



**Peta Bulling, Isabella Boone, Lilly Deluca, Harry Fell, Penelope Hallam and Annika Reynolds**

ANU College of Law, Fellows Road, Acton ACT 2601 | [green\\_law@outlook.com](mailto:green_law@outlook.com) | 04 066 152 225

# **SUBMISSION TO THE INQUIRY INTO RENEWABLE ENERGY INNOVATION IN THE ACT**

## Acknowledgement of Country

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We recognise our Aboriginal and Torres Strait Islander nations were the first sovereigns of our lands and waters. This sovereignty was never ceded and continues to this day, informing our connection to land, waters and community.

Indigenous respect and guardianship over the Australian land is an integral part of environmental justice and must be acknowledged and respected for the realisation of environmental justice in this country. Indigenous leadership, autonomy and justice are also critical to broader climate justice in Australia.

GreenLaw and its members acknowledge we meet on Indigenous land and, in working towards environmental justice, stand beside the traditional guardians of our lands. We recognise that during the writing of this guide we met on Ngunnawal and Ngambri Country, as well as the lands of the Kaurna people. We pay our respects to Elders past and present.

## GreenLaw

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The Australian National University Joint GreenLaw – Law Reform and Social Justice Project, **ANU GreenHub** welcomes the opportunity to provide a submission in response to the Inquiry into Renewable Energy Innovation in the ACT.

The ANU Law Reform and Social Justice (**LRSJ**) is a program at the ANU College of Law that supports the integration of law reform and principles of social justice into teaching, research and study across the College. LRSJ provides opportunities for students to explore and interrogate the complex role of law in society, and the part that law and lawyers play in promoting change and stability.

GreenLaw is a young person-led law reform and legal research institute empowering the next generation of lawyers to tackle the climate crisis. GreenLaw works in partnership with Universities, NGOs and other industry partners to deliver policy development, legal research and law reform recommendations. GreenLaw aims to create a network of future lawyers and environmental organisations, laying the building blocks of a more sustainable and compassionate future.

This submission was written by the ANU GreenHub, a jointly managed project under GreenLaw and LRSJ program. GreenLaw draws on academic support from the ANU College of Law including Associate Professor Matthew Zagor and Dr James Prest. We thank them for their suggestions for this submission.

This submission reflects the views of GreenLaw researchers and is not intended to be an institutional submission by The Australian National University or University of Adelaide, nor is it intended to represent the views of our respective employers.

If it would be of assistance, we are happy to be contacted for further comments, please email: [green\\_law@outlook.com](mailto:green_law@outlook.com).

## Executive Summary

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We welcome the opportunity to make a submission to the Inquiry into Renewable Energy Innovation in the ACT. Our submission specifically outlines mechanisms to facilitate community-scale batteries in the ACT. It outlines opportunities and challenges to establish the ACT as a national hub for renewable energy (**Term B**), evaluates the effectiveness of the administration and funding of the ACT Government in this area (**Term E**), and analyses battery storage opportunities and challenges (**Term F**).

Our submission provides an overview of regulatory and financial incentives that the ACT Government could implement to encourage the uptake of community-scale batteries in the ACT. We also outline supplementary measures to ensure equitable outcomes are achieved alongside future renewable energy innovation in the ACT.

It is important that the ACT Government consider community-scale batteries and other renewable energy law reform through the lens of equity. Equitable access to clean, renewable energy is emerging as a recognised human right under international law. We urge the ACT Government, under the *Human Rights Act 2004* (ACT), to acknowledge that access to clean energy is a right and thus, that equity and social justice considerations must underpin the development and funding of renewable energy, including community-scale batteries.

Community ownership of renewable energy assets is key to the ACT's bright future. The benefits of community ownership have been highlighted by the recently operational SolarShare Farm in the ACT. This Inquiry, and the reform that it generates, is an opportunity to replicate that success story with community-scale batteries and be at the forefront of community energy in Australia. It is an opportunity to enable all Canberrans to come together, facilitate climate action and contribute to clean and reliable energy for everyone in our communities.

Community owned, developed, or co-invested energy infrastructure has a range of social, economic, and technical benefits for those communities that are not fully captured in a market context. Our submission finds that community-scale batteries provide:

- Savings on electricity bills for communities, including households, local businesses and community organisations;
- Reductions in network overloads that smooth out peaks in electricity demand. Thus, reducing the burden on the grid and saving consumers money;
- Additional voltage and frequency services that help stabilise the grid; thus, improving the grids resilience to natural disasters;
- Empowerment to communities, by enabling them to tackle climate change and by doing so strengthening social connections; and

- Alleviation of socio-economic inequalities by lessening the financial burden of electricity access, especially for renters who are currently excluded from accessing most renewable energy options.<sup>1</sup>

Regulatory barriers also play a role in the delayed uptake of community-scale batteries; however, our submission finds that the major barrier to community-scale batteries is financial. Batteries are roughly a decade away from being commercially competitive without government support.<sup>2</sup> Furthermore, it is likely that the commercial competitiveness of community batteries is further delayed if not impossible.

Thus, we recommend that the ACT Government implement a range of incentive schemes to facilitate the uptake of community-scale batteries. These schemes can be integrated into the existing Next Generation Battery Scheme, and through reform to the mandatory Feed-In Tariff Scheme. In both cases we recommend additional funding be committed to these schemes to promote community-scale batteries. We also recommend that the eligibility requirements of the schemes be expanded to include batteries up to 1MW (although the majority of community-scale batteries are 100kWh – 150kWh).<sup>3</sup> Furthermore, to enable community leadership and management, we recommend the implementation of a community energy knowledge hub framework and centralised resources.

This submission also specifically addresses equity concerns to ensure that community-scale batteries in the ACT can support disadvantaged households to share in the benefits of renewable energy. We recommend additional knowledge sharing facilities and recognition by the ACT Government that clean energy is a human right.

## Summary of Recommendations

### Recommendation 1

*The ACT Government expand the eligibility requirements of the Next Gen Program to include community-scale batteries, up to a maximum size of 1MWh; and to include community organisations as an eligible recipient group under the Next Gen Program.*

### Recommendation 2

*The ACT Government increase the allocation of funding under the Next Gen Program, specifically for the instalment of community-scale batteries.*

### Recommendation 3

*The ACT Government modify the set rebate amount under the Next Gen Program to be proportionate to the size of the battery being implemented.*

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<sup>1</sup> Dr Hedda Ransan-Cooper, *Stakeholder Views on the Potential Role of Community Scale Storage in Australia* (Commissioned Report, Australian National University, 4 August 2020)

<<https://arena.gov.au/assets/2020/08/stakeholder-views-on-community-scale-storage-in-australia.pdf>> 57.

<sup>2</sup> AECOM, *Grid vs Garage* (Commissioned Report, 13 December 2019) 8.

