

# **Inquiry into Climate Change and a Just Transition**

## **Leveraging CER to Combat Cost-of-Living Pressures**

Chris Lehmann & Georgia Holmes  
18 February 2024



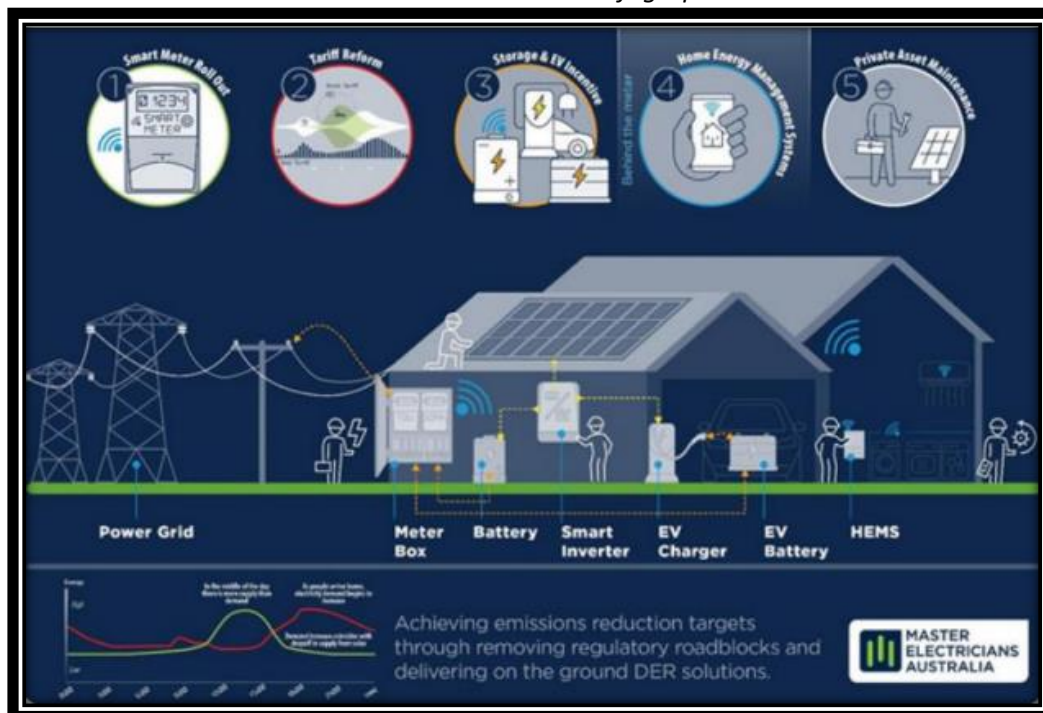
Master Electricians Australia (MEA) is the trade association representing electrical contractors recognised by industry, government and the community as the electrical industry’s leading business partner, knowledge source and advocate. You can visit our website at [www.masterelectricians.com.au](http://www.masterelectricians.com.au)

MEA are strong advocates that CER is the solution towards equitable, affordable reliable, clean and efficient energy. However, the initial upfront cost can be a deterrent against successful uptake, and for some it is simply unaffordable. The full benefits of CER cannot be realised if there is only a partial uptake of private CER and is therefore essential Government alleviate financial pressures of investing in CER to incentives greater uptake. With the significant push towards electrification, the alternative to Government not providing rebates is a distorted transition, leaving behind those who are financially unable to install CER on the traditional network incurring higher energy costs as the number of consumers relying on the National Energy Market (NEM) dwindles.

Examples of CER include:

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

*Infographic to demonstrate how CER operates.*



### MEA’s Response to the Following Committee Inquiries

The effectiveness, efficiency and equity of programs and rebates to reduce emissions, increase energy efficiency and help the transition to electrification.

Battery Energy Storage Systems (BESS) Supporting CER and Resilience of the Grid.

#### Rooftop Solar PV

It is widely accepted that we need to increase the amount of energy storage available to the National Energy Market (NEM) to make renewables work as a reliable energy source and meet carbon reduction goals to which we strongly promote significant household and business uptake of rooftop solar PV in

concert with HEMS and BESS is the key solution. These enable consumers to store self-generated energy (from Solar PVs) and either soak or send back to the grid during peak demand times.

Rather than relying on large, centralised storage that needs long runs of HV transmission lines to transfer the energy to our cities and towns, BESS located in private homes and businesses installed throughout towns and cities utilising the existing distribution infrastructure can achieve dispatchable storage much cheaper and quicker. This removes the single points of failure, and increases network resilience, whilst at the same time incrementally and progressively increasing system storage capacity with each individual system installed.

