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An aerial photograph showing a dry, cracked riverbed in a semi-arid landscape. The riverbed is filled with reddish-brown mud and is surrounded by sparse, dry vegetation and scattered dead trees. The surrounding land is a mix of light brown soil and patches of green and greyish vegetation.

# Submission in response to 2024 Issues paper: Targets, Pathways and Progress

Sydney Environment Institute

13 May 2024

## **Submission in response to 2024 Issues paper: Targets, Pathways and Progress**

*Date: 13 May, 2024*

The Sydney Environment Institute is a national and world leader in multidisciplinary environmental and climate research, particularly in the areas of environmental justice, climate disaster adaptation and resilience, and transformative governance. We bring together thought leaders from academia, community, government and industry, to tackle the greatest challenges in favour of the common good. Our vision is for a just and sustainable environmental transformation in which all life can flourish.

Our response to the *2024 Issues paper: Targets, Pathways and Progress*, has convened a collective of multidisciplinary academic staff and researchers at the University of Sydney;

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- Associate Professor [Amanda Tattersall](#), Associate Professor of Practice, Faculty of Science
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- Ms [Kirsten Jackson](#), Program Manager, Sydney Environment Institute.

Thank you for considering our submission to the *2024 Issues paper: Targets, Pathways and Progress*. We appreciate the opportunity to contribute to paper for the Climate Change Authority on Australia's emissions reduction targets, sectoral pathways and progress towards becoming a net zero economy.

Should you require any further information or clarification, please do not hesitate to contact us on **+61 2 8627 4998**, or [sei.info@sydney.edu.au](mailto:sei.info@sydney.edu.au)

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## Executive Summary

Thank you for the opportunity to provide a submission in response to the Climate Change Authorities (CCA's) Issues Paper considering pathways for Australia's transition to a net zero economy by 2050.

The issue of climate change requires urgent global action, and we are already experiencing the effects of rising average temperatures via increased frequency and intensity of extreme weather events. There is an urgent need for ambitious and robust policy action to mitigate greenhouse gas emissions, and simultaneously a need to prepare for the continued consequences of the emissions that have already raised global average temperatures.

Our key points, elaborated in the following responses to the CCA 2024 Issues Paper questions, are summarised as:

1. Australia needs ambitious targets for climate change mitigation, both in line with Paris Agreement responsibilities for developing countries and to provide clear signals for industry to target investments.
2. Strategies can't rely on private sector alone: public funding is needed, and regulatory guidelines are needed to address emissions mitigation where incentives to adopt new technologies will not be fast enough to phase out existing emissions-intensive processes. Further, the uneven distribution of costs and benefits within transition needs to be both monitored and addressed through policy interventions.
3. Best practices need to be implemented for community engagement, both to ensure social licence and to more evenly distribute the costs and benefits of net zero transition.

## **Question 1. How should the authority take account of climate science and Australia's international obligations in considering possible emissions reductions targets for 2035?**

**In determining target ambition, the authority should consider the risks of insufficient climate action.**

As acknowledged in the Issues Paper, Australia needs to set stricter targets to be on track for the 1.5°C target of the Paris Agreement. Also as noted in the issues paper, as a developed country Australia should be setting ambitious targets. We urge the CCA review to consider the worst-case scenarios outlined within the Intergovernmental Panel on Climate Change (IPCC) modelling and other efforts when evaluating the negative economic impacts of climate related disasters. Insufficient action to mitigate climate change carries the risk of substantial disruption, with a very real risk that the costs of inaction would far outweigh the costs of ambitious target setting supported by robust policies. Climate change modelling outlines envelopes of possibilities, and target setting should not only consider the average estimated costs of disasters – it should be done with an understanding of the worst-case scenarios and the damage that high levels of warming would cause.

**International action on climate change has been insufficiently ambitious over the past decades, and this requires much more ambitious action in the present day to remain within manageable warming scenarios.**

Continuing with a cautious approach to emissions reductions carries the risk of either locking in further warming and associated costs of extreme weather events such as flooding and bushfires, or requiring even more ambitious and disruptive target setting and policy in subsequent years to remain within 1.5°C. Setting targets in line with IPCC recommendations on achieving 1.5°C is more likely to support an orderly transition by making full use of the available time and carbon budget remaining; delaying this target setting carries the risk of exacerbated disruption in future. By setting targets now that can feasibly meet 1.5°C, governments can better support a variety of industries and emitters in making most efficient use of the time available to reach net zero and stay within 1.5°C. The IPCC reports in this area provide an existing and nuanced account of the issues, and the costs of inaction – the authority should give central attention to these climate science findings.

### **Question 3. How can Australia further support other countries to decarbonise and develop sustainably?**

**Australia should shift away from economic reliance on fossil fuel exports, and should plan for some reserves to remain unextracted.**

Australia is a major exporter of fossil fuels, but is aiming to become a major exporter of clean energy products in future. As noted by the IPCC, if the 1.5°C target is to be met then not all existing and currently planned fossil fuel extraction can take place. Australia's position as a major exporter of fossil fuels creates some risk of stranded assets should other countries put in place suitably ambitious climate change mitigation policies that reflect the need to leave many fossil fuel deposits buried. By planning to ramp down extraction activities Australia could both reduce exposure to this risk and take ambitious action towards climate change mitigation. In planning for replacement exports such as hydrogen, the government can also help to develop robust certification systems for embedded emissions to represent the emissions associated with production and transport to point of use for clean fuels. This is currently underway in Australia's Guarantee of Origin scheme for hydrogen, to ensure that hydrogen with low embedded emissions can be recognised on the international market.

