

SNAPSHOT



Driving towards a green economy

Key points



Electric vehicle new car sales in **2023** represented **approximately 8.4%** of car sales, **up by 120.5%** from 2022.



A [recent report](#) shows a **35% shortfall** in employment in occupations most prominent in the automotive industry in 2023.



The latest NCVER data shows there were **597 program enrolments** for electric and hybrid vehicle skill sets in **2022** compared to just **10 in 2018**.

Overview

According to the [Climate Council](#), Australia is committed to its 43% emission target by 2030, and net zero by 2050. Net zero emissions refers to 'achieving an overall balance between greenhouse gas emissions produced and greenhouse gas emissions taken out of the atmosphere'.

Reaching net zero will not be a simple transition. The path towards a strong green economy will require transformations from several industries with regards to new workers, occupations, qualifications, technologies and more.

The transition to a greener economy is of great interest to the automotive industry, particularly with the increase in electric vehicle (EV) purchases in recent years.



According to the [Electric Vehicle Council](#), it was expected there would be **approximately 180 000 EVs** in Australia by the **end of 2023**. **At the end of June 2023**, EVs accounted for **8.4%** of all new cars sold in Australia, an **increase of 120.5%** from 2022.

Initiatives such as the Australian Government's [National Electric Vehicle Strategy](#) aim to grow the number of EVs in Australia.

The strategy has three main goals:

Increase the supply of affordable and accessible EVs

Establish the resources, systems and infrastructure to enable rapid EV uptake

Encourage increased EV demand

As such, the shift toward EVs offers a considerable opportunity for the creation of fresh employment opportunities and development of new skills in Australia, particularly in the vocational education and training (VET) space.

This snapshot aims to provide a brief insight into the current and future state of the automotive industry and VET relating to EVs.

Current status

According to the [Mining and Automotive Skills Alliance \(AUSMASA\)](#), in 2023 there were:



338 322 people employed in the **automotive industry** in Australia and approximately **51.93%** are **VET qualified**.

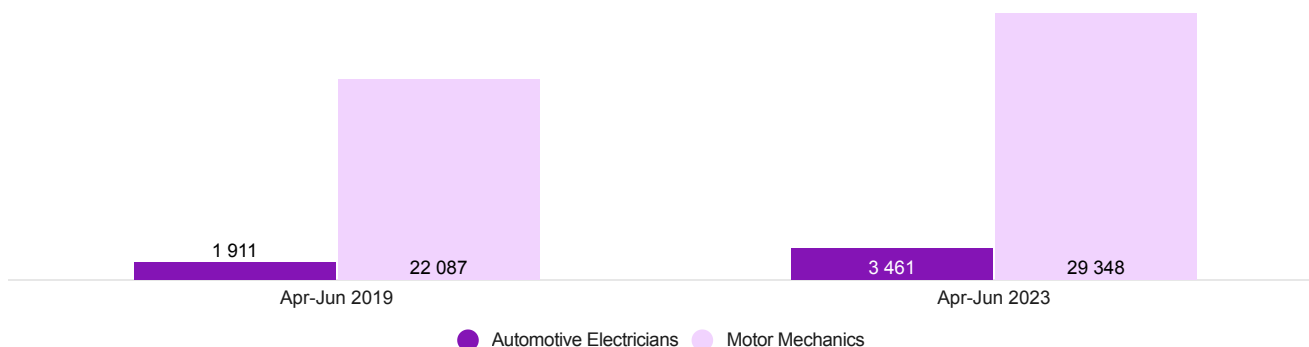


173 521 people employed in **automotive repair and maintenance**, of which **64.77%** are **VET qualified**.

In recent years, the automotive industry has struggled to fill occupations. This has become particularly evident following the rising popularity of EVs and the requirement to upskill workers.

While the automotive industry is currently experiencing a skills shortage, NCVER data shows the number of Motor Mechanic and Automotive Electrician apprentices and trainees in-training has been gradually increasing since 2019. When comparing June 2019 and June 2023 quarters, these in-training numbers have increased by 8 812 (or 36.7%).

Figure 1: Motor Mechanic and Automotive Electrician apprentices and trainees in-training



Source: NCVER 2023, Apprentices and trainees 2023 - June quarter DataBuilder, Contract status, Occupation 4-digit by Year, Quarter.

The Motor Trades Association of Australia (MTAA) recently partnered with Deloitte Access Economics to prepare a [2024 report](#), which explored skills shortages in the Australian automotive industry. The report referenced Jobs and Skills Australia's (JSA) recent findings that 35% of the most prominent occupations in the automotive industry were assessed to be in shortage in 2023.

Attracting and retaining good staff as well as the quality of trade applicants were the largest challenges for automotive businesses in Australia according to the MTAA. The report also found that despite more businesses taking on additional apprentices, this alone was not solving their skills shortages.

The latest available NCVER data shows program enrolments in automotive electrical technology have gradually increased since 2018, especially the Certificate III qualification.

