

5 March 2024

To whom it may concern,

RE: Mitsubishi Motors Australia Limited submission on the Inquiry into the Transition to Electric Vehicles

Mitsubishi Motors Australia Limited ('Mitsubishi Motors') welcomes the opportunity to provide this submission to the House Standing Committee on Climate Change, Energy, Environment and Water ('the Committee') on its *Inquiry into the Transition to Electric Vehicles ('the Inquiry')*.

As a long-term participant in the Australian automotive sector, both in manufacturing and distribution, Mitsubishi Motors has always sought to encourage Australians' Adventurous spirit through the vehicles we have supplied to the market.

This spirit has extended through product development as the first automotive manufacturer globally to mass produce an electric vehicle (EV), with the iMiEV in 2009, and as a leading brand in the development of Plug-In Hybrid EV (PHEV) technology, today which is championed by our market leading product the Outlander PHEV.

It is through that spirit that we continue to support the development, and introduction, of policies globally where there is a clear and demonstrable opportunity to reduce vehicle emissions, while protecting consumers' ability to access the vehicles they require, at affordable prices.

#### SUPPORTING A RESPONSIBLE TRANSITION TO EVs

Much work has been done globally by governments to support consumers and vehicle manufacturers to develop the technology required to facilitate the uptake of PHEV's, BEV's, FCEV's and other low emission technologies.

In global markets, this has seen regulatory regimes supporting Original Equipment Manufacturers (OEMs) to manufacture various low emission vehicles, while charging technology, baseload power and incentives to support consumers in purchasing these vehicles have formed part of government responses to support the transition. In many markets, the original blueprint to facilitate wide-scale transition to EVs has been in place over the last decade, enabling automotive companies to formulate appropriate product and volume plans with the advance notice that is required to ensure consumers continue to access the vehicles they want and need.

Our concern with the Australian response, is that the Government is hastening the transition to EVs without taking the time to fully review and consider how to mitigate the ways in which the proposed mechanism and pace is likely to create adverse outcomes for consumers, either through increasing prices, or through decisions by automotives to restrict model volume or availability.

In a market such as Australia, which is such a geographically distant country, policy mechanisms should seek to support individuals who rely on the 'people mover' or 'workhorse' vehicles that enable towing and/or transportation of large weights across significant distances. We must be mindful that the needs of Australian motorists are different from those living in geographically smaller countries, and that differences in Australian regulatory mechanisms create additional compliance hurdles for vehicle manufacturers and dealerships. We should also endeavour to learn from the example of peer countries, where consumer pickup of EV technology has slowed over the last 12 months as governments have withdrawn financial incentives encouraging their uptake.

Our comments throughout this document reflect our current position, in response to the Committee's Terms of Reference, while seeking to support the Committee in enacting a plan that will benefit all Australians in the years to come.

While Mitsubishi Motors has outlined our concerns with a range of existing policy measures as relates to the transition to EVs in a broad sense, we have provided the following recommendations for the Committee's consideration to influence the Government's current plan regarding the transition to EVs:

Recommendations:

1. That the current Fringe Benefits Tax (FBT) exemption for Plug-in Hybrid EVs be extended beyond the current sunset date as of 01 April 2025.
2. That the Government adopt suitable lead times in its policy shift, to allow for automotive manufacturers to be able to plan for the most appropriate and efficient means of complying with policy.
3. That targets and policies are periodically reviewed to recognise the updating availability of technologies which help lower emissions in vehicles across all measures available to manufacturers.
4. That the Government seek to enact measures to harmonise Australian Design Rules with international best practice to reduce costs and complexities associated with the supply of vehicles to the Australian market.

We have taken all opportunity to present in this submission our views in such a way that they can be communicated without sharing any commercially sensitive information.

Mitsubishi Motors would welcome the opportunity to discuss this matter further with both the Committee, and relevant members of the Government.

[REDACTED]

Kind Regards

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Shaun Westcott  
CEO, Mitsubishi Motors Australia

## About Mitsubishi Motors

Mitsubishi Motors has been a proud part of the Australian business landscape for over 40 years, and we have sought to Drive Australians' Ambitions through how they go about their daily lives and the resilient, reliable vehicles they use to do it.