**Development of critical mineral extraction should be accompanied by improvements to environmental and social efforts that have historically surrounded extractive activities.**

As clean energy exports become commercially viable, Australia can also support international efforts to decarbonise. Australian governments at all levels are promoting 'critical minerals' as a major contribution to the global energy transition (DISR, 2023<sup>1</sup>). 'Critical minerals' include many of the raw materials used in low emissions technologies, like lithium and rare earths for batteries and wind turbines. Global demand for such minerals is set to increase six-fold by 2050 under a net-zero scenario (IEA, 2022<sup>2</sup>). It is important to note that mining and refining these metals is often carbon intensive and has various localised social and environmental impacts which need to be considered in a 'just transition'. The Australian government can support international efforts to improve environmental and social outcomes surrounding critical mineral production networks, including by addressing

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<sup>1</sup> DISR. 2023. 'Critical Minerals Strategy 2023–2030'. Australian Government Department of Industry, Science and Resources. <https://www.industry.gov.au/sites/default/files/2023-06/critical-minerals-strategy-2023-2030.pdf>.

<sup>2</sup> IEA. 2022. 'The Role of Critical Minerals in Clean Energy Transitions'. Revised Version. The International Energy Agency. <https://www.iea.org/data-and-statistics/data-product/the-role-of-critical-minerals-in-clean-energy-transitions-2>.

price premiums for ‘ethical’ nickel and lithium and by funding independent research on the drivers, constraints and opportunities for Australia’s contribution to renewable energy and electric vehicle production.

**When supporting international development via climate finance, it is important to avoid creating unsustainable debt burdens in partner countries via loans; grants should also be considered.**

Australia has a significant role to play in guiding decarbonisation and sustainable development in our region. DFAT’s (2023<sup>3</sup>) development finance review finds that decarbonisation needs in Southeast Asia and the Pacific are profound, but recent increases in funding and finance towards climate resilience and mitigation objectives remain modest and piecemeal. More problematically, development support is moving away from traditional granting mechanisms towards concessional lending and loans – as represented by the centrality of the Australia Infrastructure Financing Facility for the Pacific. In the context of brewing sovereign debt problems in the Pacific, and given our most vulnerable neighbours have played little part in causing climate catastrophe, support for decarbonisation and electrification, and especially adaptation and resilience, should be in grants rather than loans (Eurodad et al., 2022<sup>4</sup>).

Decarbonisation trajectories for our Southeast Asian neighbours are crucial for keeping to 1.5°C targets; much more ambitious support is needed to support these trajectories and keep their cheap fossil fuel reserves underground. For instance, the Just Energy Transition Partnerships (JETPs) in Indonesia and Vietnam are vital for those countries’ energy trajectories and for global carbon budgets. Initial experience from South Africa, whose JETP is most advanced, demonstrates some troubling outcomes: the partnership has been used to try to dismantle public institutions and expand market logics of cost recovery into electricity supply, with implications for access to an essential service (Sweeney, 2024<sup>5</sup>). Australia can play a much more ambitious technical, advisory, and granting role in the JETPs and similar programs for our neighbours, to ensure they truly are just. Expanding the role of DFAT

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<sup>3</sup> Commonwealth of Australia DFAT (2023) “Development finance review: New approaches for a changing landscape.” Canberra.

<sup>4</sup> Eurodad, Jubilee Australia, Jubilee Debt Campaign UK and Erlassjahr.de (2022) “Debt challenges in Pacific Island countries”. <https://jubileeaustralia.org/storage/app/uploads/public/624/65a/5cc/62465a5cc1b77757257678.pdf>

<sup>5</sup> Sweeney S (2024) ‘Just Energy Transition Partnerships’ are failing. *Jacobin* <https://jacobin.com/2024/05/just-energy-partnerships-climate-finance>

funding and finance will be essential for supporting decarbonisation and sustainable development for our closest neighbours.



## **Question 5. How can governments use mandates, rules, and standards to accelerate Australia's decarbonisation? Is more planning by governments needed? If so, how should this be coordinated and how can this be done while making the transition inclusive, adaptive, and innovative?**

It will be important to use rules, standards, and mandates to reduce emissions in sectors where financial 'carrots' alone don't achieve necessary change.

While financial incentives and supports are excellent strategies for increasing adoption of new technologies that lower emissions, there is an essential role for regulatory requirements to play in phasing out existing use of fossil fuels and processes that emit greenhouse gases.

This includes phasing out or updating legacy infrastructure investments in coal generation and buildings, improving financial reporting standards, and mandating improvements in benefit sharing processes.

**Accelerating the phase out of coal-fired power stations.** The Australian Energy Market Operator (AEMO) has planned to phase coal out at the end of life for existing plants, but accelerating this timeline to reach fully renewable generation at an earlier date would be beneficial for other transition items, such as electric vehicle use and electrification of industry, that rely upon renewable electricity to achieve emissions reduction potential. The noted barriers to energy transition are all more likely to be addressed in an orderly way if there is a strong target to work towards.

**Mandates for building energy efficiency.** Energy efficiency standards for new builds require good levels of efficiency (7 stars on NATHERS). The National Construction Code now also requires new build apartments to support electric vehicle charging. These are excellent steps; buildings are durable infrastructure that is not easily replaced, so it is important that new builds do not lock in further inefficiencies or challenges to technology adoption. However, there is a substantial existing building stock in Australia that continues to have very poor energy efficiency, and older apartment buildings may be unable to support electric vehicle charging in large numbers. Mandates for retrofit should be explored; those living in older and less efficient buildings will be at increasing disadvantage in terms of costs, comfort, and ability to adopt new vehicle technologies. There is a particular need to explore

minimum standards for rentals, because renters are unable to directly improve the buildings that they dwell in and must rely on property investors to provide comfortable living places that can be kept dry and free of mould, warm in winter, and cool in summer without unaffordable electricity bills. Given the split incentive issue in this sector, it is likely that financial incentives will be insufficient and that mandates will be needed (Wrigley and Crawford, 2019<sup>6</sup>). There are likewise opportunities to require that social housing meets minimum energy efficiency standards nationwide, particularly given that this housing is for vulnerable members of the population. Improvements in building stock can support wellbeing broadly, through a wide range of areas including improved health (such as warmer indoor environments and mould reduction (Howden-Chapman et al., 2007<sup>7</sup>)), improved comfort, and improved energy affordability (allowing households to allocate more spending to other essentials).

