

Regulatory disparities disadvantage remote Australian communities in energy transition

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Not all Australian communities are equally protected by consumer electricity retail regulations, with remote and Indigenous communities more likely to be underserved on multiple fronts. Communities in regions potentially critical to energy transition are often underserved by regulations that would otherwise ensure their own energy needs, hindering progress toward a just transition.

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The policy problem

Electricity is vital to many aspects of wellbeing, including keeping homes safe and comfortable, and keeping foods and medicines (such as insulin) refrigerated. Yet in Australia, electricity retail protections vary across the country. Life support customers are not always protected from disconnection upon non-payment, whilst regulations for visibility such as retailer reports of disconnection rates are not always required. Not all customers have a clear path to install rooftop solar for energy supply autonomy. There is currently no national database to compare levels of protection and reporting requirements for individual settlements. Change is unlikely to happen so long as there is limited visibility of the differences in electricity retail protections nationwide. Without change, residents of some settlements will enter the energy transition on an uneven footing, and we run the risk that future energy systems will simply sustain existing inequities, rather than remedy them.

The findings

We mapped five categories of regulatory protection for household electricity consumers in Australia: 1) life support protections against disconnection; 2) guaranteed minimum service levels; 3) mandated disconnection reporting; 4) complaints process clarity and independence; and 5) clear contractual guidelines for rooftop solar connection. Remote communities are 18% more likely to receive fewer than four of these five protections compared to urban or regional communities. Indigenous communities are 15% more likely to be underserved compared to communities that are not majority Indigenous. These groups overlap. Approximately 1 in 5 Australians live in settlements where not

all consumers have all five of the protections examined (Fig. 1), while all urban and regional settlements are legally required to protect life support customers, guarantee service levels, and report disconnections. Only 2 of the 631 settlements where prepayment can operate have clearly outlined conditions for prepay customers to connect rooftop solar.

The study

We created a dataset of electricity retail protections and solar access conditions for 3,047 Australian settlements nationwide. We did this by reviewing 284 legal documents (legislation, contracts, licences, authorities, codes and exemptions) to establish the presence (or the absence) of electricity retail protections and their conditions. Communities were only considered to have a protection if all customer types, both prepay and post-pay, had unambiguous protections granted in legal documents. We used multiple logistic regression ($n = 2,996$) to examine whether remote and Indigenous communities were less likely to have each of the five protections mapped (Fig. 1) individually and combined, while controlling for settlement-level population and socioeconomic disadvantage. We use a simple count as the most transparent indicator of locations facing disadvantage in multiple areas, whilst being mindful that this may not fully capture regulation in each practical application.

Messages for policy

- One in five Australians live in settlements without all five categories of legal protection, and under-protected settlements are almost without exception at the spatial periphery in remote regions.
- Remote communities and majority Indigenous communities are more likely to be underserved by electricity retail regulatory protections in Australia (18% and 15% respectively; these groups overlap).
- Clarity of rooftop solar connection conditions for prepay customers requires remedial policymaking to improve opportunities for priority communities.
- Disconnection reporting should be required nationwide for all customer types. The absence of so-called prepay 'self-disconnection' reporting obscures the level of energy insecurity in many settlements.

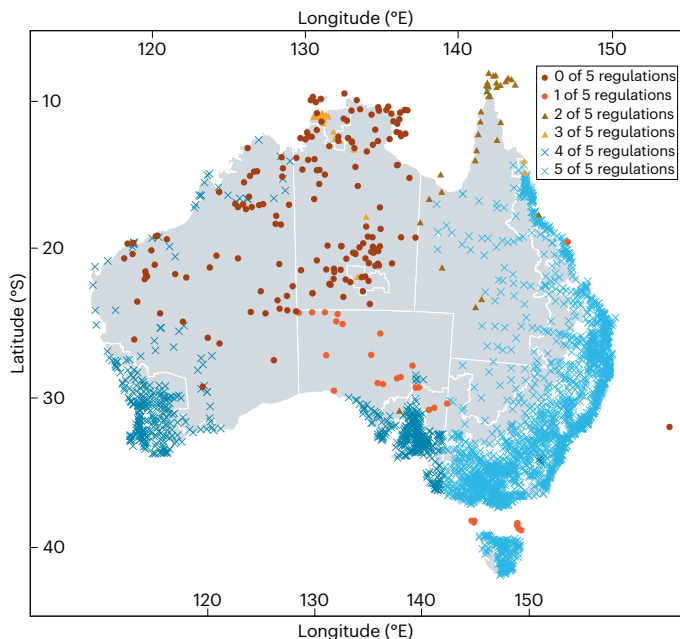


Fig. 1 | Communities where Australian consumers are underserved by regulations for electricity. Mapping the absence of legal protections across multiple dimensions, compiling 1) life support protections; 2) guaranteed service level; 3) solar connection process stated in contract; 4) disconnection reporting requirements; and 5) complaints process clarity and independence ($n = 3,047$ settlements). Remote or very remote areas shown in grey, urban or regional areas shown in white, shaded using the Accessibility/Remoteness Index of Australia (ARIA+). Figure adapted from L. V. White et al. *Nat. Energy* <https://doi.org/10.1038/s41560-023-01422-5> (2024); Springer Nature Ltd.

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Further Reading

1. Bouzarovski, S. & Simcock, N. Spatializing energy justice. *Energy Policy* **107**, 640–648 (2017).

This study applies a spatial lens to energy justice, recognizing that within current energy systems, groups at the spatial periphery are at high risk of having their energy needs under-recognized and procedurally neglected.

2. Carley, S. & Konisky, D. M. The justice and equity implications of the clean energy transition. *Nat. Energy* **5**, 569–577 (2020).

This review discusses how just transition occurs when costs and benefits of energy transition are evenly distributed across communities, requiring pre-existing structural and policy-based disparities to be identified and overcome in order to avoid perpetuating entrenched vulnerabilities.

3. Riley, B. et al. Connected: Rooftop solar, prepay and reducing energy insecurity in remote Australia. *Aust. Geog.* **54**, 325–346 (2023).

This case study finds that access to fully subsidized rooftop solar wholly mitigates the incidence of involuntary ‘self-disconnection’ due to inability to pay, for a single (the first) prepayment household to connect PV to prepay in public housing in Australia’s remote Northern Territory.

4. Grealy, L. Enforced commensuration and the bureaucratic invention of household energy insecurity. *Aust. Geog.* **54**, 155–172 (2023).

This study presents a critical analysis of regulatory changes introducing mandatory prepay for prescribed customers in the Anangu Pitjantjatjara Yankunytjatjara (APY) Lands in northwest South Australia.

5. Longden, T. et al. Energy insecurity during temperature extremes in remote Australia. *Nat. Energy* **7**, 43–54 (2022).

This study of energy data from 3,300 prepay households in 28 remote Indigenous communities in the Northern Territory demonstrates 74% of households disconnected more than ten times annually, with the risk of involuntary self-disconnection increasing during temperature extremes.

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Competing interests

The authors declare no competing interests.