Headquartered in Adelaide, South Australia since 1980, Mitsubishi Motors is a leading Australian automotive distributor of high-quality SUVs and Light Commercial Vehicles that are capable of handling Australia's toughest terrains.

With approximately 200 people employed in various roles around the country, and a further 5,000 staff employed via our 200-strong dealership network, the Mitsubishi Motors brand is a key economic contributor across Australia.

Across the 2022-23 Australian financial year, Mitsubishi Motors was responsible for the sale and supply of over 62,000 vehicles to consumers around the country, in the process providing over \$200 million in contributions towards the Australian Taxation Office.

Our loyal customer base is a diverse representation of Australia's population and industry, ranging from young Australians purchasing an ASX as their first vehicle, through to farmers purchasing a sturdy Triton as their trusty workhorse, and Government fleet operators looking to jump behind the wheel of an Outlander Plug-In Hybrid EV.

Mitsubishi Motors is a proud supporter of Disaster Relief Australia ('DRA'), a national disaster response organisation leveraging skills from current and former defence personnel, emergency responders and civilians, to support in recovery efforts among communities impacted by natural disasters.

## Terms of Reference

We are pleased to respond to the House of Representatives Standing Committee on Climate Change, Energy, Environment and Water on its inquiry and report on the transition to electric vehicles (EVs), with regard to:

- the establishment of resources, systems and infrastructure required to support transition to EVs
- the impact of moving from internal combustion engine vehicles, including fuel excise loss, existing auto industry component manufacturers and the environment
- the opportunities for fuel savings, such as by combining EVs with other consumer energy technologies and savings for outer suburban and regional motorists
- the impact on electricity consumption and demand
- the opportunities for expanding EV battery manufacturing, recycling, disposal and safety, and other opportunities for Australia in the automotive value chain to support the ongoing maintenance of EVs
- the impact of Australia's limited EV supply compared to peer countries, and
- any other relevant matters.

### Australian market factors

As a small, right-hand drive market accounting for just over 1 million new vehicle sales per annum, Australia is a niche market by global standards with a strong consumer preference towards SUV's and Light Commercial Vehicles (Utes) given their utility value, safety features, and suitability to Australian driving conditions.

SUV's and LCV's alone account for nearly 3 in every 4 new vehicles sold in Australia in recent years, demonstrating an active desire from Australian consumers for vehicles which can serve multiple purposes for both the family and business.

While these purchase patterns and behaviours closely mirror the United States of America, one key element which is overlooked in the American context is that larger, full-sized pickups (also referred to as NB1) had not been captured by their EPA standards until 2017.

This had created a regulatory environment where some of the most popular vehicle models within the American market were not captured by CO2 standards until recently.

Within the Australian and global markets, there is also a shortfall in the capability of LCV EV products which can still perform to the same standard as existing products, particularly regarding expected range and towing performance at an affordable price.

This is critical to support the decarbonisation of the fleet, given the important roles which Utes play across Australian industry, particularly among small businesses.

While there are a limited number of fully electrified Utes available in Australia, and other markets globally, these are largely compromised products given that they either lack the power or performance characteristics which are required by consumers, or they are priced at such a high level that they are not economically feasible for large volume supply.

There are billions of dollars being invested globally into the development of battery and EV technologies which will be able to support these objectives, however in the present day there is not a substitutable product for the Internal Combustion Engine (ICE) Ute which would create a large burden on automotive businesses given their critical role in Australia.

### Investing in the transition

Transitioning a country like Australia to widespread adoption of EVs requires a comprehensive infrastructure investment and plan. The nation's electricity grid capacity, policy frameworks and charging infrastructure, local and state-based regulations, ancillary policies and investments all need to be considered as part of that plan and streamlined to facilitate maximum compliance. This includes allowances for governments across all levels to invest in critical infrastructure assets, including:

- electricity supply sources, to facilitate the charging of EVs
- roads, to keep up with the more frequent maintenance which will be required by the rapid deterioration of roads given the increased weight of EV units, which will increase surface wear and tear<sup>i</sup>
- waste disposal and recycling, particularly acknowledging the need to ensure that as EV batteries and components reach the end of their life cycle, our recycling and disposal efforts must aim to mitigate adverse impacts on the Australian environment.

Mitsubishi Motors is proud to invest in technology that lowers emissions from individual vehicle units. We have considered a multitude of measures, which includes electrified vehicles, like the Outlander PHEV, which help drivers reduce emissions through the tailpipe.

