

Community expectations and concerns

Welcome to the Grid Edge
10 May 2017

Lynne Gallagher
Director, Research



Energy Consumers Australia's objective: *the LTIC*



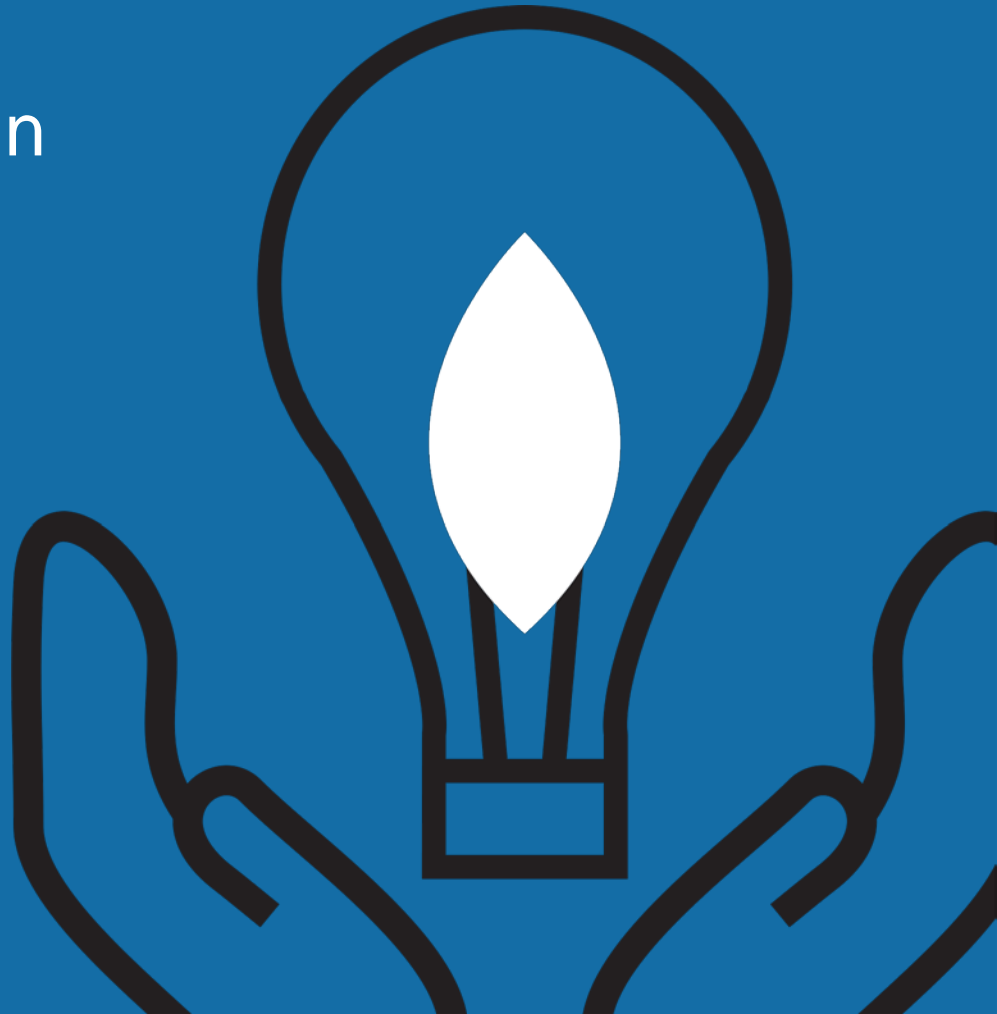
To **promote the long term interests of consumers of energy with respect to the price, quality, safety, reliability and security of supply** of energy services by providing and enabling strong, coordinated, collegiate evidence-based consumer advocacy on National Market matters of strategic importance or material consequence for Energy Consumers, in particular Residential Customers and Small Business Customers.

What I will talk about today



1. What changes are driving the interest in micro-grids?
2. What are the issues facing potential builders, owners and operators of micro-grids?
3. What consumer protections should be in place?
4. Next steps

1. Changes driving interest in micro-grids



Micro- grids

Shared infrastructure that can supply the entire energy needs of a community all or some of the time



Old model – Sydney Municipal Council from 1904



New technology – existing islanded micro - grids



Life line – inter-connected with the grid

Cape Tribulation – off grid

Changing technology costs

— — —

“There are hundreds of generators guzzling up three millions of litres of fuel per year blowing smoke in to the rainforest, while worn out generators and dead lead-acid batteries are sitting around in the jungle.

