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The Secretariat
Senate Standing Committees on Economics
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RE: Submission to the Inquiry into Residential Electrification

Thank you for the opportunity to make a submission to the Parliamentary Inquiry into Residential Electrification.

About the Coalition for Community Energy

The Coalition for Community Energy (C4CE) represents a network of 105 community energy groups from around Australia. For the past decade community energy groups have supported residential electrification. As the Rewiring Australia and Electrify Everything movement captures the public's imagination more groups are emerging in towns and suburbs across Australia.

Community energy is contributing to energy sector reforms in households, businesses, community organisations and stand-alone renewable generation and community batteries. Responsive policies and programs have enabled communities to learn about community energy, form organisations and partnerships and plan projects that will benefit them. In NSW many groups formed in 2014 to 2016 supported simply by \$50,000 grants. In Victoria we've been excited to see a new raft of small-scale projects come to life under that State Government's Community Power Hubs. The hubs were an excellent way to unlock clean energy capacity and build support for the getting-off-gas process across communities.

As the peak body for the community energy sector, we know that we can substantially scale up the benefits it delivers. To reach its full potential our sector needs better alignment of market signals with community benefits, and stronger participation within the traditional energy sector. In turn, our ability to roll out electrification to households with expertise and support will contribute to Australia's emission reduction targets while strengthening the social licence of the energy transition.

Introduction

The excellent work of Rewiring Australia and the message of Electrify Everything has resonated across Australian communities. Across our member base, community energy groups are seeing new volunteers emerge and many new enquiries about getting involved in the Residential Electrification movement. At the same time people are blaming climate change for the recent bushfires and floods weather events and looking forward to the upcoming summer with dread.

Many communities are looking to take action, planning their own household transformation projects and renewable energy projects as a means of grassroots leadership. Simultaneously, many communities are facing rapid upheaval, with new energy infrastructure raising questions of social licence and drawing the potential for wider opposition.

In this submission, we recommend the government foster local energy leadership, build social licence and ensure renewables are being deployed in a timely manner to meet our climate challenge. By instilling community benefit sharing approaches and ownership structures Australia's energy transition will not only be better for urban and regional people, but it will also enable a more consistent and timely transition.

The Coalition for Community Energy sees the main challenges and opportunities for reaching 100% renewables as:

- Underutilisation of existing grid infrastructure
- Lack of support for changes in social practices that come with redesign of the ways energy is produced and used.
- Enabling community energy and battery projects across the low voltage and medium voltage parts of our distribution networks

To address these challenges, we recommend:

- Commit to 100% renewable homes target
- Support community projects including
 - Energy advisory services and awareness raising campaigns and events.
 - Implementation services like bulk buys and installer facilitation
 - Local infrastructure like EV charging, coordination of flexible loads, stand-alone systems for essential energy services and ensuring adequate local energy storage.
 - Local renewable energy investments
 - Local funding to overcome financial barriers and support low income consumers.
- Work with communities to improve the utilisation of network infrastructure.
- Commit to long term programs and provide consistency across grant opportunities to enable communities to better plan and realise projects.

Reaching 100% renewables

Deploying renewable energy is, and will continue to be, one of the most urgent strategies for cutting Australian emissions. To enable economy-wide reductions, we need to electrify our homes, industry and transport systems, powering these with renewable sources while deploying smart energy systems to make our grid more efficient and responsive (ClimateWorks Australia 2020). According to research conducted by ClimateWorks, national electricity supply from renewables will need to be at least 79% by 2030 to be consistent with limiting global warming to 1.5 degrees (ClimateWorks Australia 2020).

The scale of this transition represents both an opportunity and a barrier. While rewards for employment, manufacturing and local economies will be created (Clean Energy Council 2020), there are broader questions of 'how' and 'who' benefits. Campaigns are already arising, in Victoria for example, against infrastructure needed to deploy large scale renewables, creating real blowouts in timelines and costs for

transmission companies and the government. Without considering who and how benefits and disbenefits are distributed, social licence for 100% renewables will not be obtained.

