

Summary of the 2nd Future of Neighbourhood Batteries conference, ANU, 2023

The second Future of Neighbourhood Batteries conference, held on November 29, 2023, and hosted by the Battery Storage and Grid Integration Program was a great success. Community groups, academics, government, electricity retailers and Distributed Network Service Providers (DNSPs) travelled from across Australia to engage in the conference held at the Australian National University (ANU). The conference has grown significantly from last year, with more than 100 participants. Of note was the much stronger presence of government and DNSPs which really emphasised a key takeaway: that we all as stakeholders in neighbourhood batteries need to partner better. We are working to try to demonstrate that neighbourhood batteries can be operated in a way that aligns with what consumers want from this technology. That is, to support decarbonisation, allow more renewables, make energy cheaper and more local, provide local economic value, employ local people, and keep battery profits in the locality. To achieve this requires orchestration across stakeholders. As such, the presence of all levels of stakeholders is a heartening sign that we are making steps in the right direction.

The keynote address, given by Dr Kerry Schott AO, kicked off the conference and highlighted the National Electricity Market's (NEM) transition away from coal. Although Australia has seen rapid growth of variable renewable energy, as high as 31% increase in a year, issues such as a lack of accurate forecasting and an unpreparedness for dunkelflaute - lengths of time which are dark and still - mean that new technologies such as neighbourhood batteries are primed to have meaningful impacts. Additionally, low compliance in inverters is resulting in more issues for grid orchestration. There is little trust from consumers in energy companies, but the changing climate is resulting in the culture within energy companies beginning to shift.

All of the speakers have kindly [shared](#) their slides. Several presenters focused on community-centred discussions and analysis of current neighbourhood battery trials. These were Matt Pellow from Endeavor Energy; Sally Hunter, Geni Energy (see her [blog](#) about the day), who told us how her community is very focused on increased feed-in tariffs. She calls for policy to support partnerships. Geoff Acton, Zero Emissions NOOSA, raised the issue that was repeatedly discussed throughout the conference, that most funding has gone to networks so far. Discussion followed about how the network is a community commons and there is a strong need for consumer protection and equity. Genevieve Hart gave an update from Powercor and Wendy Russell from BSGIP gave a socially focused analysis.

We saw several presenters touch on the more technical side of neighbourhood batteries: Alan Luc, Ausgrid, gave an insight into running a battery and the complexities involved. Nick Mason-Smith, Indigo Power, discussed hybrid community batteries, community power plants, and opportunities for community.

Sanket Wankhede from EnergyAustralia, discussed the role of retailers and outlined some innovative pricing structures they have developed for Virtual Power Plants which could potentially also be adapted for neighbourhood batteries, including a pay-per-month option. Chris Wallin presented slim 30-90kWh silent neighbourhood battery suited for footpaths, with the majority underground (see his [poster](#)). He emphasised that the top barrier for a neighbourhood battery project is always location.

The day concluded with an engaging government panel discussion. Lynne Gallagher, from the Australian Energy Regulator, pointed out the need for positive obligations around fairness and consumer protection. She emphasised the impending 'storage divide': current AEMO projections for LV/MV storage show twice as much behind the meter (private) storage as in front of meter (shared) storage. Gallagher stated that this ratio must be reversed. Leon Chanter from ARENA highlighted the importance of getting neighbourhood batteries to stack up financially, another recurring point throughout the conference. Hugh Butcher, from Merri-bek Council in inner Melbourne, pointed out that councils are an important player as they are closest to community. Strategic intent is crucial, the right battery in the right place can have positive effects on the local



community. He highlighted the current disparity between capacity and capability, emphasising the need to work harder to support communities.

Kate Clark, DEECA, and James White, DCCEEW, both touched on the need for storage targets which will hopefully be included in the recently announced CER roadmap. White reiterated the need to increase battery storage from the current 2GW up to 12GW by 2030 if emissions are to be reduced by 82%. It was noted that community batteries are a difficult asset class to manage. Rounding out the panel, Brian Spak, ECA, concluded that we must learn to partner better and that we are all accountable for making the current funding for neighbourhood batteries valuable.

