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Committee Secretary
Select Committee into the Resilience of Electricity Infrastructure in a Warming World
Department of the Senate
PO Box 6100
Canberra ACT 2600

By email: electricity.infrastructure.sen@aph.gov.au

27th January 2017

Dear Sir/Madam,

Re: Select Committee into the Resilience of Electricity Infrastructure in a Warming World

The Eastern Alliance for Greenhouse Action (EAGA) welcomes the opportunity to respond to the Senate Select Committee Inquiry into the Resilience of Electricity Infrastructure in a Warming World. EAGA is a formal Alliance of seven councils in Melbourne's East, including:

- City of Boroondara
- Knox City Council
- Maroondah City Council
- City of Monash
- City of Stonnington
- Whitehorse City Council
- Yarra Ranges Shire Council

EAGA is committed to delivering mitigation and adaptation projects and advocating for initiatives that support sustainable, low carbon communities. We consider this inquiry to be an important opportunity to overcome barriers to an efficient and timely transition to a decentralised and sustainable energy system that is resilient to the increasing risks posed by climate change. As much of Victoria's electricity infrastructure is approaching the end of its life, it is an important time to define the policy settings to help drive this transition in a cost effective, robust and equitable way.

EAGA has recently completed a regional climate change adaptation plan for eastern metropolitan Melbourne, which includes a comprehensive risk assessment.[1] Many of the risks posed to councils

[1] eaga.com.au/projects/climate-change-adaptation-roadmap/

and their communities from heatwaves, bushfires and storm events are likely to be exacerbated by power failures. Furthermore these events increase the likelihood of power failure in the absence of a robust electricity network. These risks have been realised in recent extreme weather events and act to further threaten vulnerable members of the community and disrupt council's ability to deliver services during extreme events.

Local governments in Victoria are involved in a number of initiatives seeking to test new ways for decentralised energy to improve system resilience, however this is taking place in an ad-hoc manner outside of the current regulatory framework. These initiatives include but not limited to:

- Community grids project: A partnership between United Energy and Mornington Peninsula Shire, the program will engage and incentivise households, small businesses and community organisations on the lower Mornington Peninsula to help them reduce and/or shift their electricity usage voluntarily or through the use of solar PV and energy storage systems
- Mooroolbark Mini Grid Trial: Yarra Ranges Council partnering with Ausnet Services to test a solar and storage mini grid trial in a suburban street
- Future Energy Planning: EAGA is leading a project together with the Northern Alliance for Greenhouse Action that seeks to build better collaboration between electricity networks and local government planners in Victoria. An important objective of the project is to identify integrated energy solutions not currently supported by the existing regulatory processes
- Council corporate solar and storage: EAGA members have already implemented nearly 0.5 MW of solar PV on council owned buildings. EAGA members are now investigating opportunities for medium scale storage to be deployed for their own corporate facilities
- Solar PV for Low Income Households: EAGA is currently delivering a program with three other Greenhouse Alliances and twenty councils across Victoria to deliver a low income solar project, aiming to reduce dependency on centralised electricity and reduce energy costs for vulnerable segments of the community.

With this in mind, EAGA urges the Select Committee to consider the following in response to the terms of reference:

(a) The role of storage technologies and localised, distributed generation to provide Australia's electricity networks with the resilience to withstand the increasing severity and frequency of extreme weather events driven by global warming

Storage technologies and distributed generation can improve the resilience of the electricity network several ways:

- Reduce demand on the network at peak times, reducing strain on the network
- Continue to operate locally during outages (i.e. where islanding technology is in place or there exists micro-grids that can disconnect from the larger grid)
- Providing balancing services to the networks

However fundamental changes to market design, the regulatory framework and its institutions are needed to ensure these benefits can be captured without compromising system security and reliability. The urgency of this change was recently highlighted by the South Australian state wide back-out in September 2016. Subsequent analysis showed that distributed generation was not the primary cause of the event. The recent Finkel Review noted that the Australian Energy Market Operator had failed to properly identify the risks and implement appropriate control measures ("fault-ride through"), when the issue had been identified as a risk in Europe a decade ago, and addressed and resolved by market operators at the time.

This process failure is one example of the inadequacy of current approaches to manage and keep pace with the technological advances in the energy sector. Appropriate policy and regulatory settings must facilitate cooperation between various parts of the supply chain to maximise the value of the multiple services that can be provided by distributed energy resources.

