



Promoting innovation for NSW energy customers: Public consultation paper
Total Environment Centre submission
February 2022

TEC welcomes the opportunity to respond to the consultation paper. However, due to our limited resources we have restricted our submission to briefly discussing one issue which has not been addressed in the paper.

One of the emerging issues for the energy sector, in Australia as elsewhere, is resilience—specifically, the role of DER in increasing system resilience in response to the increasing frequency, intensity and impact of severe weather events including heatwaves, floods, severe storms and bushfires. This omission is somewhat perplexing, since according to the report of the 2020 NSW Bushfire Inquiry:

[D]uring the 2019-2020 bushfire season, more than 280,000 customers from various energy providers experienced a bushfire-related power outage at some point. These outages were largely attributed to fire damaging more than 10,000 power poles and thousands of kilometres of powerlines, including those located underground.

The Inquiry heard that fires burned across more than 45% of Endeavour Energy's network supply area, and bush fires interrupted electricity supply to 54,000 of its customers between December and January, with 20,000 people left without power at the fire's peak over the New Year period, mainly on the South Coast. In the worst-affected areas, some customers were without power for up to 10 days. Essential Energy reported that over 104,000 of its customers were affected (including 4,700 life support customers) and over 3,200 power poles and 4,500 cross arm poles were damaged or destroyed.

The same report directly addresses the need to develop innovative solutions in response to this rapidly changing environment:

The [NSW Bushfire] Inquiry notes the broader question: is it worth investing in these ways [of improving the resilience of the electricity network for bush fire prone areas], and charging consumers commensurately, to a level that can withstand low-likelihood but high-consequence events? The trade off between these costs and benefits is best addressed in a collaborative manner between the utilities sector and government in order to come to agreement about the level of investment that best reflects the value placed on protection versus consumer cost.

Centralised infrastructure, including power systems, can be disrupted during disasters, leaving communities in greater danger. Decentralised systems including microgrids based on solar and batteries can help ensure that communities have a secure and reliable source of power.

Fortunately, the three NSW DNSPs are cognisant of the urgent need to address this issue, and have recently produced a draft consultation paper on resilience to encourage discussion among stakeholders in the lead-up to their next five yearly regulatory proposals. Meanwhile, TEC has drafted a rule change request (attached) which it is intending to submit to the AEMC later this year. The issues addressed in these documents include:

- The difference between resilience and reliability
- The problems caused by the lack of recognition of resilience in the NER (eg, in relation to STPIS and pass through applications)
- The need for resilience planning to be based on sound climate modelling and risk management processes
- Whether resilience is best improved by hardening the main electricity grid, or by making networks more flexible and localised
- The optimum balance between centralised and decentralised opportunities for increasing energy system resilience
- The critical role that emerging DER technologies (including microgrids, community scale batteries and EVs with V2X capability, as well as SAPS) can play in increasing system resilience

- The extent to which behind the meter DER (such as PV and batteries with off grid/backup capability) should be incentivised by governments to increase individual household and community energy autonomy, especially on the fringes of the grid
- The interaction between energy system and broader community resilience (including social cohesion and emergency response capability)
- The importance of involving local communities in developing energy resilience plans (eg, to determine their willingness to pay more for greater local resilience)

TEC would be willing to provide more details, or to work with the NSW Government and other stakeholders to further develop appropriate regulatory and practical responses, the scope of which could be extended to include other threats to energy system resilience (eg, cyberattacks). Indeed, ultimately we recommend that the government's focus on "delivering an affordable and reliable energy future that helps achieve net zero emissions by 2050" should be expanded to include resilience.

In the meantime, we are concerned that if climatic conditions changed from a La Niña to an El Niño event later this year or next year, potentially recreating the catastrophic conditions NSW faced in 2019-2020, the outcomes for the energy system and NSW consumers would not be materially different to those experienced in that period (aside from the replacement of some flammable poles and cross-arms with more fire resistant composites, plus other minor technical upgrades such as insulating the wires on some rural and urban lines).

One of the reasons for this inertia is the still partly unresolved issue of how SAPS should be owned and priced when they have been installed after disconnecting isolated customers to improve their reliability at lower cost than maintaining long skinny lines in heavily forested areas. Like the NSW DNSPs, PIAC has been advocating for a different solution to the one proposed by the AEMC. This is one issue where the NSW government could play a leading role to resolve the situation as the AEMC and other market bodies work—alongside the Energy National Cabinet Reform Committee and the Energy Ministers' Meetings—through the necessary changes to the National Electricity Law and Rules.

The outcome of this initiative could go beyond delivering an affordable and reliable net zero carbon energy future to utilising mature DER technologies as well as emerging technologies such as EVs with V2G capability to potentially save lives—eg, if they allow people living in the path of bushfires (or severe storms, etc.) to power their phones and other comms devices as well as water and wastewater pumps, refrigeration, aircons, etc., even for a limited time; or if they can provide backup power to evacuation centres and other critical loads.

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Yours sincerely



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