

Response to the House of Representatives Standing Committee on Climate Change, Energy, Environment and Water's inquiry into the transition to electric vehicles (EVs).

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About VACC

VACC is Victoria's peak automotive industry association, representing the interests of more than 5,000 members in over 20 retail automotive sectors that employ over 50,000 Victorians. VACC members range from new and used vehicle dealers (passenger, truck, commercial, motorcycles, recreational and farm machinery), repairers (mechanical, electrical, body and repair specialists, i.e. radiators and engines), vehicle servicing (service stations, vehicle washing, rental, windscreens), parts and component wholesale/retail and distribution and aftermarket manufacture (i.e. specialist vehicle, parts or component modification and/or manufacture), tyre dealers and automotive dismantlers and recyclers.

VACC is also an active member of the Motor Trades Association of Australia (MTAA) and contributes significantly to the national policy debate through Australia's peak national automotive association.



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VACC recommends that automotive retail businesses are incentivised via tax offsets or carbon credits to invest in new tools and safety equipment for electric vehicles, including new hoists and safety equipment for workers.

Recommendation 2

VACC recommends that a New Vehicle Efficiency Standard (NVES) for Australia must be part of a broader package of incentives aimed at improving the affordability, demand and supply of EVs, including price subsidies, tax credits, rebates and other incentives.

Recommendation 3

VACC recommends that low emission vehicles should be incentivised by the Federal Government over the following timeframes:

- Until such time that price parity between zero emission vehicles and ICE vehicles is within reach.
- Until there has been sufficient infrastructure for zero emission vehicles installed nationally.
- Until the supply and variety of zero emission vehicles on offer across different vehicle categories and price points into Australia have increased considerably.

Recommendation 4

VACC recommends that the Federal Government fully investigate the high cost of insurance premiums for EVs and consider factors to reduce premiums based on its impact on total cost of ownership.

Recommendation 5

VACC calls on the Federal Government to have a greater focus on addressing the chronic skills shortage of EV technicians and automotive trade professionals in general.

Recommendation 6

VACC recommends that the Federal Government commit funding towards promoting automotive careers as part of the move to a clean economy.

Recommendation 7

VACC recommends that 'Electric Vehicle Technician' be separately identified in ANZSCO with its own unique six-digit code.

Recommendation 8

VACC recommends that the Federal Government boost employer incentives to upskill the existing automotive trade workforce, including funding for EV apprenticeship training.

Recommendation 9

VACC recommends the Federal Government expand eligibility criteria for the installation of EV charging stations and charging ports, with greater exemptions or incentives for regional Australia to allow for automotive retailers such as dealers, aftermarket service and repair workshops and service stations to apply.

Recommendation 10

VACC recommends that the Federal Government lead a nationally consistent and coherent approach to road-user charging, and road related investment, that includes a 7,500-kilometre exemption for Licensed Motor Car Traders who use ZLEV trading stock for demonstration purposes.

Recommendation 11

VACC recommends that the Luxury Car Tax (LCT) be abolished to stimulate sales of zero and low-emission vehicles and improve reductions in vehicle emissions.

Recommendation 12

VACC recommends that the Federal Government increase investment and research in an industry-led and federally funded national program aimed at the proper disposal of end-of-life vehicles.

Recommendation 13

In the absence of a regulatory framework, such as an EV product stewardship, VACC recommends, at a minimum, a coordinated and harmonised standard set of procedures that deals with the battery handling, storage and disposal of electric batteries across the states and territories – led by the federal Environmental Protection Agency of Australia.

Recommendation 14

VACC recommends the Federal Government update the national code of practice for the modification of light vehicles (Vehicle Standards Bulletin 14) for the installation of electric drives and consider measures to reduce the cost of undertaking EV conversions.

Recommendation 15

VACC recommends there be a requirement that only persons who have the relevant qualifications or experience are able to modify or convert an ICE vehicle to an electric drivetrain.

Recommendation 16

VACC recommends that the ACCC investigate instances of EV manufacturers denying access to EV parts to non-authorized repairers, with consideration as to whether this contravenes provisions under the Competition and Consumer Act 2010.

Recommendation 17

VACC recommends the Federal Government give due consideration to the total cost of ownership as it relates to EVs. Full and proper analysis should be undertaken to ensure consumers are properly informed prior to their purchase decision.

1. Introduction

The Victorian Automotive Chamber of Commerce (VACC) welcomes the opportunity to provide the following submission to the House of Representatives Standing Committee on Climate Change, Energy, Environment and Water's inquiry into the transition to electric vehicles (EVs).

For an industry heavily steeped in traditional petrol and diesel technology, the move to zero and low-emission vehicles represents a major shift for Australia's automotive industry. A transition that many automotive businesses are ill-equipped to make. Battery electric vehicles require major capital investments by automotive businesses in new tooling, charging infrastructure and skills training. For many automotive businesses, these transitional costs will be prohibitive. It is therefore critical that the Federal Government takes a leadership role to ensure industry transition to EVs is seamless and minimise business and employment losses within the community.

The automotive retail industry is best placed to provide expert advice to government on EV transition policy as they are, and will be, responsible for the sale, service, and repair and disposal of vehicles across Australia.

The following submission responds to the inquiry's terms of reference and offers recommendations as they relate to incentives, skills, training, charging infrastructure, taxation, the circular economy, EV conversions, parts supply and total cost of ownership.

2. The Australian automotive industry

The automotive industry contributed \$45.9 billion, or 2.1 per cent of total industry output, to the Australian economy in 2021-22 and employed 392,000 workers – approximately 2.9 per cent of total employment¹.

The largest two sub-industries are motor vehicle and motor vehicle parts retailing, and automotive repair and maintenance, which together accounted for 60 per cent of industry output in 2021-22 and 66 per cent of employment. Other smaller services such as manufacturing, wholesaling, fuel retailing, towing and passenger car rental and hiring, also form part of the industry.

