Changing Gears:

The road ahead for Electric Vehicle adoption in Australia

An analysis of Australian attitudes towards electric vehicles, and key opportunities and barriers in the sector.

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Ipsos

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Foreword

As we move into a new era of transportation, electric vehicles (EVs) have become more than just a trend—they're a crucial part of our journey towards a more sustainable future, bringing both exciting opportunities and significant challenges.

At NRMA Insurance, we have long been dedicated to understanding and addressing the evolving needs of our customers and the broader community. Currently, EVs represent 1.5 percent of the cars on the road that we insure, but we anticipate this number will rise to approximately 9 percent by 2030. With the growing number of EV models entering the market, it's essential to understand the factors influencing their adoption and find ways to help accelerate this transition.

Our report, *Changing Gears: The Road Ahead for EV Adoption in Australia*, reviews the current EV market and offers insights into Australian attitudes towards EVs, along with the key opportunities and barriers in this sector.

The findings reveal a promising shift towards EVs, marked by an exponential increase in sales and a growing awareness of their environmental benefits. However, we also acknowledge that significant hurdles remain, including concerns and misconceptions about range, cost, charging infrastructure, and safety. Reassuringly, our research indicates that there is a significant opportunity to escalate EV adoption through greater education, as increased familiarity drives intent to purchase.

Our goal with this report is to provide clear, actionable insights that can help demystify EVs for consumers and stakeholders alike. We believe that by addressing common misconceptions and highlighting the benefits of EVs - such as the potential to save up to $1,000 annually on fuel - we can support a smoother transition to electric mobility.

As we move forward, it is essential we continue to collaborate and innovate to overcome barriers and support the transition to a more sustainable future. At NRMA Insurance, we are dedicated to playing our part in this journey by advocating for policies that support EV adoption, enhancing our own services to meet the needs of EV owners, and fostering greater understanding of electric vehicles.

We hope this report serves as a valuable resource for stakeholders across the automotive and insurance industries, policymakers, and the broader community. By working together, we can drive the change needed to ensure a cleaner, greener, and more sustainable transport system for Australia.

Julie Batch
NRMA Insurance CEO

Executive summary

The Electric Vehicle (EV) landscape in Australia is changing rapidly.

The transport sector accounted for 21% of Australia's greenhouse gas emissions in 2023, making it the country's third-largest emitter. This places reducing transport emissions at the forefront of the Australian Government's Net Zero Plan.[1] Electrification of vehicles is a key element in the Government's roadmap to reducing road transport emissions, together with updated New Vehicle Efficiency Standards.

The sales of EVs have grown exponentially in Australia over recent years. Since making up less than 1% of new car sales in 2020, EVs' share of sales has been approximately doubling annually. In 2023 EV sales grew to 8.5% of light vehicles sold and latest figures show that EVs have maintained that growth, accounting for 8.4% of light vehicles sold so far in 2024, despite slowing in Q2 of 2024.

Uptake has been strongest among drivers with annual household incomes over $200,000, families with children, and those in capital cities. It is markedly lower among those who live further from capital cities, and among the Baby Boomer generation.

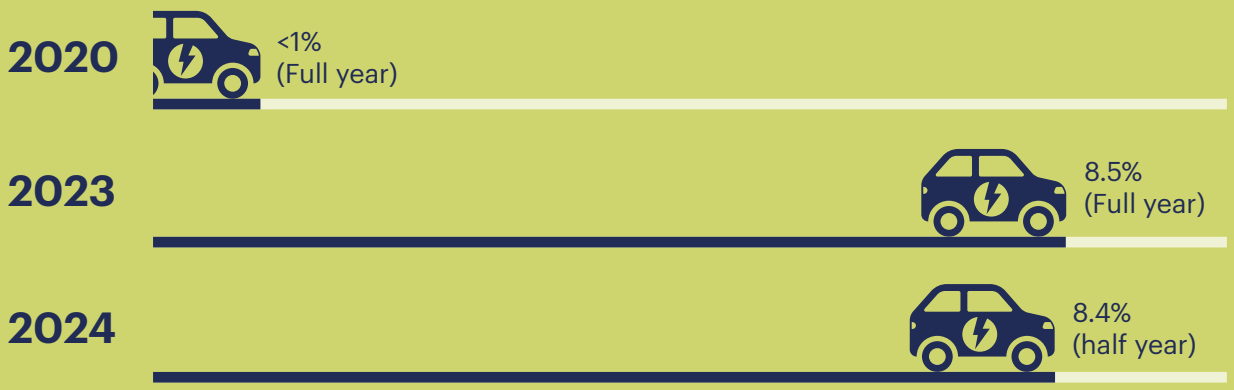
Sustainability and lower running costs have been the prime drivers of uptake among EV owners to date.

While many factors will influence the direction of the market here in Australia, driver preferences indicate the continued growth of EV sales, with 20% of those intending to purchase a vehicle in the next five years considering an EV and a clear opportunity to harness the willingness from the younger generations who are currently restricted due to cost and the nascent second-hand market.

But for the 80% of those who are in the market for a car, but not currently considering an EV, there are several important barriers to overcome.

Chief among these are concerns around range and recharging, affordability and safety. Continued proactive efforts by government and industry are required to accelerate infrastructure and vehicle offerings, educate drivers and build familiarity.