### Costs

MEA is proposing for ACT Government in partnership with the states, provide a \$5 000 non-means tested subsidy to install batteries for households with rooftop solar PV over the next 10 years, as a co-ordinated national approach to dispatchable storage delivered by CER. The BESS will need to be grid connected and subject to DNSP demand management control. The benefits of this would be -

- A cost of less than half the price of grid scale storage.
- No/limited regulatory barrier as each jurisdiction already allows BESS and has export Tariffs.
- Effects would be felt immediately and would progressively increase in scale.
- Would benefit everyone, not just those with the ability to pay.
- Benefit of program would be spread right across the NEM.
- Would kick start the BESS industry and bring prices down as competition increased.

As of July 2023, there are 51 575 rooftop PV systems in the ACT<sup>1</sup>. If, in the next 10 years, the State and ACT Governments gave a \$5000 rebate to 25 000 ACT residents to install a 10KW battery, it would cost \$125 million and provide approx. 1GWH of dispatchable storage to apply in the evening peak demand and reduce wholesale prices.

Other factors to consider –

- The macro benefits through increased economic activity (i.e. more jobs and supplies).
- Long-term improved economy through increased household disposable income.
- The storage capacity of the grid would improve each and every day going forward as batteries are installed, as opposed to waiting for large scale storage projects to come on-line in 10yrs.
- Co-investment with the ACT public.
- Would strengthen the case for a domestic battery manufacturing and recycling industry.
- Would reduce the need for transmission costs, as would be used at the individual home or in the surrounding suburb.

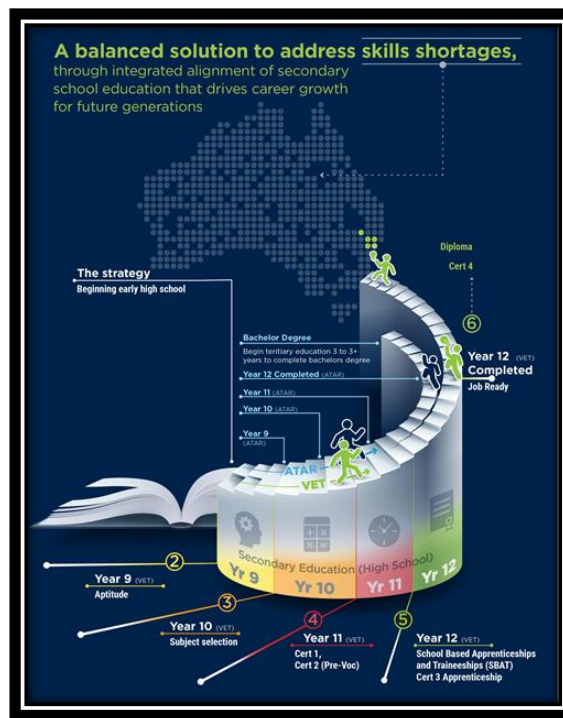
### Skills, training and programs to support the workforce skills and job-readiness required to transition to electrification and decarbonisation.

#### Skilling the STEM Workforce of the Future

A skilled labour pool of licenced electrical workers is essential for building and maintaining a sustainable long-term electrified economy, however, Australia is currently facing a skill-shortage crisis which requires immediate attention to meet our current and future increasing labour demand. MEA strongly advocate that investing into our future workforce is the solution.

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<sup>1</sup> 'HOME SOLAR POWER IN THE AUSTRALIAN CAPITAL TERRITORY' SolarQuotes < <https://www.solarquotes.com.au/australia/solar-power-act/> >



Integrating and streamlining Vocational Education Training in secondary schools (VETSS) curriculum is essential in attracting candidates to Science, Technology, Engineering and Maths (STEM) trade careers. Perception of entering trades for both females, males, and non-traditional cohorts will likely be altered, and students will become better equipped when entering STEM trades. It will also allow for better aptitude and competency screening ensuring the right skills are matched with the right trades, thereby improving commencement and retention rates in STEM.

Ensuring secondary schools are designed to facilitate this through not only streamlining the subjects, but also providing facilities to enable practical learning (e.g. using third party specialist RTOs, work experience partners, etc) will stimulate interest and development in STEM trades, securing a future skilled workforce to continue developing and maintaining a cleaner economy.

It is essential VETSS is given an equal weighting to Australian Tertiary Admission Rank (ATAR) equivalent which accordingly incentivises schools and teachers accordingly. Currently there is a bias towards ATAR cores as being the definitive measure of success for schools but outcomes other than school ATAR rankings need to be considered to incentivise school administrations and teachers. Job placement and training contract (apprenticeships and traineeships) outcomes after year 12 should also be given success metrics to encourage educational institutions to put resources into achieving improved VET placement outcomes. ACT education and skills funding should be directed towards furthering the outcomes suggested.