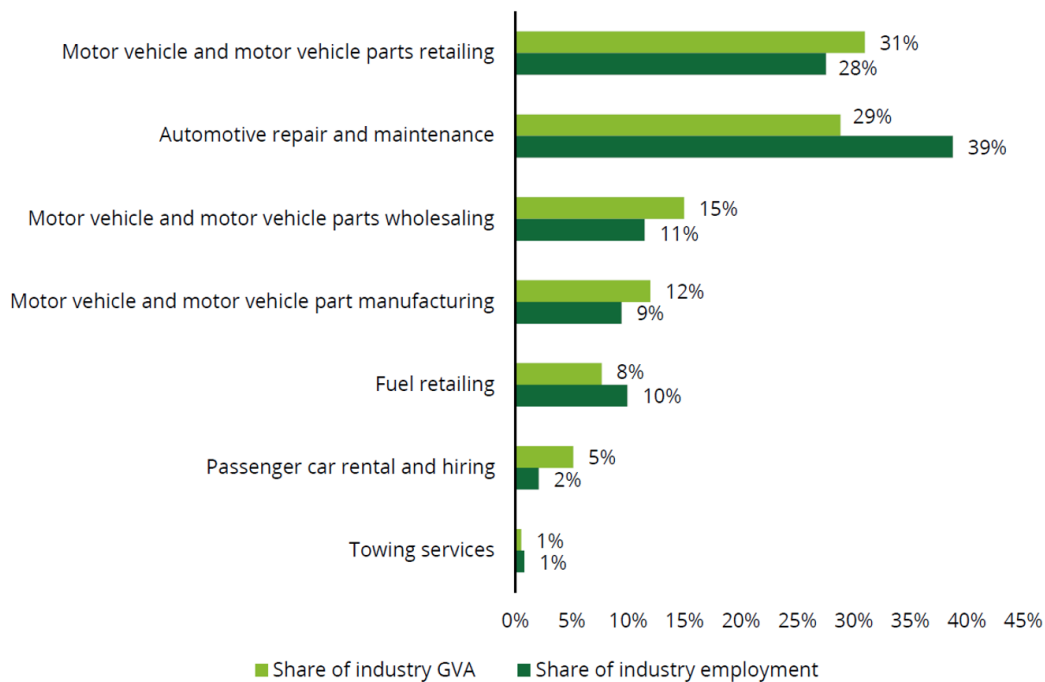
The top five occupations by employee in the Australian automotive industry are:

- Motor mechanic (general), with 79,300 workers
- Motor vehicle parts interpreter / automotive parts salesperson, with 17,600 workers
- Motor vehicle or caravan salesperson, with 14,500 workers
- Service station attendant, with 13,200 workers, and;
- Automotive electrician, with 10,800 workers.²

1 Motor Trades Association of Australia 'Directions in Australia's automotive industry: An industry report 2021' 2021.

2 Deloitte Access Economics 'Skills shortages in the Australian automotive industry' 2024 [p.6].

Figure 1: Sub-industry shares of automotive GVA and employment, 2021-22



Source: Deloitte Access Economics

Figure 1- Australian Automotive industry employment

3. The establishment of resources, systems and infrastructure required to support transition to EVs

3.1 Incentives

3.1.1 Support for existing automotive retail businesses to transition

Federal, state and territory governments have set ambitious targets to reduce carbon emissions by 2050. These targets rely on increasing Australia’s reliance on naturally sustainable energy sources such as wind, solar and back up hydro schemes, developing large scale battery storage systems and transforming electricity distribution networks.

However, to fully achieve Australia’s targets of carbon emissions reduction relies heavily on the transformation of the transport sector.

Transport contributes 19 percent of Australia’s carbon emissions, the third largest, and of that passenger and light commercial vehicles contribute 60 per cent of emissions. Addressing this sector to offset Australia’s emissions output is crucial to achieving government aims.

However, transforming the automotive sector to a low emissions future requires a multi-faceted approach beyond increasing the number of EVs imported into Australia. Transforming the sector requires a whole-of-industry approach that brings the hundreds of thousands of businesses in the sector along the journey and provides the requisite support to assist those businesses transitioning to new technologies.

Incentivising businesses will also provide avenues for creating jobs, increasing infrastructure, and providing consumers with greater knowledge and information on EVs to assist in helping motorists make the best-informed choice.

Recommendation 1

VACC recommends that automotive retail businesses are incentivised via tax offsets or carbon credits to invest in new tools and safety equipment for electric vehicles, including new hoists and safety equipment for workers.

3.1.2 Invest in consumer-facing incentives

Australia faces serious barriers in the quest to increase the affordability and accessibility of EVs for consumers. Australia is essentially a 'technology-taker', dependent on global manufacturers to supply product to our shores. Australia is also a right-hand drive market and small by international standards. Australia lacks the scale of EV infrastructure and financial incentives offered by other countries, which has seen manufacturer's prioritise the supply of EVs to these markets.

Further to this, VACC contends that the policy settings from federal and state governments, to date, have been unsuccessful in stimulating significant increases in consumer demand and manufacturer supply of EVs.

International experience shows that countries with much higher EV uptakes (compared with Australia) have spent billions of dollars investing over the long-term in EV infrastructure, including the availability of generous EV price subsidies, rebates, tax credits and other incentives to facilitate a change in consumer behaviour. For example, the United States fuel efficiency standard, on which the Australian Government has modelled its proposed New Vehicle Efficiency Standard (NVES), provides a raft of incentives at the federal and state level and is outlined in the table below. Specific grants are allocated for workplace charging station installation and mechanical training ensures a smooth transition for the existing automotive service and repair sector.³ Australian governments have been aware of the importance of such measures, yet have tried to stimulate EV demand without adequate incentives. This has only yielded small returns. Australia cannot hope to emulate the progress of more successful countries without committing to major and comparable financial incentives from government. Furthermore, additional barriers including vehicle stamp duty, Goods and Services Tax and the Luxury Car Tax should also be marked for removal to support the government's 2030 EV and 2050 net zero emissions targets.