<sup>3</sup> Marnie Shaw, *Community Batteries: A Cost/Benefit Analysis* (Commissioned Report, Australian National University, 4 August 2020) <<https://arena.gov.au/assets/2020/08/community-batteries-cost-benefit-analysis.pdf>>

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#### Recommendation 4

*The ACT Government implement a mandatory FiT scheme, so that it applies to all distributors operating in the ACT from July 2022.*

#### Recommendation 5

*The ACT Government appoint a regulatory body to independently determine the mandatory minimum FiT rate under the scheme.*

#### Recommendation 6

*The ACT Government extend FiT payments under the scheme to include energy exports from battery storage and increase eligibility requirements for battery size up to 1MWh.*

#### Recommendation 7

*The ACT Government implement a knowledge hub scheme to empower communities to design, develop and operationalise community-scale battery projects in the ACT.*

#### Recommendation 8

*The ACT Government establish centralised and general resources to complement a community energy knowledge hub to assist community groups exploring community-scale battery projects.*

#### Recommendation 9

*The ACT Government ensure its renewable energy programs and specifically, its roll-out of community-scale batteries, occurs within a human rights framework.*

#### Recommendation 10

*The ACT Government ensure knowledge resources in the ACT are developed under equitable guidelines, including prioritising language translations and communicating these resources to community groups working with disadvantaged sectors of Canberra.*

#### Recommendation 11

*The ACT Government expands the current ACT Renewables Hub initiative to support knowledge-sharing of community battery information, including specific training on community batteries for technicians.*

#### Recommendation 12

*The ACT Government commit sufficient funding under Strategic Objective 3 of the 2020/21 Budget (and future budgets) to partially fund the expanding Next Gen Program and other schemes to increase the uptake of community-scale batteries, alongside other funding options.*

#### Recommendation 13

*The ACT Government fund further research into methods and opportunities for battery recycling in the ACT.*

## Background to Submission

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Batteries are essential for facilitating the uptake and reliability of renewable energy. They are an innovative solution to emerging issues with grid security and to address the future energy needs of Canberrans. A move towards community-scale batteries also empowers communities in the ACT, allowing our region to be an international and domestic leader in the energy grids of the future. Community batteries also provide a pathway for the development of equitable access to renewable energy across the Territory.

### Why the ACT needs to Bolster Energy Storage

Batteries, alongside other energy storage technologies, are essential for facilitating the uptake and reliability of renewable energy. There are two main reasons why batteries are a key component of the ACT's renewable future:

1. Renewable energy is intermittent. Most renewable energy sources are reliant on the sun or wind, which are variable throughout a day. This means renewables may not always generate sufficient energy to meet demand, especially during peak periods of electricity demand – which typically occur in the early evening.<sup>4</sup> Batteries, as a dispatchable energy source, can bolster electricity supply during these times periods, ensuring constant energy supply and reducing peaks in prices for energy consumers; and
2. Batteries provide valuable network security and reliability, especially during outages.

To highlight the importance of batteries, the Australian Energy Market Operator (**AEMO**) estimates a significant uptake in energy storage across Australia in the next two decades to address peaking and network security.<sup>5</sup>

Currently, the ACT is a national leader for renewable energy uptake and boasts a Solar Photovoltaic (**PV**) penetration of over 13% across the Territory.<sup>6</sup> However, further Solar penetration is at risk if there is not an accompanying growth in energy storage to maximise the benefits of Solar PV. One option would be to use gas generation, which can also be dispatched to address energy demand peaks. However, battery storage outcompetes traditional gas peakers in both price and efficiency because of its faster reaction time and higher accuracy and flexibility to respond to price variability.<sup>7</sup> Unlike gas peakers, battery storage has the additional benefits of providing voltage support and solving local network problems by increasing the hosting capacity of the network in areas which have high volumes of distributed PV.<sup>8</sup> Finally, batteries also contribute to decarbonisation of the grid rather than locking-in carbon intensive energy generation.

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<sup>4</sup> *Battery Storage: The New Clean Peaker* (Research Report, Clean Energy Council, April 2021) <<https://assets.cleanenergycouncil.org.au/documents/resources/reports/battery-storage-the-new-clean-peaker.pdf>> 2.

<sup>5</sup> Australian Energy Market Operator, *2020 Integrated System Plan* (System Plan, July 2020).

<sup>6</sup> Brendon O'Neill, 'What Are Australia's Top Solar States & Suburbs?', *Canstar Blue* (26 May 2015) <<https://www.canstarblue.com.au/solar-power/australias-top-solar-suburbs/>>.

<sup>7</sup> Clean Energy Council (n 4) 2.

<sup>8</sup> **Hosting capacity** refers to the amount of distributed energy sources (Solar PV) that can be added to the grid before the distribution system in that area requires control systems or safety upgrades to safely and reliably integrate further distributed energy.



Furthermore, community batteries will be imperative in facilitating the greater uptake of renewable energy technologies and reducing carbon emissions across the ACT. While the ACT has achieved net 100% renewable energy, only 5% of our energy is generated by renewables within our borders.<sup>9</sup> The remaining 95% of energy used in an average day is imported from the National Energy Market (NEM), four-fifths of which is comprised of fossil fuels.<sup>10</sup> The net 100% renewable energy is largely achieved through funding renewables projects across Australia that ‘offset’ the carbon intensive energy Canberrans use. Community batteries will be essential for incentivising the individual uptake of Solar PV, bolstering renewable energy generation within the ACT and ensuring the long-term viability of the net 100% renewable energy target.

### **Defining ‘Community Battery’**

In essence, a community battery is a shared energy storage system. It allows a group of customers to access its stored electricity. When energy demand peaks above production, customers can draw from the renewable electricity stored in the battery. Uptake from the battery is done at a cost decided on by the owner/s and operator/s of the battery.

Ownership of a community battery can vary. Our submission argues that third-party ownership is of most economic and equitable value to the ACT, although provider-owned and third-party operated batteries are also viable. Under the third-party owned and operated model, the owner and operator of the battery is the local community or council. This allows consumer savings to be redistributed to the community or returned directly to customers through energy bill savings. An example of this model of ownership is the SolarShare farm in Majura.<sup>11</sup> The community solar farm is co-owned by over 550 members.<sup>12</sup> SolarShare receives money from electricity sales and distributes the profits to its members based on their share of investment.

Another form of ‘community’ energy storage is a Virtual Power Plant (VPPs). Our submission does not focus on this type of energy storage as VPPs are in direct competition with community batteries. Furthermore, VPPs are less equitable as they require individual households to own batteries.<sup>13</sup>

### **The Growing Popularity of Community Renewable Energy Assets**

The ACT broadly supports community-scale batteries and other community renewable energy assets. People in Canberra want to be able to locally produce, consume and share energy. As well as the advantages of increasing PV penetration and building social capital in the community.<sup>14</sup> The SolarShare farm found that individuals are also motivated by environmental

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<sup>9</sup> Evans, Jake, ‘ACT has ‘100 per cent renewable’ electricity from today. But what does that mean?’, *ABC News* (online, 1 October 2019), <<https://www.abc.net.au/news/2019-10-01/act-is-100-per-cent-renewable-but-what-does-that-mean/11560356>>.

<sup>10</sup> Ibid.

<sup>11</sup> Harry Frost, ‘Australia's largest community-owned solar farm begins powering homes in Canberra’, *ABC News*, (online, March 2021) <<https://www.abc.net.au/news/2021-03-11/act-community-solar-farm-opens-in-majura/13238882>>.

<sup>12</sup> Andrew Brown ‘Largest Community-Owned Solar Farm Opens in Canberra’ *The Canberra Times*, (online, March 2021, <<https://www.canberratimes.com.au/story/7163567/largest-community-owned-solar-farm-now-a-sun-deal/>>.

<sup>13</sup> AGL, *What’s a Virtual Power Plant* (Web Page), <<https://www.agl.com.au/solar-renewables/solar-energy/virtual-power-plant>>.

<sup>14</sup> Ransan-Cooper (n 1) 38.



concern. Its success exemplifies the growing popularity of community renewable energy assets in the ACT. After all, Canberrans want to be part of the solution to climate change.

Networks also support community batteries.<sup>15</sup> From a network perspective, batteries can solve network problems by increasing the hosting capacity. Moreover, network operators financially benefit from increased use of their network. Finally, the ACT Government also supports community-scale batteries. This is because of their ability to promote the redistribution of wealth by improving regional grid resilience, grid development, and greater energy storage on all scales.<sup>16</sup> The ACT Government's subsidisation of SolarShare reinforces this notion.<sup>17</sup>

### **The ACT and Community Batteries**

The ACT is known across Australia as a renewable energy leader. The Territory has achieved its target of 100% net renewable electricity and has a net-zero emissions target of 2045. However, further innovation is necessary due to growing international pressure for climate action and the need to ensure climate action also addresses other systemic inequalities.<sup>18</sup> The ACT currently provides financial and technical support for battery uptake through the Next Generation Battery Storage Program.<sup>19</sup> However, there are no incentives that consider community-scale batteries. In our review we found no legal barriers at an ACT level to the roll-out of community-scale batteries, the key challenges are regulatory (within the National Energy Market) and financial.