The continuing growth of EV Sales in Australia



[1] https://www.dcceew.gov.au/climate-change/emissions-reduction/net-zero

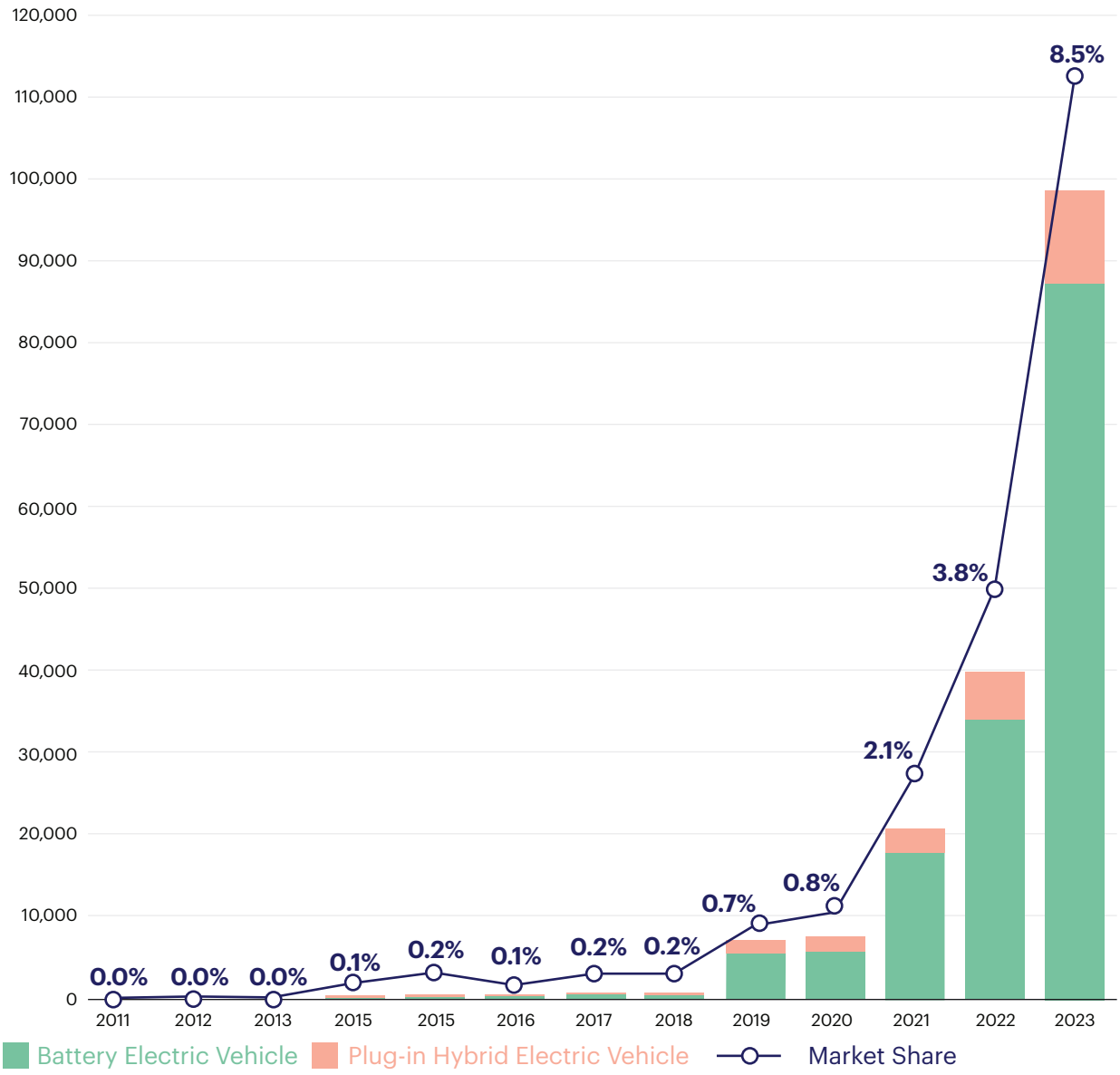
Part 1 - A snapshot of the current EV landscape in Australia

Electric vehicle sales have been in a phase of exponential growth in Australia.

Since making up less than 1% of new car sales in 2020, EVs' share of sales has been approximately doubling annually. In 2023 EV sales grew to 8.5% of light vehicles sold[2] and latest figures show that EVs have maintained that growth accounting for 8.4% of light vehicles sold so far in 2024.[3]

Hybrid vehicles, which utilise both petrol and electric motors for improved fuel efficiency, are often viewed as an interim solution to achieve lower vehicle emissions. They've gained significant traction among Australians since the debut of models like the Toyota Prius in 2001, surpassing EV ownership at a comfortable 15%.

EV Sales in Australia 2011-2023[4]



[2] Australian Electric Vehicle Industry Recap 2023, Electric Vehicle Council; https://electricvehiclecouncil.com.au/wp-content/uploads/2024/03/EVC-Australian-EV-Industry-Recap-2023.pdf

[3] Electric Vehicle index, Australian Automobile Association Electric Vehicle Industry Recap 2023, Electric Vehicle Council; https://data.aaa.asn.au/ev-index/

[4] Australian Electric Vehicle Industry Recap 2023, Electric Vehicle Council

Currently, just 5% of Australian drivers own an electric vehicle, putting EVs very much in the early adoption phase of the product lifecycle. Inevitably, some population groups have embraced EVs more quickly than others. Examining these early adopters can help shed light on the primary motivations and obstacles influencing EV ownership.

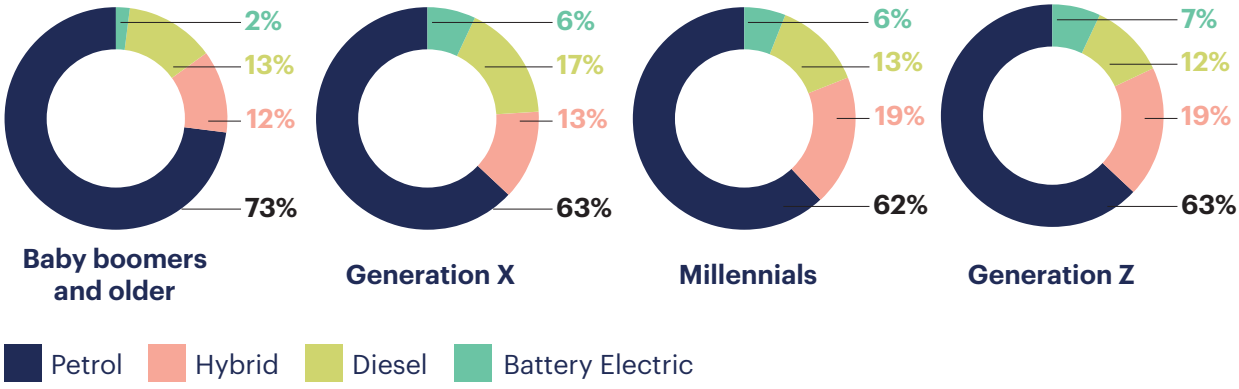
Vehicle ownership (based on last vehicle purchased)

Age and life stage

Parents with children at home have shown a greater inclination towards adopting electric vehicles. Specifically, 7% of this demographic own an EV, compared to 4% of individuals without children (SINKs and DINKs), and just 2% of empty nesters.