³ U.S Department of Energy 'Alternative Fuel Mechanic Technical Training – San Joaquin Valley' <<https://afdc.energy.gov/laws/12100>>.

Location	Consumer Incentives		
Federal-Australia	EVs below luxury car tax threshold (\$89,332 in FY 2023/24) get FBT and the import tariff exemption . PHEV also received FBT exemption until April 1, 2025.		
Australian Capital Territory	Motor Vehicle duty exemption on new ZLEVs purchased from August 2022 and used ZEVs purchased from July 2023.	Two years of free registration for ZEVs. ACT shifting to emissions-based registration fees from July 1, 2024.	Interest-free loans of up to \$15,000 for eligible homeowners to invest new and used ZEVs and charging infrastructure.
Victoria	Flat duty rates on ZLEVs compared to non-ZLEVs.	Registration discount of \$100/year for ZLEVs (excluding conventional hybrids).	
New South Wales	Stamp duty exemption on eligible EVs ended on 31 December 2023.		A rebate of \$3,000 for ZEVs with a dutiable value of less than \$68,750 ended on 1 January 2024).
Queensland	Discounted Motor Vehicle duty on ZLEVs compared to non-ZLEVs.	Discounted registration fee on ZLEVs.	Rebates of \$3,000 or \$6,000 on ZEVs.
Northern Territory	Concession on stamp duty for EV and PHEVs valued up to \$50,000.	Discounted registration fee on EVs.	Residential grants of \$1,000 for EV owners to install EV chargers.
South Australia	Three-year registration fee exemption ZEVs valued up to \$68,750.	Subsidy of \$3,000 on ZEVs valued up to \$68,750 ended on 31 December 2023.	
Tasmania	Rebate of \$2,000 on new and used EVs available.	Interest-free loans of between \$500 and \$10,000 to install charging station for EVs.	
Western Australia	Rebate of \$3,500 of the purchase of ZEVs valued up to \$70,000		
Federal-United States	\$7,500 tax credit on EV purchases that meet mineral and battery requirements.		
California	Rebates up to \$4,500 for ZLEVs. Increased rebates are available for low and moderate household incomes.	Grants of up to \$7,500 to income-qualifying individuals for the purchase or lease of a new or pre-owned ZLEVs.	Incentives of minimum \$5,000 and up to \$25,000 to install charging station. Grant of up to \$2,000 for individuals to purchase and install charging station.
Other US states	Minnesota offers up to \$2,500 rebate on new ZLEVs and up to \$600 on used ZLEVs. Pennsylvania offers up to \$3,000 on new and used ZLEVs. Texas, New York and Delaware up to \$2,500 rebate on purchase or lease of EVs. Vermont offers up to \$4,000 incentives for the purchase or lease of EVs.	Oregon offered up to \$5,000 rebate on EV and PHEV. Maine offered up to \$7,500 rebate for the purchase or lease of ZLEVs. Illinois offers up to \$4,000 rebate on the purchase or lease of EVs. Delaware offers up to \$2000 rebate of EV. Delaware offers vehicle-to-Grid energy credit.	New York offers rebates of up to \$4,500 of the cost of purchase and installation of charging station. Utah offers rebates of up to 50 per cent of the cost of purchase and installation of charging station. Colorado offers grants to cover up to 80 per cent of the cost of charging stations.

Table 1: Comparison of Australian and US EV incentives

Low emission vehicles, such as hybrids and plug-in hybrids, are also critical bridging technologies that enable a reduction in vehicle emissions over the transition period towards zero emission vehicles. Given their capacity to reduce vehicle emissions in the interim, VACC recommends their uptake should also be incentivised.

Recommendation 2

VACC recommends that a New Vehicle Efficiency Standard (NVES) for Australia must be part of a broader package of incentives aimed at improving the affordability, demand and supply of EVs, including price subsidies, tax credits, rebates and other incentives.

Recommendation 3

VACC recommends that low emission vehicles should be incentivised by the Federal Government over the following timeframes:

- Until such time that price parity between zero emission vehicles and ICE vehicles is within reach.
- Until there has been sufficient infrastructure for zero emission vehicles installed nationally.
- Until the supply and variety of zero emission vehicles on offer across different vehicle categories and price points into Australia have increased considerably.

3.1.3 Insurance

The cost of obtaining insurance for EVs has also emerged as a key barrier impacting the affordability and demand for EVs, particularly for lower-income households. Very high premiums are being charged for EV insurance by various insurance companies, which can be up to 300 per cent higher than a comparable ICE vehicle. There is little justification for cost increases of this magnitude, which can negate the benefits of lower running costs of EVs and be a 'deal breaker' for many people considering the purchase of an EV (please refer to total cost of ownership under Section 9.3).

The issue of excessive EV insurance prices needs to be properly investigated by the Federal Government. After electricity costs, comprehensive insurance is the second biggest ongoing expense for Australian EV owners.⁴ The Insurance Council of Australia attributes the higher cost of EV insurance to a range of factors, "from the expense of imported parts and electric car batteries to the dearth of electric vehicle service centres and qualified EV repairers".⁵

Recommendation 4

VACC recommends that the Federal Government fully investigate the high cost of insurance premiums for EVs and consider factors to reduce premiums based on its impact on total cost of ownership.

⁴ <https://www.drive.com.au/caradvice/why-are-electric-cars-more-expensive-to-insure/#>

⁵ Ibid.

3.2 Skills Shortages

The Motor Trades Association of Australia (MTAA), VACC's national body, recently commissioned Deloitte Access Economics to prepare a report detailing the extensive skills shortages experienced across multiple occupations within the automotive sector. The report revealed a jobs fill rate shortage of 41 per cent for electric vehicle technicians.⁶ This figure presents a problem regarding the future service and maintenance of an increased EV fleet and may influence consumers' decision-making. The report further revealed low numbers of applicants applying for vacant EV positions. This is attributed to a lack of skilled/qualified workers, issues with industry training, challenges around visas, remuneration concerns and greater competition from other industries.