**Financial and accounting reporting standards are emerging as an important regulatory tools.** To date, these have been largely voluntary. However, the federal government, through its Sustainable Finance Strategy, and in particular moves to create a sustainable finance taxonomy and climate-related financial risk disclosure frameworks, is moving towards creating a more standardised and compliance-based approach. This is necessary to avoid risks of greenwashing and prevent market actors from picking and choosing between available standards. In order for these standards to be effective, they need to encompass a definition of climate risk that extends beyond “financially material” risks to markets (Bryant and Webber, 2024<sup>8</sup>). Instead, a strong and robust conception of “double materiality” is required, such as that which is being developed in equivalent EU schemes, is required. Double materiality not only accounts for the risks of climate change to investments, but also the risks of investments in driving climate change. Accounting for this is needed to ensure climate-based accounting and reporting standards are properly aligned with net zero goals. Such an approach would mean that investments in fossil fuels, such as gas, would be properly understood as not aligned with net-zero targets, and generating climate risk.

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<sup>6</sup> Wrigley, Koel, and Robert H. Crawford. (2017) “Identifying Policy Solutions for Improving the Energy Efficiency of Rental Properties.” *Energy Policy* 108: 369–78. <https://doi.org/10.1016/J.ENPOL.2017.06.009>.

<sup>7</sup> Howden-Chapman, Philippa, Anna Matheson, Julian Crane, Helen Viggers, Malcolm Cunningham, Tony Blakely, Chris Cunningham, et al. (2007) “Effect of Insulating Existing Houses on Health Inequality: Cluster Randomised Study in the Community.” *BMJ (Clinical Research Ed.)* 334, no. 7591: 460. <https://doi.org/10.1136/bmj.39070.573032.80>.

<sup>8</sup> Bryant, G and Webber, S (2024) *Climate Finance: Taking a Position on Climate Futures*. Newcastle: Agenda Publishing.

**Mandates for improved benefit sharing.** As we discuss in response to questions 10, 11, and 12 there is a need to improve benefit sharing and ensure that First Nations communities are genuinely negotiated with as decision-makers regarding developments and changes that occur on their lands. Rules for better benefit sharing and explicit mandates for engagement and negotiation could play a role in changing existing practices, which have generally been viewed as insufficient (as discussed in response to question 10). These rules could set guidelines to providing the resources necessary for genuine negotiation, including sufficient time and access to relevant expertise.

**Question 6. How can governments stimulate private finance needed for the net zero transition – are there innovative instruments that could be deployed or new business models that governments could support? Is there a bigger role for governments to play in coordinating the investment needed to transition the economy?**

1. It is important to look at the quality of climate finance flows, including conditionalities required to secure desired social, environmental, and economic outcomes,
2. Coordination is required when mobilizing private finance for a rapid and just transition,
3. The Clean Energy Finance Corporation (CEFC) and Net Zero Economic Authority can play key roles in scaling up finance and coordinating this to ensure pro-social and environmental conditionalities are scaled up alongside lending, and
4. It is important to recognize the limits of private finance.

Governments around the world are experimenting with new tools designed to stimulate and mobilise private finance towards net zero goals. Private finance is viewed as necessary to meeting financing ‘gaps’ between existing finance flows and what is required to meet climate targets. Recognising these financing gaps is important because their growing size points towards the scale of the climate financing challenge. However, **it is important to look not only at the quantity of climate finance flows, but also their quality** (Bryant and Webber, 2024<sup>9</sup>).

Tools aimed at stimulating private finance usually do so through a logic of ‘de-risking’, where governments encourage private investment by taking on risks for private finance, in order to bring forward investment or enable investment to secure finance on more favourable terms (Gabor, 2021<sup>10</sup>). Examples include tax concessions or government contracts to guarantee prices that underwrite revenues and profits for green infrastructure, and state investment banks or special purpose investment funds that take equity stakes or provide loans to green infrastructure projects. Australia has developed many such instruments, with primary or secondary climate mandates, such as the Capacity Investment Scheme (federal) or Long-Term Energy Service Agreements (NSW) for renewable energy, the CEFC, the National Reconstruction Fund and The Australian Infrastructure Financing Facility for the Pacific.

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<sup>9</sup> Bryant, G and Webber, S (2024) Climate Finance: Taking a Position on Climate Futures. Newcastle: Agenda Publishing

<sup>10</sup> Gabor, D (2021) The Wall St Consensus. Development and Change. 52(3). 429-459

Since the announcement of the Federal Government’s “Future Made in Australia” agenda, economic debate has focused on whether strategic government support of private finance and private industry will distort economic outcomes by ‘picking winners’ (Coorey et al., 2024<sup>11</sup>).

**A more productive framing is to deliberate on the economic, environmental and social outcomes that government support for private investment can secure, and what conditionalities are required to secure them.** This requires attention on the use of, and balance between, ‘carrots’ to incentivise private finance to invest and ‘sticks’ placing obligations on private finance to meet certain requirements regarding employment and training, regional development, local procurement, First Nations participation and environmental protection, in return for de-risking.

**Coordination is required to effectively translate tools for mobilizing private finance into a rapid, broad-based and equitable transition towards net zero.** This aim is difficult to achieve on a project-by-project basis through which many of these tools are implemented. What is required is a clear overarching “mission” (Mazzucato, 2021<sup>12</sup>) that can be embedded in the design of these tools and the organisations that administer them. There is also a need for democratic participation and accountability in the formulation of these missions and the weightings between price and risk considerations and broader social and environmental goals.

**The scaling up of existing institutions for mobilizing capital, such as the CEFC, should be scaled up alongside the expansion of pro-social and environmental conditionalities.** This would ensure that implicit and explicit government subsidies for private capital are not simply handouts and contribute to overall policy goals. The Net Zero Economic Authority is best placed to assume the overall coordinating role across the various instruments and projects to set and achieve these goals.