We have also invested and implemented other innovative technologies that go beyond tailpipe emissions. All our models sold in Australia now utilise low global warming potential refrigerant in their air conditioning systems. Although the Australian NES Bill 2024 does not currently recognise the role these innovations can play in reducing emissions, they are globally recognised through standards in the United States and in Europe. They also support the creation of innovative incentives for vehicle manufacturers who have advanced in their technological capabilities and outpaced current regulation.

It should also be noted that investing in the transition must include adequate support for a workforce to keep pace with the increased electrification. The investment into the workforce must be two-fold given ongoing concerns within the industry.

- **Skilled worker scarcity:** The Australian Energy Market Operator (AEMO) predicts 12,500 skilled workers will be needed for large-scale renewable energy projects within the next five years<sup>ii</sup>, with the shortage among skilled workers and apprentices in automotive trades now in the top vacancies in most Australian states.<sup>iii</sup>
- **Supporting workers through the transition:** Australia currently has around 112,000 mechanics employed in supporting the maintenance of vehicles for road users<sup>iv</sup>. Mitsubishi Motors' dealer network employs in excess of 2,500 Australians in dealerships across the country to meet current vehicle servicing and maintenance requirements. It is critical that any transition seeks to support all dealer employees in being redeployed within their industry through funded support, which may include skills retraining programmes.

#### Charging infrastructure

Much of Australia's charging infrastructure requires a level of investment and planning from state governments, with an overarching federal structure enabling clear and consistent governance across the states, and by appropriately integrating any residual local permissions and regulations. Nearly all of Australia's states have outlined their strategies of investment in EV charging infrastructure (excepting Tasmania) but are inconsistent in the currently provided level of detail around investment and timelines.

Australia's current charging infrastructure is sufficient to sustain the current modest growth in the uptake of EVs, which sits at 8 percent of the new car market.<sup>v</sup> Plugshare, the crowd-sourced EV charging mapping service, shows that major highways across Australia have at least one charger within towns, petrol stations or tourist attractions. While this looks good on a map, examining the chargers more closely reveals that the number of charges available is significantly limited, and may not support high-speed charging, which is required to keep motorists on the move in a timely manner.

Some smaller regional towns may only have one or two chargers supporting the entire area. While investment into charging infrastructure has been encouraging, the inconsistent approach with which states have been able to invest in this space, create a significant barrier to wider adoption by 2030.

Of course, Mitsubishi Motors recognises that Australian automobile users rely on their vehicles for different purposes, and under different conditions. In the case of EV adoption, the disparate needs of motorists could include:

- **Metropolitan driving:** offers motorists a reasonable environment in which to use their EVs, as they can journey from one available charger at home, to one at work, in shopping malls, or in select other public spaces. In Victoria, the state's Zero Emissions Vehicle Roadmap studied

vehicle usage and found that some motorists travelled an average of 29km per day, which provides motorists with the range they need to meet day-to-day commuting needs.<sup>vi</sup>

- It should be noted that changes in dwellings must form part of the EV transition plan. According to the 2021 census, over 2.5 million Australians (10.3 percent) now live in apartments, and the proportion of apartments continues to increase, accounting for nearly one third of the increase in private dwellings since 2016.<sup>vii</sup> These dwellings typically lack the space for appropriate ‘home charging’ facilities, or are otherwise restricted from including them in basement garages.
  - The same census also found that we continue to be a nation of drivers, with 91 percent of households reporting having at least one vehicle and more than 55 percent having two or more vehicles, further increasing the pressures to install appropriate home and public charging facilities.
  - Any increase in the EV consumer market is likely to see similar impacts in Australia as has been seen in the United States, including in California, where public charging infrastructure has been found to struggle in keeping up with demand for EV drivers, with unmanageable waiting times for public chargers.<sup>viii</sup>
- Rural, regional and remote driving: Australians in regional locations face different challenges in EV adoption that must be incorporated into the Government’s plan. Greater distances from central electricity systems substantially increase the cost of installation on farms and towns, disproportionately affecting property owners. Public gathering spaces are also more substantially geographically disparate, creating additional difficulties in accessing a suitable fast charger. The Government’s plan must also factor in foreseeable challenging scenarios which more regularly occur outside of metropolitan areas – namely extreme weather events and natural disasters, which can render roads unusable, access to power non-existent for periods of time, and a reliable vehicle a necessity to ensure transport outside of disaster zones, particularly when danger is imminent.