Recommendation 5

VACC calls on the Federal Government to have a greater focus on addressing the chronic skills shortage of EV technicians and automotive trade professionals in general.

Recommendation 6

VACC recommends that the Federal Government commit funding towards promoting automotive careers as part of the move to a clean economy.

3.2.1 The need for a dedicated industry code for electric vehicle technicians

An EV technician is an occupation that is separate from a traditional motor mechanic or automotive electrician due to the different skills and training required, as shown by the occupation's unique national training qualification. Activities related to EVs currently fall under ANZSCO codes such as automotive electrician (ANZSCO code 321111) – they do not have their own distinct occupation group.

As the Australian vehicle fleet transitions from petrol/diesel to EVs, it is expected that EV technicians will eventually displace traditional motor mechanics.

VACC advises that adding an EV technician as a specialisation to an existing ANZSCO occupation, such as 3212, fails to address the needs of the automotive industry. An EV technician is a separate occupation with a separate qualification and job tasks compared to other automotive occupations within the repair and maintenance category. Furthermore, an EV technician occupation already contains two specialisations of its own (light vehicle and heavy vehicle) that exist within the AUR32721 Certificate III in Automotive Electric Vehicle Technology qualification. Hence, it would seem unreasonable and confusing to industry if an EV technician were to be classified as a specialisation within another automotive occupation.

Additionally, if an EV technician was placed as a specialisation of another automotive occupation, it would not allow for the capture of critical and timely labour force data for EV technicians. This contradicts the needs of both industry and government. As EV technicians are experiencing a rapid growth in demand, it is essential for there to be accessible labour force data. This data is crucial for businesses and government agencies, such as Job and Skills Australia, to effectively monitor and evaluate the shortage of EV technicians. This shortage is particularly significant as the Australian vehicle fleet transitions from petrol/diesel vehicles to electric vehicles.

⁶ Deloitte Access Economics 'Skills shortages in the Australian automotive industry' 2024 [p.6],[iii].

Recommendation 7

VACC recommends that 'Electric Vehicle Technician' be separately identified in ANZSCO with its own unique six-digit code.

3.3 Training

An EV technician, is responsible for the repair, maintenance, and diagnostics of electric and hybrid vehicles. They possess training and knowledge about electric drivetrains, voltage storage systems, battery technology, electric motors, and power electronics. Their expertise lies in dealing with the unique challenges and safety considerations associated with electric vehicles.

The specific job tasks include:

- Maintain, diagnose and repair
- Energy storage systems (Including electronic battery management)
- Traction motors
- Speed control systems
- Auxiliary motors and associated components
- System instrumentation and safety interlocks
- Heating and cooling systems for occupants and energy storage
- DC to DC converters
- Advanced Driver Assistance Systems
- Electronically controlled suspension
- Network electronic control
- Instruments and warnings and program electrical and electronic units and assemblies
- Vehicle dynamic control systems
- Electronic body management
- Regenerative Braking systems
- Electronically controlled steering systems
- Electronically controlled suspension systems
- Telematics (WIFI and Bluetooth communication)
- Wiring harnesses and looms (CAN-bus)
- Vehicle software and firmware
- Ancillary electrical systems and components
- Separated low voltage battery
- Advanced Driver Assistance & safety systems
- Autonomous driving systems.

An EV technician equates to a Skill Level 3 in ANZSCO and should be independent of the unit group as 321211 Motor Mechanic (General) due to the nature of the occupation (as discussed in Section 3.2.1). EV technicians are trained and qualified to work on electric and hybrid vehicles, whilst motor mechanics are trained to work on petrol/diesel vehicles. There are currently no specific registration or licensing requirements for an EV Technician in Australia, however, it is VACC's view that this may need to be reviewed in the future.

A new nationally endorsed training qualification for EV technicians has been created for delivery by registered training organisations. The qualification is: AUR32721 Certificate III in Automotive Electric Vehicle Technology. This is the new mandatory qualification and pathway for all automotive apprentices seeking to maintain, diagnose and repair EVs.

There are two specialisations within the AUR32721 Certificate III in Automotive Electric Vehicle Technology qualification. These are:

- AUR32721 Certificate III in Automotive Electric Vehicle Technology (Light Vehicle)
- AUR32721 Certificate III in Automotive Electric Vehicle Technology (Heavy Vehicle)

The core units of competency and educational requirements for AUR32721 Certificate III in Automotive Electric Vehicle Technology, for both light and heavy vehicle specialisations, are listed on training.gov.au, which is the national register on vocational education and training in Australia (see <https://training.gov.au/Training/Details/AUR32721>).

Until recently, there was no formal national qualification for EV technicians in Australia. However, with the development of the AUR32721 Certificate III in Automotive Electric Vehicle Technology qualification, there is now a formal training pathway for automotive apprentices. It is anticipated that the number of apprentices taking on this EV technician qualification will grow significantly over the next few years, in-line with the growing industry demand for EV technicians.

Previous modelling conducted by the MTAA⁷ indicates that as of June 2023 it was estimated that there would be approximately 2,000 EV technicians in the labour force nationally, however, this was expected to increase to around 3,000 in 2024 as more apprentices enrolled in the AUR32721 qualification. By 2028, MTAA forecasted there would be around 8,400 qualified EV technicians in the labour force, and by 2030 it was projected that would be approximately 13,000 EV technicians nationally. These figures are based on strong trend growth in EV sales and industry demand for EV technicians, as well as Federal Government projections showing that 50 per cent of all new vehicles sold will be electric by 2030, as per the government's National Electric Vehicle Strategy Paper.⁸ This equates to approximately 1.7 million EVs operating on Australian roads by 2030, requiring a workforce of approximately 13,000 EV technicians. This workforce is expected to expand significantly as consumer uptake of EV continues to rise beyond the end of the decade.