Residential Electrification can and should play a significant role in the journey to 100% renewables, however in order to enact this, supportive, long term and consistent policy settings must be in place.

Recommendation 1: Commit to a 100% renewable homes target.

Community Energy Projects for Residential Electrification

Many community energy projects involve working with households. There is a virtuous relationship between supporting people to transform their homes and those people supporting the projects that transform the community. The Appendix to this submission provides a sense of the breadth of groups and ambitions at work in Australia's towns and suburbs.

Energy advisory services, awareness raising campaigns, events like sustainable house day or electric vehicle showcases are all initiatives that raise household awareness and provide trusted, experienced local people to talk to. Anyone who has taken the leap in residential electrification loves sharing what they've learnt!

Bulk buys and installer facilitation are examples of programs that help many households to upgrade and transform. They especially help the householder make nuanced decisions about expensive items like new hot water systems, solar, battery and electric vehicles. They ease the barriers to finding good products, good installers and good prices. They often provide ongoing support to deal with follow up issues and other changes like adjusting tariffs and household behaviours.

Local infrastructure will also be needed as residential electrification takes hold. Electric vehicle charging, coordination of flexible loads, stand-alone systems for essential energy services and critical community buildings are all elements that communities value. Ensuring adequate local energy storage and coordinating its use for the benefit of the grid will require information to flow about local grid constraints and challenges.

Local energy investments appeal to households, especially those who, for a wide variety of reasons, can't invest in their own home. Neighbourhood batteries, mid-scale solar and wind systems, shared investment on local supportive businesses can all be ways to support the renewable energy transition.

Many groups have wondered how to overcome financial barriers and support low-income consumers. Some have experimented with tenant/landlord loans where the cost of solar is shared between the homeowner and the tenant. A stronger relationship between the social services sector, public housing providers, local government, NILS¹ finance providers and community energy groups could result in useful business models to support low-income households. The evidence that some people are being left behind in the energy transition is stark and has been a concern for many years now.

Community groups are always willing to work in partnership with local government and the private sector and usually do. By contrast, when governments deliver such services without community energy groups

¹ No Interest Loan Scheme

resourcing is more expensive because they unlock far less volunteering and discretionary contributions. They can also become more constrained by procedures and red tape. When the private sector delivers programs like these they are incentivised only to pursue profitable activities. This means they stop at the more innovative and experimental approaches that are needed to develop the path forward.

Recommendation 2: Support community-led versions of residential electrification.

Grid utilisation

Renewable Energy Zones are presented as critical and fundamental infrastructure projects to enable the country to reach 100% renewables. But the scale of these zones poses a significant change for host communities. These energy assets will be developed across large areas, crossing many properties and, without proper engagement and benefit-sharing, trigger disputes that will slow and increase costs to rolling out renewables.

There is an opportunity to facilitate mid-scale community projects on distribution and low voltage networks to continue progress towards renewable energy targets and build social licence. Such projects would be between 1-10MW and, at this scale, would not need to wait for new transmission infrastructure. As community projects, they would be designed and developed by or with the community, providing proportionately larger benefits to community members, generating goodwill among those affected by any moderate amenity or social impacts. These projects also give community members greater ownership over their energy system and champion best practice community engagement, pioneering new tools to improve social outcomes and the reputation of the industry.

At the Low Voltage level there is even more capacity for renewable energy investments providing it is also used locally. Many Low Voltage feeders operate at a utilisation factor of under 20% meaning that the average energy consumption is less than 20% of the installed capacity. Community energy groups have pioneered behind-the-meter projects that facilitate rooftop solar on large businesses in their community for the benefit of both the business and the wider community. Community energy groups have been supporting solar bulk buys since at least 2012. As more people learn about the constraints on rooftop solar - export limits, hosting capacities, operating envelopes etc. – they are turning their minds to utilising the surplus solar energy locally in the most cost-effective ways.

Recommendation 3a: Support high utilisation of the low voltage and distribution level grid for residential electrification, flexible use of renewable electricity, topped up with mid-scale community energy projects.

