

National Adaptation Plan

Adapting to Climate Change Through CER

Chris Lehmann & Georgia Holmes
11 April 2024



Master Electricians Australia (MEA) is the trade association representing electrical contractors recognised by industry, government and the community as the electrical industry's leading business partner, knowledge source and advocate. You can visit our website at www.masterelectricians.com.au

MEA applauds Government's intention to adopt a National Adaptation Plan in response to climate change. As the collective voice of our licenced electrical members, MEA strongly advocates for policies that facilitate the implementation of Consumer Energy Resources (CER). The Electrical Industry is poised and eager to assist in the installation and maintenance of this adaptive and resilient solution to climate change and reducing household energy costs.

CER offers sustainable economic and environmental benefits. We understand that this consultation does not specifically address policies like CER, however, we have submitted our response to prompt the Government to ensure its plan incorporates CER into its visions, objectives, and principles. Therefore, our responses to the consultation's questions are tailored to reflect CER's ability to significantly contribute to mainstream adaptation towards climate change.

For further information on our position regarding CER, please use the following link: <https://masterelectricians.com.au/wp-content/uploads/DER-Policy-Working-Paper.pdf>

Foundations for National Adaptation Plan

Q1. What do you think a well-adapted and resilient Australia looks like?

MEA advocates that all households can, and should, proactively protect against climate change and prepare for events which disrupt successful National Energy Market (NEM) grid connection. CER is a readily available solution capable of enhancing Australia's resilience to climate events. These privately owned assets allow households to independently generate and store clean energy reducing reliance on the grid. In the event of a climate disaster impeding grid energy supply to households and businesses, consumers can seamlessly tap into solar energy generation and utilise stored surplus energy.

Examples of CER include:

- Rooftop solar photovoltaic units (Solar PV)
- Battery Energy Storage Systems (BESS)
- Electric vehicle (EV) batteries

With 3.69 million solar PV systems already installed in Australia¹, combined with State and Federal electrification targets and policies, CER is rapidly becoming a mainstream adaptation option. MEA envisions a future where all households and businesses have CER assets installed to aid in reducing carbon emissions.

Q2. Does the draft vision capture this? Why, why not?

"Australia's economy, society, and natural and built environments are being managed and invested in, to reduce climate impacts and harness any opportunities now and into the future – by all levels of government, business and community."²

¹ "Australian PV market since April 2001" *Australian PV Institute* <<https://pv-map.apvi.org.au/analyses#:~:text=As%20of%2031%20Dec%202023,capacity%20of%20over%2034.2%20gigawatts.>>

² Department of Climate Change, Energy, the Environment and Water (DCCEEW) "National Adaptation Plan – Issues Paper" *Australian Government*, at 10.

Yes. Climate reduction demands a collaborative effort between Government, industry and consumers. Immediate investments into climate change mitigation are crucial for securing an environmentally and financially sustainable future for Australia.

Not only does CER reduce carbon emissions, but it also reduces consumers costs through its capability to store excess solar energy. When utilised in response to time-of-use (ToU) tariff price signals, consumers' energy costs decrease thereby increasing household disposable income, and enhancing the macro-economy. Additionally, as an emerging industry, electrotechnology offers sustainable employment opportunities with promising income levels, further contributing to economic growth.

Q3. Do you agree with the key objectives of the plan? What other suggestions do you have?

Key Objectives:

- *mainstream adaptation action*
- *Drive a substantial uplift in private sector investment*
- *Establish support for people and communities in disproportionately vulnerable situations.*

Yes. As highlighted earlier, solar PV, with its inherent adaptive qualities in response to climate change, is rapidly gaining mainstream adoption. This objective is already being championed by both State and Federal Governments, industries, and consumers as we transition into an era of electrification.