**There is also a need to recognise the limits of private finance and the need for public finance in the energy transition.** This would be consistent with the Helsinki Principles of Finance Ministered agreed to by Australia, which calls for “Tak[ing] climate change into

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<sup>11</sup> Coorey P, Kehoe J, Read M (2024) “PM’s Made in Australia green plan a ‘slippery slope’”. *Australian Financial Review* <https://www.afr.com/politics/federal/pm-s-made-in-australia-green-plan-a-slippery-slope-20240412-p5fja0>

<sup>12</sup> Mazzucato M (2021) “Mission Economy: A Moonshot Guide to Changing Capitalism.” Allen Lane

account in macroeconomic policy, fiscal planning, budgeting, public investment management, and procurement practices”. There are also cases for public ownership of critical climate infrastructure where governments have advantages in terms of coordination capacity, the cost of finance, and delivering across multiple policy goals. This is particularly the case in Australia’s international development and climate portfolio which, like other areas of climate finance, is increasingly provided as loans rather than grants. The risks of this shift include unsustainable debt burdens in our region, especially the Pacific (DFAT, 2023<sup>13</sup>), and consequential falls in social and development outcomes. Domestically, there is scope to build on initiatives, such as government-owned renewable energy companies announced by the Victorian and Queensland governments, to provide governments additional points of leverage to shape market outcomes in the climate and energy transition.

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<sup>13</sup> DFAT (2023) Development Finance Review: New Approaches for a Changing Landscape. Canberra: Australian Government.

**Question 8. What further actions can be taken by governments (e.g. through public funding), the private sector and households to accelerate emissions reductions, including in relation to the deployment of technologies and access to new opportunities in the transition to net zero? What barriers stand in the way and how could they be overcome?**

Policies to support deployment of low-emissions technologies in the private sector should consider equity and distributional impacts, i.e., should consider social as well as environmental needs.

Broadly, governments can support private sector action through policies that signal commitment to a net zero future through targets underpinned by regulatory requirements and financial support. This has been outlined elsewhere in the submission. However, there is a need to consider distributional impacts of policies when targeted at the household sector, particularly groups such as low-income households, renters, apartment dwellers, and other sociodemographic groups that may be less able to take up new technologies even with support of broad subsidies. In this section, we describe potential distributional impacts related to efforts to accelerate household emissions reductions, and briefly discuss options to mitigate these.

**Household electrification:** Net zero transition will require that households move away from gas infrastructure and increasingly rely on electricity (electrification), which means that strong protections should be implemented for electricity users, including hardship policies and limits on disconnection during extreme temperatures. Recent research has highlighted that consumer retail protections for electricity vary across Australia, with First Nations and remote communities more likely to be underserved by legal protections for electricity use including life support protections (White et al. 2024<sup>14</sup>). Degasification strategies should also ensure that the last households reliant on gas are not burdened with large infrastructure maintenance costs, particularly since the last households left on this network may be those with the least choice in their energy supply (such as renters or those with income constraints). This will likely require a combination of regulatory requirements and financial supports for households that would otherwise be unable to replace gas-reliant appliances.

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<sup>14</sup> White, Lee V., Bradley Riley, Sally Wilson, Francis Markham, Lily O'Neill, Michael Klerck, and Vanessa Napaltjari Davis (2024). "Geographies of Regulatory Disparity Underlying Australia's Energy Transition." *Nature Energy* 9, no.1: 92–105. <https://doi.org/10.1038/s41560-023-01422-5>.

**Rooftop solar:** Australia has strong uptake of rooftop solar, but some households face challenges in deploying technology to take part in energy transition. Only 4% of rentals have solar (Hammerle et al., 2023<sup>14</sup>), and renters wishing to install solar would face challenges doing so on a house that they do not own and which they may not occupy long-term; this places the onus on property investors (landlords). However, interest-free loan offers are unlikely to change solar investment decisions for most property investors, with concerns centered instead around perceptions that renters would be unwilling to pay more for a home with solar (Hammerle et al., 2023<sup>15</sup>). Apartment owners expect Strata to present a barrier to installing rooftop solar (Hammerle et al., 2023<sup>15</sup>). Both renters and apartment owners would benefit from regulatory guidelines to increase access to solar, such as by outlining timelines within which a Strata must progress a resident’s application to install solar. Subsidies targeted at groups less likely to adopt solar, such as low-income households, could also increase uptake. Regarding public housing, governments have an opportunity to install rooftop solar directly, with high potential for households to reduce electricity bills by consuming electricity during sunnier times of the day. Remote communities and First Nations communities are also less likely to have clarity in rooftop solar installation processes, particularly where customers are on prepay metering (White et al., 2024<sup>16</sup>). This severely limits the ability of households to take part in the energy transition by installing their own renewable energy.

**Electric vehicles (EVs):** EV purchases are rising in Australia, although market shares for new vehicles remain low compared to international leaders. Purchase prices substantially influence EV uptake; it is helpful that relatively cheaper EVs (in the under \$40,000 range) are reaching Australian markets, and subsidies could further increase the appeal of EVs to potential adopters (Philip et al., 2023<sup>17</sup>; Gong et al., 2020<sup>18</sup>). Renters may face additional challenges in planning for EV purchases. As with solar, renters wishing to purchase an EV

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<sup>15</sup> Hammerle, Mara, Lee V. White, and Bjorn Sturmberg. (2023) “Solar for Renters: Investigating Investor Perspectives of Barriers and Policies.” *Energy Policy* 174: 113417. <https://doi.org/10.1016/j.enpol.2023.113417>.

<sup>16</sup> White, Lee V., Bradley Riley, Sally Wilson, Francis Markham, Lily O’Neill, Michael Klerck, and Vanessa Napaltjari Davis. (2024) “Geographies of Regulatory Disparity Underlying Australia’s Energy Transition.” *Nature Energy* 9, no. 1: 92–105. <https://doi.org/10.1038/s41560-023-01422-5>.

<sup>17</sup> Philip, Thara, Jake Whitehead, and Carlo G. Prato (2023). “Adoption of Electric Vehicles in a Laggard, Car-Dependent Nation: Investigating the Potential Influence of V2G and Broader Energy Benefits on Adoption.” *Transportation Research Part A: Policy and Practice* 167: 103555. <https://doi.org/10.1016/j.tra.2022.11.015>.