Community micro-grids, batteries and coordination

Community micro-grids and batteries are in their infancy and are expensive. Nevertheless, they support local energy supply, improve network efficiency and build energy resilience. They can be less expensive if household electrification has taken place and significant flexible energy use is available to be controlled, optimising the role of the expensive battery assets.

Many households face grid-curtalement from their respective distribution companies, limiting rooftop solar adoption and other energy projects. Providing energy supply options close to load should represent the cheapest outcome for solving demand-supply balancing issues. But current price signals from traditional network pricing don't encourage the efficiency that local balancing offers. Flexible load options, as a companion to local storage investments, will remain a market failure, unless everyone has access to support and information about our changing energy system and potential solutions.

Local coordination of energy assets could help address this market failure, providing both a technical solution for grid services and local generation capacity, while simultaneously socialising changes underway in our energy market. As we transition away from gas and to electric vehicles, these new loads will be best managed where local knowledge is part of the solution. Furthermore, acceptance of these smart energy systems, will be highly contingent on community trust. For instance, Australian studies have indicated that the success of community batteries is highly influenced by the benefits they offer, the ownership models adopted, and the level of engagement facilitated by such projects (Australian National University 2020). Subsequently, ensuring meaningful benefits and facilitating community ownership will be critical to establishing the social licence for community batteries, the deployment of smart energy systems and embracing of vehicle to grid technology.

Recommendation 3b: Optimise utilisation of the low voltage and distribution level grid and engage households in the interaction between their homes and the grid, with smart grid technologies such as community micro-grids, batteries and vehicle to grid technology.

Consistency of programming

Long term Government-led policies and programs will enable communities to plan and develop their own energy projects through the formation of organisations and partnerships. For example, the Community Power Hubs program in Victoria unlocked a massive volunteer effort across the state that strengthens local economies, grows clean energy capacity and improves the social licence of renewables.

Local employment coupled with environmental volunteering is a core element of grassroots action on climate change and encompasses a broad range of environmental and sustainability activities. In Victoria alone, there are over 134,000 regular environmental volunteers contributing more than \$50 million of time for the environment each year (State of Victoria 2019). Further unlocking this potential is key to scaling a community-led transition, and there is a significant amount of choice and replicability already in the sector to stimulate scale up and make it mainstream (Lane 2020).

In initiatives such as the Community Battery Scheme, communities were given short notification timelines to mobilise and apply for federal government or ARENA funding. It is vital that the Government commits to more consistent and long-term programming targets, beyond a 12 month to 2-year timeline. There is a long lead-in time for communities to mobilise behind programs like this and to fully realise the opportunities.

Recommendation 4: Commit to long term programs and provide consistency across grant opportunities to enable communities to better plan and realise projects.

Conclusion

As a country endowed with significant sun and wind resources, it's critical that the Australia creates leadership when it comes to renewable energy, and commits to a transforming our homes, transport needs and local services to 100% renewable energy. To achieve this, there is a need to consider how communities will be engaged and benefit from new energy investments, and the infrastructure needed to deliver them. Investing in homes and local community energy organisations immediately is a rapid pathway to renewable energy deployment that does not require substantial grid upgrades. It is an approach that can run concurrently to wider works that are underway to transform our grid. By enabling community energy with a target and mechanism, the Government will foster the equitable distribution of transition benefits, building renewable capacity, social licence and wider system resilience.