Community batteries provide an important opportunity for the ACT to further its renewable energy agenda. It is evident that there is the individual, community, network, and government support for such innovation in the ACT.

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<sup>15</sup> Ibid 15.

<sup>16</sup> Ibid 17.

<sup>17</sup> Andrew Brown (n 12).

<sup>18</sup> Ketan Joshi, 'UK's stunning new climate target adds major pressure on Australia', *Renew Economy*, (online, April 2021), <<https://reneweconomy.com.au/u>>; Annika Blau, 'What Australians really think about climate action', *ABC News*, (online, August 2020), <<https://www.abc.net.au/news/2020-02-05/australia-attitudes-climate-change-action-morrison-government/118ks-stunning-new-climate-target-adds-major-pressure-on-australia/>>78510>.

<sup>19</sup> ACT Government, *Next Generation Renewables* (Web Page), <[https://www.environment.act.gov.au/energy/cleaner-energy/next-generation-renewables#:~:text=Next%20Generation%20Energy%20Storage%20\(Next,Gen%20program%20was%20established%20to%3A&text=assist%20the%20development%20of%20ACT,industry%2C%20research%20and%20training%3B%20and](https://www.environment.act.gov.au/energy/cleaner-energy/next-generation-renewables#:~:text=Next%20Generation%20Energy%20Storage%20(Next,Gen%20program%20was%20established%20to%3A&text=assist%20the%20development%20of%20ACT,industry%2C%20research%20and%20training%3B%20and)>.

# Supporting the Scale-Up of Community Batteries in the ACT

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## Expansion of the Next Generation Energy Storage Program

The ACT is home to one of the largest battery rollout schemes in the world. The Next Generation Energy Storage Program (**Next Gen Program**),<sup>20</sup> was established with the aims to:

- Stimulate the uptake of battery energy storage systems in the ACT;
- Extend the ACT's position as a national leader in renewable energy; and
- Assist the development of an energy storage industry in the ACT.

These aims align with those expressed in the terms of reference for this submission. The Next Gen program is thus an opportunity to achieve the aims of this Inquiry and incorporate innovative technologies into Canberra's energy mix. Currently Next Gen offers rebates for households and businesses who install batteries at a maximum size of 30kWh and 50kWh respectively. It also offers reverse auctions for large scale producers.<sup>21</sup> However, it neglects to include the emerging field of community-scale battery energy storage systems. This is a missed opportunity, which we recommend the ACT Government rectifies.

The creation of a new category of eligibility for councils and community organisations with a maximum battery size of 1MWh, would enable the inclusion of community-scale batteries in the Next Gen. 1MWh is the accepted standard maximum size, however, most community-scale batteries are significantly smaller, ranging between 100kWh – 500kWh.<sup>22</sup>

Community-scale batteries are expensive as they are an emerging technology undergoing trials, and this is the biggest barrier to widespread uptake of this technology.<sup>23</sup> Next Gen's ability to provide rebates for community-scale batteries would significantly reduce the financial challenge to immediate uptake. As the technology develops, the price of community-scale batteries will continue to drop. This will ultimately lessen the need for government rebates for community-scale batteries.

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<sup>20</sup> ACT Government, *Next Generation Renewables* (Web Page, 16 March 2021)

<<https://www.environment.act.gov.au/energy/cleaner-energy/next-generation-renewables>>.

<sup>21</sup> ACT Government, *How do the ACTs Renewable Energy Reverse Auctions Work?* (Web Page, 12 January 2021) < <https://www.environment.act.gov.au/energy/cleaner-energy/how-do-the-acts-renewable-energy-reverse-auctions-work>>.

<sup>22</sup> Marnie Shaw (n 3) 1.

<sup>23</sup> Nicky Ison et al, *Australian Community Renewable Energy Sector - Challenges and Opportunities* (Final Report, BackRoad Connections, November 2012) 67.

In 2019, a mid-term review of the Next Gen was conducted.<sup>24</sup> The review conducted surveys of participants in the scheme. It found that rebate programs helped to drive the uptake of storage solutions, particularly as the technology is still developing.<sup>25</sup> Incorporating community-scale storage solutions into the eligible systems for the rebate would promote the uptake of community-scale batteries. The benefits from incorporating community-scale batteries into an existing framework extend beyond the promotion of uptake. For the ACT Government, these benefits include, but are not limited to:

- Utilising the existing administrative capacities of the Next Gen program and therefore not incurring additional administrative set up costs to promote uptake;
- Providing opportunity to meet the installation goal of 36MW under the program at a faster rate; and
- Promoting the ACT as a leader in renewable energy technologies through progressive government programs.

To support community-scale batteries we recommend the following changes to the program:

### **Eligibility Requirements**

Expand the eligibility requirements to include community-scale batteries, up to a maximum size of 1MWh. Including:

1. Increase the size parameters to include systems up to 1MWh.
2. Ensure the community organisations and local institutions, such as schools, are eligible participants in the Next Gen.
3. Ensure the eligibility requirements do not stipulate installation location. If installation locations are retained, such as limiting eligibility to residential and business premises, it places limitations on the types of community groups that have access to batteries.<sup>26</sup>

We recommend the only location requirements that are retained are:

- The system must be located within the ACT; and
  - The system development and operation must be compliant with planning and development legislation in the ACT;
4. Increase the number of participating providers, ensuring that at least two of the approved providers have options for community-scale batteries. A diversity in choice for consumers is an important part of the program. Currently seven retailers are selected as participating providers in the Next Gen. To encourage the uptake of community-scale batteries, a similar choice between providers needs to be offered.

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<sup>24</sup> Point Advisory and Energy Synapse, *Mid-Term Review of the Next Generation Energy Storage Program* (Mid-term Review, ACT Government, 29 March 2019) <[https://www.environment.act.gov.au/\\_\\_data/assets/pdf\\_file/0007/1412935/Final-report-Review-of-the-Next-Generation-Energy-Storage-Program.pdf](https://www.environment.act.gov.au/__data/assets/pdf_file/0007/1412935/Final-report-Review-of-the-Next-Generation-Energy-Storage-Program.pdf)>.

<sup>25</sup> Energy Synapse, *Mid-term review of the Next Generation Energy Storage Program* (Final Report, ACT Government, 29 March 2019) <[https://www.environment.act.gov.au/\\_\\_data/assets/pdf\\_file/0007/1412935/Final-report-Review-of-the-Next-Generation-Energy-Storage-Program.pdf](https://www.environment.act.gov.au/__data/assets/pdf_file/0007/1412935/Final-report-Review-of-the-Next-Generation-Energy-Storage-Program.pdf)> 45.

<sup>26</sup> Ibid 4.

## Funding Increases

We strongly recommend that the ACT Government increase allocation of funding to the Next Gen program specifically for the installation of community-scale batteries.

To successfully offer rebates for community-scale systems, the current budget of \$25 million over multiple years is insufficient. To encourage uptake, a larger pool of funds needs to be available. We also recommend the Government assess how funding may be redistributed by the inclusion of community-scale projects. We anticipate a portion of households and businesses that would have pursued an individual battery under Next Gen will opt-in to a community project. Thus, the ultimate increase in funding may not be significant.

At this stage, there are no domestic examples of government funded rebate schemes for the implementation of community-scale batteries. Although, there are cases of government owned providers initiating trials for community-scale batteries under a third party owned for profit model of ownership.<sup>27</sup> Our submission maintains that whilst this ownership model is viable, it does not prioritise community empowerment, as community groups are excluded from the process; and as such it may not achieve equitable outcomes.

