Transport and Infrastructure Net Zero Consultation Roadmap

Take the survey

Department of Climate Change, Energy, Environment and Water

Response received at:
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1 Confirm that you have read and understand this privacy notice.
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2 Please indicate how and if you want your submission published.
Public

3 Published name
Master Electricians Australia

4 Confirm that you have read and understand this declaration.
Yes

5 First name
Not answered

6 Last name
Not answered

7 Email
Not answered

8 Phone

Not answered

9 Who are you answering on behalf of?

Organisation

10 Organisation name

Not answered

11 What best describes you or your organisation?

Not answered

12 What sector do you represent?

Not answered

13 What state or territory do you live in?

Queensland

14 Postcode

4006

15 What area best describes where you live?

Regional area

16 1. Do you support the proposed guiding principles?

Not answered

17 1.1 Please add details to your response.

Not answered

18 2. Do you support the use of the avoid-shift-improve framework as a tool to identify opportunities for abatement?

Not answered

19 2.1 Please add details to your response.

Not answered

20 3. Do you agree the development of a national policy framework for active and public transport will support emissions reduction?

Not answered

21 3.1 Please add details to your response.

Not answered

22 4. What should be included in a national policy framework for active and public transport and how should it be developed?

Not answered

23 5. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the movement of people contributes to transport emissions reduction?

Not answered

24 6.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure that the movement of goods contributes to transport emissions reduction?

Not answered

25 6.2. How would these actions address the identified challenges and opportunities for emissions reduction in the movement of goods?

Not answered

26 7. Do you agree with the proposed net zero pathway for light road vehicles?

Not answered

27 7.1 Please add details to your response.

Not answered

28 8. The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy.8.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions?

Not answered

29 8.2 How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?

Not answered

30 9. Do you agree with the proposed net zero pathway for heavy road vehicles?

Not answered

31 9.1 Please add details to your response

Not answered

32 10. The proposed pathway for heavy road vehicles relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

33 10.1 Please add details to your response. Why did you rank them in that order?

Not answered

34 11. What role should low carbon liquid fuels play in the heavy vehicle

decarbonisation?

Not answered

35 12. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce heavy vehicle emissions?

Not answered

36 13. Do you agree with the proposed net zero pathway for rail?

Not answered

37 13.1 Please add details to your response.

Not answered

38 14. The proposed pathway for rail relies on a mix of battery electric, hydrogen fuel-cell and low carbon liquid fuels.Rank from 1 to 3, the order in which these should be prioritised for emissions reduction.

Not answered

39 14.1 Please add details to your response. Why did you rank them in that order?

Not answered

40 15. What role should low carbon liquid fuels play in rail decarbonisation?

Not answered

41 16. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce rail emissions?

Not answered

42 16.1 How would these actions address the identified challenges and

opportunities to reduce rail emissions?

Not answered

43 17. Do you agree with the proposed net zero pathway for maritime?

Not answered

44 17.1 Please add details to your response.

Not answered

45 18. The Australian Government is engaging in consultation as part of the development of the Maritime Emissions Reduction National Action Plan and those consultations will also inform the final Roadmap and Action Plan. 18.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce maritime emissions?

Not answered

46 18.2 How would these actions address the identified challenges and opportunities to reduce maritime emissions?

Not answered

47 19. Do you agree with the proposed net zero pathway for aviation?

Not answered

48 19.1 Please add details to your response.

Not answered

49 20. The Australian Government has already engaged in consultation on aviation decarbonisation through the development of the Aviation White Paper and those consultations will also inform final Roadmap and Action Plan.

Not answered

50 20.1 What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce aviation emissions?

Not answered

51 21. Do you agree with the proposed net zero pathway for transport infrastructure?

Not answered

52 21.1 Please add details to your response.

Not answered

53 22. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce transport infrastructure emissions and ensure that transport infrastructure is ready for and enables low-emission transport modes?

Not answered

54 22.1 How would these actions address the identified challenges and opportunities to reduce transport infrastructure emissions?

Not answered

55 23. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?

Not answered

56 24. How should the use of low carbon liquid fuels (LCLFs) be prioritised across different transport modes over time to achieve maximum abatement?

Not answered

57 25. What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?

Not answered

58 25.1 What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?

Not answered

59 25.2 What opportunities can Government leverage to show leadership in Australia and internationally?

Not answered

60 26. What measures and metrics should be used to evaluate the final Transport and Infrastructure Net Zero Roadmap and Action Plan?

Not answered

61 26.1 What other data and evidence could governments use and how could this offer further insights on the pace, scale and location of transport emissions reduction pathways?

Not answered

62 27. Do you have any feedback on the proposed review process?