With thanks to those who shared their notes with us for this report, and with thanks to all participants who came along.

The Battery Storage and Grid Integration Program.



Marnie Shaw's draft list of challenges/barriers – up for debate

Challenge/barrier	Solution	<div style="display: inline-block; width: 10px; height: 10px; background-color: #d4edda; border: 1px solid #c3e6cb; margin-right: 5px;"></div> largely solved <div style="display: inline-block; width: 10px; height: 10px; background-color: #fff3cd; border: 1px solid #ffeeba; margin-right: 5px; margin-left: 5px;"></div> partially solved <div style="display: inline-block; width: 10px; height: 10px; background-color: #fff2cc; border: 1px solid #ffeeba; margin-left: 5px;"></div> unsolved
Tariffs – postage stamp pricing	Trial community battery tariffs, DNSPs looking to move from trial to set tariffs in next EDPR	
DNSPs can't own battery that's used for 'contestable services'	Ringfencing waiver allows distributors to lease battery capacity to third parties	
Who will own them? concern about monopoly participation (DNSPs) non-competitive	ARENA & Vic Gov set aside two streams of funding. For DNSPs and non-DNSPs and for network outcomes and community outcomes	
Political interference, hasty implementation, inappropriate funding	Transparency & accountability – ARENA reporting requirements	
Limited network data – information asymmetry between network businesses and others	Require networks to publish constraint maps indicating where they are likely to pay for network support. Some DNSPs are doing this already	

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Losing the 'community' in community batteries	Co-design – embed values and energy future visions Community support & benefits Targeted training for councils and community groups to help them get projects up	
Costs -- projects don't stack up	Scaling-up, aggregation, new revenue streams, reducing battery costs. Supporting different models to help a variety of projects develop business cases (Vic Gov are doing this)	
Additional revenue streams needed	New mechanisms for providing capacity & network services	
Complex, potentially unfair and unsustainable billing arrangements with customers	Focus on how to pass benefits to households in simple ways e.g. reduced energy & network costs, increased solar exports, flexible export limits, community grants, EV charging, increased reliability	
Land access - limited land and councils unaccustomed to land leasing arrangements	Working with Councils	
Insurance costs	Aggregation, education, experience	



Themes from the workshop, with thanks to David Gilligan from Origin, who mapped these workshop themes.

Business case:

- Value other social/community benefits
- NEO, emissions reduction valuations
- Guaranteed RoR, capacity markets?
- Identify as essential service for vulnerable communities and emergency infrastructure facilities
- Community benefits include feeling involved in the transition
- Availability payments
- Mechanism to recognise reduce upstream transmission costs
- Investment decisions also need to look at alternative options

Funding

- Cap and floor subsidy?
- Tariff reform incl FiT
- Firming payment orchestration
- Greater \$ investment by gov
- More standard network support payments to non-DNSP owners

Equity

- Socially includes energy system (people at centre)
- Access for people in high density living
- Equitable use/access to our energy network (for all energy consumers)
- Clear mechanisms for community involvement

Other:

- Support for CE groups
- Regulation changes to support further trialling
- Need for energy flexibility
- Need for consumer knowledge
- Revolutionise/step change in home energy management systems

Networks

- Re-integration of retailers and DNSPs (align interests, planning, cooperation and transparency)
- Harmonisation of network tariffs
- DNSP strategy on DER integration
- Consistency in retailer to network interface
- Mandate networks to obtain x% from battery investments?

Land and site access

- Easy of development applications, pre-approved battery locations, set aside land in new developments

Technology development and supply chain

- Local battery manufacturing facilities?
- Standardised equipment and deployment
- Battery and integration standards harmonised (leading to lower costs)
- 100% smart meters
- Modular solutions



- Virtual EV charging
- Car share scheme V2G