Meanwhile residents and businesses are going broke paying for all the fuel and equipment and the community is struggling to survive, with many businesses already having hit the wall.”

Daintree Earth Hour

Minister Bailey - bringing power supply (Ergon) to the Daintree - “the costs will be huge” and “it will drive up the price of electricity for every one else”.

Table #41: Q23 – Summary of Factors to Convince to Connect to Local Area Micro Grid

	No.	%
Affordability / cost effective / economical / cheaper	46	46%
Reliability	29	29%
Would connect / relief / nothing / love it	19	19%
Don't want / wouldn't connect / more bills	8	8%
Environment factors / trees / bio diesel / technology	7	7%
Subsidies / government	5	5%
Tariff rates	4	4%
Cost without it / maintenance / emissions	4	4%
Could feed back / paid / rebate	4	4%
Convenience	4	4%
Don't know	4	4%
Would connect / keep existing system	3	3%
Accessibility / availability	3	3%
Nothing / wouldn't work / too remote	3	3%
Community support	1	1%
No limitations	1	1%
Total	100	100%

Daintree Cape Tribulation Electricity Survey 2016

Kangaroo Island – SAPN RIT-D

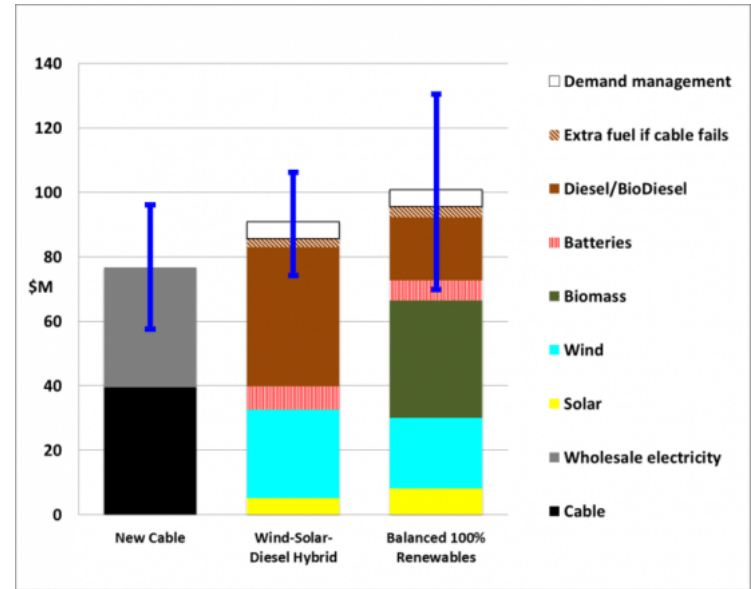
Reconfiguring the grid



“It is imperative that the eventual energy security investments- whether it is a new cable or an alternative – meet the needs of the Island’s energy consumers. These are energy security, reliability and reduced costs.”


KI Energy Security Focus Group

Kangaroo Island could be powered by 86-100% renewable energy for about the same cost as replacing the cable to the mainland. The direct costs of the three most interesting scenarios are shown below. Institute for Sustainable Futures



Northern Alliance for Greenhouse Action

Co-design, co-planning interconnected systems for better consumer outcomes



**Future Energy Planning:
Conference Outcomes
12th December 2016**

Funded by:
**Energy Consumers
Australia**

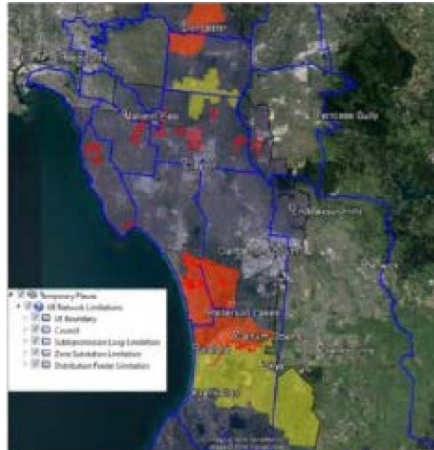
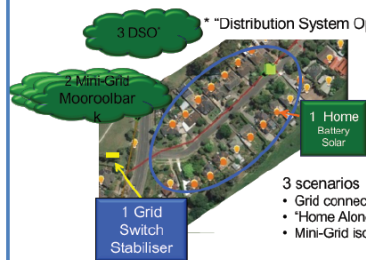


Figure 2: United Energy constraints map

Mooroolbark Community Mini-Grid Trial (1)



3DSO * "Distribution System Operator"