Not answered

63 28. Do you have any further feedback on the Consultation Roadmap and proposed pathways?

Not answered

64 28.1 Is there anything missing? Are the sections appropriately integrated? Is the Roadmap appropriately ambitious?

Not answered

65 29. Is there any further information or documentation that you wish to be considered with your submission?

Not answered

66 Would you like to upload a document?

Yes

67 Have you removed any identifying information from your submission?

Yes

68 Upload a submission

MEA Submission - Transport and Infrastructure Net Zero Roadmap - July 2024.pdf

69 Upload a submission

Not answered

70 Upload supporting file

Not answered

71 Upload supporting file

Not answered

Transport and Infrastructure Net Zero Roadmap

Federal

Chris Lehmann & Georgia Holmes

25 July 2024

MASTER ELECTRICIANS AUSTRALIA

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 are strong advocates of consumer energy resources (CER) and the role licenced electrical contractors play in assisting with efficient and safe installation and maintenance of these assets. While our expertise in the transport area is more focused on the role of Electric Vehicles (EVs) within CER, we are responding to demonstrate industry support for the electrification pathways proposed in the *Transport and Infrastructure Roadmap* consultation. MEA believes that at a community level, CER is a critical part of the solution to the EV charging capacity limitations identified in the discussion paper.

Throughout multiple Federal and State consultations, MEA has advocated for CER which provides cleaner, cheaper and more reliable energy for consumers. EV batteries potentially could play a vital role in optimising CER as they provide a reservoir to soak excess solar energy, with the possibility of being dispatched during times of need. Accordingly, we have limited the scope of our response to light vehicles only.

There must be greater attention paid to forecast workforce shortages, in particular trained electrical workers. The roadmap should outline where the electrical workforce will be sourced that will be needed to install and maintain the necessary infrastructure. There is growing concern over larger companies working on government infrastructure projects 'poaching' apprentices, who are nearing the end of their training period, with the incentivisation of more money.

You can review our submissions for further detail on CER here.

I Net Zero Pathways – Light Vehicles

A Do you agree with the proposed net zero pathway for light road vehicles?

As strong advocates for CER and the significant role EV batteries have in optimising its benefits, MEA agrees "the main technology pathway to reduce light vehicle emissions will be electrification."[1] MEA expressed support in our response to the New Vehicle Efficiency Standard (NVES) consultation, acknowledging the likely positive impact this will have on increasing the adoption of EVs across Australia.

Household electrification and EV batteries complement each other, with household electrification mitigating charging infrastructure capacity challenges and EV batteries serving as a reservoir to store excess solar energy. Together, they help increase household disposable income while reducing carbon emissions.

[1] Department of Infrastructure, Transport, Regional Development, Communication and the Arts "Transport and Infrastructure Net Zero Consultation Roadmap" *Australian Government*, at 35. < https://workspace.internal.dotars.gov.au/sites/EXI/NZPR/Roadmap/Planning/Public Roadmap/Transport and Infrastructure Net Zero Consultation Roadmap > [DITRDCA]

1 Bi-Directional Charging

"Future innovation in bidirectional charging, which will allow EVs to both receive and discharge energy, will enable more EV models to contribute electricity to power homes and the grid in the future."[2] To maximise consumer benefits derived from EVs, it is imperative that any future policies and legislation incorporate and promote the ability for household bi-directional charging. MEA have been advocating for such regulatory change to take rapid effect.

2 Charging Capacity

"The widespread adoption of EVs will need to be matched by increased availability and reliability of charging infrastructure, particularly in regional and remote areas, and for people living in multi-residential buildings."[3] MEA further notes the growing prevalence of EVs is expected to exert additional strain on our energy grid. The escalating charging demands will jeopardise the stability, reliability and affordability of our traditional energy supply.

However, with household electrification, consumers can charge their EVs at home using independently sourced solar power, inherently reducing demand pressures on both public charging infrastructure and grid stability.

3 Cost Saving

"The government is introducing an Australian New Vehicle Efficiency Standard to save Australians money at the fuel bowser …"[4]. Facilitating regulation to enable household EV bi-directional charging will lead to significant consumer fuel and energy cost savings, thereby increasing household disposable income.

