

Net Zero Economy Authority Bill 2024

Leveraging CER to Combat Climate Change

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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. Our website is www.masterelectricians.com.au

MEA supports the *Net Zero Economy Authority Bill 2024* (the Bill) and its acknowledgement that "actions to reduce emissions must occur in tandem with investment and job creation, particularly in industrial regions"¹. Whilst we appreciate the Bill is focused on establishing roles and functions of the Net Zero Economy Authority (the Authority), we strongly urge the implementation and integration of consumer energy resources (CER) to be a prioritisation of the Authority in "facilit[ing] and coordinat[ing] public and private investment in net zero transformation initiatives"² and "support[ing] emissions-intensive industries to decarbonise and support workers to access employment, skills and opportunities"³.

MEA advocates CER is a fiscally responsible approach towards decarbonisation, fostering sustainable economic growth by reducing consumer energy bills and generating greater employment opportunities. Australia needs a sustainable and skilled workforce for the installation and maintenance of CER. This presents an opportunity for the Authority to facilitate the transition of declining coal and fossil fuel industries, enabling this portion of the skilled labour to retrain, qualify, and excel in electrotechnology careers.

Many initiatives have been activated throughout Australia supporting electrification through CER and ensuring sustained availability of a skilled workforce to install and maintain it. However, there needs to be greater harmonisation to which MEA commends the Federal Government for acknowledging that "to achieve an orderly and positive economic transformation to a net zero economy, there is a need to coordinate existing and proposed efforts across government, between levels of government, with business and investor's, with international partners, with unions and with communities, including to meet Australia's ambition to become a renewable energy superpower."⁴

CER

[What is CER?](#)

CER are numerous privately owned assets used to naturally generate, store and utilise energy in the most efficient manner making them the obvious strategy towards reducing carbon emissions. Implementing CER relieves the need to invest in as many big generation and transmission projects, whilst utilising the existing infrastructure (existing poles and wires in our cities and towns) that the community has cumulatively paid for over the last century.

Examples of DER include:

- Rooftop solar photovoltaic units (Solar PV)
- Battery storage
- Electric vehicle (EV) batteries.

Consumers gain the ability to take control of their energy and enables domestic and commercial and industrial (C&I) customers to enter into trading arrangements that time shift loads, using power (soaking) when it is cheapest for flexible loads (hot water, ovens, EV charging, etc) and delivering power back (sourcing) from storage sources (batteries, bi-directional EV's) when energy prices are higher, giving households and businesses the ability to pro-actively reduce their overall power costs. CER external load control should be limited to

¹ NET ZERO ECONOMY AUTHORITY BILL 2024 NET ZERO ECONOMY AUTHORITY (TRANSITIONAL PROVISIONS) BILL 2024 (explanatory note) at 8.

² *Ibid*, at 9.

³ *Ibid*, at 9.

⁴ *Ibid*, at 21.

flexible loads while the traditional network should continue to be utilised for inflexible loads (i.e., fridges, life support, etc). This assists in providing sustainable economic growth as energy bills will be reduced thereby increasing household disposable income.

The dream of changing the energy demand curve (the so called “ducks back”) by taking the excess/cheap energy produced in the middle of the day, and using it during times of peak demand, thereby flattening the demand curve and stabilising electricity prices can be realised in a reasonably short time period if we make some rational, sensible decisions. The technology is here now, regulations and policies just need to catch up.

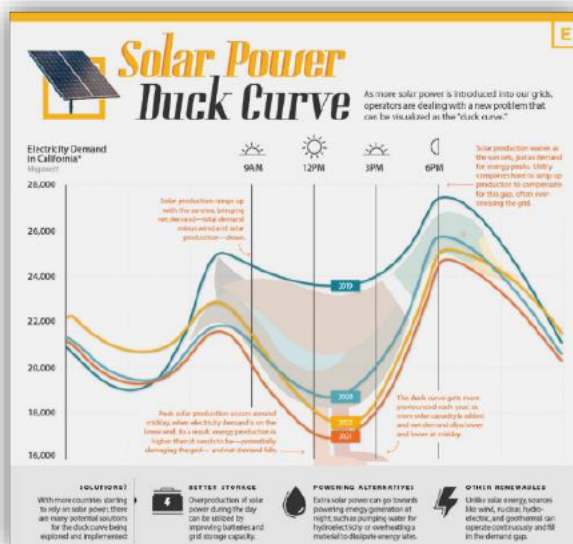


Image Source: Omri Wallach “The Solar Power Duck Curve Explained” ELEMENTS (4 April 2022) < [The Solar Power Duck Curve Explained \(visualcapitalist.com\)](https://visualcapitalist.com)>

Digital Smart Meters

Digital smart meters provide consumers with the measurement infrastructure, designed to promote choice and efficiency in the delivery of energy to the end point consumer. Unlike traditional meters, smart meters allow for real time measurement and control of energy use. MEA believes these are necessary for achieving Australia’s commitment towards reducing carbon emissions.