There is also an additional need to ensure that workers with the qualifications and experience necessary to install and maintain charging infrastructure, are available at a scale to sustain a broader uptake across Australia, and will require policies to nurture the electrification workforce.

#### Grid capacity and smart grid technology

Australia’s electricity grid is not yet ready for a transition to EVs without a significant uptick of investment. Data from the Institute of Public Works Engineering Australasia (IPWEA) suggests there will be significant grid stability issues if demand for electricity continues to grow in line with current EV adoption forecasts.<sup>ix</sup> While intelligent distribution of charge times may increase peak grid load by only 3 or 4 percent, full EV adoption with current usage trends will see peak grid load double.

As a consumer behaviour issue there is no easy solution to this problem – state governments will need to invest in smart grid technology to manage loading demands, however none of their EV strategies adequately address this issue. The Australian Renewable Energy Agency (ARENA), did not mention such technology in their annual priorities either, indicating a growing loading issue that is likely to be exacerbated by additional electrification reliance on the existing electricity grid; especially as we draw closer to the 2030 goal.<sup>x</sup>

#### Waste handling and processing

Much attention at a government and media level has focused on the adoption of EVs, without addressing what will become of the battery components integral to EVs once they reach the end of their viable lifecycle, in the vehicle, which is currently substantially shorter than in an ICE vehicle.<sup>xi</sup> The repurposing

of batteries in second and third life deployments, as well as end of life recycling, are critical considerations when policy levers are designed to accelerate mass adoption of EV technology.

Research commissioned by the Battery Stewardship Council, undertaken by the University of Technology Sydney's Institute for Sustainable Futures, found that by 2030 there will be 30,000 tonnes of EV batteries reaching the end of their life in Australia. This will increase significantly in future decades, with 360,000 tonnes of waste by 2040 and 1.6 million tonnes of waste by 2050. EV Battery waste presents several environmental and health issues due to their chemical composition, which includes the risk of intense fires and toxic chemical leaching.<sup>xii</sup> The CEO of the Battery Stewardship Council, Libby Chaplin, has called for urgent action to be taken on Australia's E-Waste recycling efforts, however, there has been no additional public funding supporting B-Cycle or E-waste recyclers to improve their capacity.

More resources and time must be made available to limit the risk of toxic substances being released into the Australian environment from improper disposal of EV battery components.

#### Demand side policy

EVs generally require higher upfront costs compared to traditional ICE vehicles. The cost reflects the upfront realities of manufacturing an EV as opposed to an ICE engine, accounting both for the additional labour hours and the high costs of the materials used to create the batteries – including aluminium, copper, iron, cobalt, nickel, manganese, graphite and lithium, some of which are classified as critical minerals.

In global markets like China, Europe, the United States and New Zealand, government-funded subsidies and incentives have allowed early adopter consumers particularly to switch their car purchases to EVs. CNBC reported<sup>xiii</sup> in 2023 that despite significant financial investment from the government, OEMs and consumers; EV sales had slowed significantly by August 2023 compared to January 2022. The same investigation has found only 31 percent of American car dealerships expect EVs to replace ICEVs. Ausgrid, in a submission to AEMO, noted a separate US study, which found that, "50 percent of EV customers will purchase an ICE vehicle for their next car, citing lack of infrastructure, range anxiety and EV and energy prices as the key reasons for reverting to ICE vehicles."<sup>xiv</sup> Concerns expressed by consumers have been further outlined below:

- **Range anxiety:** As outlined above under 'charging infrastructure', it is important to note that from a consumer's perspective, the gaps in available charging infrastructure create significant concern about the range available for certain driving distances. This may impact outer suburban commuters, tradespeople used to travelling significant distances as part of their day-to-day role, small business workers and owners relying on reaching disparate areas, or other Australians who would be significantly inconvenienced by a limited range and slow recharging time.
- **Limited vehicle options:** There is a dearth of affordable EVs in the Australian market, that reflects the availability of EVs in the United States market even five years ago. Consumers who have traditionally opted for LCVs and other 'workhorse' vehicles (whether for their business or family transportation needs), have been concerned that there are a limited number of usable models for their circumstances.
- **Unit depreciation:** Most EVs retain less of their value by a significant proportion compared to the average ICEV after the two-year mark, according to data released in January<sup>xv</sup>. These findings reflect similar studies conducted overseas, including in the United Kingdom, where on average, EVs lose 51 percent of their purchase value within three years, compared to 37 percent for ICEVs.<sup>xvi</sup> Findings from these studies suggest the depreciation may be caused by the comparatively shorter life span of a battery, when assessed against an engine.