A similar trend emerges when viewed through a generational lens. Ownership of EVs among Gen Z, Millennials and Gen X drivers sits in the 6% to 7% range. However, Baby Boomers stand out as being far less likely to own an EV at this stage, at 2%.

What type of vehicles do Australians own?



Household income

Given the premium positioning of many EV models on the market, it is not surprising that household income has had a large influence on uptake. Drivers whose annual household income exceeds $200,000 have the highest level of EV ownership, at 15%. This compares to just 3% of those who have a household income of $100,000 or less.

Urban vs rural and remote

Those who live closest to our biggest cities show a higher propensity for electric vehicle ownership compared to those in regional and remote areas. Specifically, while 6% of drivers in capital cities own an EV, this percentage decreases to 4% in inner regional areas and drops further to 2% in outer regional areas.

Interest in sustainability and cars

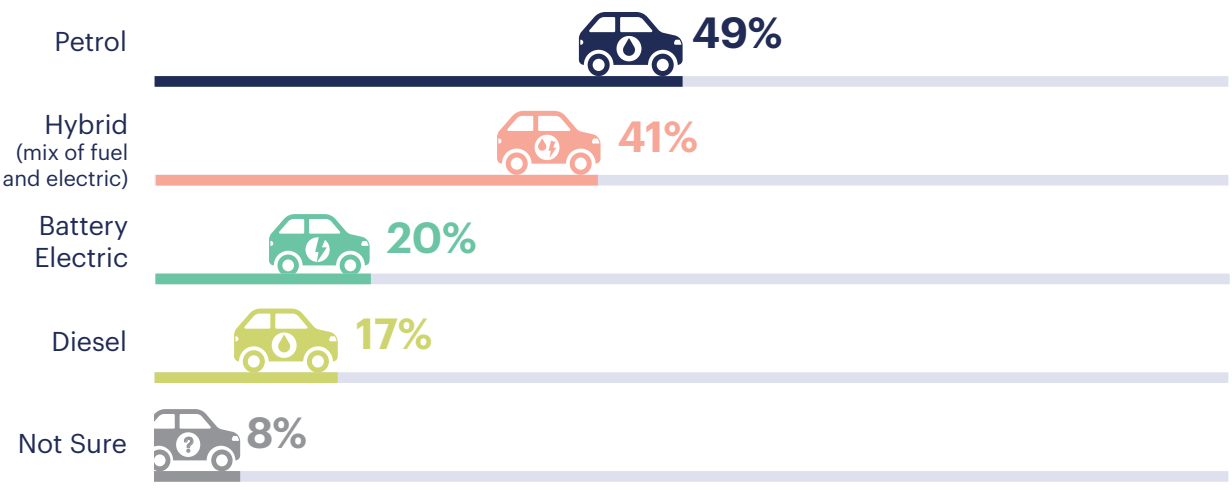
Attitudes and interests also play a big role in the decision to purchase, with two potentially very different sets of motivations.

Those who consider sustainability when buying a vehicle are four times more likely to have purchased an EV (at 12%), than those who do not (3%). Car enthusiasts have also been faster than others to embrace EVs. 9% of car enthusiasts own an EV, compared to 4% of non-enthusiasts.

Purchase consideration for EVs is still relatively low

Despite the rapid increase in uptake in EVs, the spectre of a global downturn in sales also looms on the horizon. Goldman Sachs analysts warn of a possible slowdown, citing uncertainties over resale values, government policies, and shortages in rapid-charging infrastructure. While Australia's trajectory may differ from global trends, it's important to understand who the next wave of EV purchasers is likely to be.

Types of vehicles considered at next purchase



Among Australians looking to purchase a vehicle in the next five years, 20% are currently considering an EV. While this suggests continued growth of EV market share in the next five years, it also highlights that many Australian drivers are uncertain if an EV is the right choice for them.

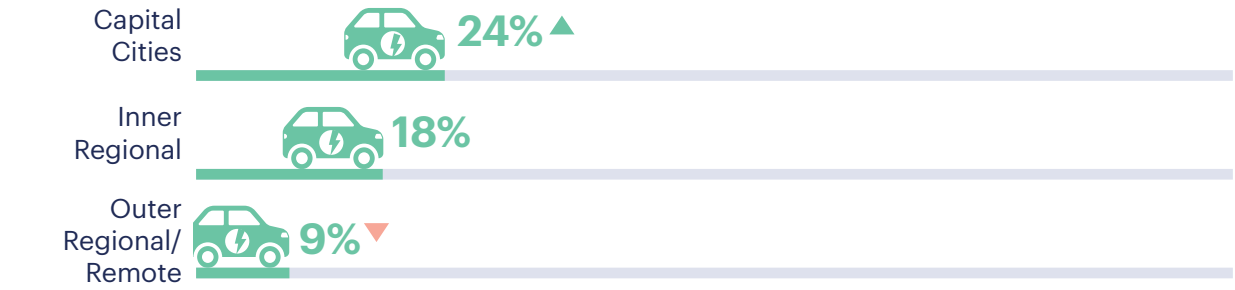
The popularity of hybrid vehicles is notable, with 41% of drivers considering one for their next purchase. Hybrid vehicles, which use both petrol and electric motors for improved fuel efficiency, are often seen as an interim solution for lower vehicle emissions. Unlike EVs, they are a known quantity for many Australian drivers with the Toyota Prius being launched in Australia more than 20 years ago and a well-developed second-hand market. Many drivers perceive hybrids as the optimal choice for achieving greater fuel efficiency and sustainability.