Throughout numerous consultations, MEA has consistently advocated for State and Federal Governments to offer CER rebates to alleviate capital cost pressures. This approach not only incentivises greater private uptake but also ensures equitable access, particularly for vulnerable households such as low-income families, tenants, and residents of apartment complexes. We have further advocated for Government to support banks in the establishment of low-interest loan schemes, which have demonstrated success in pilot programs by boosting consumer demand for CER.³ Consequently, this will drive the need for an expanded electrical workforce to handle the installation and maintenance of these resources. We anticipate that rebates and loans will foster greater and more equitable private investment in CER, facilitating proactive adaptation to climate change.

Q4. The plan will respond to the priority nationally significant risks identified in the National Climate Risk Assessment. Within those, what areas should be the Commonwealth's priority for this National Adaptation Plan and why?

MEA have identified the following four risks from the list provided at page 13 to be the leading priorities:

1. Regional and remote communities

These areas are most vulnerable to unreliable grid energy supply, a situation expected to worsen with escalating physical climate risks and population growth. CER is a readily available and easily adaptable solution to mitigate these foreseeable consequences.

2. Infrastructure and Built Environment

As reliable energy supply becomes increasingly susceptible to climate change threats and population growth it becomes crucial to relieve demand pressures during periods of

³ Tony Boyd "CBA wants to corner the \$2trn market for household electrification" (17 March 2024) FINANCIAL REVIEW < [CBA wants to corner the \\$2trn market for household electrification \(afr.com\)](#) > as cited in Chris Lehmann & Georgia Holmes *Victorian Energy Jobs Plan* (looseleaf ed, Master Electricians Australia).

undersupply. CER enables independent sourcing of energy, which can be utilised during grid outages or when the supply is incapable of meeting demand.

3. Cross-system – Economy, Trade and Finance

CER facilitates uninterrupted business operations during climate-related outages. In events like storms and bushfires, businesses are vulnerable to energy disruptions that can interrupt daily operations. However, with CER, businesses can maintain critical functions such as internet connectivity and lighting by relying on independently sourced solar energy. This continuity in business operations helps mitigate the economic damage caused by climate disasters.

Q5. What is working well in adaptation policy governance at the national level? Are there more opportunities for collaboration, or institutional changes that will help build a more adapted Australia?

a. Government Subsidies.

Throughout numerous consultations, MEA has consistently advocated for Federal and State Governments to offer \$5 000 rebates for the installation of solar PV and BESS systems. A list of our submissions that have been authorised for publication can be accessed at the following link: <https://www.masterelectricians.com.au/advocacy>. MEA advocate for Federal Government to partner with State and Territory Governments in financially supporting this initiative.

Some of the State Government subsidies currently available include:

- VIC – Solar for Apartments: Successful applicants will receive rebates of up to \$2 800 per apartment, or up to \$140 000 per building for up to 50 apartments to install solar panels on their rooftop.⁴
- QLD – Battery Booster Rebate for Householders: A \$3 000 rebate is available to eligible applicants with a combined annual household taxable income of \$180 000 or less, and a higher \$4 000 rebate is available for low-income households with an annual income of less than \$66 667.⁵
- NT – Home and Business Battery Scheme: “Eligible homeowners and businesses can access a grant of \$400 per kilowatt hour of useable battery system capacity, up to a maximum grant of \$5000.”⁶

We urge the Federal Government to enact financial policies that promote the widespread adoption of CER assets. This would form part of the \$28 million the Federal Government has committed to this project over the coming two years. The proposed rebate policy supports Government’s recognition that “the scale of projected climate change impacts across Australia means that significant resources will be required to adapt and build resilience. This cannot be achieved solely through public funding and highlights the need for government initiatives that incentivise individuals and the private sector to invest.”⁷

b. Electrify Everything Loans Scheme

MEA backs the stance of Dr. Saul Griffith, a prominent figure in clean energy policy, which is also endorsed by Saul Eslake, a distinguished economist, advocating for Government to “back

⁴ “Solar for Apartments” (19 March 2024) Solar Victoria <[Solar for Apartments | solar.vic.gov.au](https://www.solar.vic.gov.au)>