Alternatively, the Scottish *Community and Renewable Energy Scheme (CARES)*,<sup>28</sup> provides an appropriate illustration of allocated government funding for community-scale battery rebates that is directed at community empowerment.<sup>29</sup> The scheme has allocated £5 Million per financial year for a variety of eligible community energy projects, providing a combination of interest-free loans and grants. The program has been successful, with the Scottish Government on track to meet its ambitious 2030 target of 2GWh of community renewable energy.<sup>30</sup> This model is an example of the way that the Next Gen program funding could be scaled up to accommodate community-scale batteries.

## Scaling Rebates to Battery Size

Our submission finds that the set rebate amount under Next Gen should be modified to be proportionate to battery size. The cost of a community-scale battery currently sits around \$2000/kWh.<sup>31</sup> The current rebate under the Next Gen is set at \$825/kWh.<sup>32</sup> An equivalent rebate for community-scale batteries set at the same price (\$2000/kWh) would be extremely costly.

<sup>27</sup> Western Power, *PowerBank Community Battery: Solar Battery Storage* (Web Page)

<<https://www.westernpower.com.au/our-energy-evolution/projects-and-trials/powerbank-community-battery-storage/>>; Ausgrid, *Community Batteries* (Web Page) <<https://www.ausgrid.com.au:443/In-your-community/Community-Batteries>>.

<sup>28</sup> Scottish Government, *Policy: Renewable and Low Carbon Energy* (Web Page)

<<https://www.gov.scot/policies/renewable-and-low-carbon-energy/local-and-small-scale-renewables/#cares>>.

<sup>29</sup> Local Energy Scotland, *Funding* (Web Page) <<https://www.localenergy.scot/funding/>>.

<sup>30</sup> Local Energy Scotland and Greener Scotland, *CARES Progress and Impact Report* (Progress Report, Local Energy Scotland, 2016) <<https://www.localenergy.scot/media/96610/CARES-Progress-and-Impact.pdf>> 4.

<sup>31</sup> Claire Curry, 'Lithium-Ion Battery Costs and Market' (Report, 5 July 2017)

<<https://data.bloomberglp.com/bnef/sites/14/2017/07/BNEF-Lithium-ion-battery-costs-and-market.pdf>>.

<sup>32</sup> Jeff Sykes, 'The ACT's Solar Battery Storage Incentive Program', *Solar Choice* (27 January 2021)

<<https://www.solarchoice.net.au/blog/act-home-solar-battery-storage-incentive-program>>.

Instead, a rebate that is proportionate to the size of the system would be a more realistic and achievable way to innovatively finance community batteries.

The *CARES* program provides an example. The scheme has a three-pronged approach to government funding for community-scale batteries:<sup>33</sup>

1. Enablement Grant: providing up to £25,000 for non-capital aspects of a projects, i.e. start-up costs, community consultations and feasibility studies.
2. Development Funding: providing grants of up to £150,000 for development phases of a project, to fund the design and approval of projects through councils.
3. Capital Funding: providing grants of up to 60% of the capital required to buy and install community-scale batteries, paid in full or annual instalments.

### **Additional Considerations**

The following two considerations are regulated under the National Electricity Rules (**NER**) and cannot be directly reformed by the ACT Government, although the ACT Government can advocate for reform within AEMO. We have outlined these considerations to highlight the feasibility of community-scale batteries and the importance of government support to ensure commerciality:

Ownership Reforms: There are four models of ownership for community-scale batteries. The model which is most beneficial for all parties involved is the third party-owned model, either for profit or not.<sup>34</sup> This model of ownership can be used for provider owned, community organisation owned, or council owned community-scale batteries.<sup>35</sup> This model provides access to the asset by a variety of individuals and groups, enabling the benefits to be wide reaching. Examples of this ownership model in practice can be found in the NSW trial batteries owned by Ausgrid.<sup>36</sup> This type of ownership model is also the most financially viable, with full access to the wholesale and Frequency Control Ancillary Services market (**FCAS**).<sup>37</sup>

Challenges to Community-Scale Batteries from NEM Regulations: the NEM's existing regulatory framework poses challenges to community battery implementation on a commercial scale. These challenges do not explicitly prevent the implementation of community-scale batteries. However, they result in additional charges being incurred by the operators and owners of community-scale batteries. This limits a projects financial viability and practically reduces the uptake of community battery projects.

Specifically regulatory barriers include: double counting charges to households who store energy in community-scale batteries connected to the grid; lack of clarity in the classification

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<sup>33</sup> Local Energy Scotland, *CARES enablement grant* (Web Page) <<https://www.localenergy.scot/funding/cares-enablement-grant/>>.

<sup>34</sup> Marnie Shaw (n 3) 34.

<sup>35</sup> Ibid 34.

<sup>36</sup> Ausgrid, *Community Batteries* (Web Page) <<https://www.ausgrid.com.au:443/In-your-community/Community-Batteries>>.

<sup>37</sup> Marnie Shaw (n 3).

of community-scale battery under current regulatory framework; and NER settlement rules and procedures inhibiting the effective use of energy stored in community-scale batteries.<sup>38</sup> Previous recommendations have been made by Ausgrid to minimise or eliminate these issues.<sup>39</sup> These regulatory barriers increase the operating costs of batteries, but can be overcome with government support including through direct funding or price-based mechanisms.

Overall, to expand the Next Gen Program to effectively incentivise community-scale batteries we recommend:

### Recommendation 1

*The ACT Government expand the eligibility requirements of the Next Gen Program to include community-scale batteries, up to a maximum size of 1MWh; and to include community organisations as an eligible recipient group under the Next Gen Program.*

### Recommendation 2

*The ACT Government increase the allocation of funding under the Next Gen Program, specifically for the instalment of community-scale batteries.*

### Recommendation 3

*The ACT Government modify the set rebate amount under the Next Gen Program to be proportionate to the size of the battery being implemented.*

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<sup>38</sup> *Ausgrid Community Battery* (Feasibility Study Report, KPMG, February 2020) <[https://www.ausgrid.com.au/-/media/Documents/Reports-and-Research/Battery/Ausgrid-Community-Battery-Feasibility-Study-Executive-SummaryReport-2020.pdf?utm\\_source=Email&utm\\_medium=Give\\_Us\\_a\\_Wave\\_Update&utm\\_campaign=Give\\_Us\\_a\\_Wave\\_050520](https://www.ausgrid.com.au/-/media/Documents/Reports-and-Research/Battery/Ausgrid-Community-Battery-Feasibility-Study-Executive-SummaryReport-2020.pdf?utm_source=Email&utm_medium=Give_Us_a_Wave_Update&utm_campaign=Give_Us_a_Wave_050520)> 82 – 85.

<sup>39</sup> *Ibid* 82.



## Implementation of a Mandatory FiT Scheme

We recommend that the ACT re-introduce a mandatory small and medium-scale distributor-paid feed-in tariff (**FiT**) scheme, with minimum rates fixed by a regulatory body. Applications for the existing Premium Feed-In Tariff (**PFiT**) Scheme under the *Electricity Feed-In (Renewable Energy Premium) Act 2008* (ACT) closed in July 2011. While households and businesses under the PFiT Scheme will continue to receive payments until 2036, rooftop PV systems purchased after July 2011 are now subject to the unregulated and discretionary retailer FiT. Retailer FiT rates are much less than the PFiT rate.<sup>40</sup>

We recommend the re-implementation of a compulsory, fixed minimum rate FiT to allow for the maximum benefit to be obtained from community-scale energy storage. This would ensure that consumers receive a fair price for energy exported to the electricity grid and would support these projects to become commercially viable. Following a comparative analysis of other Australian jurisdictions, we consider four characteristics as important in achieving the energy goals of a FiT in facilitating the uptake of community-scale batteries:

### Mandatory and Legislated FiT

We recommend that it be a requirement for all electricity distributors operating in the ACT to offer, through retailers, to purchase renewable source energy from customers. This requirement has been imposed upon retailers in Western Australia and South Australia as a legislated condition of holding a retail license.<sup>41</sup> This approach is recommended as opposed to the approach taken by New South Wales where retailers have discretion in offering a buyback.<sup>42</sup> Although New South Wales has generally enjoyed widespread uptake of a FiT by retailers due to effective competition,<sup>43</sup> a mandated scheme is a prudent approach. This is because it will ensure full uptake of the scheme by retailers not already offering FiTs in the ACT.