However, petrol vehicles continue to dominate, with half (49%) of respondents considering purchasing one for their next vehicle.

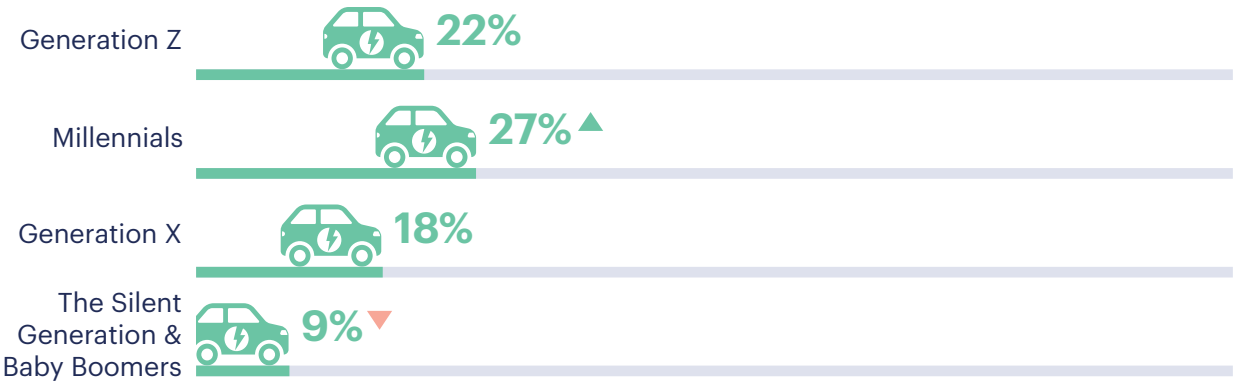
Looking at which groups are most likely to buy an EV, we see distinct differences which mirror, and in some cases amplify, the existing purchase patterns.

Proportion considering an EV at next purchase

Location



Demographic



Significantly higher (▲) or lower (▼) than average across vehicle category

Household income

Purchase consideration is on par for households with annual incomes in the $100,000 to $200,000 range (27%) and those above $200,000 (26%). This suggests that a wider group of households are beginning to consider EVs an affordable option. Households in lower income brackets are far less likely to be considering an EV for their car.

Urban vs rural and remote

Residents of capital cities are set to take a leading role, with close to a quarter indicating they will consider an EV next time they purchase. Given two thirds of Australians live in capital cities, this provides a strong base from which to focus on building infrastructure.

Age and life stage

From a generational perspective, Millennials and Gen Z are foremost among the next wave of EV purchasers, with 25% considering an EV. The majority of Baby Boomers remain unconvinced, however, with just 9% willing to consider one.

Given many Baby Boomers may be looking to downsize vehicles and take shorter trips as they settle into retirement, boosting awareness and consideration of EVs among this group may benefit them greatly.