<sup>18</sup> Gong, Shuangqing, Ali Ardeshiri, and Taha Hossein Rashidi. (2020) “Impact of Government Incentives on the Market Penetration of Electric Vehicles in Australia.” *Transportation Research Part D: Transport and Environment* 83: 102353. <https://doi.org/10.1016/j.trd.2020.102353>.



would face challenges installing charging infrastructure in a dwelling that they do not own and may not occupy long-term. This limits appeal of EV uptake for the third of Australians who rent, and could be addressed in the long term by a combination of regulatory provisions, financial supports to install home charging, and exploring options for suitably located public charging infrastructure. Workplace charging options could utilise daytime solar generation and should likewise be explored. Apartments can also present challenges to EV charging; while National Construction Code updates require new builds from 2023 to be capable of supporting EV charging, older apartments may still be unable to support multiple EVs charging. Responses should not focus solely on electric vehicles; emissions from private transport can also be substantially reduced with public transit investment and investments in safe cycle infrastructure to support active transport. There are ample international examples that Australia could draw on in both cases to target extensive infrastructure development in these areas.

**Demand side management:** Household electricity users can also play a role in demand side management, one of the many tools that can assist with integrating large shares of variable renewable generation into the grid. However, when using time-varying tariffs such as time of use (TOU) rates to encourage demand side management of electricity use, it is important to consider which groups will be more likely to face negative financial, comfort, or health impacts, and to provide households with alternative rate options if TOU would be detrimental to their wellbeing. Research has found that the elderly and those with disabilities face higher costs on TOU rates, and that ethnic minorities and those with disabilities face worse health outcomes when on TOU rates (White and Sintov, 2020<sup>19</sup>). The design of TOU rates is important to the outcome. Energy inefficient buildings may also interact with demand side management rates in ways that create inequitable distributions of cost. Overall, as the use of demand side management increases, there is an impetus for regulators to monitor energy poverty, hardship, and disconnections, as well as to create better tools for households to understand if they are on the best rates and to further ease the process of switching to the best rate. This is an essential pre-requisite to relying on household responses to manage demand as a grid stabilisation tool.

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<sup>19</sup> White, Lee V, and Nicole D Sintov. (2020) "Health and Financial Impacts of Demand-Side Response Measures Differ across Sociodemographic Groups." *Nature Energy* 5, no. 1: 50–60. <https://doi.org/10.1038/s41560-019-0507-y>.

## Question 9. How should governments decide upon the appropriate allocation of resources towards reducing emissions, removing carbon from the atmosphere, and adapting to climate change impacts?

In allocating resources, it is important to pursue scientifically supported emissions reduction targets while also investing in adaptation, both domestically and in our region.

Impacts of climate change are already being felt and thus already need adapting to, particularly regarding hardship arising from severe weather events such as floods and fire. Reducing emissions and phasing out fossil fuel extraction is the best way to prevent these severe weather events from worsening further, but those who are already being impacted need to have sufficient resources to adapt and recover. The Issues Paper also mentions the rise of climate anxiety among young people; actions on the part of governments and individuals to meaningfully reduce emissions are the best way to reduce climate anxiety (Hickman et al., 2021<sup>20</sup>).

Emissions removals are recognised as necessary by the IPCC, but it is important to first make all possible emissions reductions.

The IPCC's recognition of removals as necessary reflects that insufficient action towards reduction was taken in previous years and decades, making removals essential to remain within 1.5°C. However, removals should not be used as a replacement for reductions. There are ongoing challenges in identifying and substantiating truly removed emissions that have been durably stored, making removals a relatively more risky strategy for emissions mitigation when compared to reduction strategies. **Given the requirement for removals to meet 1.5°C pathways, there is a need for government planning at state and federal level to develop the regulatory architecture for governing and financing the nascent carbon removal industry.**

Carbon removal and storage must occur at time scales that align with ongoing government oversight and planning, with active community involvement in infrastructure development. Regulations must also distinguish between the removal and storage of accumulated carbon

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<sup>20</sup> Hickman, Caroline, Elizabeth Marks, Panu Pihkala, Susan Clayton, R. Eric Lewandowski, Elouise E. Mayall, Britt Wray, Catriona Mellor, and Lise van Susteren. "Climate Anxiety in Children and Young People and Their Beliefs about Government Responses to Climate Change: A Global Survey." *The Lancet Planetary Health* 5, no. 12 (December 1, 2021): e863–73. [https://doi.org/10.1016/S2542-5196\(21\)00278-3](https://doi.org/10.1016/S2542-5196(21)00278-3).

from the atmosphere and carbon capture and storage from the point of emissions. The latter risks locking in fossil fuel infrastructure and does not contribute to the achievement of negative net emissions required for 1.5°C scenarios. Public money and levies on emitters to pay for the costs of carbon removals are preferable to offset markets that are also, at best, carbon neutral, rather than carbon negative.

## **Question 10. How can governments, businesses and people, including First Nations people, help ensure the benefits and burdens of the net zero transition are equitably shared?**

**To ensure social license, better community consultation is needed.**

This should encompass considerations of sharing benefits and burdens of net zero transition equitably, and global best practice should be adopted for community engagement. The CCA Issues Paper rightly recognises that people’s ‘circumstances, income, place of residence, ethnicity, nationality, age, culture, disability and gender’ (p31) all shape how they experience the impacts of climate change and economic transition. Following this, CCA aspires to ‘ameliorate the challenges faced by Australia’s most vulnerable people while also improving their access to the opportunities of the transition’ (p31). It is also widely recognised in the energy sector, across different levels of government, as well as in civil society organisations, that community engagement and the sharing of benefits with communities is crucial to delivering the energy transition.

**Australia’s approaches to date are not on track to achieve desired outcomes in benefit sharing.**

Unfortunately, there is a wealth of evidence to suggest that the governments in Australia are missing opportunities to facilitate an equitable distribution of the energy transition’s benefits and burdens. A recent white paper claims: ‘there are early signs in the energy transition that current approaches to implementation, particularly the ways of working with affected communities, will not deliver the desired outcomes’ (McKenzie et al., 2023<sup>21</sup>). At the same time, there are growing conflicts over the energy transition, most recently exemplified in community opposition to wind farm zones across the country from NSW to Victoria, Tasmania and Western Australia (see for example McArthur, 2024<sup>22</sup>).