2 Mini-Grid Mooroolbark

1 Home Battery Solar

1 Grid Switch Stabiliser

14 participants and 2 non-participants

3 levels of Energy Management

- Control and optimisation at 3 levels
- Operations to monitor and respond


3 scenarios

- Grid connected
- 'Home Alone' (single home off-grid)
- Mini-Grid isolated (disconnected from the grid)

Allow high levels of distributed energy resources:

- Model network to identify challenges and solutions
- Energy Management Intelligence design

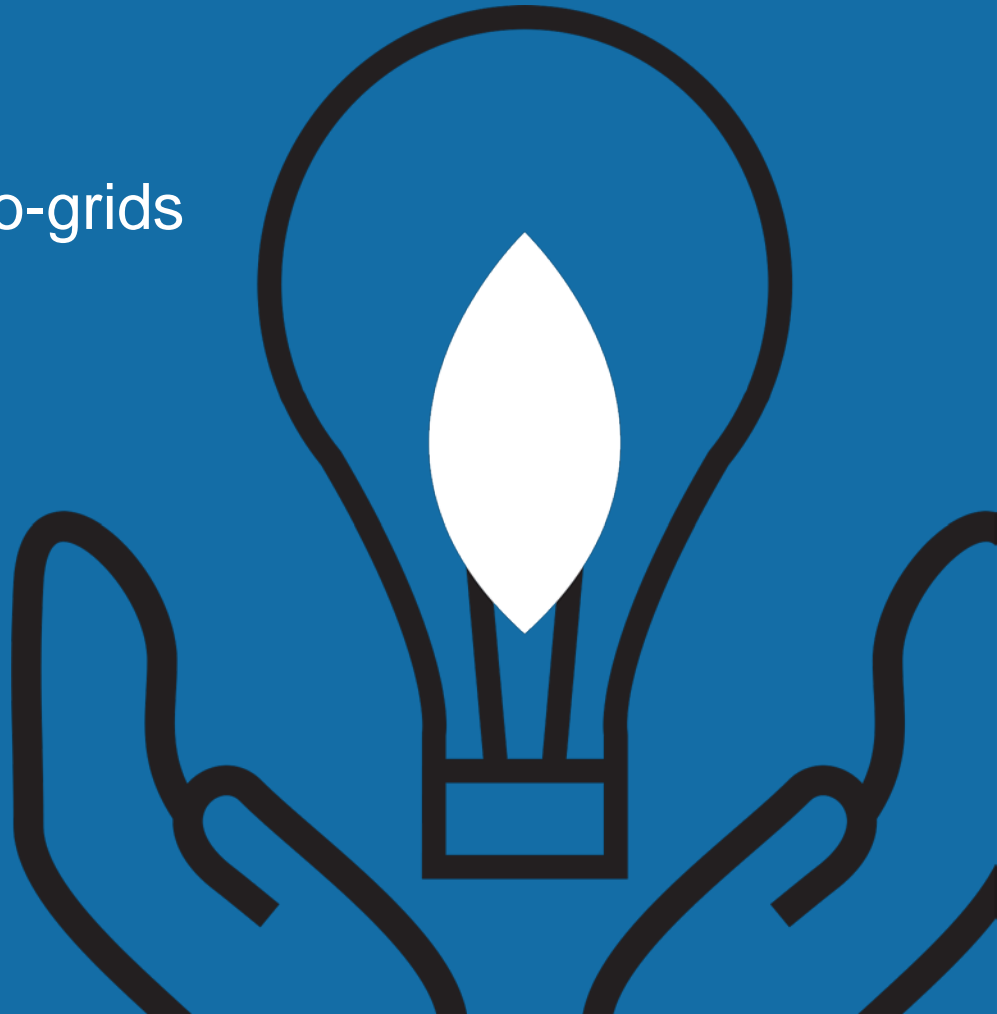
Community Engagement



Facilitating engagement between land use/strategic planners in the state and Local Government sectors and electricity distribution network planners

2.