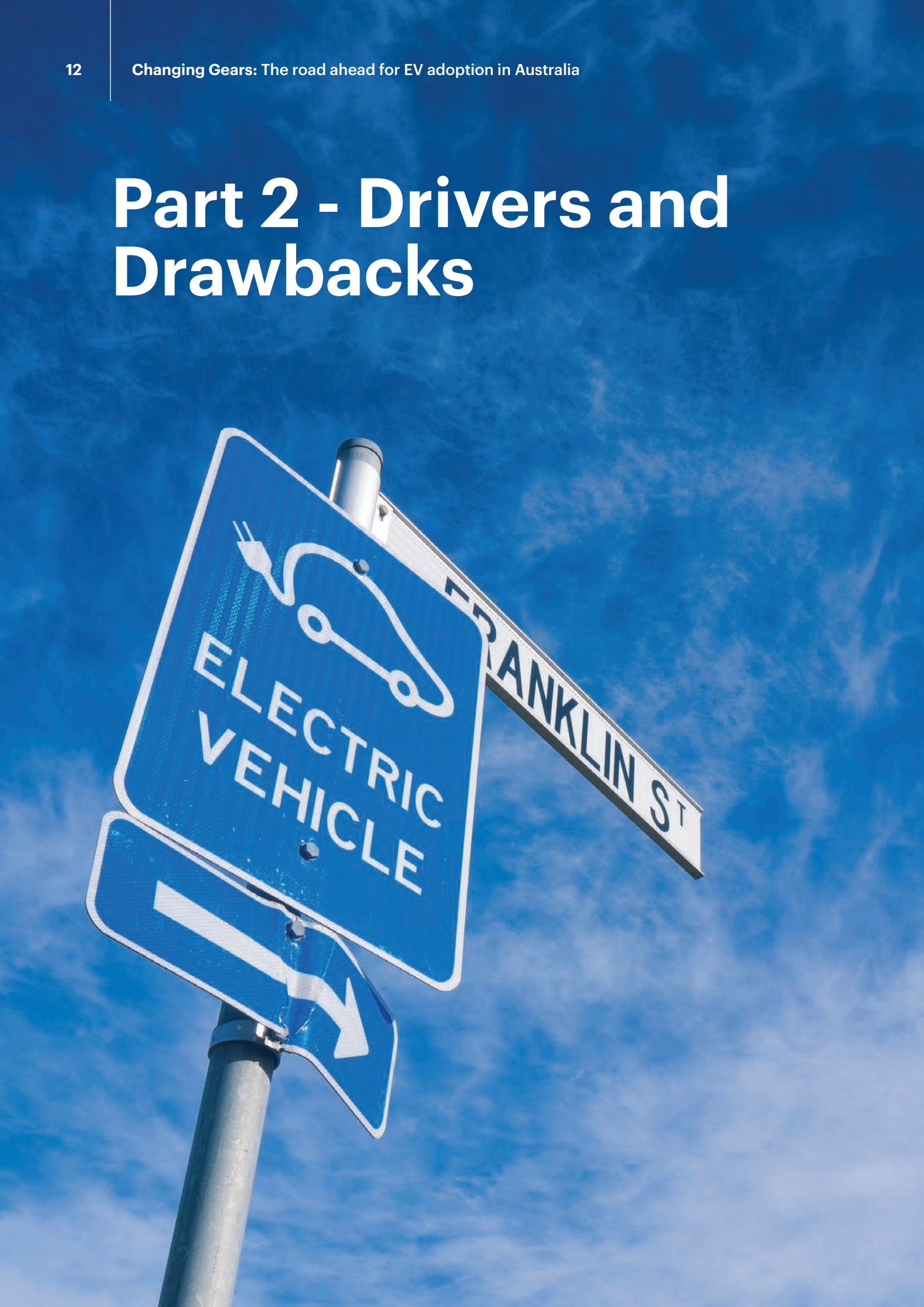
Interest in sustainability and cars

When it comes to choosing their next car, consumer attitudes towards sustainability provide interesting insights. Among those who consider sustainability in their purchase, 37% are considering EVs as a potential choice, showcasing a strong commitment to greener transport options. Surprisingly, 52% favour hybrids, while 43% lean towards traditional petrol-powered cars.

It is clear that a range of factors play into purchase decisions, even among those most focused on sustainability.

Among car enthusiasts, a potentially influential group, 29% will consider an EV for their next purchase.

Part 2 - Drivers and Drawbacks



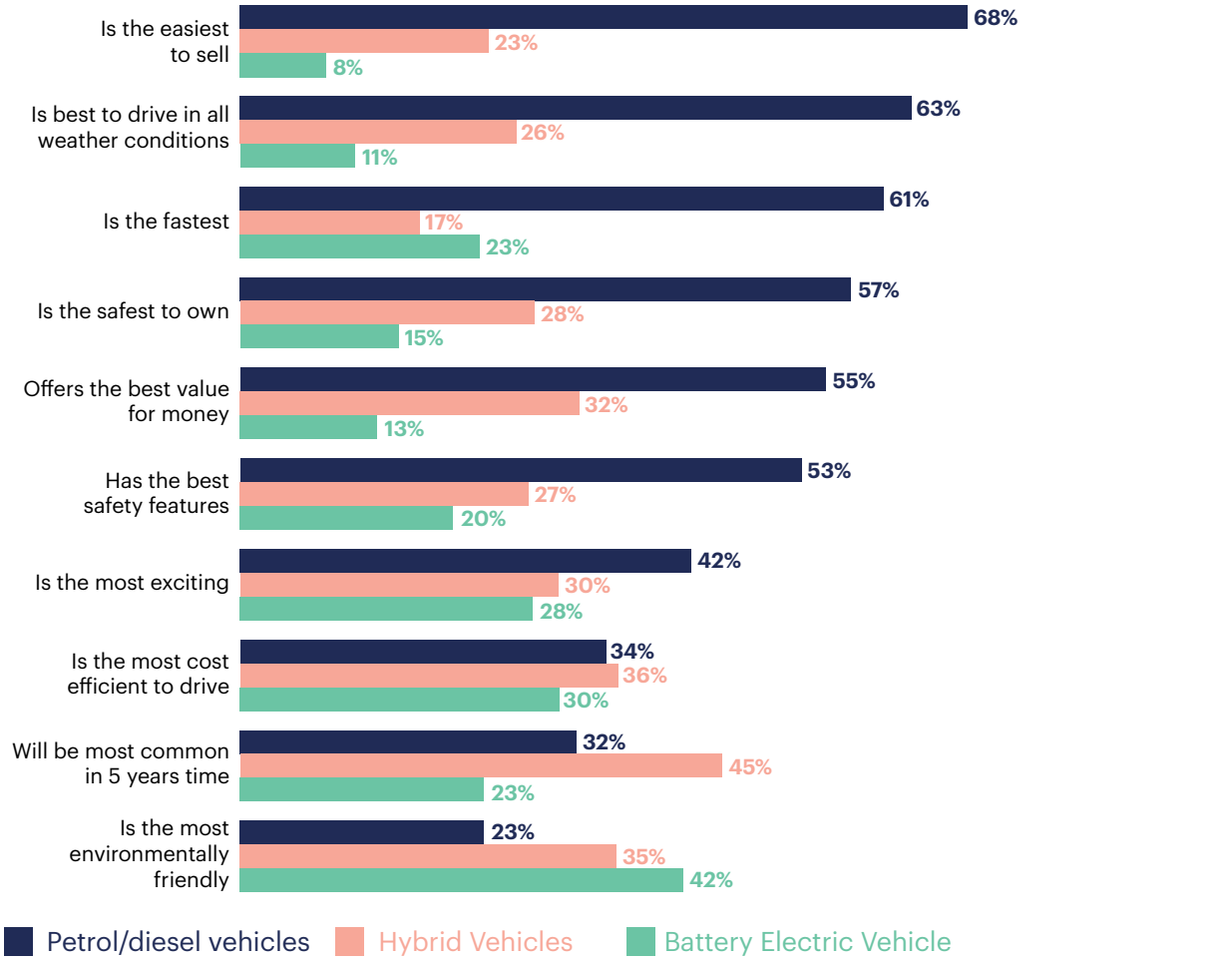
Despite a growing openness to considering EVs among certain demographics, they still significantly trail petrol and hybrid vehicles across all groups.

One major contributing factor is that EVs still have an image problem. Petrol and hybrid vehicles are seen by many purchasers as being superior vehicles to EVs.

