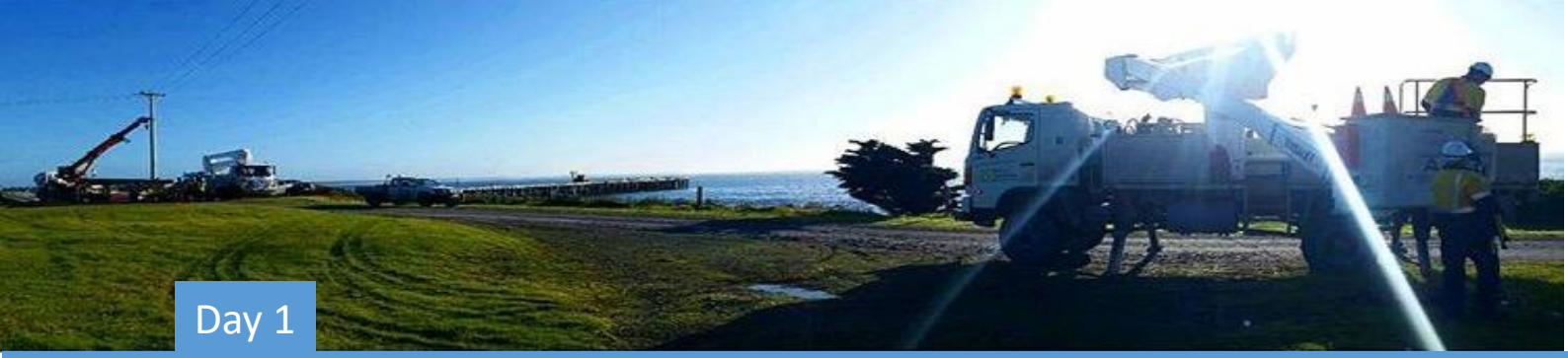
- Professor Michael Negnevitsky, University of Tasmania (Chair)
- Professor Richard Rocheleau, Hawaii Natural Energy Institute, USA
- Dane Thomas (Ergon Energy Network | Energex)
- Jai Wilson (Ergon Energy Network | Energex)
- Simon van der Aa (Hydro Tasmania)
- Simon Gamble, Enernet Global
- Amanda Byrd, Alaska Center for Energy and Power, USA
- Professor Xiaolin Wang, University of Tasmania
- Dr Waqas Hassan, University of Tasmania
- Dr Pooyan Alinaghi Hosseinabadi, University of Tasmania

Technical Workshops: Monday 17 and Thursday 20 November 2024

Industry experts, project developers, Utilities managers will meet in a series of interactive presentations and workshops, to share their experience and explore opportunities for the energy transition of Isolated Power Systems.

Tours & Networking: Kewarra Beach Battery Energy Storage System (BESS), and the Ergon Energy's state-of-the-art Microgrid and Isolated Systems Test (MIST) Facility – 18 November 2025

Tours & Networking: the $100 million green energy power plant at the Tableland Sugar Mill, and Skyrail Rainforest Cableway – 19 November 2025