The latest statistics available on the National Centre for Vocational Education portal indicate a total of 4,980 technicians nationally have enrolled in the AURETH101 unit of competency between 2018 and 2022.⁹ While only 1,375 technicians nationwide have enrolled in either AURSS00064, battery electric vehicle inspection and servicing skill set or AURSS00037, hybrid electric vehicle inspection and servicing skill set. The recently developed AUR32721 - Certificate III in Automotive Electric Vehicle Technology course aimed at apprenticeship level intake has seen a small uptake of 60 enrolments but only in the state of Victoria in 2022.

7 Motor Trades Association of Australia 'Directions in Australia's automotive industry: An industry report 2021' 2021.

8 Australian Government 'National Electric Vehicle Strategy – Increasing the uptake of EVs to reduce our emissions and improve the wellbeing of Australians' 2023.

9 National Centre for Vocational Education 'data builder' < <https://www.ncver.edu.au/research-and-statistics/data/databuilder>>.

Figure 2 - Depower and reinitialise battery vehicles Enrolments¹⁰

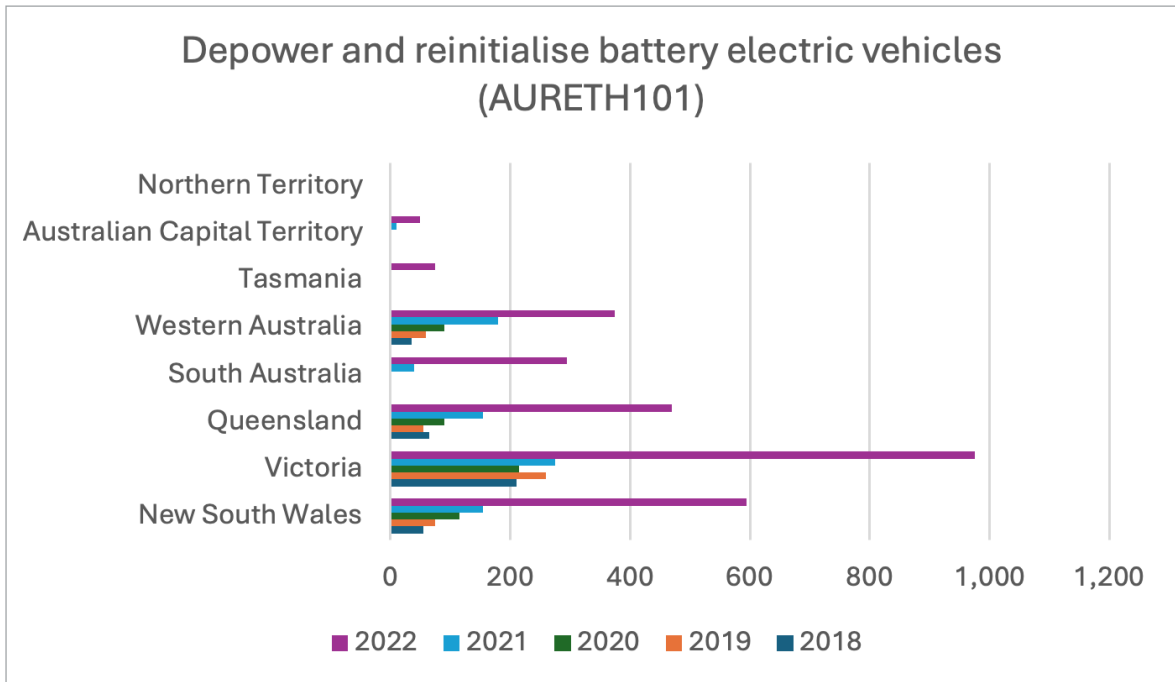
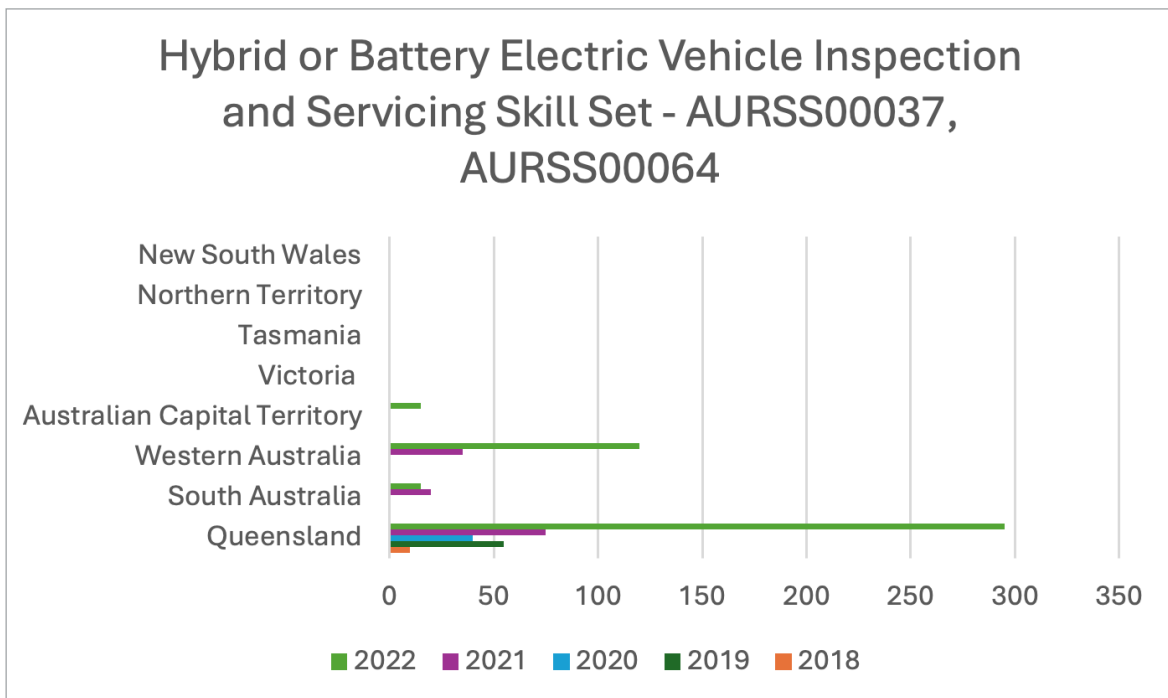