As with the Western and South Australian schemes, it is imperative that the mandated scheme is given legal status to protect the FiT from opponents and to improve investor confidence.<sup>44</sup>

<sup>40</sup> ITP Renewables, *Review of the Electricity Feed-in (Renewable Energy Premium) Act 2008* (Commissioned Report, CT Government, October 2018)

<[https://www.parliament.act.gov.au/\\_\\_data/assets/pdf\\_file/0003/1483383/List\\_-\\_Review-of-the-Electricity-Feed-in-Renewable-Energy-Premium-Act-2008.pdf](https://www.parliament.act.gov.au/__data/assets/pdf_file/0003/1483383/List_-_Review-of-the-Electricity-Feed-in-Renewable-Energy-Premium-Act-2008.pdf)>; Australian Energy Regulator, *Energy Made Easy* (Website, 2021) <<https://www.energymadeeasy.gov.au/>>.

<sup>41</sup> *Electricity Industry (License Conditions) Regulations 2005* (WA) s 6; *Electricity Act 1996* (SA) s 36AD.

<sup>42</sup> Select committee on electricity supply, demand and prices in New South Wales, *Electricity Supply, Demand and Prices in New South Wales* (Committee Report No 1, Legislative Council, 22 November 2018) <<https://www.parliament.nsw.gov.au/lcdocs/inquiries/2457/Electricity%20Supply,%20Demand%20and%20Prices%20in%20New%20South%20Wales%20-%20Final%20report.pdf>> 25.

<sup>43</sup> Australian Energy Regulator, 'Energy Made Easy,' *Australian Government* (Website) <<https://www.energymadeeasy.gov.au/>>.

<sup>44</sup> Miguel Mendonça, David Jacobs and Benjamin Sovacool, *Powering the Green Economy: The Feed-in Tariff Handbook* (Earthscan, 2010) 64.



## Independently Determined Minimum FiT

Furthermore, we recommend that a minimum tariff be determined and set by a regulatory body. We consider that the Independent Competition and Regulatory Commission (**ICRC**) is best positioned to determine a minimum FiT.<sup>45</sup> This is due to its current regulatory powers to investigate and determine the price of retail electricity in the ACT.

Minimum tariffs are consistent with the Council of Australian Governments' principle that FiT rates should be 'at least equal to the value of that energy in the relevant electricity market and the relevant electricity network it feeds into, taking into account the time of day during which energy is exported.'<sup>46</sup> We are concerned that in the absence of a minimum rate there is a risk that customers will not receive a fair rate for the electricity they produce and feed into the grid.

It has been argued that setting a minimum price for the FiT may 'stifle innovation, by discouraging time-of-use feed-in tariffs or other forms of price innovation,'<sup>47</sup> however we consider that a minimum rate is not incompatible with innovation or time-of-use-feed-in-tariffs. For example, time of export payments may be set by the regulator to better reflect the cost of electricity at different times of export, as in Western Australia.<sup>48</sup> The Essential Services Commission in Victoria have also established time-varying minimum FiTs which consumers can elect to receive instead of the single-rate minimum.<sup>49</sup> Time-variant structures incentivise consumers to use or store energy generated in the middle of the day when it is plentiful, and to install west facing panels to produce more energy later in the day when it is in high demand.<sup>50</sup>

Importantly, a minimum tariff does not prohibit retailers from offering a more competitive rate. It merely ensures that consumers can be assured that they will receive at least the mandatory minimum FiT, without lengthy negotiations about the power purchase agreement.<sup>51</sup> This is particularly important in ensuring that disadvantaged communities and community-groups are not additionally burdened by a requirement to engage with the market to procure the best deal. We consider that the social and market outcomes of a regulated approach outweigh the benefits of deregulation.

## Extension of FiT to Include Battery Exports

Finally, we recommend that FiT payments be extended to include exports from battery storage. Extending FiT payments to include exports from battery storage is consistent with a recognition

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<sup>45</sup> *Independent Competition and Regulatory Commission Act 1997*.

<sup>46</sup> Council of Australian Governments, *National Principles for Feed-In Tariff Schemes* (Meeting, 29 November 2008) 1.

<sup>47</sup> Essential Services Commission of South Australia, *Retailer feed-in tariff - Review of regulatory arrangements* (Final Decision, December 2016) 22.

<sup>48</sup> Government of Western Australia, *Energy Buyback Schemes* (Web Page, 20 January 2021)

<<https://www.wa.gov.au/organisation/energy-policy-wa/energy-buyback-schemes>>.

<sup>49</sup> State Government of Victoria, *Minimum feed-in tariff* (Web Page, 1 July 2020)

<<https://www.energy.vic.gov.au/renewable-energy/victorian-feed-in-tariff/current-feed-in-tariff>>.

<sup>50</sup> Government of Western Australia (n 48).

<sup>51</sup> Miguel Mendonça, David Jacobs and Benjamin Sovacool (n 44) 60.

of the increasing role of battery storage in the delivery of clean energy.<sup>52</sup> In particular, it is key in facilitating the implementation of community-scale batteries within the FiT scheme. Eligibility limits on battery size should be increased to 1MWh to reflect the size of community-scale storage systems.

The benefits of including community-scale batteries within the FiT scheme, such as reduced energy costs for households, may be negated by the double counting charges under the existing AEMO regulatory framework. The challenges posed by the AEMO regulatory framework are discussed above. However, these challenges should not deter efforts to include community-scale batteries within a FiT scheme. We consider that the Ausgrid recommendations,<sup>53</sup> if implemented in future reforms of the NER, would minimise the challenges presented by double counting.

### **Ensuring the FiT is not a Significant Burden on Households**

Ultimately, the costs of a FiT are likely to be recouped by electricity retailers and distributors through increased consumer bills. In the ACT, this may be a minimal issue with wide-spread Solar PV and community-scale battery uptake, as households would be reducing their bills through renewables anyway.

However, it is important this Inquiry consider equity alongside innovation. An independently determined FiT rate could alleviate the burden on households if the CRC were mandated to consider flow-on impacts to consumers when setting the rate. Alternatively, the Inquiry could recommend a cost or maximum installation cap under the FiT scheme.

Overall, we recommend the following to implement an effective FiT scheme:

#### **Recommendation 4**

*The ACT Government implement a mandatory FiT scheme, so that it applies to all distributors operating in the ACT from July 2022.*

#### **Recommendation 5**

*The ACT Government appoint a regulatory body to independently determine the mandatory minimum FiT rate under the scheme.*

#### **Recommendation 6**

*The ACT Government extend FiT payments under the scheme to include energy exports from battery storage and increase eligibility requirements for battery size up to 1MWh.*

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<sup>52</sup> Clean Energy Council, *Energy Storage* (Web Page, April 2020) <<https://www.cleanenergycouncil.org.au/resources/technologies/energy-storage>>.

<sup>53</sup> *Ausgrid Community Battery* (n 36) 82.

## Development of Knowledge-Sharing Hubs

Access to general, technical, and financial knowledge is essential for the development of community batteries.<sup>54</sup> This is due to the knowledge-intensive processes that underlie the development of community batteries. Specifically, complex technological and regulatory dynamics impact the performance and the financial viability of projects.<sup>55</sup> This is compounded as projects will ordinarily have to perform multiple market and non-market functions.<sup>56</sup>

Additionally, community groups must have a comprehensive understanding of the regulatory and technical logistics to effectively engage with investors. As such, to facilitate the uptake of community batteries a large-scale knowledge-sharing framework is required. This would guarantee that communities have access to the necessary information regarding community-shared batteries. Currently, the Australian Renewable Energy Agency (**ARENA**) provides some information for communities and private investors.<sup>57</sup> However, our submission finds that the quality and variety of information is insufficient. Subsequently, it is likely that community groups will first look to the ACT Government directly for support.