⁵ “Battery Booster rebate for householders” (4 March 2024) Queensland Government <[Battery Booster rebate for householders | Homes and housing | Queensland Government \(www.qld.gov.au\)](https://www.qld.gov.au)>

⁶ “Home and Business Battery Scheme” NT Government <[Home and Business Battery Scheme | NT.GOV.AU](https://www.nt.gov.au)>

⁷ “National Adaptation Plan – Issues Paper” Department of Climate Change, Energy, the Environment and Water, FED (March 2024).

a HECS-style loan scheme that would slash bills by up to \$5000 a year”⁸ This financial assistance will incentivise and assist households to install CER, aiding in the momentum towards electrification.

It is estimated that –

“an “all-you-can eat” version of the scheme would need to provide households with about \$94,000, with a third of that capital funded by households. Over the lifetime of those appliances, the savings would amount to \$112,000, with a cost to the budget of \$3462 per household. The biggest component of that would be electric cars....”⁹

c. Bank Electrification Loans

Government should incentivise and assist banks in providing consumers with low interest loan schemes to alleviate initial capital cost pressures of CER. Behavioural science has shown that financial institutions’ have successful and powerful influence in directing consumer decisions, as demonstrated by successful examples such as making houses “bush fire prone”¹⁰ in relevant areas. “Hiscox says rational economic analysis shows the installation of solar panels and batteries is cash-flow-positive when using borrowing funds, either through a home loan or discounted green loan”¹¹.

If Government and Banks collaborated to finance electrification, “\$2 trillion could be spent electrifying residential houses between now and 2050. If that happens ... there will be \$1.7 trillion in fossil fuel savings.”¹² This recent article in the Financial Review outlines finance products already being considered by major financial institutions to facilitate this.¹³

MEA believes the introduction of low-cost loans will significantly increase the demand for an electrical workforce to install and maintain these resources, effectively complementing existing and future State and Federal CER subsidies and rebates.

Q6. How should adaptation success be measured?

Tracking the relationship between rising CER installations and declining carbon emissions.

Q7. What time horizon should the National Adaptation Plan cover?

MEA responded to the ACT’s Integrated Energy Plan which proposed a three phased approach over the next decade.¹⁴ We encourage a similar approach which allows for an affordable, equitable and well-planned transition, facilitating a seamless transition towards electrification.

Q8. Do you support the draft principles for prioritising and sequencing adaptation actions over time? Why or why not? Are there any gaps?

Yes. However, we emphasise the urgency in implementing and prioritising CER policies to provide sustainable solutions towards carbon reduction.

⁸ Jacob Greber “Could ‘HECS-for-slar’ slash power bills and save climate goal?” *Financial Review* (16 March 2024) < [Saul Griffiths: How HECS-style loans rescue Australia’s climate goals and save you \\$5000 a year in power bills \(afr.com\)](#) >

⁹ *Ibid.*

¹⁰ Boyd, (n 3).

¹¹ *Ibid.*

¹² *Ibid.*

¹³ *Ibid.*

¹⁴ Georgia Holmes *ACT Integrated Energy Plan* (looseleaf, ed. Master Electricians Australia) and “DEVELOPING ACT’S INTEGRATED ENERGY PLAN Canberra is electrifying: Towards a net zero emissions city” *ACT Government* (August 2023).

Systems Sections

While all systems will indirectly benefit from CER, our response in this section pertains specifically to systems that will directly benefit from it. Please refer to questions 14-18 for our response regarding 'First Nations' values and knowledge systems'.

Q9. What other existing policies are supporting adaptation for this system?

Below is a list of just some MEA submissions in response to Government consultations aimed at identifying initiatives and policies that can support various systems through CER. These submissions have covered benefits toward 'Economy, trade, and financial systems', 'Infrastructure and Built Environment', 'Regional and Rural Communities', and 'Natural Environment' systems.