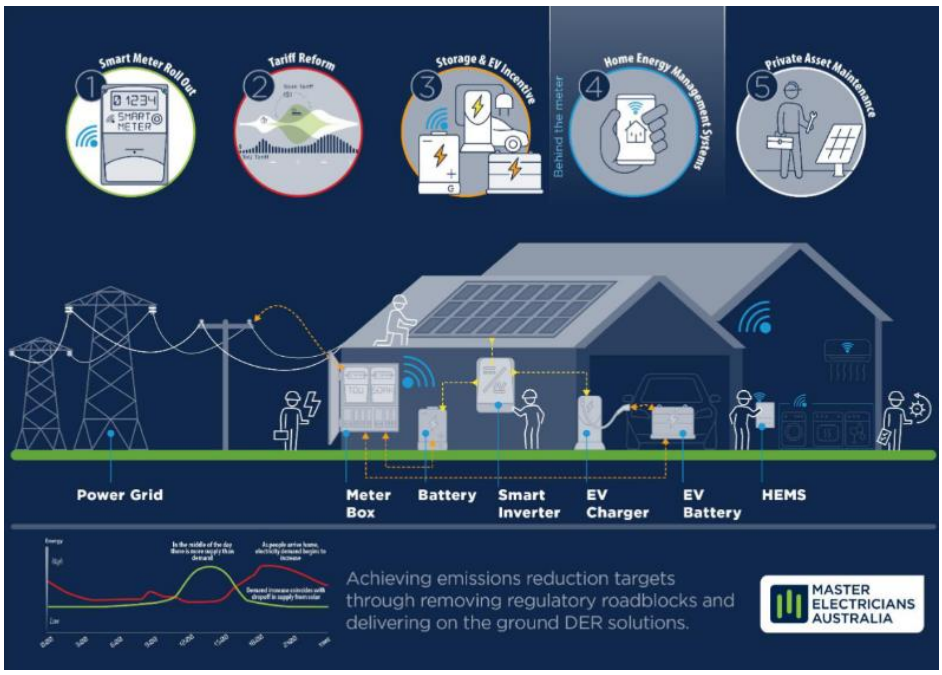

Diagram depicting the role of EVs within household electrification.

[2] *Ibid*, at 36.
[3] DITRDCA, above (n1), at 38.
[4] DITRDCA, above (n1), at 37.

B The Australian Government is currently developing an Australian New Vehicle Efficiency Standard and has already begun to implement actions in the National Electric Vehicle Strategy. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to reduce light vehicle emissions? How would these actions address the identified challenges and opportunities to reduce light vehicle emissions?

Please refer to our discussion under the Section II - Transport Energy Use (below).

II Transport Energy Use

A The Australian Government invited views on aspects of the energy transformation that represent the most material challenges and opportunities for the electricity and energy sector. Submissions closed on Friday 12 April 2024 (AEDT). This feedback will be used to inform the development of the Electricity and Energy Sector Plan and Net Zero Plan. The Australian Government will be undertaking targeted consultation to identify options for production incentives to support the establishment of a made in Australia low carbon liquid fuel industry, including through the release of a low carbon liquid fuels consultation paper. Feedback heard through this process will also inform development of the final Transport and Infrastructure Net Zero Roadmap and Action Plan. What additional actions by governments, communities, industry and other stakeholders need to be taken now and in the future to ensure the energy mix is ready to support transport emissions reduction?

1 Bi-Directional Charging and Time-of-Use Tariffs

In our response to the Federal Government's Electricity and Energy Sector Plan, we discussed the reciprocal benefits which electrification and EVs offer each other. In particular, we highlighted the beneficial impact on grid stability –

> With the anticipated population growth and increase in EV adoption, the stability and reliability of the NEM grid is at risk. CER mitigates this by lowering peak grid demand and enabling consumers to supply excess energy back to the grid during periods of undersupply.[5]

We explained the vital role bi-directional charging plays in assisting with grid stability -

> [bi-directional EV charging] enable[es] consumers to charge their EVs at home and utilise the EV battery to store excess solar energy for later use. This will also help alleviate EV charging infrastructure capacity issues.[6]

Implementing EV bi-directional policies in conjunction with time-of-use (ToU) tariffs optimises EV's "key role in storing and later dispatching excess power generated from solar photovoltaic (PV) and other renewable energy systems … potentially assist[ing] in electricity grid management."[7] ToU policies provides 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

[5] Chris Lehmann and Georgia Holmes "Electricity and Energy Sector Plan" *Master Electricians Australia*, at 3 < MEA Report Template Portrait (masterelectricians.com.au)>
[6] *Ibid*, at 12.
[7] DITRDCA, above (n1), at 76.

simultaneously signal for consumers to utilise their stored excess solar energy as opposed to relying on grid energy. Household capacity to benefit from ToU tariffs will vastly improve with EV battery storage, while grid demand pressures from EV charging are alleviated.

What does this mean for EVs? We can expect this to likely increase EV adoption as consumers gain the ability to enhance economic benefits available through household and vehicle electrification thereby assisting the Federal Government in achieving its Light Vehicle Net Zero Pathway target outlined in the discussion paper. This approach gives consumers control over when and how they use energy, reducing the cost of electricity in which EV batteries behave as a reservoir for excess solar energy.