Potential issues for builders,
owners and operators of micro-grids



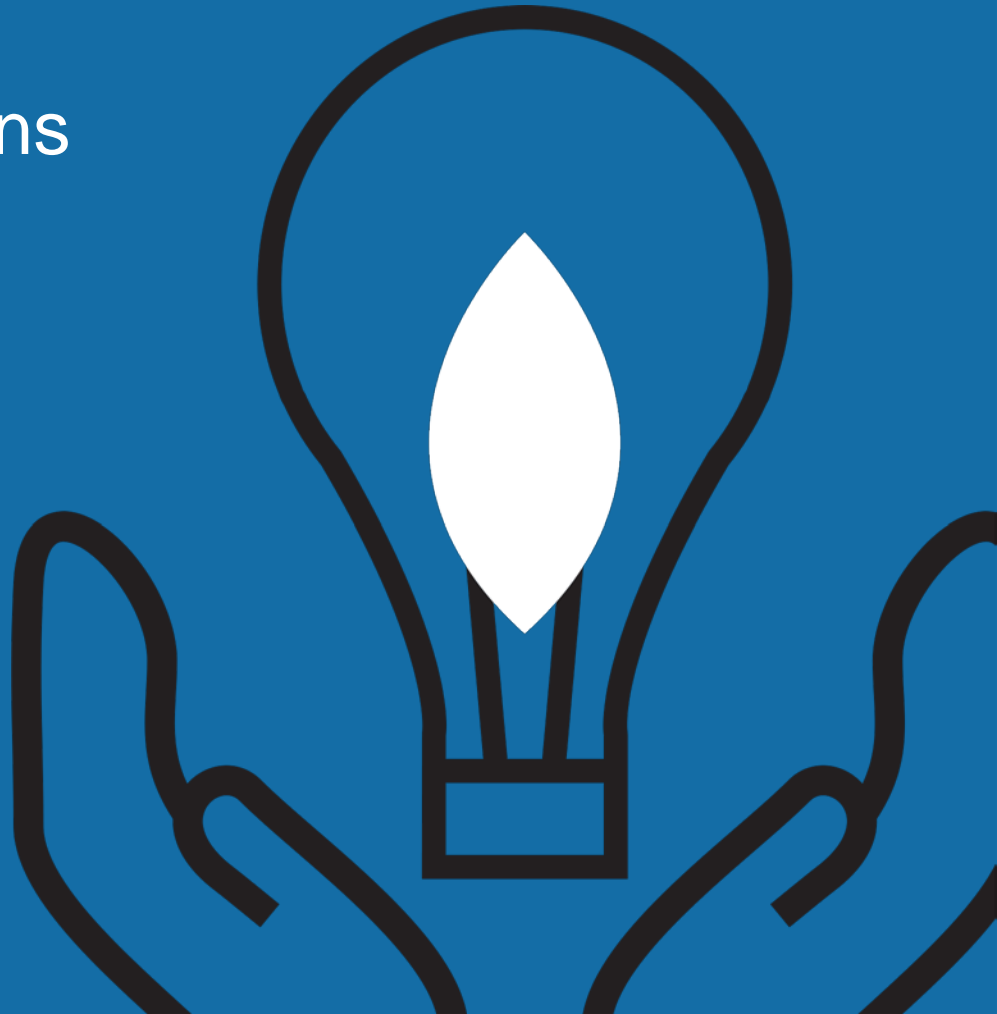
Community expectations

Sufficient and more reliable energy, at an affordable price, while transitioning to zero emissions



- What is the business case for the community?
- How is the decision arrived at legitimate?
- What is the source of equity and financing?
- What is the accountability to the community for performance?
- Who will build, own and operate the micro-grid?
- How are service standards and revenue recovery/price to be regulated?
- How is the transition managed?
- What role does the network play, in the transition or on an ongoing basis?

3. What consumer protections should be in place?



Consumer protections

In principle same protections irrespective of source of supply

- An obligation on the micro-grid to supply all customers within the system
- Billing and payment options, including flexible payment options for consumers in financial hardship and access to concessions
- Requirements around disconnection and reconnection of supply
- Access to free external dispute resolution
- Specific obligations for life support customers and those with medical needs
- Last resort arrangements, in the event of failure of the micro-grid

While not a general consumer protection measure, in principle consumers should be charged for energy on the basis of their use/costs

4. Next steps

...



Next steps



- We understand that the COAG Energy Council will make a decision on regulation of stand - alone systems at the meeting in July 2017.
- At the same time the AEMC is reviewing the framework for embedded networks and whether it remains fit for purpose.
- And Western Power has proposed a rule change to allow it to develop micro-grids as non-network solutions.

Contact



- Lynne Gallagher, Director Research
- lynne.gallagher@energyconsumersaustralia.com.au

A Suite 2, Level 14, 1 Castlereagh Street, Sydney NSW 2000

T 02 9220 5500

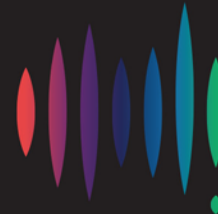
W energyconsumersaustralia.com.au

🐦 @energyvoiceau

in /energyconsumersaustralia

f /energyconsumersaustralia

ABN 96 603 931 326



**ENERGY
CONSUMERS
AUSTRALIA**