MEA recommends that licenced electrical workers are trained and recognised as Accredited Service Providers (ASPs) and used to help rapidly replace traditional meters with smart meters. This would reduce connection times, improve consumer experience, reduce smart-meter roll out costs and help facilitate a swifter transition to a responsive electricity grid that can take advantage of CER policies.

Solar PV

Solar PV is becoming increasingly popular amongst residential and commercial buildings thereby making it easier for Australia to implement solar installation. We recommend such policies are introduced in concert with home battery and EV charging requirements.

A concerted effort should be made to maximise efficient use of the large stocks of rooftop solar already in the market to shift the oversupply of generation during the day, to peak usage times in the early evening.

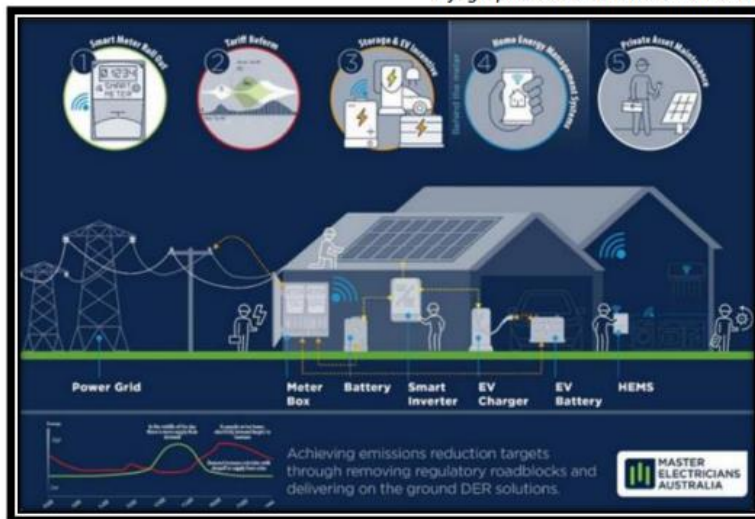
We recommend licenced electrical contractors with a Cert IV in PV and CEC Accreditation are used to provide homes and businesses with Solar PV installations and battery installations.

Home Batteries

Home batteries are necessary to optimise CER’s capabilities. These enable consumers to store self-generated energy (from Solar PVs) and either soak or send back to the grid during peak demand times.

Licensed, trained and insured electrical contractors are the essential workforce needed to install batteries for consumers.

Infographic to demonstrate how CER operates.



Home Energy Management Systems (HEMS)

HEMS enable consumers to remotely control smart technology appliances. When paired with digital smart meters, consumer choice is optimised. Integrating incentive policies for households and businesses to adopt HEMS could have a rapid and significant impact on Australia reduced emission targets. It is a powerful companion to tariff reform and home battery strategies to improve energy efficiency, time shift energy, and decrease emissions across Australia.

There are relatively inexpensive plug and play system that a homeowner can install, or more comprehensive solutions that can be wired to control fixed loads such as hot-water and air conditioning and integrate their use with solar production. There should be legislative recognition that the more comprehensive options must be installed and set-up by a licensed electrical contractor.

Private Asset Maintenance

If the grid is going to become reliant on CER, then minimum standards of safety and reliability on anyone receiving Feed in Tariffs (FIT). Increased prevalence of DC isolator failures, high penetration of solar PV systems and the expected increase in the installation of home batteries and vehicle chargers makes it necessary to ensure that these assets are safe for consumers and reliable for the stability and capacity of the grid.

MEA recommends including mandated inspections on grid connected solar and battery systems receiving FIT. Performance of these inspections should be legislatively restricted to licensed electrical contractors every five years. We suggest funding of inspections is covered by levying a monthly fee on consumers’ electricity bills and administered by the retailer.

Benefits of CER

Below is a list of some key benefits which CER can assist the Authority in successfully achieving its designated functions listed under cl 16 of the Bill:

- Achieve “greenhouse gas emissions reduction targets and support Australia’s transition to a net zero emissions economy” (cl 16(1)(a)).
- Enhance public and private sector participation and investment in greenhouse emissions reduction and net zero transformation initiative in Australia through MEA’s proposed rebate and loan policy initiatives (cl 16(1)(b)).
- Emerging electrotechnology industry to accommodate trades that are becoming redundant consequence of electrification. The Authority can promote skill development towards this industry (cl 16(1)(c)).
- Support Indigenous persons to participate in, and benefit from, Australia’s transition to a net zero emissions economy (cl 16(1)(d)). It will further assist those living in rural and remote areas to better access more reliable energy consequently developing greater career opportunities to facilitate the installation and maintenance of CER in these areas (cl 16(2)).
- Educate and promote initiatives for the purpose of understanding and enabling participation in Australia’s transition to a net zero emissions economy. This can be achieved through the above proposed policy priorities for the Authority to report on (cl 16(1)(e)).
- Reduce energy bills consequently increasing household disposable income thereby sustainably enhancing the macro-economy.