When evaluating various attributes such as resale value, safety, and driving experience, EVs are often viewed as underperforming. Although EVs narrow the cost gap in terms of running expenses, only 30% of Australians believe they are the most economical option. Additionally, while 42% of Australians recognise EVs as the most environmentally friendly choice, more than half remain unconvinced.

All of this points to two areas of strength – sustainability and cost effectiveness – and a range of barriers that need to be addressed to ensure EVs see continued growth across the population in the coming years.

Which of the following vehicles do you believe...



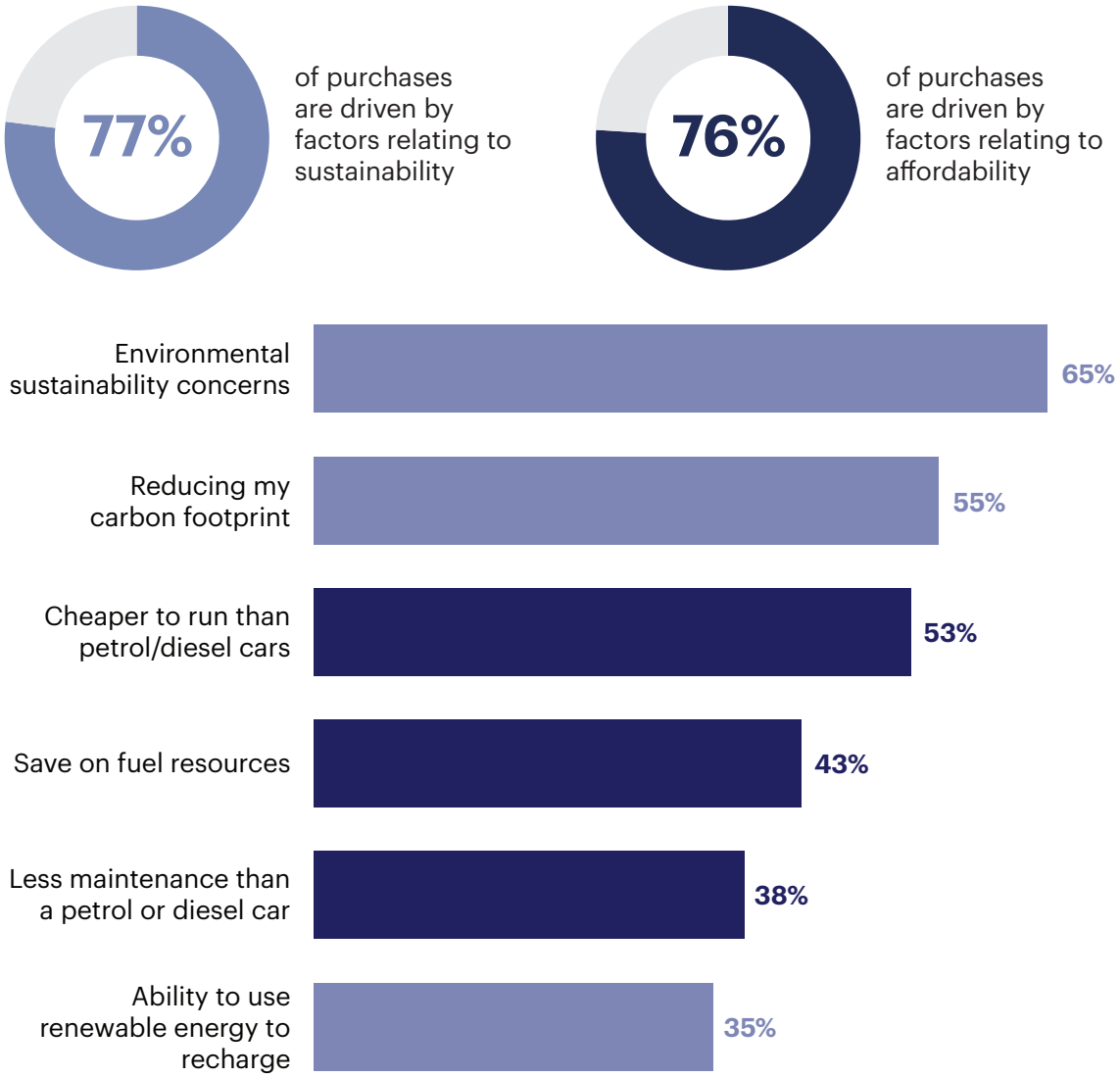
Top drivers of EV purchase

When asked the reasons they purchased an EV, owners consistently cite the combination of sustainability and lower running costs as being the key reasons.

The co-benefits of reducing their carbon footprint and spending less on fuel are strong motivators for those who have already purchased an EV and appear to be highly related in the minds of many owners. Lower maintenance is also seen as a benefit by one in four purchasers.

While EV owners have strong beliefs in the sustainability and cost-effectiveness of their vehicles, recognition of these benefits is not widespread in the population more broadly. With just 30% of Australians believing that EVs are the most cost-effective vehicles to run, and only 42% believing they are most environmentally sustainable option, there is a significant opportunity to build greater awareness and understanding of these benefits.