- ACT – Disaster Resilience Strategy Survey¹⁵
- FED – Inquiry into the Transition to Electric Vehicles¹⁶
- TAS – Inquiry into Energy Matters in Tasmania¹⁷
- FED – 2024-25 Federal Pre-Budget Submissions¹⁸
- QLD – Clean Economy Jobs Bill¹⁹
- ACT – Inquiry into Climate Change and a Just Transition²⁰
- NSW – Regional Development Act 2004 Review²¹
- TAS – Emissions Reduction and Resilience Plan – Transport Consultation Draft²²
- SA – South Australia's 20-Year State Infrastructure Strategy²³
- FED – Trajectory for Low Energy Buildings²⁴
- NSW – Climate Change (Net Zero Future) Bill 2023²⁵
- FED – Senate Economics Committee – Inquiry into Residential Electrification²⁶

We note our involvement and support for the *Trajectory for Low Energy Buildings National Construction Code 2025 & 2028*. MEA did not comment on building materials or construction methods, but provided our views on the benefits of CER and how integration into our built environment is critical for increasing the trajectory towards low energy buildings.²⁷

Q10. Who should be undertaking action to strengthen adaptation action in this system?

In all systems, there is a shared responsibility between Governments (State and Federal), industry, businesses, and households. Government holds a crucial role in leading the change.

¹⁵ "Disaster Resilience Strategy Survey" Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Survey-Response.pdf>>

¹⁶ Chris Lehmann & Georgia Holmes *Inquiry into Climate Change and a Just Transition* (looseleaf, ed. Master Electricians Australia) < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-Inquiry-into-the-Transition-to-EVs-March-2024.pdf>>

¹⁷ Chris Lehmann & Georgia Holmes *Inquiry into Energy Matters in Tasmania* (01 February 2024) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-Inquiry-into-Energy-Matters-in-Tasmania-February-2024.pdf>>

¹⁸ Chris Lehmann & Georgia Holmes *2024-25 Federal Pre-Budget Submissions* (03 January 2024) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-2024-25-Federal-Pre-Budget-January-2024.pdf>>

¹⁹ Chris Lehmann & Georgia Holmes *Clean Economy Jobs Bill 2024* (looseleaf, ed. Master Electricians Australia) < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-Clean-Economy-Jobs-Bill-2024-March-2024.pdf>>

²⁰ Chris Lehmann & Georgia Holmes *Inquiry into Climate Change and a Just Transition* Master Electricians Australia (18 February 2024) Master Electricians Australia < https://masterelectricians.com.au/wp-content/uploads/MEASUB_1-1.pdf>

²¹ Chris Lehmann & Georgia Holmes *Regional Development Act 2004 Review* (January 2024) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-Regional-Development-Act-2004-Review-January-2024.pdf>>

²² Chris Lehmann & Georgia Holmes *Emissions Reduction and Resilience Plan – Transport Consultation Draft* (28 December 2024) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-Emissions-Reduction-and-Resilience-Plan-Transport-November-2023.pdf>>

²³ Chris Lehmann & Georgia Holmes *South Australia's 20-Year State Infrastructure Strategy* (24 October 2023) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-SA-Infrastructure-20-Year-Plan-October-2023.pdf>>

²⁴ Chris Lehmann & Georgia Holmes *Trajectory for Low Energy Buildings National Construction Code 2025 & 2028* (17 October 2023) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-Low-Energy-Buildings-October-2023.pdf>>

²⁵ Chris Lehmann & Georgia Holmes *Climate Change (Net Zero Future) Bill 2023* (20 October 2023) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEA-Submission-NSW-Climate-Change-Net-Zero-Future-Bill-2023-October-2023.pdf>>

²⁶ Chris Lehmann & Georgia Holmes *Senate Economics Committee – Inquiry into Residential Electrification* (19 September 2023) Master Electricians Australia < <https://masterelectricians.com.au/wp-content/uploads/MEASenateInquirySubmission-2023.pdf>>

²⁷ (n25).