Current approaches to community engagement in energy transitions include compensating individual landowners with direct payments, superficial community consultation practices and establishing generic community grants programs in order to obtain ‘social licence’. These

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<sup>21</sup> McKenzie, F., Mudford, A., Millar, E. and Rogers, S., 2023. Opportunities cost – how Australia is inadvertently squandering its long-term benefits from the energy transition. White Paper, August 2023. Orange Compass, Sydney

<sup>22</sup> McArthur, B. (2024) “Tensions grow over proposed offshore wind farm along Western Australia’s South West coast” ABC Online, 25 March 2024. Available at: <https://www.abc.net.au/news/2024-03-25/south-west-wind-farm-tensions-growing/103609992> (accessed 2 May 2024)

programs are typically characterised by a lack of transparency, tend not to be grounded in the particular needs and interests of the impacted community, often have not engaged with a genuinely representative of the impacted community, and can create divisions between different stakeholders.

These current approaches to achieving net zero via mitigation disproportionately benefit private landholders in Australia with the biggest landholders in a position to reap the largest gains. Engagement in carbon offsetting furthermore disproportionately benefits landholders who have depleted above and below ground carbon stocks through intensive land clearing and agricultural practices. This has, in some places, generated division between communities due to the uneven distribution of benefits between landholders and between landholders and other community stakeholders (Baumber et al., 2021<sup>23</sup>). First Nations, beyond abatement via savanna burning across the top end, are yet to significantly benefit from engagement in mitigation.

**Global best practice of community engagement and development suggests reorganising benefit sharing frameworks in several crucial ways (Berglund and Bulter, 2023<sup>24</sup>, OECD, 2019<sup>25</sup>, Rosen, 2023<sup>26</sup>):**

1. It is important that communities and their representative organisations are provided with adequate information and supported with the necessary tools and skill-development to enable their active participation in negotiations.
2. One-dimensional community consultation should be replaced with iterative dialogue between impacted communities and their representative organisations, various levels of government and project developers. Existing processes are often experienced as the one-way delivery of information and risk management from project proponents to communities, rather than a genuine opportunity to shape the distribution of a project's impacts.

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<sup>23</sup> Baumber, A., Cross, R., Waters, C., Metternicht, G. and Kam, H. (2021). "Understanding the social licence of carbon farming in the Australian rangelands." *Sustainability*, 14(1), p.174.

<sup>24</sup> Berglund, L. and Butler, S. (2023) "Community benefits agreements and growth coalitions: leveraging the growth machine thesis for alternative organizing strategies". *Urban Geography*, 44:6, 1250-1258, DOI: 10.1080/02723638.2023.2219585

<sup>25</sup> OECD (2019), *Regions in Industrial Transition: Policies for People and Places*, OECD Publishing, Paris, <https://doi.org/10.1787/c76ec2a1-en>.

<sup>26</sup> Rosen, J. (2023). *Community Benefits: Developers, Negotiations, and Accountability* (1st ed.). University of Pennsylvania Press, Inc.

3. The kind of genuine engagement which can generate an equitable sharing of benefits and burdens of the transition requires time and must be initiated earlier than is common practice today.
4. Benefit sharing schemes should be developed in place so that they are focused on the local context and the specific priorities of impacted communities.
5. Finally, benefit sharing practices should be led by impacted communities. Existing practices tend to identify limited formal community organisation partners which may not be sufficiently representative of an impacted community. This undermines participation and can alienate those left outside, undermining trust, acceptance and support for energy projects (see also response to question 12).

An example of how the above could be actualised in the case of land-based mitigation and adaptation is through the generation of cross-property landscape-scale cooperatives. These cooperatives would have a focus on improving the health of socio-ecological systems and would integrate landholders, First Nations and government, as well as other stakeholders, in the remediation and restoration of local places for multiple and shared benefit. Cross-property collaborations offer novel solutions for dealing with complex, multi-scalar issues and fortifying long-term landscape-scale conservation and increased viability of production systems (Ampt et al., 2017<sup>27</sup>), especially through agroecological and Indigenous land management and farming practices. This type of coordinated action has the potential to manifest a range of innovative, capital building ventures that are locally based and equitably distributed. If negotiated and designed by local communities with First Nations perspectives and priorities at the core, they have the ability to combat carbon myopia and contribute to holistic reinvigoration of vibrant and resilient socio-ecological systems.

### **Social licence will be important for expanded extraction of critical minerals**

Critical minerals are set to boom on the back of rising demand for renewable energy and EVs. Research from the University of Sydney shows that across all levels, governments in Australia have dedicated over \$6.6 billion to critical mineral projects, including onshore processing, without commensurate commitments to improving environmental or social outcomes or First Nation's rights (Sinclair and Coe, 2024<sup>28</sup>). Creating domestic linkages and on-shore processing in minerals and research and development in renewable technologies

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<sup>27</sup> Ampt, P., Baumber, A.P., Berry, E., Cox, T., Cross, R., Metternicht, G. and Pfeiffer, H. (2017). "Landscape scale conservation: incentives for cross-property action." In *Restore, Regenerate, Revegetate Conference*. University of New England.

<sup>28</sup> Sinclair, L., Coe, N. (2024) "Critical Mineral Strategies in Australia: Industrial Upgrading without Environmental or Social Upgrading". *Resources Policy* 91 (April): 104860. <https://doi.org/10.1016/j.resourpol.2024.104860>.

should be encouraged to create more secure 'global production networks' renewable energy and EVs. Yet the industry faces immanent shortages of skilled workers.

To ensure future workers and communities welcome developments, more needs to be done to secure the critical mineral industry's 'social licence', therefore we recommend (Sinclair and Coe, 2024<sup>24</sup>):

1. Integrate independent research on the drivers, constraints and opportunities for regional development within renewable energy and EV global production networks.
2. Develop and implement best practice environmental planning tools, including cumulative impact assessment, bioregional planning and lifecycle assessments and free prior informed consent.
3. Establish a roundtable with industry, government and universities to discuss skills and training needs for the future of the resources industry.