- **Maintenance costs:** After electricity, comprehensive insurance coverage is one of the largest ongoing maintenance expenses for Australian EV owners – findings that have been shown to replicate insurance circumstances for consumers in the United Kingdom. The Insurance Council of Australia notes this is caused by a range of factors, including the expense of imported vehicle components and electric car batteries, as well as a dearth of qualified EV service centres and repairers available across Australia.<sup>xvii</sup> Additionally, the Insurance Council of Australia noted in August 2023, that garages, homes, apartment blocks, vehicle service facilities and commercial car parks were also being assessed by building insurance providers for the increased fire risk EV batteries pose and any further compliance requirements.

One of our concerns about the current transition pathway Australia is pursuing, is that it does not include demand side incentives to motivate consumer uptake of EVs at the scale required to meet the government's sales targets (as has been part of the EV transition solution in comparable markets, including in the United States.) Our recommendation to help mitigate this issue, is to extend the current Fringe Benefits Tax for PHEVs beyond the current sunset date of 01 April 2025, to fully demonstrate the benefits of EVs to wary consumers.

Plug-In Hybrid EVs (PHEVs), have the unique ability to be able to reduce overall tailpipe emissions in the same manner as a pure EV, without the complex and expensive investment in dedicated public and private charging infrastructure, and the associated investment in the grid which is required to support it.

Mitsubishi Motors has previously commissioned research which found that Outlander PHEV drivers in Australia reported using their vehicles in pure EV mode 84 percent of the time (by distance travelled) with 97 percent of the users reporting they were able to charge their vehicles at home.

If the Government is looking to develop a package of incentives to support consumer demand for low/no emission vehicles, then we would strongly implore them to ensure that PHEVs continue to be an active part to support their ability to capture emission reductions in the immediate term without significant infrastructure investment required.

It should be noted that other comparable markets, including Europe, have recently ensured in-vehicle emission policies that internal combustion engines can have a future in their market through the integration of e-fuels to reduce the overall emissions associated with vehicles. This would also ensure that existing technology can be utilised more efficiently in the existing car parc both within Australia and internationally. In developing countries where sustainable and reliable electricity supply is low, the use and investment into biofuels, e-fuels and other innovative technologies reducing emissions from ICE vehicles, may also support global emissions reduction through passenger vehicles.

### Impact on OEMs

Model and volume plans are often set a minimum of 12 months in advance to ensure that there is appropriate volume available within the global market to meet the supply needs of all countries which brands operate within, due to long and complex supply chains of the components which make up a car. This applies to all vehicles – regardless of whether they use an engine or battery to power the car.

Further to this product development plans (e.g., from concept to production) often ranges between three and five years, and powertrain development between four and seven years, with each new model and powertrain life expectancy being a minimum five and ten years respectively to guarantee a return on investment.

In the Mitsubishi Motors circumstance, vehicles manufactured to Australian specification are produced in facilities in Japan, Thailand, and Indonesia alongside other country specifications for other markets.



Production plans will factor in the sourcing of suitable materials of everything from engine componentry to semiconductors and other critical elements, such as drive-train batteries, to be able to meet needs.

In each area of procurement and manufacturing lead time is integral to ensure that manufacturing operations can produce suitable vehicles to supply to markets in line with their demand and local market policies.

As we have stated through previous submissions, our recommendation has always been that there is a need for suitable lead times to be provided to be able to allow for automotive manufacturers to be able to plan for the most appropriate and efficient means of complying with policy.

#### Adjacent policy levers

Another factor for the Committee's consideration should be examining Government decisions impacting Australian motorists in adjacent policy spaces.

All motorists rely on a source of energy to power their vehicles – whether electricity for cars powered by batteries, or petrol or diesel fuel for engine-powered vehicles. As part of the Inquiry, we hope to see the Committee further examine how to minimise the price of maintaining a vehicle for Australian motorists, particularly regarding the energy used to power a vehicle – whether traditional petrol or diesel, or electricity.