Day 1

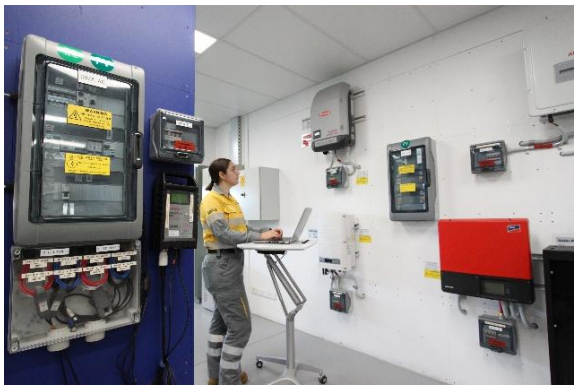
Monday, 17 November 2025

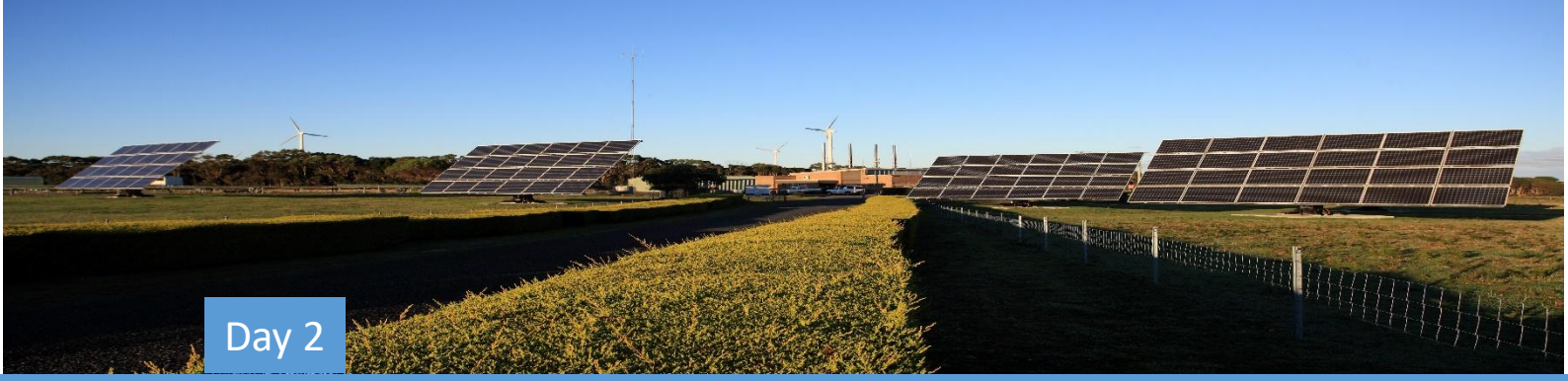
TECHNICAL WORKSHOP & DINNER

LESSONS LEARNT

8:30	**Registration**
9:00	Open from the Workshop Chair **Professor Michael Negnevitsky**
9:15	Welcome from Energy Queensland **Suzanne Shipp** **Chief Engineer**
Session 1: Energy Queensland Projects	
9:30	Ergon Isolated Networks Decarbonisation shifting strategy and focus. **Dane Thomas** **Ergon Energy Networks**
10:00	Ergon Decentralised Energy and Equity – sharing electron and community benefits **Kein Jones** **Ergon Energy Networks**
Q&A session	
10:30	**Q&A session** **Moderator: Michael Negnevitsky**
10:50	Morning Tea and networking
Session 2: Australian Projects	
11:10	Extending operational life through refurbishment on King Island – navigating challenges and opportunities. **Simon van der Aa** **Hydro Tasmania**
11:40	A Guide for the Conceptual Design of Microgrids – Lessons Learned **Alan Zorkot** **Amplitude Consultants**
12:10	MIST Facility - real power real time – simulating and testing the future network **Alan Louis** **Ergon Energy Networks**
Q&A session	
12:40	**Q&A session** **Moderator: Dane Thomas**
1:00	Lunch and networking

Session 3: International Projects	
2:00	Reliability Challenges during the Transition to a Solar Dominant Grid. **Richard Rocheleau** **Hawaii Natural Energy Institute, USA**
2:30	Simulation, Operation, and Business Model of BESS. **Ahmed Saber and Tanuj Khandelwal** **ETAP, USA**
3:00	Energy Resilience Microgrids in Operational Energy. **Melanie D. Johnson** **U.S. Army Corps of Engineers, USA**
Q&A session	
3:30	**Q&A session** **Moderator: Waqas Hassan**
4:00	Afternoon Tea and networking
4:30	Day One Recap and Close
Dinner	
6:30	**Workshop Dinner** Set menu dinner of local produce and seasonal specialties accompanied by a selection of Queensland wines or beers.