The following information on technical, commercial, and regulatory matters would support the uptake of community batteries:

- Battery system strengths and resilience with a particular emphasis on inverters.
- Pathways to realising all the potential ancillary services, including FCAS.
- Power system modelling; including the capabilities of high-performance battery inverters in supporting Variable Renewable Energy (**VRE**) penetration.
- Flexible warranties; including battery degradation warranty structures.
- Degradation management. With a particular emphasis on strategies and structures to extend project life.
- Battery storage capabilities in supporting increased levels of islanding and embedded microgrids.

### Developing Community Knowledge Hubs

According to community groups across Australia, knowledge deficits are the biggest barrier to community energy more broadly and especially for energy storage.<sup>58</sup>

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<sup>54</sup> Community Power Agency, 'Community-Owned Renewable Energy: A How-to Guide' (New South Wales Government, April 2014) <<https://www.environment.nsw.gov.au/resources/communities/cpa-community-energy-how-to.pdf>> 3.

<sup>55</sup> Nicky Ison et al (n 23) 35.

<sup>56</sup> Marnie Shaw, *Implementing Community-Scale Batteries: Regulatory, Technical and Logistical Considerations* (Research Report, Australian National University, December 2020) <<https://arena.gov.au/assets/2020/12/bsgip-regulatory-technical-and-logistical-considerations.pdf>> 8.

<sup>57</sup> ARENA, *Implementing Community-Scale Batteries* (Web Page), <<https://arena.gov.au/knowledge-bank/implementing-community-scale-batteries/>>.

<sup>58</sup> Community Power Agency, Policy Brief – Expand the NSW Regional Community Energy Program, 2018, [www.cpagency.org.au](http://www.cpagency.org.au)).

We strongly recommend the ACT Government seeks to establish community knowledge hubs. As the ACT is relatively small, there may only be one to three of these hubs, concentrated around community-scale battery projects or well-established community groups. The ACT's size also means that decentralised resources can be developed effectively with ongoing and strategic government support, through centralised resources. Knowledge sharing is directly linked to equitable outcomes, and thus some centralised resources will be critical to help new community groups become established and facilitate the involvement of disadvantaged communities. As such our submission finds that knowledge-sharing should be pursued via centralised and decentralised resources to ensure equitable access for all.

### **Decentralised Knowledge Sharing**

The NSW Clean Energy Knowledge Sharing Initiative,<sup>59</sup> provides a suitable model of decentralised knowledge-sharing. The initiative gave thirteen innovators the opportunity to test and trial clean energy solutions.<sup>60</sup> This scheme has contributed to the facilitation of community battery uptake by sharing experience from early adopters of renewable technologies. Projects that it has contributed to include The Narara Ecovillage,<sup>61</sup> The Glenaeon School for Rudolf Steiner Education,<sup>62</sup> and CLEAN Cowra.<sup>63</sup>

Independent MP Helen Haines has also developed a Local Power Plan,<sup>64</sup> which provides another model of decentralised knowledge-sharing. It seeks to establish 50 Local Power Hubs across regional Australia. Each Hub will provide technical and project support to community energy groups, and work with them to access development capital. A key component of the local hub framework is that it prioritises community empowerment and equips community groups with on-the-ground technical expertise.

It is critical that knowledge-sharing hubs have the following features to support the development and operation of community-scale batteries:

- A mechanism for connecting community groups to legal, regulatory technical and business experts;
- Support for community groups to engage constructively with network companies, developers and private financiers (as required);<sup>65</sup>
- A feedback process or mechanism to institutionalise community knowledge to create a bank of solutions for future community groups;

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<sup>59</sup> Energy NSW, *Knowledge Sharing Initiative* (Web Page) <<https://energy.nsw.gov.au/renewables/sustainability/knowledge-sharing-initiative>>.

<sup>60</sup> Energy NSW, *Knowledge Sharing Initiative* (Web Page) <<https://energy.nsw.gov.au/renewables/sustainability/knowledge-sharing-initiative>>.

<sup>61</sup> Narara Ecovillage, *About Us* (Web Page) <<https://nararaecovillage.com/about-us/>>.

<sup>62</sup> Glenaeon Rudolf Steiner School, *About Us* (Web Page) <<https://www.glenaeon.nsw.edu.au/about/>>.

<sup>63</sup> CLEAN Cowra, *About CLEAN Cowra* (Web Page) <<http://www.clean.org.au/about-clean-1>>.

<sup>64</sup> Local Power Plan, *Community Energy* (Web Page), <<https://www.localpowerplan.com/community-energy>>.

<sup>65</sup> Ibid.

- A program of workshops or knowledge-sharing events for different community-groups in the ACT to connect and discuss challenges, opportunities, and solutions. This could be modelled off the NSW Community Renewable Energy Toolkit Workshops,<sup>66</sup> and
- Centralised general knowledge resources (outlined below).

The ACT launched the ACT Renewables Hub last year, which is a potential platform to support knowledge-sharing and to launch decentralised community hubs.<sup>67</sup>

### **Providing Centralised Knowledge**

It is essential to address the current knowledge gap that hinders the development of community batteries. Our submission finds that centralised knowledge-sharing should involve the following:

- The provision of financial expertise regarding the commercial viability of a project;
- Open sharing of information held by providers, also called Distribution Network Service Providers, to facilitate the identification of appropriate project locations;
- Updated information about developments in battery technology; and
- Expert assistance in the development of community battery development proposals.

Furthermore, guidelines should be developed concerning the different models of ownership for community batteries. Guidelines should provide information about the benefits, risks, finance, implementation, and resources required for each ownership model. Direction may be taken from existing resources provided by the State Governments of NSW,<sup>68</sup> and Victoria.<sup>69</sup>

Finally, the development of decentralised and centralised knowledge hubs provides opportunities for the ACT Government to foster an ecosystem of energy innovation across the ACT, and to facilitate knowledge-sharing between government, industry, community organisations and major research institutions like the ANU and UC.

In consideration of the above material our submission makes the following recommendations:

#### **Recommendation 7**

*The ACT Government implement a knowledge hub scheme to empower communities to design, develop and operationalise community-scale battery projects in the ACT.*

#### **Recommendation 8**

*The ACT Government establish centralised and general resources to complement a community energy knowledge hub to assist community groups exploring community-scale battery projects.*

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<sup>66</sup> Frontier Impact Group, *Community Renewable Energy Financing Toolkit* (Web Page) <<https://www.frontierimpact.com.au/toolkit>>.

<sup>67</sup> ACT Renewables Energy Hub, *About Us* (Web Page), <<https://www.actrenewableshub.org.au/about>>.

<sup>68</sup> Energy NSW, *Community Energy Projects* (Web Page), <<https://energy.nsw.gov.au/renewables/renewable-energyoffers/communities>>.

<sup>69</sup> Victoria State Government, *Community Energy* (Web Page), <<https://www.energy.vic.gov.au/renewable-energy/community-energy>>.

## Ensuring Community Batteries are Rolled-out in an Equitable Manner

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Disadvantaged communities may struggle to access community batteries due to the financial and human resources required in the early stages of project development.<sup>70</sup> International research supports this notion as it has been concluded that equitable access to community renewable energy is problematic.<sup>71</sup> As is broader access to clean energy for disadvantaged communities.<sup>72</sup> A brief analysis of Australian community batteries supports this. The only operating community battery that has been community led was generated out of an area of significant advantage,<sup>73</sup> and current trials are concentrated in more affluent areas of Australia.