Table 1: Automotive Electrical Technology Qualifications – Year-on-year comparison

| | Certificate II* | Certificate III** | Certificate IV*** | Total |
|------|-----------------|-------------------|-------------------|-------|
| 2018 | 326 | 2 324 | 3 | 2 653 |
| 2019 | 416 | 2 741 | 25 | 3 182 |
| 2020 | 518 | 2 907 | 23 | 3 448 |
| 2021 | 642 | 3 731 | 47 | 4 420 |
| 2022 | 665 | 5 255 | 44 | 5 964 |

Source: NCVER 2023, Total VET students and courses 2022: program enrolments DataBuilder, Total, Program name by Year. Refer to notes on page 4.

The demand for skilled workers in the automotive industry also encompasses occupations with EV skill sets. According to the [2024 Deloitte Access Economics report](#), the vacancy fill rate for Electric Vehicle Mechanic / Technicians was only 41% in 2023.

NCVER data shows there has been a significant increase in skill set enrolments related to battery electric and hybrid electric vehicles since 2018. In fact, enrolments in VET programs such as *Hybrid Electric Vehicle Inspection and Servicing Skill Set* had more than doubled between 2021 and 2022.

Table 2: Vehicle Inspection and Servicing Skill Sets – Battery Electric and Hybrid Electric

| | Battery Electric Vehicle Inspection and Servicing Skill Set | Hybrid Electric Vehicle Inspection and Servicing Skill Set | Total |
|------|---|--|-------|
| 2018 | - | 10 | 10 |
| 2019 | - | 56 | 56 |
| 2020 | 16 | 39 | 55 |
| 2021 | 132 | 133 | 265 |
| 2022 | 287 | 310 | 597 |

Source: NCVER 2023, Total VET students and courses 2022: program enrolments DataBuilder, Total, Program name by Year.

There were 5 commencements reported in the recently established Certificate III in Automotive Electric Vehicle Technology in the June Quarter 2023 Apprenticeship and Traineeship data. Enrolments are expected to rise as demand for EV skill sets increases to meet advancements in automotive technology (CIT 2023).

This qualification, along with *Battery Electric Vehicle Diagnose and Repair Skill Set* and *Battery Electric Vehicle Inspection and Servicing Skill Set* are currently the only dedicated VET programs to upskill current and future technicians in EV service and repair. The automotive industry wants to ensure that apprentices develop new skills in EV technology while continuing to develop skills in traditional internal combustion engine (ICE) vehicle technology during the transition.

Looking forward

A [2023 AUSMASA report](#), which surveyed individuals in the automotive industry, reported one in five survey respondents found EVs to be a particular challenge for the industry. As the shift toward EVs continues, organisations such as governments, training providers and businesses continue to explore ways for a smooth and efficient transition.

For instance, Australian Government initiatives such as the [New Energy Apprenticeships Program](#) were established as part of the [Powering Australia](#) plan to achieve net zero emissions by 2050. The program aims to create 10 000 new energy apprenticeships by providing incentives to apprentices working in the clean energy sector.

As the automotive industry adapts to the rise of EVs, training providers are stepping up to meet the demand for skilled technicians. From specialised EV training programs to partnerships with industry players, training providers and other VET stakeholders are playing a pivotal role in shaping the workforce of tomorrow. For example:

Canberra Institute
of Technology



Five students in final year in Certificate III in Automotive Electric Vehicle Technology program

Canberra Institute
of Technology



Expect 50 students to be in-training across all stages of the apprenticeship in 2024

Kangan Institute



Approximately 3 000 automotive apprentices training to work on ICEVs and EVs

Motor Trades Association
of SA and NT



provided \$400 000 funding for 50 additional apprenticeship places at the MTR Training Centre at Cleve, Eyre Peninsula

When it comes to workforce planning and vocational training, the [Mining and Automotive Skills Alliance](#), one of ten [Jobs and Skills Councils](#) established in 2023, will work with the automotive industry to assist with the shift to EVs.

The transition to EV skill sets is not without its hurdles. The automotive industry's struggle to fill occupations, meet skills shortages and its perception issues continue to impact the growth of EV skill sets. However, continued collaborative efforts between governments, industry, training organisations and businesses could overcome these challenges and position Australia as a global leader in sustainable innovation.

As we look ahead, the path to a greener automotive industry is clear: it is one that embraces change, fosters innovation, creates new training and job opportunities, and prioritises sustainable practices at every turn.

Links

Keen to explore more VET information? The [NCVER Portal](#) has a range of tools and resources including the [DataBuilder](#) tool, [research and statistical publications](#), [webinars](#), [podcasts](#) and more.

[VOCEDplus](#) is also a great resource for finding information including VET, higher education, adult and community education, information learning, and VET in schools.

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Notes

* Combined total of AUR20412 Certificate II in Automotive Electrical Technology, AUR20416 Certificate II in Automotive Electrical Technology, AUR20420 Certificate II Automotive Electrical Technology.

** Combined total of AUR30308 Certificate III Automotive Electrical Technology, AUR30312 Certificate III Automotive Electrical Technology, AUR30316 Certificate III Automotive Electrical Technology, AUR30320 Certificate III Automotive Electrical Technology.

*** Combined total of AUR40612 Certificate IV in Automotive Electrical Technology, AUR40616 Certificate IV in Automotive Electrical Technology, AUR40620 Certificate IV in Automotive Electrical Technology.

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For details and exceptions visit the [NCVER Portal](#).

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