To address this, EAGA recommends that the National Electricity Objective (NEO) be redrawn as it is no longer appropriate to the current and future Australian energy market. The NEO currently does not recognise the interests of the community at large and confines consumer interests mainly to economic interest:

> *"to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to:*
> *a) price, quality, safety, reliability and security of supply of electricity; and*
> *b) the reliability, safety and security of the national electricity system"*

The focus on 'price' rather the 'total cost' is often at odds with the 'long term interest of consumers' with respect to environmental and social sustainability in the context of climate change. It has driven short term decision-making throughout the market's various institutions. The interpretation of 'efficient investment' has resulted in unbalanced rule-making and a market bias that supports centralised infrastructure rather than distributed energy or other non-network solutions. A new NEO should therefore reflect broader consumer interests, including explicit environmental (i.e. emission reductions) and social outcomes, as in comparable international jurisdictions. This is consistent with findings of the Finkel Review which also point to an outdated NEO that is no longer fit for purpose.

(b) Recommend measures that should be taken by federal, state and local governments to hasten the rollout of such technologies:

To fast track the transition to a distributed energy system, energy providers must build new capabilities that enable them to capture and scale up new opportunities and tap into unconventional markets. This will require establishing business models with stakeholders with whom they have previously had little interaction, including local government authorities.

Under Victoria's planning system local councils and the State Government develop planning schemes to control land use and development. Currently, electricity network planning and land-use planning occur in isolation, meaning long term, viable and sustainable options for integrating demand and supply side opportunities are lost, resulting in inefficient investment and higher prices for consumers.

Whilst both land use planning schemes and the national energy market objectives intend to serve the long term interest of the community, they cannot do so whilst operating in isolation. Despite the implications land use planning has for local energy use and demand patterns, existing regulatory requirements do not require either sector to synchronise their respective planning processes.

EAGA therefore supports the introduction of regulatory and market based approaches to ensure coordinated planning the delivers smarter, tailored integrated energy solutions that alleviate costs to consumers. This will also ensure that consumers have equitable access to a range of emerging energy services and are not constrained by outdated traditional market models. Unfortunately, a key opportunity for progress was recently lost when the AEMC determined that it would not implement *'local generation network credits'* into the National Electricity Rules (NER). We therefore recommend that the Select Committee direct the AEMC to reconsider this determination.

Furthermore, recent electricity network pricing determinations have demonstrated the lack of support for demand management initiatives by the Australian Energy Regulator (AER). This has led to only a

small allowance being provided to network businesses to pilot and trial projects to fully assess the costs and benefits of network innovations via the Demand Management Incentive Scheme (DMIS). On average, allowances under the scheme equate to just 0.09% of the total revenue allowances for each DNSP. This amount is clearly insignificant when compared with other industrialised businesses where expenditure on research and development is often higher by several orders of magnitude.

(c) Any other relevant matters

EAGA understands that the Energy Networks Association (ENA) has developed an industry methodology and tools to support members in managing climate risk and resilience across core network business activities and to ensure consistency in factoring climate change risk in future network investment decisions.[2] It is not clear to us if any of the networks have used the manual to develop their own climate change risk assessments, and also how this will orientate their business decisions towards distributed generation. The Select Committee is well placed to engage with the sector via the ENA to establish greater clarity and transparency on such key issues.

We recommend that climate change risk assessments and adaptation plans be a requirement on every electricity network in Australia. This should be an annual process that is undertaken in consultation with the communities in each network area and transparently published as an appendix to distributor's Annual Network Planning reports. The process should also seek to identify actions that can be undertaken in partnership with other stakeholders not just rely on traditional network solutions of infrastructure upgrades.

EAGA is willing to work with Select Committee to support equitable and consistent approaches to an integrated and sustainable energy system which represent the best value proposition for the community, industry and all levels of Government.

Should you have queries or questions relating to this letter, please contact Scott McKenry, EAGA Regional Coordinator on scott.mckenry@maroondah.vic.gov.au or 03 9298 4250.

Kind regards,

Cr John Mortimore
Executive Committee Chair
Eastern Alliance for Greenhouse Action
Councillor, Knox City Council

This submission has been approved through EAGA's formal governance structure as described in the EAGA Memorandum of Understanding 2016-17. The submission may not have been formally considered by individual member councils.

[2] www.energynetworks.com.au/climate-change-adaptation