

# **Climate Action: Victoria's emissions reduction target for 2035.**

Constructive Solutions from the Electrical  
Contracting Industry.

Chris Lehmann 20<sup>th</sup> April 2022



## Introduction

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](http://www.masterelectricians.com.au)

MEA has a track record of positive contribution to practical energy policy solutions at the most critical implementation level, the electrical contractor who performs the physical work. MEA believes that most of the implementation challenges facing the transformation of the energy network to a Net Zero future can and must be addressed by trained and licensed electrical workers employed by electrical contractors.

In this submission MEA will keep its comments purely to the implementation challenges and what we see as the practical solutions to the roadblocks in place that are slowing the de-carbonisation of the network and the journey towards Distributed Energy Resources (DER) and the attainment of the stated emission reduction targets.

## Roadblocks and Solutions

There are many moving parts to achieving the 2035 emissions reduction targets set by the government, MEA have identified the following areas as ones that the electrical contracting industry can and will need to be at the forefront of listed in rough order of implementation –

- Digital Meter rollout – clearing the roadblock caused by Power of Choice (POC).
- Tariff Reform – moving “manageable loads” onto Time of Use (TOU) tariffs.
- Distributed Energy Resources (DER) – solar PV, home batteries, bi-directional car chargers.
- Home Energy Management Systems (HEMS) – “behind the meter” systems that the consumer controls to manage their energy usage using smart-home technologies.
- Private Asset Maintenance – As private energy assets become a more integral part of the public grid, ensuring the integrity of the network by having minimum maintenance requirements on private energy assets that export to the grid.

## Digital Metering Rollout

The narrowest and most pressing bottleneck is the rollout of digital smart meters into homes and businesses.

Power of Choice (POC) metering reforms were designed to promote choice and efficiency in the delivery of energy to the end point consumer. Whilst they have partly delivered on the promise of choice, more work needs to be done with tariff reform in a DER environment and recognizing the potential of “smart” meters. The promise of efficiency has not been achieved, and the delivery of metering services has been made considerably more complex with an overall increase in delay for new connections and metering changes.

The increase in layers of administration and stakeholders with the advent of POC has meant that connection times and changes to metering are taking longer. This bottleneck in the installation and replacement of meters is slowing down the transformation of the grid and provision of more consumer choice. There is a skilled and underutilised workforce that could fill this gap rapidly – *licensed electrical contractors could become Authorised Service Providers (ASP's) to replace meters. This would reduce connections 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 DER opportunities.*

One of the key objectives of the POC reforms was to increase Demand Side Participation (DSP)<sup>1</sup>. With the advances in technology since the POC review<sup>2</sup> in 2012 and the opportunities offered by battery technology and EV in being able to drive DER efficiencies in the energy market, we believe that this needs to be updated to reflect the changes in technology and the government's commitment to Net Zero and carbon reduction targets.

Whilst Victoria is leading the country in the penetration of smart-meter rollouts<sup>3</sup>, nationally the rate is less than 20%, as discussed it is the single biggest obstacle to the usage of innovative tariffs and the implementation of DER.

## Tariff Reform and DER

With the Victorian Government committing to the ambitious 2035 targets, DER will be a vital part of the solution to meet this challenge.

To allow for a truly diverse DER strategy that does not overly rely on the large-scale solar farms and makes the best use of rooftop solar in domestic homes, soak tariffs need to work in concert with bi-directional Electric Vehicle (EV) chargers and other manageable loads (pools, dishwashers, hot water, air cons etc).

MEA notes that Victoria has a simplified off-peak tariff (between 9pm and 3 pm) that reflects peak usage times but other states (most notably South Australia) have introduced very targeted solar-sponge tariffs<sup>4</sup> that concentrate incentives for usage to the middle of the day when solar over-generation is being underutilised and causing network stability problems. There is even legislation in some states designed to “constrain” (turn off) private solar assets during the day, this is hardly efficient and seems to be squandering available energy. *MEA believes that Victoria should implement more targeted day time soak tariffs such as are used in South Australia.*

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<sup>1</sup> <https://www.aemc.gov.au/sites/default/files/content/e78d940f-7257-4e5b-8a0d-b7f968d1f988/Directions-Paper.PDF>

<sup>2</sup> <https://www.aemc.gov.au/sites/default/files/content/2b566f4a-3c27-4b9d-9ddb-1652a691d469/Final-report.pdf>

<sup>3</sup> <https://energyconsumersaustralia.com.au/news/a-new-chance-to-get-smart-about-metering>

<sup>4</sup> <https://wattever.com.au/compare-solar-sponge-plans/#:~:text=In%20July%202020%2C%20some%20electricity,an%20abundance%20of%20solar%20energy.>

By explicitly planning for DER, we can best utilise the growing capacity of manageable loads, EV and home batteries to soak up the excess supply on the network during the day<sup>5</sup> to then provide the energy needed for night-time requirements, without the need for other on-call sources of generation.