Figure 3 - Hybrid or Battery Electric Vehicle Inspection and Servicing Skill Set Enrolments¹¹



Over several years, VACC has delivered several stage one EV training programs in Victoria and Tasmania resulting in almost 500 technicians completing the AURETH101 unit of competency. In addition, VACC has collaborated with international experts to enhance awareness and advocate for opportunities within the aftermarket service and repair industry. These sessions serve as valuable platforms for knowledge exchange, shedding light on existing and anticipated workplace risks for government regulatory departments. These initiatives are ongoing and have proven to be valuable in driving up interest of the existing repairer workforce to upskill.

¹⁰ National Centre for Vocational Education 'data builder' < <https://www.ncver.edu.au/research-and-statistics/data/databuilder>>.

¹¹ Ibid.

3.3.1 Support for upskilling the existing automotive trade workforce

Enhanced EV workforce skills development will also be important in supporting a sustainable EV transition. Currently, and as previously mentioned, the automotive service and repair industry lacks the necessary skills needed to service and repair zero emission vehicles. This challenge is compounded by the limited availability of accredited EV training across all jurisdictions.

Furthermore, the significant cost for businesses to enhance the skills of their current technicians with EV training adds to the challenge. This cost does not include expenses related to travel, accommodation, and lost productivity. Services required as a result of increased EV adoption include:¹²

- Battery maintenance, health checks
- Battery repair, remanufacturing or replacement
- Battery recycling or end of life processing
- Maintenance and repair of cooling systems
- General maintenance as per manufacturers service schedules
- Inspection, maintenance and repair or replacement of electronic control modules, electronic components and related systems e.g. wiring, sensors, etc.
- Inspection, maintenance, diagnostics, repair or replacement of regenerative braking systems
- Calibration, maintenance and or repair of Advanced Driver Assistance Systems (ADAS), and other safety related systems such as occupant protection systems

¹² AutoCare Association, Motor & Equipment Manufacturers Association 'Joint EV Trends and Outlook Forecast' 2023.



- Inspection, maintenance and or repair of charging ports, connectors and cables
- High voltage component inspection and safety checks
- Collision repairs
- Aftermarket conversion
- Software calibration, diagnostics and troubleshooting.

According to the AutoCare Association in the US, aftermarket service providers will need to invest between \$80-270K¹³ to be prepared for the electrification transition. This includes technician training, safety equipment and PPE, charging infrastructure, testing equipment, diagnostic tools, battery lift and handling equipment, and insulated tools.

Recommendation 8

VACC recommends that the Federal Government boost employer incentives to upskill the existing automotive trade workforce, including funding for EV apprenticeship training.

3.4 Charging infrastructure

The transformation of our transport fleet from fossil fuels to zero and low emissions technologies requires a strong and well-developed infrastructure network that not only meets the medium-term needs of motorists, but also accounts to the future needs of the sector. The task of rolling out sufficient EV charging stations has commenced. However, the scale required to adequately service an increased EV car parc may not be fully appreciated by government. Current modelling suggests the current rate and size of investment will not meet the future needs of an EV fleet. A recent report by Deloitte¹⁴ states that to meet the projected demand for EV public charging, Australia will need to build on average, eight new public EV chargers every day from now until 2033. This equates to 31,500 public EV chargers required nationwide. Furthermore, automotive businesses will require charging infrastructure in the workplace so that EVs can be effectively maintained and repaired. Some states in America have specific grants available for the installation of charging stations at the workplace.¹⁵ Charging grants available via the Australian Government 'Driving the Nation Program'¹⁶ limits small businesses in applying for grants based on the eligibility criteria.

Consideration is also required to exploit current infrastructure by supporting EV charging facilities in automotive business premises such as dealerships, independent repairers, and fuel service stations.

Recommendation 9

VACC recommends the Federal Government expand eligibility criteria for the installation of EV charging stations and charging ports, with greater exemptions or incentives for regional Australia to allow for automotive retailers such as dealers, aftermarket service and repair workshops and service stations to apply.

¹³ Ibid.

¹⁴ Deloitte 'EV Charging Infrastructure - The Next Frontier' 2024 <<https://www.deloitte.com/au/en/Industries/infrastructure/analysis/ev-charginginfrastructure-next-frontier.html>>.

¹⁵ U.S Department of Energy 'Electric Vehicle (EV) Workplace Charging Grant' Maryland <<https://afdc.energy.gov/laws/12528>>.

¹⁶ Australian Renewable Energy Agency 'Driving the Nation Program, 2023 Focus Areas' 2023.

4. The impact of moving from internal combustion engine vehicles, including fuel excise loss, existing auto industry component manufacturers and the environment.

4.1 Taxation

4.1.1 Road-user charging

VACC strongly advocates for the implementation of a nationally consistent road-user charging (RUC) regime to avoid a patchwork of policies employed by individual states and territories.

The RUC scheme should be linked to a vehicle's registration, using a technologically enabled, auditable revenue collection process. Funds collected via the RUC should be allocated in a similar manner to the existing fuel excise, which includes upgrading and maintaining Australian roads. Funds should also be allocated toward meeting the infrastructure needs required to support greater uptake of EVs. VACC further recommends that any national road user scheme should include a 7,500 km exemption for Licensed Motor Car Traders for EVs used for demonstration purposes.

Recommendation 10

VACC recommends that the Federal Government lead a nationally consistent and coherent approach to road-user charging, and road related investment, that includes a 7,500-kilometre exemption for Licensed Motor Car Traders who use EV trading stock for demonstration purposes.