Thank you for the opportunity to comment,



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List of community energy groups

Members of the Coalition for Community Energy

ACT

SolarShare Community Energy Ltd, Canberra

NSW

Bellingen Shire Electricity Alliance, Bellingen

Blue Mountains Renewable Energy Co-op
(BMRenew), Katoomba

Central Coast Community Energy Association Inc.
(CCCE), Gosford

Central NSW Renewable Energy Cooperative
(CENREC), Bathurst

Clarence Valley Conservation Coalition Inc (CVCC),
Yamba

Clean Energy Association of Newcastle and
Surrounds (CLEANaS), Merewether

Clean Energy for Eternity Bermagui, Bermagui

Clear Sky Solar Investments, Northern Beaches

Climate Action Now Wingecarribee (CANWin),
Bowral

Climate Change Australia, Clarence Valley Branch,
Clarence Valley

Climate Rescue of Wagga (CROW), Wagga Wagga

Coal Point Energy Community Inc., Coal Point

Coffs Coast Climate Action Group, Coffs Harbour

Community Owned Renewable Energy Lennox
(COREL), Lennox Head

Community Owned Renewable Energy

Mullumbimby (COREM), Mullumbimby

Community Power Agency (CPAgency), Sydney
Energy Forever - Port-Macquarie-Hastings, Port
Macquarie

Lismore Community Solar Farm (Goonellabah) Pty
Ltd, Lismore

North Coast Energy Forum, Byron Bay

Pingala - Community Renewables for Sydney,
Sydney

Repower Shoalhaven, Shoalhaven

Southcoast Health and Sustainability Alliance
(SHASA), Maroya

Sustain Northern Rivers Energy Working Group,
Uralla

Sydney Renewable Power Company, Sydney

Tyalgum Energy Group, Tyalgum

QLD

Energetic Communities, Brisbane

Granite Belt Sustainable Action Network Inc.,
Thorndale

Sunshine Coast Community Solar Association
(SCCSA), Sunshine Coast

Sustainable Dayboro, Dayboro

Zero Emissions Brisbane, Brisbane

Zero Emissions Noosa Inc., Noosa Heads

SA

Citizens Own Renewable Energy Network Australia
(CORENA), Adelaide

Imagine Uraidla, Summertown

TAS

Dorset Renewable Co-operative Limited,
Scottsdale

Sustainable Living Tasmania, Hobart

Tasman Peninsula Power Inc, Koonya

VIC

2030Yea Inc, Yea

Ballarat Renewable Energy and Zero Emissions
Incorporated, Ballarat

Bendigo Sustainability Group, Bendigo

Cockatoo Community Energy, Cockatoo

Community Action for Sustainability (Mount
Gambier SA), Mount Alexander

Community Power Hub Bendigo, Bendigo

Dja Dja Wurrung Clans Aboriginal Corporation,
Bendigo

eMPower Mornington Peninsula, Mount Martha

Geelong Sustainability, Geelong

GroundSwell BassCoast, San Remo

GV Community Energy, Murchison

Healesville Community Renewable Energy Project,
Healesville

Hepburn Energy, Daylesford

Macedon Ranges Sustainability Group, Woodend

Mallacoota Sustainable Energy Group, Mallacoota

Middleton Group, Manor Lakes, Melbourne

Mitchell Community Energy, Seymour

Montmorency Community Group, Montmorency

Mornington Peninsula Climate Action Network,
Mornington
Mt Alexander Sustainability Group (MASG),
Castlemaine
Myrtleford Community Power, Myrtleford
Natimuk Community Energy, Natimuk
People Power Company Mornington, Mornington
Peninsula
Renewable Albury Wodonga (RAW), Wodonga
Renewable Newstead, Newstead
Surf Coast Energy Group, Torquay
Sustainable Hepburn Association, Hepburn
Sustainable Seymour, Seymour
The Goulburn Group, Goulburn
Totally Renewable Yackandandah, Yackandandah
Voices of the Valley, Latrobe Valley

Wodonga Bahai Community, Wodonga
Yarra Community Solar, Melbourne

WA

Augusta Margaret River Clean Community Energy,
Margaret River
Clever Clogs (Community Organisation for Climate
Action), Pemberton
Fremantle Wind Farm Cooperative Ltd, Fremantle
Geraldton Community Energy, Geraldton
Katanning Energy, Katanning
Naturaliste Renewable Energy Group,
Dunsborough
Transition Margaret River, Margaret River
Transition Town Kalamunda, Bickley