- **Fuel excise:** Following the biannual indexation of the excise rate, the latest excise rate as of 5 February 2024 rose to 49.6 cents per litre, placing an additional burden on Australian motorists already struggling with inflationary pressures and cost of living issues.
- **Power price fluctuations:** Following price hikes of up to 40 percent in benchmark electricity prices over the last two years, the latest proposal floated by the Australian Energy Regulator (AER) in March 2024<sup>xviii</sup>, suggests that power prices may surge by up to \$50 dollars in some areas, and drop in others. This inconsistency will create shockwaves on household expenses, further amplifying the cost-of-living crisis on impacted Australians.

#### Australian Design Rules and Fleet Purchasing Policy

As recommended in our submission to the National EV Strategy, Mitsubishi Motors recommends the Government undertake a review of Australian Design Rules (ADRs) and their harmonisation with global best practice standards, to reduce costs and complexities associated with supply of vehicles to the Australian market.

These requirements, such as, but not limited to, unique Australian child restraint tethering requirements, are largely out of line with global precedence in the design of automotive vehicles and introduce design elements which are not factored into vehicles supplied into other developed markets such as Europe, the UK, US and Japan.

In the case of Australia's unique child restraint tethering requirements, the international market have not followed Australia, nor is there any indication that they will. Child safety is no less of a priority in other developed markets as it is in Australia. It is time to finally harmonise Australia's requirements with global UN regulations. This will open additional product opportunities including low and zero emissions vehicles.

In addition, we would recommend that the Government, alongside state and territory governments, explores how its procurement policies for fleet vehicles could be redesigned to allow for the greater utilisation of small EVs supplied in international markets.

As an example, within the Japanese market there is a large penetration of small EVs, often referred to as Kei Cars, suitable for city commuting given their smaller footprint which requires less cumulative battery capacity and energy consumption.

These are a real-world example of how mass-produced EV technology can be deployed in urban environments through the use of smaller and lighter vehicles. This combination of smaller batteries, limited power delivery and vehicle weight allow for a maximised range, compared to larger heavier vehicles, while reducing road wear and tear and generating less emissions per vehicle due to the lower utilisation of resources in production.

As an example, Mitsubishi Motors' eK X EV which is currently on sale in Japan has a range of 180km based, on a 20kWh battery which is the same size as an Outlander PHEV.

With the average commuter in Australia only travelling ~35km per day, based on pre-COVID statistics, these forms of technology would be highly valuable, and efficient, for use in large Australian cities.

While these vehicles are inherently safe through sound structural designs, and often incorporate latest-generation safety technologies, and achieving high safety ratings in other markets, unique ADR's as previously mentioned, and inflexible fleet purchasing policies that mandate the highest achievable ANCAP rating of 5 stars result in limited or no market potential for such vehicles in Australia.

Safety is of paramount importance to Mitsubishi Motors, and within the current market, thanks to decades of industry innovation and collaboration, vehicles are inherently safer than they have been in the past.

Currently fleet procurement rules within Governments, and other large fleet providers, which often require 5-Star safety as a base requirement, can effectively close off a market opportunity for new technologies, without recognising the affordability of vehicles which are still safe.

There could be a largely untapped opportunity to look at the adoption of smaller EVs, and potential van solutions, which are low/no emission through reviewing the suitability of ADR alignment with global best practice and procurement requirements that reference ANCAP.