4.1.2 Luxury Car Tax

The Luxury Car Tax (LCT) was introduced in 2001 to encourage buyers to purchase locally manufactured vehicles over imported prestige vehicles. The end of passenger vehicle manufacturing in Australia now makes this tax redundant.

The LCT is also leading to undesirable environmental outcomes. EVs are generally more expensive than equivalent sized petrol and diesel vehicles, with many EVs exceeding the LCT threshold. This distorts the market by penalising potential buyers of EVs, thus contributing to lower sales of EVs and poorer environmental outcomes. VACC strongly recommends that the Federal Government make provisions for the removal of the LCT in the 2024-25 Federal Budget to boost the uptake of EVs.

Recommendation 11

VACC recommends that the Luxury Car Tax (LCT) be abolished to stimulate sales of zero and low-emission vehicles and improve reductions in vehicle emissions.

5. The opportunities for fuel savings, such as by combining EVs with other consumer energy technologies and savings for outer suburban and regional motorists.

No comment

6. The impact on electricity consumption and demand

No comment

7. 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.

7.1 The circular economy

7.1.1 End-of-life vehicle strategy

Each year, over 750,000 vehicles reach the end of their economic life, creating more than one million tonnes of waste. The number of internal combustion engine vehicles that will be removed from Australia's roads is expected to grow exponentially in the coming years. The support of federal and state governments for a cleaner, more environmentally friendly EV vehicle car parc will require further investment and action from the Australian Government. VACC, and its dismantling and recycling member businesses, have dedicated substantial resources and are currently collaborating with government to identify options for government to introduce an End-of-Life Vehicle (ELV) program to Australia. The level of investment, however, must be increased. There is an emerging global movement towards Product Stewardship, where manufacturers take a major responsibility for the ultimate disposal of a product. Australia has taken a first step through the Product Stewardship Act, however, while batteries, oils and tyres are covered, complete motor vehicles remain excluded. The importance of better ELV management has only increased and will continue to do so in line with government policy related to the increased uptake of ZLEVs. This, coupled with increasing community expectations relating to sustainability and the environment, makes this an area for urgent reform.

Recommendation 12

VACC recommends that the Federal Government increase investment and research in an industry-led and federally funded national program aimed at the proper disposal of end-of-life vehicles.

7.1.2 Battery disposal, storage, handling, and recycling

EV batteries can be volatile in certain situations. A collision needs to be properly managed from the time a repairer or dismantler receives an electric vehicle through to the collection and disposal of the battery. Inservice repair and maintenance of electric vehicle batteries is already posing significant challenges for industry due the lack of waste collectors equipped to handle the waste components. There have been instances where repairers and dismantlers with limited storage capabilities have been left dealing with the disposal process. In addition to the storage complexity, there is a significant costs to businesses to dispose of batteries responsibly. Consumers may unwittingly bear these added costs. As with waste tyres, if this problem is not adequately addressed soon, it is VACC's view there will be a substantial increase in illegal dumping of electric vehicles resulting in significant environmental damage and risk to local communities.

Currently, the Federal Chamber of Automotive Industries (FCAI) holds a code of conduct that addresses the end-of-life treatment of traction battery components to ensure minimal environmental impact from traction batteries.¹⁷ The code only applies to motor vehicles imported by FCAI members and outlines that they will have suitable systems in place to monitor the use, capture, return, refurbishment/re-use or recycling/disposal of

¹⁷ Federal Chamber of Automotive Industries 'Recycling of Traction Batteries Code of Practice' (Webpage 2024) < <https://www.fcai.com.au/index.php/news/codes-of-practice/view/publication/173>>.

traction batteries. The code also includes recovery mechanisms capable of maximising the value from re-use of finite resources with an aim of no traction batteries ending up in landfill.¹⁸ While VACC appreciates the good will of FCAI and its members relating to the objectives of code of practice, it is VACC view that there are some shortfalls such as the lack of contact points for each FCAI member/manufacturer. Not all car manufacturers/importers are members of FCAI and conversely the code of practice will not apply to them. The recent announcement that Tesla, one of Australia's largest importers of electric vehicles ending its membership of FCAI further compounds this issue.

Recommendation 13

In the absence of a regulatory framework, such as an EV product stewardship, VACC recommends, at a minimum, a coordinated and harmonised standard set of procedures that deals with the battery handling, storage and disposal of electric batteries across the states and territories – led by the federal Environmental Protection Agency of Australia.

8. The impact of Australia's limited EV supply compared to peer countries.

No comment

9. Any other relevant matters

9.1 Electric vehicle conversions

Many Australians are emotionally attached to their ICE vehicles, and in the case of those driving utilities and 4WD drive vehicles, there are few if any electric replacement options available in the Australian vehicle market. For these drivers, converting their respective ICE vehicles to electric may be a viable option if it was supported by appropriate policy measures.

EVs include battery electric vehicles, hybrid vehicles and hydrogen fuel cell vehicles, which can be dangerous if not worked on safely. Due to this complexity, there is an inherent risk of injury or death to people undertaking EV conversions and the wider motoring public. It is VACC's view that any work including conversions of an ICE vehicle to electric be performed by persons that are fit and proper and have the qualifications and or training required to perform these tasks.

These measures should include:

- An updating of the standards and national code of practice relating to the modification of light vehicles for the installation of electric drives. The current standard – Vehicle Standards Bulletin 14 (VSB 14) was implemented more than a decade ago (2011) and is in urgent need of being updated to ensure that EV guidelines are fit for purpose, in-line with current global standards and meet safety requirements.
- There have been many reported instances of modified electric scooters catching fire resulting in substantial damage to property. Without a robust policy framework, DIYs will be drawn to converting their own classic or other types of ICE vehicles without the proper training and safety fundamentals needed. It is imperative therefore, that VSB14 has a mandatory prerequisite for Vehicle certifiers to only approve electric vehicle conversions if completed by a fit and proper person as defined by Australian Legislation, i.e. is qualified or has the relevant experience to perform these types of tasks.
- The provision of subsidies or rebates for EV conversions of ICE vehicles. EV conversion costs can be extremely expensive, costing on average \$50,000 or more depending on the vehicle.