## **Question 11. How can governments better ensure First Nations people are empowered to play a leading role in the development and implementation of climate change policies and actions, including as they relate to the ongoing curation of the Indigenous estate?**

It is important to **engage directly with First Nations people** on this question, and for that engagement to reflect the best practice regarding active participation, iterative dialogue, ample time investment, local context, and community leadership (see response to question 10). Engagement should emphasize free, prior, and informed consent (FPIC), which requires sufficient time for conversation and sufficient access to expertise for genuinely informed participation.

Priority should be given to guides produced by First Nations organisations pursuing community engagement and benefits in net zero transition with the goal of empowering First Nations people. For example, the First Nations Clean Energy Network (FNCEN) has been strongly engaging in this space and developed a guide on Best Practice Principles for Clean Energy Projects, which can be found on their website:

[https://www.firstnationscleanenergy.org.au/network\\_guides](https://www.firstnationscleanenergy.org.au/network_guides)

It is also important to understand that climate change actions and policies are intimately linked with First Nations rights and obligations to Care for Country. Therefore, Indigenous governance of the environment and natural resources is essential to addressing questions of empowerment and enabling the enactment of First Nations decision-making. First Nations governance should occur at multiple scales and across relevant sectors including agriculture (Gilbert et al., 2023<sup>29</sup>), with actions prioritised at the local scale where First Nations communities already understand the opportunities for and barriers to improving Caring for Country. Working with First Nations communities to determine priorities for First Nations environmental and agricultural practices and management will be essential. For example, the revitalisation of native grains across Gamilaraay Country in NSW (Birch et al., 2023<sup>30</sup>) and in other places around Australia, as well as other forms of Indigenous agriculture based

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<sup>29</sup> Gilbert, J et al. (2023) "A call for a national First Nations agricultural representation body in Australia." *Farm Policy Journal*, Australian Farm Institute.

<sup>30</sup> Birch, J., Benkendorff, K., Liu, L. and Luke, H. (2023) "The nutritional composition of Australian native grains used by First Nations people and their re-emergence for human health and sustainable food systems". *Frontiers in sustainable food systems*, 7.



on native foods, conventional foods and Indigenous land management practices, offers a clear path for First Nations-led climate mitigation and adaptation. Facilitating this requires Indigenous-led research and development funding (Latulippe and Klenk, 2020<sup>31</sup>) and **fast-tracking the return of land, plus decision-making about land use, to First Nations communities.**

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<sup>31</sup> Latulippe, N. and Klenk, N (2020) "Making room and moving over: knowledge co-production, Indigenous knowledge sovereignty and the politics of global environmental change decision-making". *Current opinion in environmental sustainability*, 42, pp.7-14.

## **Question 12. How can Australian governments support the wellbeing of workers, communities and regions as the nation decarbonises, including in relation to cost of living, workforce and industry transition and access to low emissions technologies and services?**

The wellbeing of workers, communities and regions will be best supported by genuinely representative communities advocating for their own priorities and interests regarding social and economic development through the energy transition. Importantly, a grounded and representative approach to creating wellbeing through transition is also likely to build the crucial public support for decarbonisation.

**It is important to engage with pre-existing and organised communities across diverse constituencies with the capacity to negotiate and shape the process of change generated energy transition.**

Many communities affected by decarbonisation and renewables experience transition as being done ‘to them’ not with them. Creating the capacity for communities to negotiate and shape the process of change requires communities having the resources and internal organisation that allows them to project their own needs and interests through the process of change. The breadth and diversity of the pre-existing organised community is critical, and unevenly organised communities can even harm justice outcomes.

For example, the Real Deal for Australia project works with four place-based communities (Hunter, Gladstone, Geelong, Western Sydney) to develop practices and approaches to community-led transition. The form by which communities are organised is critical (for example, broad based constituencies, not narrow or highly ideologically driven constituencies). Enabling this kind of pre-existing social capital requires skills, resourcing and funding separate to specific projects (e.g., *A Real Deal for Geelong: Community Listening Report for Climate Transition*, which can be found here:

<https://www.arealdeal.org/geelong>).

**Community engagement requires a focus on process and not just policy.**

Climate change will require an ongoing process of change, and engagement processes need the capacity to involve communities in ongoing conversations about their needs, hopes and welfare. Setting up processes that are too short-term or too opportunistically focused on

specific reforms risks building engagement processes that are not fit for purpose and could over time lead to community distrust. Long term community engagement processes require a substantial injection of resources into the independent capacity building and organisation of community. The purpose of these resources is to resource civic organisations, membership-based groups and networks to build relationships across diversity and come together to negotiate difference.

Without broad-based community coalitions and organisations, community engagement risks being a megaphone for minority and fractional interests, which have the potential to put at risk an agenda for climate. At the same time, building community capacity requires public policy processes that are prepared to negotiate with organised communities and not “community wash” climate solutions.

### **Building policy based on *power with not power for communities is required.***

Fundamentally, community engagement and effective transition policy development requires a shift in approach in government policy design away from building policy for communities and instead to build policy with communities. Efforts such as the Long-Term Insights briefings conducted by Prime Minister in Cabinet go some way to create this evidence base, but even more important is the involvement of diverse community leaders in the identification of challenges and issues that need to be addressed in communities – rather than government deciding on the challenges and questions alone. There is compelling evidence globally to support the adoption of community-led approaches to development and change, especially where power imbalances are significant (see for example, Attygalle, 2020<sup>32</sup>; Klain et al., 2017<sup>33</sup>).

### **Climate transition is just one element of broader community growth and development.**

Pre-existing inequalities and a sense of powerlessness are just as much climate transition questions as needs for infrastructure for new energy systems. This means that consultation processes that focus on the detail of the infrastructure (e.g. where is that wind turbine going) and not on the needs of the community more generally are likely to not mitigate or manage

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<sup>32</sup> Attygalle, L. (2020) “Understanding community-led approaches to community change”. Tamarack Institute.