## References

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- <sup>i</sup> *Electric vehicles and the impact on infrastructure*. Forbes Technology Council. 29 December 2022. Available: <https://www.forbes.com/sites/forbestechcouncil/2022/12/29/electric-vehicles-and-the-impact-on-infrastructure/?sh=16be0ed21835>
- <sup>ii</sup> *Electricians are in high demand, so why are almost 40 per cent of apprentices considering quitting?* Gavin Coote, ABC News. 23 August 2022. Available: <https://www.abc.net.au/news/2022-08-23/apprentice-electricians-dropping-out/101360616>
- <sup>iii</sup> *Skills Shortage*. Australian Automotive Aftermarket Association. 21 March 2022. Available: <https://www.aaaa.com.au/news/aaaa-news/skills-shortage/>
- <sup>iv</sup> *Motor Mechanics: Labour Market Insights*. Australian Government. 10 September 2021. Available: <https://labourmarketinsights.gov.au/occupation-profile/motor-mechanics?occupationCode=3212>
- <sup>v</sup> *New Vehicle Sales Achieve a September Record*. Federal Chamber of Automotive Industries, 04 October 2023. Available: <https://www.fcai.com.au/news/index/view/news/807>
- <sup>vi</sup> *Victoria's Zero Emissions Vehicle Roadmap*. VIC Department of Environment, Land, Water and Planning. May 2021. Available: [https://www.energy.vic.gov.au/\\_data/assets/pdf\\_file/0036/575676/Zero-Emission-Vehicle-ZEV-Roadmap.pdf](https://www.energy.vic.gov.au/_data/assets/pdf_file/0036/575676/Zero-Emission-Vehicle-ZEV-Roadmap.pdf)
- <sup>vii</sup> *2021 Census count includes Australians living on wheels and water, but most of us still firmly on land*. ABS. 28 June 2022. Available: <https://www.abs.gov.au/media-centre/media-releases/2021-census-count-includes-australians-living-wheels-and-water-most-us-still-firmly-land>
- <sup>viii</sup> *Our US electric car road trip charging disaster and what it means for Australia*. CarExpert. 6 March 2024. Available: <https://www.carexpert.com.au/car-news/our-us-electric-car-road-trip-charging-disaster-and-what-it-means-for-australia>
- <sup>ix</sup> *Can the power grid handle the transition to electric cars?* Institute of Public Works Engineering Australasia. 10 June 2022. Available: <https://insite.ipwea.org/can-the-power-grid-handle-the-transition-to-electric-cars/>
- <sup>x</sup> *Annual Report 2022-2023*. Australian Renewable Energy Agency. 26 September 2023. Available: <https://arena.gov.au/assets/2023/10/ARENA-ANNUAL-REPORT-2022-2023.pdf>
- <sup>xi</sup> *Expired electric-car batteries to threaten Australian environment from 2030, experts warn*. Drive.com.au. 2 June 2023. Available: <https://www.drive.com.au/news/electric-car-battery-recycling-australia-environmental-harm/>
- <sup>xii</sup> *EV batteries pose big risks — and new figures reveal how much hazardous waste they could create*. ABC News. 1 June 2023. Available: <https://www.abc.net.au/news/2023-06-01/electric-vehicle-battery-waste-projections-uts-research/102417114>
- <sup>xiii</sup> *Why EVs are piling up at dealerships in the US*. CNBC. 17 October 2023. Available: <https://www.youtube.com/watch?v=cZlsZwclgpc>
- <sup>xiv</sup> *Ausgrid submission to AEMO's Draft 2024 ISP*. Published by AEMO. 16 February 2024. Available: [https://aemo.com.au/-/media/files/stakeholder\\_consultation/consultations/nem-consultations/2023/draft-2024-isp-consultation/draft-submissions/ausgrid.pdf?la=en](https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/draft-2024-isp-consultation/draft-submissions/ausgrid.pdf?la=en)
- <sup>xv</sup> *Used electric car prices plummet after two years, data finds*. Drive. 30 January 2024. Available: <https://www.drive.com.au/caradvice/used-electric-car-prices-fall-after-two-years-data-finds/>
- <sup>xvi</sup> *Electric-car resale values are worse than petrol cars*. Joshua Dowling, Drive. 24 October 2023. Available: <https://www.drive.com.au/news/toyota-electric-car-resale-values/>
- <sup>xvii</sup> *National Electric Vehicle Strategy: consultation paper*. Prepared by the Insurance Council of Australia. 31 October 2022. Available: [https://insurancecouncil.com.au/wp-content/uploads/2022/10/ICA-submission-national-EV-strategy-oct-31-22\\_FINAL.pdf](https://insurancecouncil.com.au/wp-content/uploads/2022/10/ICA-submission-national-EV-strategy-oct-31-22_FINAL.pdf)
- <sup>xviii</sup> *Winners and losers as energy regulator outlines mixed bag of power price changes*. ABC. 19 March 2024. Available: <https://www.abc.net.au/news/2024-03-19/aer-flags-price-cuts-for-some-rises-for-others/103602946>