#### Any other related matters.

##### Electric Vehicles (EVs)

Electric vehicle policies will assist with reducing carbon emissions. This will, however, naturally present challenges and opportunities for the electricity grid. An increase in EVs will see significantly more renewable energy production required to service energy needs. Conversely, it will also mean that existing oversupply of PV capacity during daylight hours will have the ability to be soaked and the possibility of being dispatched during times of need as EVs typically have a battery of around 70KW

adding up to seven times the capacity of a static home battery in addition to being a clean productive transport option.

MEA strongly recommend preferencing bi-directional charge enabled vehicles in government incentives, and for the urgent introduction of bi-directional EV tariffs to support integrated CER policies as outlined above. This would provide consumers the benefits of soaking load for periods of daytime oversupply, and to be a dispatchable reservoir of power during periods of undersupply. The dispatchable storage capacity of EVs in the national private fleet, would dwarf the home BESS capacity rapidly should this be adopted as government policy. Currently distributed network service providers (DNSPs) are seeing EVs as primarily a threat to the grid, but if policy and regulation caught up to the rapid uptake of EVs they would become an invaluable asset to the grid.

Installation of EV infrastructure in homes and businesses in concert with Solar PV and HEMS would increase the network's stability.

#### Time of Use Tariffs (ToU)

Households and Businesses will significantly benefit from implementation of flexible demand and generation ToU tariffs in concert with solar and battery storage, giving households control over power bills. During the middle of the day, the network experiences minimum demand for energy, while CER generated energy is at its greatest. Then, during 4PM-9PM, the network experiences peak demand for energy, while CER energy is no longer being generated. Implementing ToU tariffs sends price signals to consumers when to store excess energy and when to utilise and/or send excess energy back to the grid. During the minimum demand window, ToU charges would deter consumers from sending excess energy back to the grid, preventing an oversupply of energy on the network. Then, during the peak demand window when energy rates are at their highest, ToU tariffs would provide consumers with rebates, encouraging excess energy to be supplied to the grid leading to sustainable economic growth thereby increasing disposable household income.

#### Regional and Remote Areas

CER is particularly useful for rural and remote regions where electricity can be unreliable and often at the whims of climate events (e.g. cyclones, bushfires, etc) highlighting the current inequality in our energy network. Stand-alone off-grid generators enable rural and remote areas to operate independently from the grid, improving energy efficiency and reliability.

## Conclusion

To efficiently, effectively, equitably and economically achieve ACT's net zero targets via electrification, MEA recommend ACT Government to provide a \$5,000 solar PV rebate for consumers with a greater 5KW solar PV capacity which will provide a more sustainable cost-saving solution to energy costs than a one-off energy Bill rebate which does not address or improve the core issues driving high energy prices. Our calculations demonstrate this will provide cost savings in the billions, and almost halve the cost/KW, when compared to the Pioneer Burdekin Pumped Hydro Project. By encouraging consumers to install and maximise CER through financial rebates in addition to educating consumers how to respond to ToU price signals through BESS and HEMS, we can expect long term consumer energy costs to trend down.

With the anticipated population growth and increased uptake of EVs, the grid is expected to experience significant demand pressures jeopardising its stability and integrity. CER and HEMS will combat these problems by creating greater solar energy storage opportunities which consumers can either utilise or provide back to the grid.

MEA stresses the vital role licenced electrical contractors play within installing and maintaining the private CER infrastructure market. We encourage ACT to integrate the private electrical sector into its electrification policies to cohesively dedicate private functions to this industry. Ensuring licenced electrical contractors with Cert IV qualifications occupy the private arena of CER will enable efficient and effective private CER rollout and create a competitive market driving down consumer prices. It further leaves more capacity to DNSPs to integrate CER with the network and monitoring functions.

A pipeline of skilled labour is crucial for the implementation and maintenance of electrifying ACT. Investment into ACT's future pool of skilled labour to facilitate the future needs of CER needs to happen now through a streamlined & integrated VET secondary school curriculum with equal weighting to ATAR subjects. This will foster interest and early training in STEM trades, allowing for better aptitude and competency screening to better match the right skills with the right trade, overall enhancing the ACT's trade attraction and retention rates.

MEA looks forward to ACT's electrified future and hopes to have provided useful insight towards efficient, economical and effective ways to achieve electrification through solar PV, HEMS and a skilled workforce. We would appreciate the opportunity to be a part of future discussions regarding CER, ToU, HEMS, BESS and VET.