<sup>33</sup> Klain, S. C., Satterfield, T., MacDonald, S., Battista, N. & Chan, K. M. A. (2017) “Will communities “open-up” to offshore wind? Lessons learned from New England islands in the United States”. Energy Research & Social Science, 34, 13-26, <http://dx.doi.org/10.1016/j.erss.2017.05.009>

community concerns, and also miss opportunities to build projects that can harness win-win opportunities for community growth through transition.

For instance, the Real Deal project in Gladstone identified that a widely felt priority was that the maternity ward in the hospital had closed, a bitter irony that you literally could not give birth in the city giving birth to the climate transition (Ganley et al., 2024<sup>34</sup>). The connection between social need and transition was fundamental to trust building. Community leaders expressed frustration: how could they trust the promises offered by climate transition if these basic needs were not being addressed? Keeping engagement agendas open to hear the issues and needs that communities want to see addressed in transition planning allows climate transition to be an answer to the justice issues in the community rather than being circumscribed to the technical infrastructure needed for transition.

**To meet these goals, expanded training and commitment to “power with” communities is needed.**

Tools such as a Community Future Fund could be created to enable the independent organisation of communities into place-based and constituency networks. Communities could use such funds to apply for resources such as dedicated organising support and training. Community involvement requires pre-existing community networks that involve broad-based constituencies and avoid partial community interests. Broad-based coalitions are more likely to negotiate solutions, while narrowly organised constituencies are more likely to “say no” (Tattersall, 2010<sup>35</sup>).

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<sup>34</sup> Ganley, Elise; McCosker, Jacklyn; Wright, Jade; Dufty, Amanda, Tattersall Kate; Bennett, Juliet, Tony, Amy; Moore, Katie (2023) “A Real Deal for Gladstone: Community Listening Report to Shape economic and social transformation.” Brisbane: Queensland Community Alliance & Sydney Policy Lab. Available here: <https://www.arealdeal.org/about-1>.

<sup>35</sup> Tattersall, A. (2010) “Power in Coalition”. Ithaca: Cornell University Press.

### Question 13. How can governments help Australians prepare for and respond to the impacts of climate change?

The issues paper did not consider in detail the preparation for climate change impacts, beyond the economic detriments of climate change. Beyond this, **climate change presents a significant challenge to individuals, communities, governments, businesses, and the environment alike**. Current climate forecasts suggest that the intensity and frequency of extreme weather events in Australia is likely to increase, posing a threat to health and well-being, the economy, critical infrastructure, and settlement patterns of Australian communities now and into the future.

The recent 2019/2020 Black Summer Fires and 2022/2023 Floods demonstrated the scale of climatic impacts and challenges that confronted communities during the catastrophes and their aftermath. During the early 2022 floods, communities in the Northern Rivers of NSW complained of a lack of understanding and coordination (NSW Government, 2022<sup>36</sup>). The severity of the 2022 flooding in NSW and Queensland was so unprecedented that response agencies were stretched beyond capacity. Communities were left to manage their own situations and felt a sense of being forgotten, let down, and overlooked (Taylor et al., 2023<sup>37</sup>). Concerns have also been raised about inappropriate or ineffective engagement of some of the agencies and organisations with Aboriginal communities in the wake of the 2022/2023 Floods (Audit Office of New South Wales, 2024<sup>38</sup>). Three years after the Black Summer, those affected still reported adverse mental health impacts at a high or very high level (Gallagher et al., 2023<sup>39</sup>).

The Australian Government needs to support various efforts across levels of government, business and communities to better respond and prepare for the impacts of climate change. First, a paradigm shift is needed: governments should work in anticipatory rather than a reactive mode, and progress proactive climate adaptation planning at multiple scales.

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<sup>36</sup> NSW Government. (2022) "2022 Flood Inquiry Volume One: Summary report". <https://www.nsw.gov.au/nsw-government/engage-us/floodinquiry>

<sup>37</sup> Taylor, M., F., M., Johnston, K., Lane, A., Ryan, B., King, R., Narwal, H., Miller, M., Dabas, D., & Simon, H. (2023). "Community experiences of the January-July 2022 floods in New South Wales and Queensland – final report: policy-related research findings". [https://www.naturalhazards.com.au/sites/default/files/2023-05/Community%20experiences%20Jan%20July%202022%20floods%20NSW%20QLD\\_final%20report.pdf](https://www.naturalhazards.com.au/sites/default/files/2023-05/Community%20experiences%20Jan%20July%202022%20floods%20NSW%20QLD_final%20report.pdf)

<sup>38</sup> Audit Office of New South Wales. (2024). "Performance Audit: Flood Housing Response". <https://www.audit.nsw.gov.au/our-work/reports/flood-housing-response>

<sup>39</sup> Gallagher, C., Brady, K., Gibbs, L., & Molyneaux, R. (2023). "Community Recovery Study: Recovery from the 2019-2020 Bushfires". [https://mispgh.unimelb.edu.au/\\_data/assets/pdf\\_file/0010/4710448/CORE\\_spread-1.pdf](https://mispgh.unimelb.edu.au/_data/assets/pdf_file/0010/4710448/CORE_spread-1.pdf)

Second, government should place justice and equity at the heart of its responses. Efforts to respond should minimise social, racial, gender and spatial inequalities, and require the prioritisation of vulnerable groups who are at greater risks of climatic impacts.

Third, governments should celebrate, harness, and empower community-led initiatives, and ensure that horizontal (community – civil society – local state authorities) and vertical linkages (community – government - industry) and responses are well coordinated and integrated.

Fourth, governments should prioritise relationship-building with communities through engaging with them in a culturally responsive manner. By connecting meaningfully with local residents, Indigenous communities, and civil society prior to a disaster, governments can build relationships, establish trust, and not alienate a particular group (see also question 12).

Fifth, governments should improve (a) the quality of information and (b) the flow of information to empower residents to make informed decisions during extreme weather events. More accurate and accessible information for threat identification, warning, and monitoring are needed, alongside participatory information-sharing platforms that recognise local knowledge. Finally, governments should invest in capacity building to enhance the skills and preparedness of responders, decision makers, and local residents. These actions will help enhance safety and well-being, promote justice and equity, and make Australian communities and environment more resilient in the face of a changing climate.



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