Additionally, concerns over charging capacity and costs are alleviated as consumers gain confidence in their ability to charge cheaply at home. MEA strongly believe prioritising electrification in concert with promoting the Light Vehicle Net Zero Pathway are necessary to **"**ensure a positive experience for consumers using electric charging infrastructure."[8]

III Achieving Net Zero Together

A What are the best ways for the Australian Government to work collaboratively with industry, business, governments and communities to implement the proposed pathways?

As noted in our introduction, SMEs are susceptible to losing trained staff to better paying infrastructure projects. Conversely, the narrow scope of most project work, and its finite time frames means that employers on these projects cannot provide the variety of work to meet the scope of competencies nor the security of four years employment needed to complete structured qualifications such as the Cert III Electrotechnology,

MEA believe that a suite of collaborative options between SMEs, Industry Associations, EBA businesses and GOCs is needed to address the skills shortage challenge and ensure that adequate numbers of apprentices are being trained to meet demand. Some of these options may include -

- Increased support for Group Training Schemes, to derisk employment, and provide adequate skills scope.
- "Incubator" arrangements between large businesses and SMEs to allow apprentices indentured to specialist contractors to be subsidised.

B What are good domestic or international examples of partnership and collaboration on transport and transport infrastructure emissions reduction that could inform the final Roadmap and Action Plan?

1 Net Zero Economy Authority Bill

MEA supported the implementation of the Net Zero Economy Authority (the Authority) in our response to the Net Zero Economy Authority Bill 2024 consultation. MEA took the opportunity to advocate MEA's core CER policies (including EV bi-directional charging and ToU Tariffs) as a key prioritisation for the Authority once established.

[8] DITRDCA, above (n1), at 75.

With increasing population and EV adoption, facilitating household bi-directional EV charging will not only decrease grid demand pressures arising from EV charging, but also address public and private charging facility capacity issues.

C What opportunities can the government leverage to show leadership in Australia and internationally?

Australia's comparative advantage lies in its abundance of natural sunlight. By implementing electrification policies to harness this advantage, Australia can emerge as a global leader in maximising cost efficiency in owning and operating EVs.

The world is on the verge of electrification, with EVs gaining popularity among households. However, like all transition periods, the shift to EVs faces resistance. By promoting not only the environmental benefits of EVs but also the financial advantages—such as increasing household disposable income through inexpensive electricity generation via solar PV compared to costly petrol vulnerable to global disruptions—we can effectively target and persuade a larger segment of the population to embrace EVs willingly.

By adopting a 'fast and furious' approach towards regulating electrification[9] which directly benefits EVs, Australia can position itself as a global leader in EV adoption.

To ensure a successful and sustainable roll out of EV charging infrastructure, the roadmap needs to facilitate initiatives which supports small businesses susceptible to losing trained staff to better paying infrastructure projects.

[9] Chris Lehmann and Georgia Holmes "Energex Regulatory Proposal 2025-30" *Master Electricians Australia* [14 May], at 3 < https://www.masterelectricians.com.au/wp-content/uploads/2024/06/MEA-Submission-Energex-Regulatory-Proposal-2025-30-May-2024.pdf>

IV Conclusion

MEA applauds the Federal Government's efforts to reduce carbon emissions produced through transport and infrastructure.

As key advocates of electrification, MEA support initiatives which increase the adoption of EVs in Australia given the key role EV batteries play in maximising CER. Household electrification and EV batteries complement each other, with electrification mitigating charging infrastructure capacity constraints and costs while EV batteries provide a reservoir to store excess solar energy. Overall, both contribute towards increasing households' disposable income while reducing carbon emissions.

We hope to see any further regulatory development regarding electrification of light vehicles consider the benefits of household electrification, ensuring that bi-directional charging capabilities are integrated into the network as a readily available option, increasing the amount of dispatchable energy in the NEM.

If regulated in a timely and efficient manner, household electrification can behave as an incentive for EV adoption as it:

- Reduces charging facility capacity constraints
- Increases household disposable income
    - Reduces cost to run the vehicle as independently generated solar PV energy is cheaper than volatile petrol prices
    - Acts as a reservoir to store excess solar energy allowing consumers to energise their houses cheaper than relying on grid produced energy.
- Reduces carbon emissions.

Thought needs to be given to the impacts of the roadmap on the critical skills shortages of electrical workers, with particular emphasis on the impact to regional communities and Small to Medium Employers (SMEs), as our experience has shown that they cannot match the wages offered on infrastructure projects. National and regional workforce planning needs to form part of the roadmap, to head off the skills shortages that will almost inevitably follow major infrastructure projects.

We appreciate the opportunity to participate in the *Transport and Infrastructure Net Zero Consultation Roadmap* and look forward to being a part of any further discussions.