Equity is an essential consideration in the roll out of community batteries for the following reasons. First, community renewable energy assets have the potential to reduce energy stress by providing security, affordability, and reliability.<sup>74</sup> Second, there is a strong argument that people should not be limited in their ability to invest in renewable energy based on their ability to own property. This argument was recognised in the rationale for Canberra's first community solar farm.<sup>75</sup> Associated with this is the paradox that disadvantaged communities will be most affected by climate change.<sup>76</sup> As such, disadvantaged communities have a vested interest in supporting renewable energy. Finally, due to the ACT's strong stance on human rights it would be inconsistent to ignore equity issues in reference to community batteries.

Residents of the ACT enjoy relative privilege in comparison with the rest of Australia. For example, the ACT's median weekly income is approximately 30% higher than the rest of the

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<sup>70</sup> Community Power Agency, 'Community-Owned Renewable Energy: A How-to Guide' (New South Wales Government, April 2014) <<https://www.environment.nsw.gov.au/resources/communities/cpa-community-energy-how-to.pdf>> 3.

<sup>71</sup> Alexandra Wyatt, 'Testimony of Alexandra M. Wyatt Policy and Regulatory Manager, GRID Alternatives' (Grid Alternatives, 1 October 2020) <[https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20testimony\\_10.01.20.Wyatt\\_.pdf](https://energycommerce.house.gov/sites/democrats.energycommerce.house.gov/files/documents/Witness%20testimony_10.01.20.Wyatt_.pdf)> ('Generating Equity: Improving Clean Energy Access and Affordability') 6.

<sup>72</sup> Ibid 2.

<sup>73</sup> Ausgrid, *Community Batteries* (Web Page) <<https://www.ausgrid.com.au:443/In-your-community/Community-Batteries>>; Australian Bureau of Statistics, *2016 Census Quick Stats: Beacon Hills* (Catalogue No SSC10238, 23 October 2017) <[https://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/SSC10238#:~:text=People%20E2%80%94%20demographics%20%26%20education&text=In%20the%202016%20Census%2C%20there,up%200.5%25%20of%20the%20population.&text=The%20median%20age%20of%20people,State%20Suburbs\)%20was%2040%20years](https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/SSC10238#:~:text=People%20E2%80%94%20demographics%20%26%20education&text=In%20the%202016%20Census%2C%20there,up%200.5%25%20of%20the%20population.&text=The%20median%20age%20of%20people,State%20Suburbs)%20was%2040%20years)> .

<sup>74</sup> Alexandra Wyatt (n 66) 6.

<sup>75</sup> SolarShare Canberra (n 32).

<sup>76</sup> The Climate Institute, Brotherhood of St Laurence and Australian Council of Social Service, *Empowering Disadvantaged Households to Access Affordable Clean Energy* (Research and Policy Report, Australian Council of Social Service, 2017) <[http://library.bsl.org.au/jspui/bitstream/1/10181/6/ACOSS\\_BSL\\_TCI\\_Empowering\\_households\\_2017.pdf](http://library.bsl.org.au/jspui/bitstream/1/10181/6/ACOSS_BSL_TCI_Empowering_households_2017.pdf)> 16.



country.<sup>77</sup> Despite this, there are areas of disadvantage in the Territory. A table outlining the lowest socio-economic suburbs in the ACT is provided below:

*Table 1: Disadvantaged Suburbs in the ACT<sup>78</sup>*

Indicator of Disadvantage				
Suburb	Median Weekly Income (\$)	Bachelor's degree or higher (%)	Renters (%)	Public and community housing estates (no.)
<b>Symonston</b>	<b>796</b>	<b>7.8</b>	31.7	13
<b>Oaks Estate</b>	860	18.3	<b>55.3</b>	40
<b>Charnwood</b>	1486	18.2	31.8	<b>167</b>
<b>Holt</b>	1427	25.5	28.9	165
<b>Florey</b>	1745	32.6	25.9	Could not determine
<b>Canberra (for comparison)</b>	2086	26	31.9	12 000

Table 1 shows that the suburbs of Symonston, Oaks Estate, Charnwood, Holt, and Florey are disproportionately disadvantaged in comparison with the wider community. In addition to these suburbs, there are also a range of groups in the ACT that are more likely to suffer from energy stress and should be considered under equitable frameworks, including: people on government support, people living in poor quality housing, First Nations People, single parents, newly arrived migrants and refugees, disabled people and their carers.<sup>79</sup>

Finally, there are also specific institutions that should be considered, including homeless shelters, rehabilitation centres, and domestic violence shelters. We have not conducted specific research into these groups and recommend that the ACT Government engage in a separate consultation process with these institutions. Our submission finds that it is likely that energy stress is a consideration and that placing community-scale batteries in these areas will achieve equitable outcomes for vulnerable Canberrans.

<sup>77</sup> Australian Bureau of Statistics, *2016 Census Quick Stats: Canberra* (Catalogue No CED801, 23 October 2017) <[https://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/CED801](https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/CED801)>.

<sup>78</sup> Statistics drawn from, Australian Bureau of Statistics, *2016 Census Quick Stats: Canberra* (Catalogue No CED801, 23 October 2017) <[https://quickstats.censusdata.abs.gov.au/census\\_services/getproduct/census/2016/quickstat/CED801](https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/quickstat/CED801)>.

<sup>79</sup> Sally Babbington and Sue King, *Helping with the Cost of Energy: Report of Anglicare Sydney's 2006 EAPA Data Collection* (Anglicare, 2008) 32.



## Renewable Energy as a Human Right

We recommend that the ACT Government recognise the right to clean energy as a human right in the ACT and ensure future renewable energy innovation occurs through this lens. This is especially important given the *Parliamentary & Governing Agreement for the 10<sup>th</sup> Legislative Assembly* states that one agreed legislative reform for the coming term is:

*“17. Consider introducing the “right to a healthy environment” into the Human Rights Act, and look at rights of nature”<sup>80</sup>*

Currently, under the *Human Rights Act*, the right to an adequate standard of living is not explicitly protected but we argue it is implicitly recognised. Section 7 states that the Act is not exhaustive of the rights that Canberrans have under domestic or *international law*.<sup>81</sup> Furthermore, the *Human Rights Act* does not limit government or committee scrutiny of human rights to those explicitly outlined in the Act.<sup>82</sup> The right to an adequate standard of living is recognised under international law, specifically Article 11 of the *International Covenant on Economic, Social and Cultural Rights*:

*“The State Parties...recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions.”<sup>83</sup>*

International human rights law defines the right to an adequate standard of living quite broadly. *General Comment No. 4* of the Committee on Economic, Social and Cultural Rights, outlines that the right to housing ‘should not be interpreted in a narrow or restrictive sense’, it extends beyond merely providing shelter to ensuring all people live in ‘security, peace and dignity’.<sup>84</sup> Providing renewable energy options and community-scale batteries contributes to the achievement of this right in the following ways:

- Renewable energy and storage are cheaper, reducing energy stress and ensuring housing remains affordable. Affordability is a key component of the right to adequate living according to the Committee;<sup>85</sup> and
- Ensuring security of energy supply for Canberrans, especially cheap clean energy, contributes to the habitability of homes in Canberra.<sup>86</sup> This is especially the case for renters and those in low socio-economic groups, cheap electricity enables people to use heating and cooling to protect themselves from the impacts of weather.

<sup>80</sup> ACT Labour and ACT Greens, *Parliamentary and Governing Agreement* (Agreement, 10<sup>th</sup> Legislative Assembly ACT, 2 November 2020) 13.

<sup>81</sup> *Human Rights Act 2004* (ACT), s 7 and s 31.

<sup>82</sup> *Ibid* ss 32 – 34 and s 38.

<sup>83</sup> *The International Covenant on Economic, Social and Cultural Rights*, opened for signature 16 December 1966, 993 UNTS 3 (entered into force 3 January 1976) art 11(1).