Day 2

Tuesday, 18 November 2025

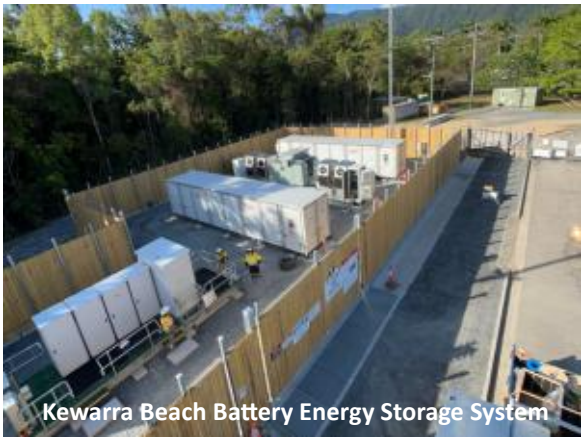
KEWARRA BEACH BESS AND ERGON ENERGY MIST FACILITY TOURS

VIP Facility Access:

8:30 – 10:30 Kewarra Beach BESS

The Kewarra Beach BESS is a HV connected BESS in the northern beaches of Cairns, constructed in late 2024. This is a 4MW/8MWh system with a 5MVA step up power transformer and four inverters. This is one of more than 50 HV network connected batteries that Energy Queensland is installing across it is distribution network. The lessons from the designs and install of the network HV BESS units like Kewarra Beach BESS, has developed the building blocks being applied for Isolated networks like Doomadgee, Windorah, Bedourie and Boulia.

We lunch at the conference venue in Cairns.



Kewarra Beach Battery Energy Storage System

13:00 – 16:30 Ergon Energy MIST Facility

Ergon Energy's state-of-the-art Microgrid and Isolated Systems Test (MIST) Facility in Cairns is shaping the future of energy in Queensland. With a supercomputer for real-time digital simulations and a large array of connection options, the MIST Facility is capable of complex testing for large-scale systems up to one megawatt. The technology housed here allows for the complex testing of solar and batteries, microgrids, standalone power systems, and hydrogen energy storage.

MIST enables new technologies through its:

- switchboard rated to handle live testing of simultaneous electrical devices up to 1MVA;
- dedicated 1MVA full export grid connection with synchrophasor technology;
- Real Time Digital Simulator (RTDS) with 30kVA linear power amplifier for Hardware in the Loop (HIL) and Power Hardware in the Loop (PHIL) testing;
- 60kW solar array and 40kW solar simulator;
- 83kVA/200kWh battery system with microgrid functionality, integrated into the facility;
- classroom training and knowledge sharing room adjacent to the test laboratory.

MIST Facility: Innovation Lab

MIST Facility: Generator Test Bay

Day 3

Wednesday, 19 November 2025

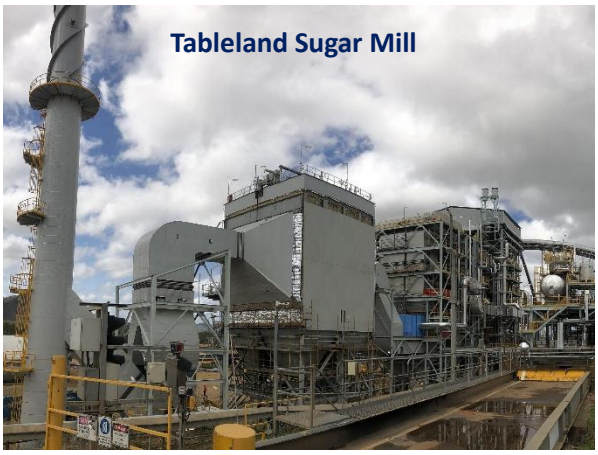
TABLELAND SUGAR MILL TOUR & DINNER

VIP Facility Access:

7:30 – 10:30 Tableland Sugar Mill

The $100 million green energy power plant at the Tableland Mill converts 100 per cent renewable sugarcane fibre, known as bagasse, into green energy. The power plant produces 24 megawatts of electricity – enough to power 26,280 homes – which is the entire population of the Tableland region. The project was commissioned in 2018.