Other groups who are paving the way for Residential Electrification

ACT

Suburb Zero, Canberra
Bennelong Climate Action Group, Sydney

NSW

CLEAN Cowra, Cowra
Clean Energy for Eternity Bega, Bega
Community Energy for Goulburn, Goulburn
Electrify 2228, Miranda
Electrify 2515, North Wollongong
Electrify Bouddi, Kilcare
Energise Gloucester, Gloucester
Energy Democracy Central West NSW Co-
operative Ltd, Orange
Farming the Sun, Lismore
Geni.Energy Ltd, Narrabri
Hawkesbury Environment Network, Windsor
Haystacks Solar Garden, Grong Grong
Inner West Community Energy Inc, Sydney
Intention One Earth Foundation, Glebe
Jubullum LALC, Jubullum
Junee Community Power, Junee
Manilla Community Renewable Energy Inc, Manilla
Marrickville Youth Resource Centre, Marrickville
Narara Ecovillage Co-operative Ltd, Gosford
Nimbin Community Solar Farm, Nimbin
Solar Alliance, Sydney
Stucco Housing Co-operative, Newtown
Sunny Shire, Sutherland

Sustaining the Williams Valley, Dungog
Uralla - Zero Net Energy Town, Uralla
Wagga Wagga Fridays for Future, Wagga Wagga
Wingecarribee Net Zero Emissions, Southern
Highlands
Zero Emissions Byron, Mullumbimby

NT

Arid Lands Environment Group, Alice Springs
Environment Centre of the Northern Territory,
Darwin
Repower Alice, Alice Springs

QLD

Boonah Community in Transition Group, Boonah
Maleney Community Electricity, Maleney
The Gap Sustainability, Brisbane
Toowoomba Renew, Toowoomba

SA

Electrify Adelaide, Adelaide
Solar Harvest, Tanunda
Sustainable Communities SA, Unley

TAS

Net Zero Channel, Kingsborough

VIC

100% Clean Bellarine, Bellarine
Anglesea Community Energy (ACE), Anglesea
Banyule Clean Energy Group (BCEG), Ivanhoe

Barwon Regional Alliance for Community Energy (BRACE), Winchelsea
Birregurra Community Association, Birregurra
Clean Energy Nillumbik, Diamond Creek
Climate Action Newcastle, Newcastle
Colac Otway Sustainability Group, Colac
Cooperative Power, Melbourne
Cooperative Power, Melbourne
Dandenong Ranges Renewable Energy Association, Dandenong
Earthworker Cooperative, Morwell
Electrify 3068, Fitzroy
Electrify 3442, Macedon Ranges
Electrify Boroondara, Melbourne
Energy for the People, Castlemaine
Energy Innovation Co-operative, Phillip Island
Euroa Environment Group, Euroa
Gippsland Climate Change Network, Traralgon
Indigo Power, Yackandandah
Jewish Climate Network , Melbourne
Mirboo North Community Energy Hub, Mirboo North
More Australian Solar Homes (MASH), Castlemaine
Murrindindi Climate Network, Alexandra
People Power Company Mornington, Mornington Peninsula

Renewable Energy Benalla, Benalla
Renewable Energy Mansfield, Mansfield
Southern Otways Sustainable (based in Apollo Bay), Apollo Bay
Strathbogie Voices, Euroa
Sunraysia Sustainability Network, Mildura
Sustainable Sale, Sale
Sustainable Upper Ovens, Bright
Totally Renewable Beechworth, Beechworth
Totally Renewable Phillip Island, Phillip Island
Totally Sustainable Tallangatta, Tallangatta
Up2Us Landcare, Mansfield
Venus Bay and Tarwin Lower Community Energy, Venus Bay
Village Power, Alphington
Wangaratta Sustainability Network, Wangaratta
Warburton Community Hydro, Warburton
Yarra Energy Foundation, Richmond

WA

Denmark Community Windfarm Ltd, Denmark
Kurrawang Aboriginal Christian Community, Kurrawang Community
Low Carbon Kimberly, Broome
Project Valley, Fremantle
Sustainable Bayswater, Perth