<sup>84</sup> Committee on Economic, Social and Cultural Rights, *General Comment No 4 (1991): The right to adequate housing (art 11(1) of the Covenant)*, UN ESCOR 6<sup>th</sup> sess (14 December 1990) para 7.

<sup>85</sup> *Ibid* para 8(c).

<sup>86</sup> *Ibid* para 8(d).

Moreover, an adequate standard living is linked to the human right to a healthy environment.<sup>87</sup> Clean energy is consistent with the right to a healthy environment, as fossil fuels are linked to respiratory diseases, water degradation and, of course, climate change.<sup>88</sup> All of these impacts on human health have contributed to clean energy being recognised as *UN Sustainable Development Goal 7*.<sup>89</sup>

The ACT Government recognises the importance of human rights, and the role of the government in upholding these rights, through the *Human Rights Act*. We urge the Inquiry to accept that it is appropriate to recognise the human right to clean energy in any recommendations that arise from this Inquiry, and to more broadly ensure that equitable considerations underpin future law reform on renewable energy innovation in the ACT. Thus:

### Recommendation 9

*The ACT Government ensure its renewable energy programs and specifically, its roll-out of community-scale batteries, occurs within a human rights framework.*

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<sup>87</sup> Stephen Tully, 'The Human Right to Access Clean Energy' (2008) 3 *Journal of Green Building* 140.

<sup>88</sup> See, e.g, Center for Health and the Global Environment Harvard Medical School, *Mining Coal, Mounting Costs: The Life Cycle Consequences of Coal* (Final Summary Report, 12 December 2011).

<sup>89</sup> United Nations, *Ensure Access to Affordable, Reliable, Sustainable and Modern Energy* (Web Page) <<https://www.un.org/sustainabledevelopment/energy/>>.

## Integrating Knowledge Sharing into Existing Community Frameworks

Proactive measures must be taken to empower disadvantaged communities in accessing the technical and financial expertise required to develop community-scale batteries. The knowledge barrier preventing community engagement in shared batteries is particularly problematic with respect to disadvantaged communities. This raises crucial equity concerns which any reform must consider.

This equitable distribution of knowledge can be developed within existing frameworks. Organisations such as the Australian Energy Foundation have put together information packages for Individuals, Households and Governments regarding the process of developing and operationalising batteries.<sup>90</sup> These have addressed a variety of equitable access concerns, such as providing information in multiple languages.

The ACT Renewables Hub provides individuals and communities with access to technical and financial expertise.<sup>91</sup> The hub could be specifically tailored to developing community-scale batteries by expanding their programs to include community battery training for local technicians. This is critical to ensure that the benefits of community-scale batteries return to the community at all stages. Furthermore, it would support local businesses to partake in the renewable energy boom.

We therefore recommend the following for an equitable knowledge-sharing framework in the ACT:

### Recommendation 10

*The ACT Government ensure knowledge resources in the ACT are developed under equitable guidelines, including prioritising language translations and communicating these resources to community groups working with disadvantaged sectors of Canberra.*

### Recommendation 11

*The ACT Government expands the current ACT Renewable Hub initiative to support knowledge-sharing of community battery information, including specific training on community batteries for technicians.*

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<sup>90</sup> Australian Energy Foundation *For Residents*, (Web Page) < <https://www.aef.com.au/for-home/battery-storage/> >.

<sup>91</sup> ACT Renewables Energy Hub (n 67).

## Funding Community-Scale Batteries

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The ACT Government must promote the uptake of community-scale batteries, through funding opportunities for community groups, in order to become a national leader in renewable energy.

Community ownership is an important part of community-led renewable energy projects. Being involved in the purchase of an investment, such as a community-scale battery, promotes a sense of ownership within the community it benefits. This results in the ACT Government not needing to absorb the full cost of the batteries, but rather reducing the current upfront costs to make them a viable option for all potential communities.

The two major strategies addressed in this submission have been to increase the funding to the Next Gen Battery Scheme and reimplement a regulated feed-in tariff scheme. Both of these government led initiatives are aimed at increasing the financial viability of community-scale batteries for communities, whilst ensuring the ACT taking a position of leadership in their promotion and implementation. This would align with the *ACT Strategic Objective 3* – lead the transition to a net-zero emissions city, in the *2020/21 Budget Statement E*.<sup>92</sup>

Additional to these two sources of financial support, the 2020/21 ACT Budget, under *Strategic Objective 3*, noted the intention to allocate greater funding under the Renewable Energy Innovation Fund (**REIF**) to energy storage.<sup>93</sup> This is another potential source of funding which the ACT government could use to promote the uptake of community-scale batteries.

External to the territory government, ARENA and the Clean Energy Finance Corporation (**CEFC**) are committed to promoting battery storage through finance and research.<sup>94</sup> The proposed Grid Reliability Fund (**GRF**) by the CEFC sets out \$1 billion specifically for solutions that promote grid stability.<sup>95</sup> The major solution proposed under the scheme is community and large-scale storage solutions.<sup>96</sup> Furthermore, the Department of Industry, Science, Energy and Resources has programs such as the Powering Communities Program targeting financial support to community owned energy solutions, such as batteries.<sup>97</sup> Opportunities provided by the CEFC and ARENA for further financial backing would minimise the cost burden on the ACT government to promote the viability of community-scale batteries. Therefore, we recommend:

### Recommendation 12

*The ACT Government commit sufficient funding under Strategic Objective 3 of the 2020/21 Budget (and future budgets) to partially fund the expanding Next Gen Program and other schemes to increase the uptake of community-scale batteries, alongside other funding options.*

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<sup>92</sup> ACT Government, *2020-21 Budget Statements* (Budget Statement E, 2020) 13.

<sup>93</sup> ACT Government, *2020-21 Budget Statements* (Budget Statement E, 2020) 13,19.

<sup>94</sup> Clean Energy Finance Council, 'Energy Storage' (Web Page) *Where We Invest* <<https://www.cefc.com.au/where-we-invest/renewable-energy/energy-storage/>>.

<sup>95</sup> *Clean Energy Finance Corporation Amendment (Grid Reliability Fund) Bill 2020* s 51B.

<sup>96</sup> *Clean Energy Finance Corporation Amendment (Grid Reliability Fund) Bill 2020* s 58A(b).

<sup>97</sup> Department of Industry, Science, Energy and Resources, 'Powering Communities Program' (Web Page)

*Energy Programs* <<https://www.energy.gov.au/government-priorities/energy-programs/powering-communities-program>>.

## Forward Planning for Recycling Batteries

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In accordance with the ACT's sustainable development principles, it is instrumental that the roll out of community batteries is supported with preparations for battery recycling. Despite the slow uptake of batteries in Australia, waste is already proving to be problematic with a meagre 2% of annual lithium-ion battery waste being recycled.<sup>98</sup> Current research suggests that with adequate infrastructure, 95% of the components of lithium-ion batteries can be recycled.<sup>99</sup>

In addition to battery recycling being a sustainability issue it also has equity implications. Currently the majority of Australia's battery waste is exported.<sup>100</sup> This poses an ethical dilemma due to the waste, fire risk, and environmental contamination that Australian jurisdictions unload to other nations.

Further research is necessary to identify opportunities and challenges to implementing an appropriate battery recycling scheme in the ACT. It should be noted that the ACT's unique position as a knowledge hub for the renewable energy industry positions it auspiciously to undertake this research. As such, the following recommendation is made:

### Recommendation 13

*The ACT Government fund further research into methods and opportunities for battery recycling in the ACT.*

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<sup>98</sup> Yanyan Zhao et al, *Australian Landscape for Lithium-ion Battery Recycling and Reuse in 2020* (Research Report No EP208519, CSIRO, 25 February 2021)

<<https://publications.csiro.au/publications/publication/PIcsiro:EP208519>> 17-18.

<sup>99</sup> Ibid 18.

<sup>100</sup> Ibid.