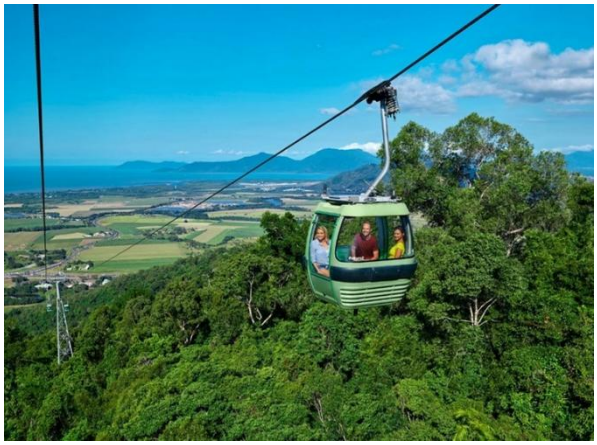
Sugarcane is a distinctive feature of the Cairns region. This special tour offers conference attendees the opportunity to see how this type of biofuel is used for power generation. The Tablelands Sugar Mill is approximately a 1.5-hour drive from the Cairns CBD.



13:45 – 16:00 Skyrail Rainforest Cableway

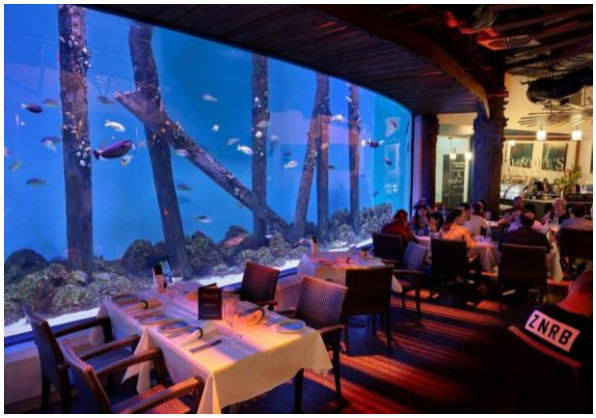
As part of the networking activities, on the way home, we will ride on Skyrail Rainforest Cableway, starting form Kuranda.

Skyrail Rainforest Cableway is an iconic, must-do experience that will take you over and through the World Heritage listed Wet Tropics Rainforest, home to the oldest continually surviving tropical rainforest on Earth. Skyrail travels directly over the rainforest canopy, and you will immerse yourself in spectacular views of the Wet Tropics Rainforest and Barron Gorge from gondolas and viewing platforms along the journey.



18:00 – 21:00 Night at the Aquarium

The workshop dinner will take place at the Cairns Aquarium. This is one of the best ways to experience the natural wonders of Far North Queensland. The 'Night at the Aquarium' guided tour will give you a glimpse into the unique world of the region's nocturnal creatures and their behaviours as they move about it in the darkness. The evening will be completed at the Aquatic Themed Restaurant with a perfectly matched 2 course dinner while you enjoy a stunning sea life backdrop.



Day 4

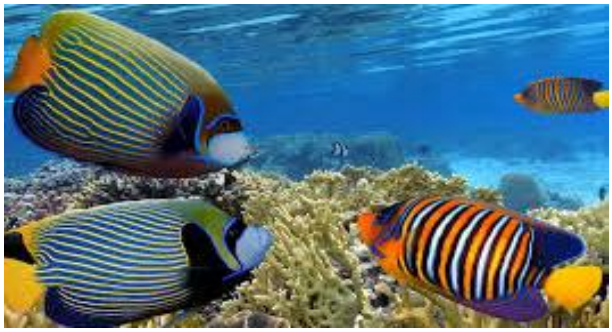
Thursday, 20 November 2025

TECHNICAL WORKSHOP & POST WORKSHOP ACTIVITIES

EMERGENT ENERGY FUTURES

9:00	**Registration**
9:15	Day 2 recap and house keeping **Professor Michael Negnevitsky**
Session 1: Technologies for RE integration	
9:30	The role of BESS in modern power systems. **Thomas Wearne** **CSIRO**
10:00	Role of GFM resources for enhancing grid stability in a small island system in Caribbean. **Vahan Gevorgian** **NREL**
Q&A session	
10:30	**Q&A session** **Moderator: Michael Negnevitsky**
10:50	Morning Tea and networking
Session 2: Technologies for RE integration	
11:10	Real-time voltage imbalance compensation in LV feeders via 4-wire current injections. **Julio Braslavsky** **CSIRO**
11:40	Grid-forming inverters in Alaska Microgrids. **Mariko Shirazi** **Alaska Center for Energy and Power** **University of Alaska Fairbanks**
12:10	Decarbonising Isolated Grids in Indonesia: Challenges and Opportunities. **Hafsah Halidah** **National Research and Innovation Agency (BRIN), Indonesia**
Q&A session	
12:40	**Q&A session** **Moderator: Waqas Hassan**
1:00	Lunch and networking