Top five drivers of EV purchase

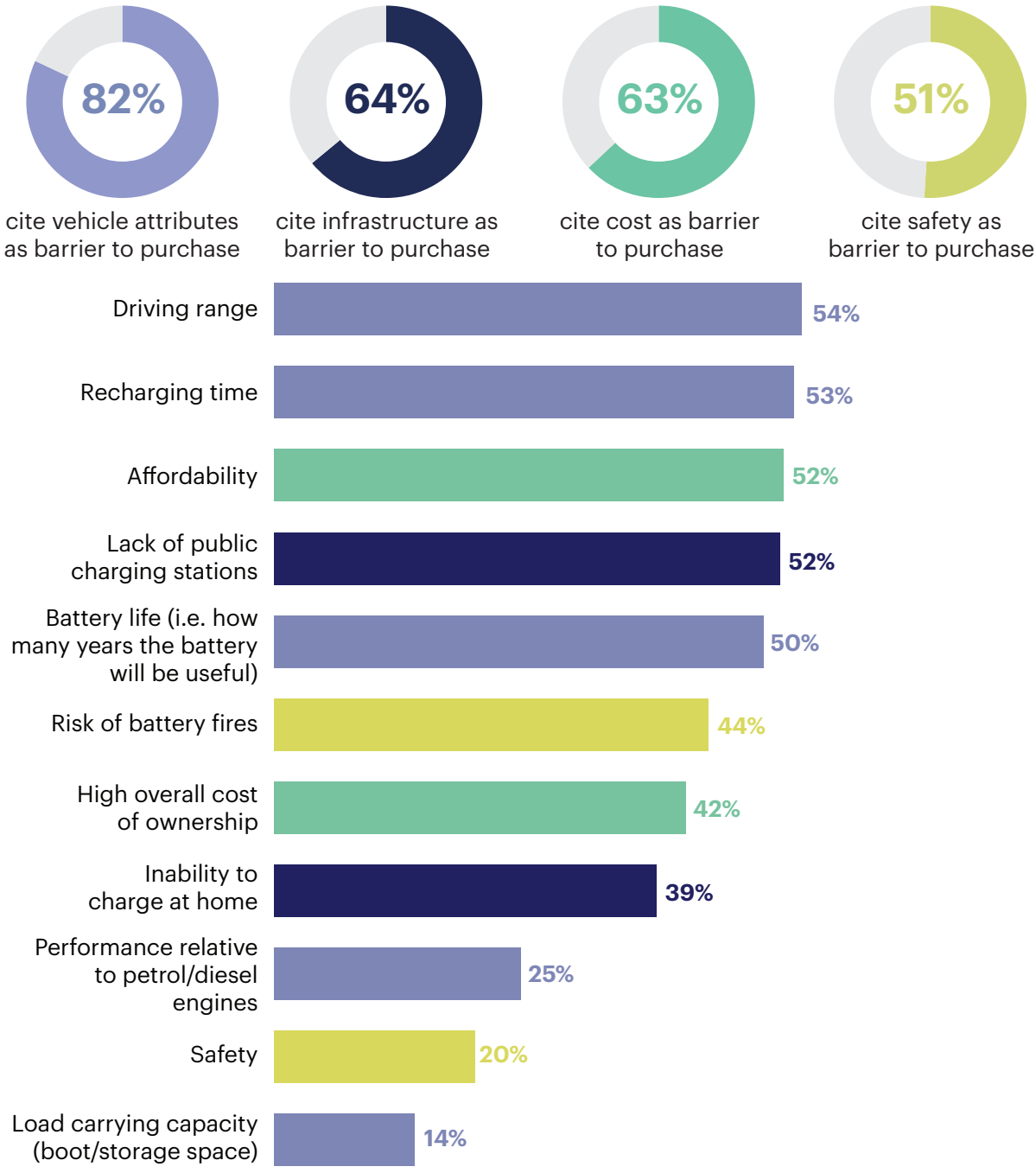


Barriers to EV adoption

While building awareness of the benefits of EVs will be important to driving continued uptake among Australian drivers, the main challenge lies in addressing the myths and misunderstandings that currently hinder broader adoption.

These barriers are numerous and diverse and often overlap. When people are asked why they are hesitant to buy an EV, their concerns can be grouped into four main categories: vehicle attributes (including driving range and charging time), inadequate charging infrastructure, costs, and safety worries.

Barriers to buying an EV among non-considerers



Overcoming the barriers

There are many financial and reputational challenges to tackle before convincing the 80% of Australians who aren't considering an EV to change their minds. While EVs won't be suitable for everyone, it's important to assess whether all perceived barriers are genuine and find effective solutions for those that are.

Range anxiety and charging

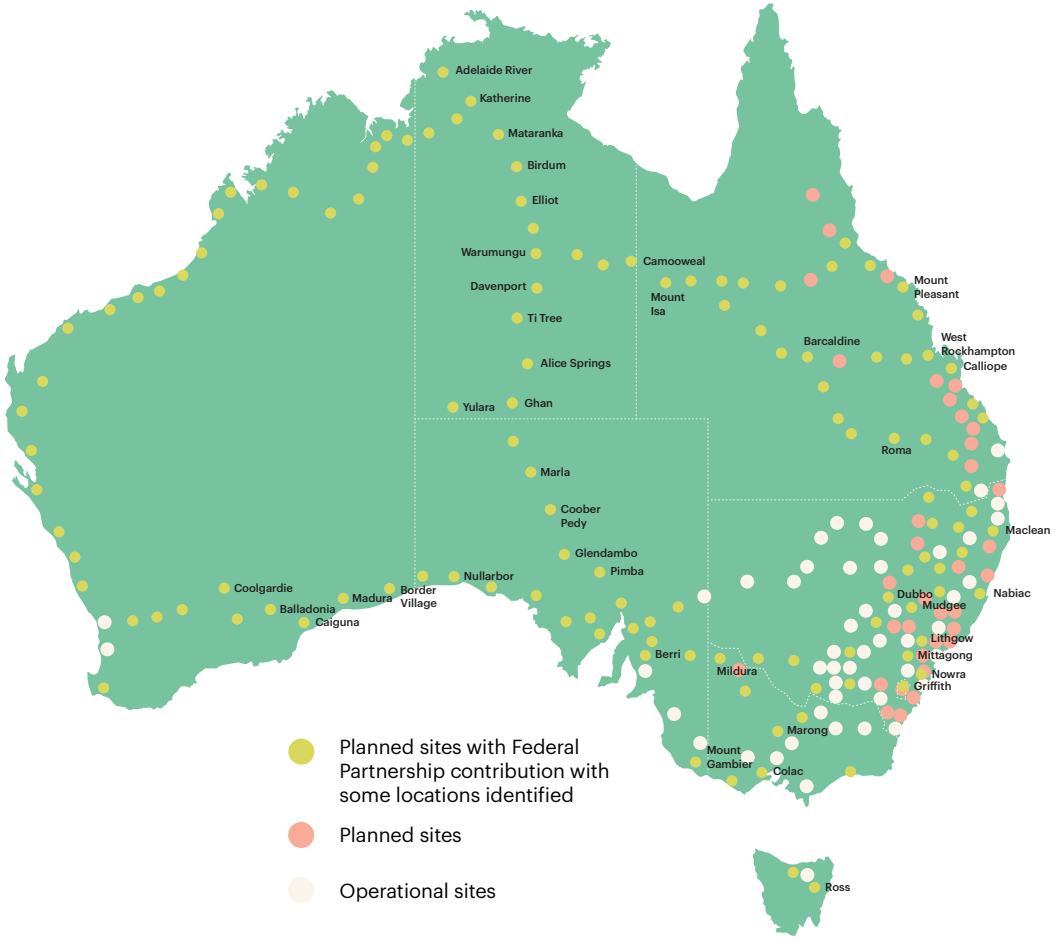
Range anxiety is a key concern, with over half of those not considering an EV, having concerns about insufficient driving range (54%) and lengthy charging times (53%).