*MEA also believe that as more vehicles become available on the Australian market that have bi-directional charging ability, that these be preferenced in the payment of incentives for EV's and in government fleet procurement policies.*

With Solar PV now being a mainstream part of the market, *we should consider moving subsidies away from Solar and towards batteries and EV, in concert with home solar to drive consumer behaviour to the DER phase to make the most efficient use of the stocks of rooftop solar in the market.*

To move fixed loads onto dedicated Time of Use (TOU) circuits, to install the battery charging technology, or upgrade the existing electrical installation to be compatible with the new equipment, an electrical contractor is necessary to perform these works in a safe and compliant manner.

## Home Energy Management Systems (HEMS)

The installation of HEMS<sup>6</sup>, controlling smart appliances is more of a private consumer choice however if adopted by a significant proportion of homeowners and small businesses over time it can be a powerful companion to Tariff reform and DER strategies to improve energy efficiency and decrease emissions across the economy.

The attractiveness of HEMS is that it is a “behind the meter” consumer driven solution that can make a significant difference to energy usage in a home or an installation without relying on the infrastructure of smart meters. There are relatively inexpensive plug and play systems that a homeowner can install, or more comprehensive solutions that control fixed loads such as hot-water and air conditioning and integrate their use with your solar production. These must be installed and set-up by a licensed electrical contractor.

*The Victorian government should consider some incentives and funding for pilots to assess the effectiveness of HEMS to identify the best application of these in homes and businesses in the reduction of energy usage.* If these pilots can make a financial justification for them, then consideration should be given to subsidising the installation of these systems in homes by licensed electrical contractors.

## Private Asset Maintenance

MEA believes that if the network is going to move to more reliance on private energy assets from domestic solar and batteries, then it would be prudent to build in an obligation that anyone

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<sup>5</sup> <https://www.volkswagen-newsroom.com/en/press-releases/convenient-networked-and-sustainable-new-solutions-for-charging-electric-volkswagen-models-7695>

<sup>6</sup> <https://www.choice.com.au/home-improvement/energy-saving/reducing-your-carbon-footprint/articles/home-energy-management-systems>

who is receiving a Feed in Tariff (FIT) ensures that their system is maintained to a minimum standard of safety and reliability<sup>7</sup>.

With the increase in the prevalence of DC isolator failures, the high penetration of solar PV systems, and the expected increase in the installation of home batteries and vehicle chargers it is necessary to ensure that these assets are safe for consumers and reliable for the stability and capacity of the grid.

*MEA recommend the mandating of inspections on grid connected solar and battery systems receiving a FIT, by an appropriately licensed electrical contractor every 5 years.* We suggest that this could be paid for by the levying of a monthly fee on the consumer's electricity bill and organised by the retailer.

## Conclusion

MEA are supportive of the Victorian Government initiative and believe that the Electrical Contracting Industry and licensed Electrical Workers are at the forefront of helping deliver constructive solutions to deliver their 2035 targets. In summary these would be –

- Licensed electrical contractors could become Authorised Service Providers (ASP's) to replace meters. This would reduce connections 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 DER opportunities.
- MEA believes that Victoria should implement more targeted day time soak tariffs such as are used in South Australia.
- MEA also believe that as more vehicles become available on the Australian market that have bi-directional charging ability, that these be preferenced in the payment of incentives for EV's and in government fleet procurement policies.
- The Victorian Government should consider moving subsidies away from Solar and towards batteries and EV, in concert with home solar to drive consumer behaviour to the DER phase to make the most efficient use of the stocks of rooftop solar in the market.
- The Victorian government should consider some incentives and funding for pilots to assess the effectiveness of HEMS to identify the best application of these in homes and businesses in the reduction of energy usage.
- MEA recommend the mandating of inspections on grid connected solar and battery systems receiving a FIT, by an appropriately licensed electrical contractor every 5 years

MEA look forward to continued involvement and consultation on this issue and would welcome the opportunity to contribute further.

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<sup>7</sup> <https://www.choice.com.au/home-improvement/energy-saving/solar/articles/solar-panel-maintenance>