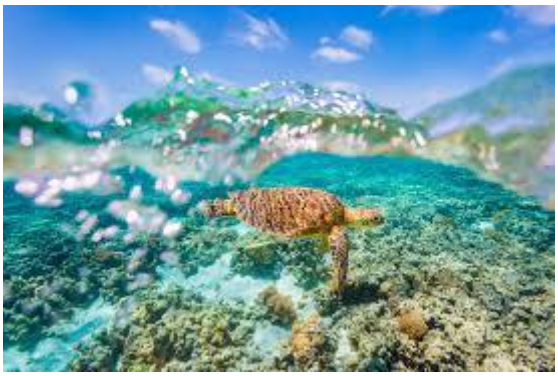
Session 3: Engaging local communities: The Alaskan experience	
2:00	Building relationships through storytelling. **Amanda Byrd** **Alaska Center for Energy and Power** **University of Alaska Fairbanks**
2:15	Bringing Energy Literacy to Community Members. **Tim Kalke** **Sustainable Energy Galena Alaska**
2:45	Microgrid tools that communities can use at no cost. **Dominique Pride** **Alaska Center for Energy and Power** **University of Alaska Fairbanks**
3:15	Exploring Emerging Energy Options: Community Conversations on Nuclear in Alaska. **Gwen Holdmann** **Alaska Center for Energy and Power** **University of Alaska Fairbanks**
Q&A session	
3:45	**Q&A session** **Moderator: Dane Thomas**
4:10	Afternoon Tea and networking
4:30	**Workshop Recap and Close** **Professor Michael Negnevitsky**

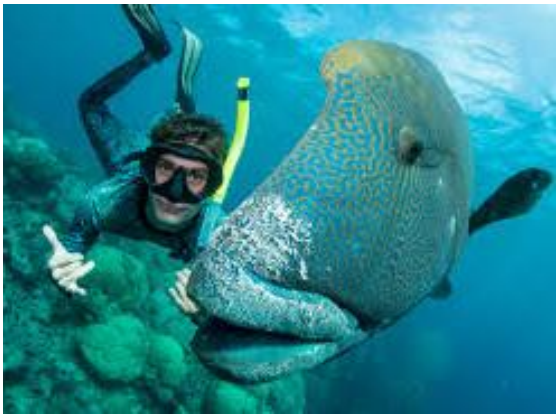


Friday, 21 November 2025

Optional Tour – Great Barrier Reef

As an added experience for IPS Connect 2025 attendees, we are pleased to offer an optional full-day tour of the world-renowned Great Barrier Reef.



Join fellow participants for a memorable day exploring one of the planet's most spectacular natural wonders. The tour includes guided snorkeling, reef education, and the opportunity to experience the unique marine biodiversity of this UNESCO World Heritage Site.

This optional tour is a perfect way to unwind after the workshop while connecting with colleagues in an unforgettable setting.

Making connections

Ergon Energy Network is proud to sponsor *Isolated Power Systems Connect 2025* and thrilled to welcome visitors to Cairns – a hub of energy innovation and some of the world's natural wonders.

We are part of Australia's largest electricity distribution business, Energy Queensland, which powers some of the most remote parts of the country.

Ergon Network owns and operates 33 isolated networks in Queensland communities that are too remote to connect to the national grid.

Delivering a safe, affordable, reliable and sustainable energy supply for our customers and communities is our core business.

Supporting our customers in the transition to renewable energy and reducing the reliance on diesel generation is a top priority.

By sharing our experiences, knowledge and innovation during IPS Connect, we can help each other overcome challenges and seize opportunities. It's time to make connections...

General Enquiries	**13 74 66**
Faults only	**13 22 96**
Life threatening emergencies only triple zero (000) or	**13 16 70**

www.ergon.com.au/network

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