Q11. What are the barriers to strengthening adaptation? How could the National Adaptation Plan help with these?

Throughout MEA's submissions, we have consistently advocated that insufficient financial aid and outdated government policy pose barriers to strengthening adaptation through CER. The necessary tools and technology are readily available for installation. Our licensed electrical workforce stands ready and waiting to assist in the installation and maintenance of CER. It is imperative for Government policy, regulation, and legislation to catch up with these advancements.

Vulnerable households, including low-income households, tenants, and residents of high-rise complexes, face an inequitable disadvantage in accessing CER. To address this disparity, we strongly urge the Government to provide rebates, and we call upon financial institutions to offer low-cost loans. Please refer to Q5 for further details.

Q12. What policies could be strengthened or added as the highest priorities?

All policies supporting an expanded, equitable and swift uptake of CER.

Q13. What measurement and evaluative tools and processes should be implemented to track adaptation progress for this system?

Monitoring correlating trends between increases in CER installation and decreases in carbon emission.

Specific Questions for the First Nations' Values and Knowledges System

Q14. What are some examples of First Nations-led adaptation action and partnerships? How can these actions and partnerships be better supported?

Federal Government has recently released its *First Nations Clean Energy Strategy* consultation paper in which it is seeking ways to improve First Nations Communities access, leadership, financial and career opportunities, partnership and collaboration in electrification.²⁸ In our submission, MEA generally supported the initiative, promoting the vast benefits First Nation Communities can anticipate to gain through CER, especially in enhancing self-determination, sustainable economic advancement and leadership.²⁹

We utilised this opportunity to encourage Government to implement CER rebates aimed at alleviating financial constraints that may be hindering First Nations People from installing CER and accessing its benefits.

Q15. Along with First Nations peoples, who should be undertaking action to strengthen First Nations-led adaptation action and partnerships?

In our response to the Federal Government's *First Nations Clean Energy Strategy* consultation, MEA promoted the shared responsibility of Government and Industry in proactively assisting these communities to participate in CER through policy implementation, funding assistance, education and public infrastructure upgrades.³⁰ Government should look to foster partnership between First Nations businesses and the electrification industry, especially in areas which are a predominantly populated by First Nations communities.

MEA encourages active and ongoing collaboration with First Nations people when developing electrification infrastructure to ensure cultural sites are protected. This would provide opportunity to improve First Nations' concerns that Government consultations are a "tick and flick"³¹ process and would naturally strengthen First Nations relationships with Government and

²⁸ *First nations Clean Energy Strategy* (Department of Climate Change, Energy, the Environment and Water, Canberra, CC BY 4.0, 2023).

²⁹ Chris Lehmann & Georgia Holmes *First Nations Clean Energy Strategy* Master Electricians (06 February 2024) < [MEASUB~1.PDF](#) >

³⁰ *Ibid*

³¹ Above at (n 29).

industry. We believe this will generate First Nations job and business opportunities and better position their communities to take “leading role[s] in the design and implementation of projects impacting their community”³² .

Q16. What are the barriers to strengthening First Nations-led adaptation action and partnerships? How could the plan help with these?

In our *First Nations Clean Energy Strategy* submission, we highlighted that a limited skilled workforce, particularly in rural and remote areas, can be a barrier for First Nations Communities to lead CER initiatives.³³

Throughout many submissions, MEA has strongly advocated that integrating Vocational Education and Training in Secondary Schools (VETSS) with an equal weighting to Australian Tertiary Admission Rank (ATAR) is a key solution to both diversity and skills shortages in STEM trades. The current schooling system moulds students to fit an academic structure, leaving behind those who are unwilling or unable to conform. Providing exposure and targeted training offers First Nations students enhanced opportunities for future success in STEM by providing a supportive and encouraging environment, better incentivising those who might otherwise be disengaged, to become proactive towards their future career. They are removed from the academic/commercial teaching structure of ATAR schooling and made to feel more included by teachings targeted towards their VET skill set. It will allow these students the same opportunity as students developing skills towards their academic/corporate career to pursue their STEM career from a school age. VETSS further allows for better aptitude and competency screening leading to greater commencement and retention of STEM apprentices. We can expect this to build First Nations organisations’ capacity and expertise in clean energy development as an influx of our First Nations younger generations develop STEM careers.