Proposed Policy Priorities for the Authority to Report On.

Whilst we appreciate this consultation is not seeking feedback on specific policy objectives relating to CER and transitioning redundant workforces, we have utilised the opportunity to highlight key policy opportunities that MEA advocate will significantly enhance CER’s benefits and should be a priority going forward.

Paragraph 1.127.1 of the explanatory notes states –

“The investment facilitation function of the Authority provides for it to undertake activities including ...

Liasing with state and local governments and associated agencies, the private sector, and other organisations, to identify, broker and catalyse investment in greenhouse gas emissions reduction and net zero transformation initiatives”⁵.

To “faciliat[e] public and private sector participation and investment in greenhouse emissions reduction and net zero transformation initiatives”⁶, the Authority should prioritise reporting on, and recommending, to the Mister about Government subsidies and Financial Institution low-cost loans. These will “facilitate, directly or indirectly, the achievement of Australia’s greenhouse gas emissions reduction targets”⁷.

We further recommend two non-financial policies which we advocate will enhance the Authority’s success through CER.

⁵ (n1), at 23.

⁶ (n1), at 21.

⁷ *Ibid.*

Government Rebates

Federal and State Governments should offer \$5 000 rebates for the installation of solar PV and BESS systems. Government rebates not only incentivises greater private uptake but also ensures equitable access, particularly for vulnerable households such as low-income families, tenants, and residents of high-rise apartment complexes. MEA advocate for Federal Government to partner with State and territory Governments in financially supporting this initiative.

Government Loans

The Ministry of External Affairs 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 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. The Financial Review explains that “Loans for electrification ... would be linked to inflation and repaid to the federal government when homes are sold”⁹.

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, the cost of which Rewiring admits is hard to model given prices are falling fast.”¹⁰

Bank 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”¹¹ 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”¹².

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.

Time-of-Use (ToU) Tariffs

With the cost saving opportunities Solar PV, HEMS and BESS collaboratively provide, there will be an expectation for Government to facilitate ToU policies which provide price signals to consumers when to store, utilise or send excess energy back to the grid. During peak demand, ToU tariffs would incentivise households to send excess energy back to the grid in return for a financial rebate and simultaneously signal for consumers to utilise their stored excess solar

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 *Ibid.*

¹¹ Tony Boyd “CBA wants to corn 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)

¹² *Ibid.*

energy as opposed to utilising grid energy. This will result in sustainable economic growth through increased household disposable income.

EV Bi-Directional Charging

Demand for bi-directional EV charge will likely become the way of the future, allowing consumers to not only charge their vehicles but also becoming a dispatchable reservoir of power during periods of undersupply. Currently 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.

We can expect to see increased network stability through EV infrastructure installations amongst households and businesses when utilised in concert with HEMS for residential buildings and Building Management Systems (BMS) for commercial buildings.



Conclusion

MEA supports Australia's *Net Zero Economy Authority Bill 2024* as it will significantly pave the way towards reducing emissions and assisting the transition of dwindling workforce labour towards electrotechnology careers. While we appreciate this Bill does not cover specific policies to implement decarbonisation and industry skill transfer/development, we have used it as an opportunity to emphasise what we believe should be a core priority for the Authority once the Bill comes into effect.

CER assets provide a resilient solution to reducing carbon emissions. As privately owned self-generating clean energy assets, they have the ability to store excess energy and be utilised in the event of power outages. Consumers gain control over the utilisation of their energy which, when combined with HEMS and home batteries, makes CER a powerful tool in significantly reducing consumer energy bills.

With increasing population and uptake of EV, enabling bi-directional EV charging will not only decrease grid demand pressures, but will also address public and private charging facility capacity issues.

MEA emphasises the vital role licenced electrical contractors have within CER integration. It is a ready workforce with the necessary base skills to perform a wider cohort of these functions. The electrical contracting industry will assist with accelerating the roll-out of CER infrastructure and MEA stands ready to assist the Federal Government in addressing these challenges.

We look forward to seeing the future of Australia's decarbonisation and would like to be part of any future discussions regarding CER and workforce development topics.