¹⁸ Federal Chamber of Automotive Industries 'Code of Practice for Recycling of Traction Batteries' (July 2021).

This cost can be a disincentive for many people considering converting their existing ICE vehicle to electric, and any financial measures that reduce the cost of undertaking an EV conversion may help increase the electrification of the Australian vehicle fleet.

Recommendation 14

VACC recommends the Federal Government update the national code of practice for the modification of light vehicles (Vehicle Standards Bulletin 14) for the installation of electric drives and consider measures to reduce the cost of undertaking EV conversions.

Recommendation 15

VACC recommends there be a requirement that only persons who have the relevant qualifications or experience are able to modify or convert an ICE vehicle to an electric drivetrain.

9.2 Parts supply and availability

Similar to excessive insurance premiums, limited access to genuine EV automotive parts has emerged as an issue relating to the viability of automotive repairers, along with the protection of consumer choice, and ensuring vehicles remain compliant to roadworthy regulations for many years (outside the initial manufacturer's warranty period). In recent times one prominent EV manufacturer has implemented a policy whereby non authorised service centres cannot purchase replacement parts direct from the manufacturer. Such behaviour significantly restricts consumer choice, especially considering the limited number of authorised service centres across Australia, primarily concentrated in metropolitan areas. Restrictions on parts ultimately result in a lack of service and repair networks in the market, further hindering the adoption of EVs.

Recommendation 16

VACC recommends that the ACCC investigate instances of EV manufactures denying access to EV parts to non-authorised repairers, with consideration as to whether this contravenes provisions under the Competition and Consumer Act 2010.

9.3 Total cost of ownership

Analysing the lifetime cost of ownership for EVs versus petrol cars is crucial for consumers, as it represents the total financial outlay over the vehicle's ownership period and plays a key role in purchase decisions. A recent study by the Commonwealth Bank¹⁹ sheds light on the total cost of ownership (TCO) comparison between battery electric and petrol cars, highlighting the impact of resale value on EV TCO.

In the best-case depreciation scenario, an EV charged with solar energy could have a TCO up to 5 per cent higher than a petrol car. However, in the middle-case and worst-case depreciation scenarios, an EV charged with solar energy could have TCOs that are 31 per cent or 58 per cent higher than petrol cars, respectively.

It is important to note that if upfront EV costs are reduced due to the National Vehicle Emissions Scheme (NVES) credits being passed on by manufacturers, the TCO could improve slightly. In the best-case depreciation scenario, an EV could have a TCO that is 2 per cent lower

19 Commonwealth Bank 'New Vehicle Efficiency Standard(NVES): Race to the bottom?' (webpage 2024) <https://www.commbankresearch.com.au/apex/researcharticlevieww2?id=a0NDo00000vzTb>

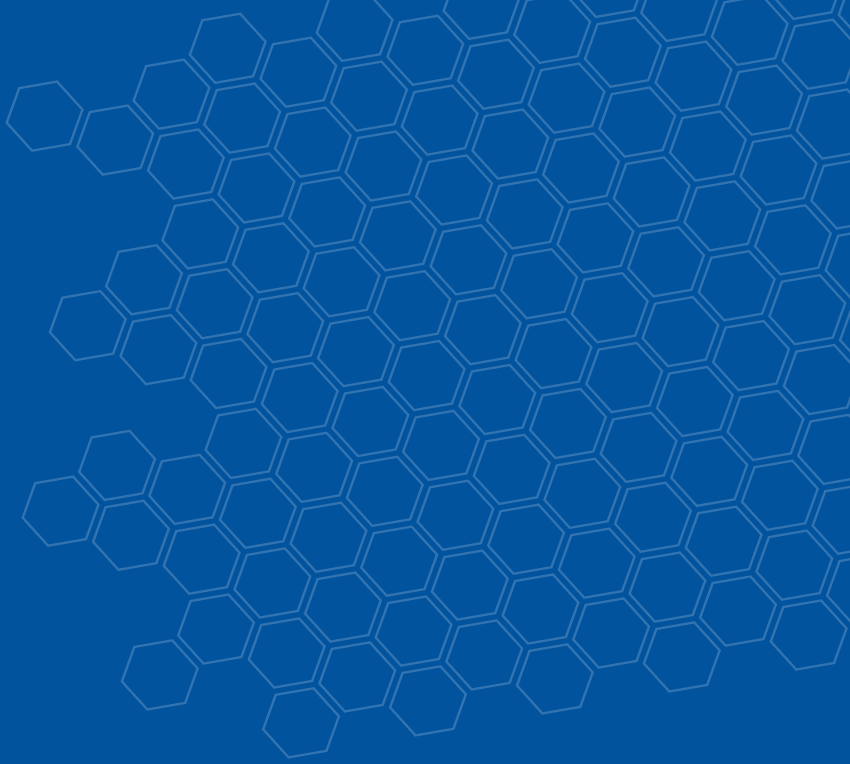
than a petrol car, while in the middle-case and worst-case scenarios, the TCO could be 21 per cent or 44 per cent higher than a petrol car, respectively.

This analysis underscores the need to thoroughly examine assumptions about EV operating costs being lower than petrol cars due to reduced running costs. Disposal costs and likelihood of a federally implemented RUC play a significant role in TCO but are often overlooked, leading to a more favourable perception of EV ownership than perhaps the actual reality. As a result, the uptake of EVs may be lower than forecasted, with potential impacts on the success of the NVES.

Recommendation 17

VACC recommends the Federal Government give due consideration to the total cost of ownership as it relates to EVs. Full and proper analysis should be undertaken to ensure consumers are properly informed prior to their purchase decision.





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