MEA believe VETSS will also provide better opportunity in exposing STEM to First Nations students living rurally and remotely as it would be available within their current schooling framework, providing students within this community an equal opportunity to those living in urban areas to work towards STEM during their schooling. This is where we can expect to see cultural and systemic change towards diversity in STEM trades, alleviating pressures on rural and remote areas in the future and upskilling First Nations People to develop and lead businesses and trades that allow their communities to design, develop, install and maintain CER assets locally.

We note our policy position for VETSS extends beyond First Nations Communities and needs be implemented nationwide across all secondary schools.

Q17. What First Nations-led adaptation actions and partnerships should be prioritised now to support medium-term (2050) and long-term (2100) adaptation?

MEA advocate prioritising the following two actions to ensure First Nations Communities have equitable access to CER and empowered to independently lead its installation and maintenance:

- Government CER rebates and loans, and Financial Institution low-cost loans
- VETSS.

Please refer to our responses under questions 14-16 above for more detailed explanation.

³² DEVELOPING ACT'S INTEGRATED ENERGY PLAN Canberra is electrifying: Towards a net zero emissions city', ACT Government [August 2023], at 10.

³³ Above at (n 29).

Q18. What First Nations' knowledges frameworks can support measurement and evaluative tools and processes to track adaptation progress?

Monitoring correlating trends between increases in CER installation and decreases in carbon emission.

Additionally, monitoring commencement and retention rates of First Nations People in Science, Technology, Engineering and Math (STEM) trades.

Q19. What are the biggest opportunities for First Nations peoples in the context of the National Adaptation Plan?

Please refer to questions 14-18 above.



Conclusion

MEA envisions a future where all households and businesses embrace and utilise CER. There are vast economic, environmental, and resilience benefits associated with implementing policies and regulations that support and encourage private installation of CER. The licenced electrical industry stands prepared to facilitate the installation and maintenance of CER. It is archaic Government policies and regulations which need to catch up to enable this successful transition.

CER, with its capacity to generate clean energy independently of the grid, is innately adaptive to climate change and effective in reducing carbon emissions. With the rising popularity of solar PV uptake, CER is arguably already a mainstream adaptation solution to climate change, enjoying widespread consumer support. To fully unlock its benefits, Government policy must champion successful change, which is anticipated to spur industry and consumer support even further.

MEA urges Government to financially assist vulnerable households in implementing solar PV and BESS too co-ordinate equitable access to the installation and benefits of CER. Financial institutions also have a responsibility in altering consumer behaviour through offering low-cost loans which assist in the private investment of CER in an effort to combat and adapt to climate change.

CER is anticipated to drive sustainable economic improvements. By reducing consumer energy costs thereby increasing household disposable income, it contributes to an improved macro-economy. Additionally, the development of the electrotechnology industry creates opportunities for upskilling workers and offering prosperous career opportunities.

The environment stands to benefit significantly from CER, as it offers a resilient and adaptive response to climate change by reducing carbon emissions. Moreover, CER enables households and businesses to continue utilising energy during climate change disasters that would otherwise disrupt energy supply.

Government acknowledged that “Australia needs to ‘mainstream’ adaptation action, drive private sector investment and support people and communities in disproportionately vulnerable situations”³⁴. Throughout this submission MEA has clearly articulated how CER directly addresses these needs and urges Government to prioritise its successful implementation through the National Adaptation Plan.

³⁴ “National Adaptation Plan – Issues Paper” Department of Climate Change, Energy, the Environment and Water, FED (March 2024).