However, survey data indicates that the majority of Australians drive well within the range capabilities of modern EVs on a day-to-day basis. 78% of Australians report driving less than 50km a day, well within the driving range of most EVs on the road.

While regional drivers do tend to take more frequent longer distance trips, a typical EV range of 300-500km still covers most daily usage. Changing drivers' perceptions of EVs' ability to meet their day-to-day driving needs will be important in driving uptake.

For longer trips, more charging infrastructure offers an antidote. In 2023 the federal government and the NRMA announced a joint partnership agreement worth a combined investment of $78.6 million to design and build a national electric vehicle charging network that will deliver fast charging sites on key highway routes.[5]

Building the national EV backbone



[5] https://www.dcceew.gov.au/energy/transport/driving-the-nation-fund

Affordability

Upfront affordability is a real challenge, with only three EV models currently available for under $40,000. This puts a new EV out of reach for nearly half of vehicle purchasers.

However, as more affordable models come to market and the second-hand EV market develops, EVs will become accessible to a much wider group. Fifty eight percent of those considering an EV would be open to buying second-hand vehicle, suggesting that this is a viable way into an EV for many.

Cost comparison

Despite the initial higher purchase price, the lower running and maintenance costs make EVs cost-effective over their lifetime. According to Transport NSW,[6] when comparing EVs to petrol cars, EVs are significantly cheaper to run, including fuel savings of up to 70% and maintenance savings of around 40%.

For an average car travelling 13,700 km per year, this could amount to an annual fuel saving of $1000, or $1200 if the EV is able to charge overnight on an off-peak tariff.

EVs have fewer moving parts than a petrol or diesel car. There is relatively little servicing and no expensive exhaust systems, starter motors, fuel injection systems, or radiators.

As battery technology improves and production scales up, the upfront cost of EVs is expected to decrease further, enhancing their competitiveness against petrol or diesel vehicles.

[6] https://www.transport.nsw.gov.au/projects/electric-vehicles/why-buy-an-electric-vehicle

Batteries and safety

Battery life and safety are also concerns for buyers.

While EV batteries degrade gradually over time, most manufacturers provide warranties for at least eight years or 160,000km. Real-world data shows modern EVs typically maintain 85-90% of their original range at approximately 300,000km.[7] But it will also be important to help individuals feel assured that their battery will perform in the way they need it to. Standardised testing of EV batteries is one way to provide reassurance. More than 80% of EV owners would use an annual testing service, and there would be clear benefit to those buying second-hand.

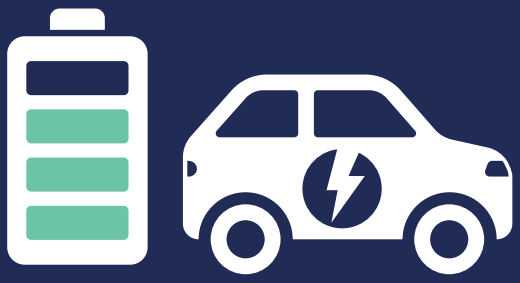
On safety, the Australasian New Car Assessment Program (ANCAP), Australia and New Zealand's independent voice on vehicle safety has awarded many EVs its highest 5-star safety rating, finding they perform as well or better than petrol or diesel vehicles in crash tests.

However, the risk of battery fires is a concern for 44% of those not considering an EV.

Research conducted by The Insurance Council of Australia (ICA)[8] indicates that road registered EVs do not present a greater risk of fire than internal combustion vehicles, however when EV battery fires do occur, they need to be managed differently and may require more time, resources and firefighting water to manage the incident, and can have significant impact on surrounding infrastructure. Educating drivers on proper EV battery management, safety features and maintenance would help address safety concerns.

How do I take care of my EV Battery?

To preserve your EV battery life, some manufacturers advise to keep your state of charge between 20 and 80 per cent.



Otherwise, you can take care of your EV battery just like an ICE car battery. Drive your car regularly to maintain its overall health, undertake maintenance in line with recommendations, and minimise the vehicle's exposure to very high or low temperature.

[7] https://caredge.com/guides/electric-vehicle-range
[8] https://insurancecouncil.com.au/wp-content/uploads/2024/05/EV-Industry-Paper-final_-FINAL_MAY2024.pdf

Building greater familiarity with EVs

Lack of consumer familiarity is a significant underlying barrier to consideration of purchasing EVs.

Only 26% of Australians say they feel familiar with EVs – leaving a lot of room to improve the average driver's knowledge and comfort with them. And there is fertile ground for building familiarity, with around half (47%) of Australians interested in learning more about EVs.

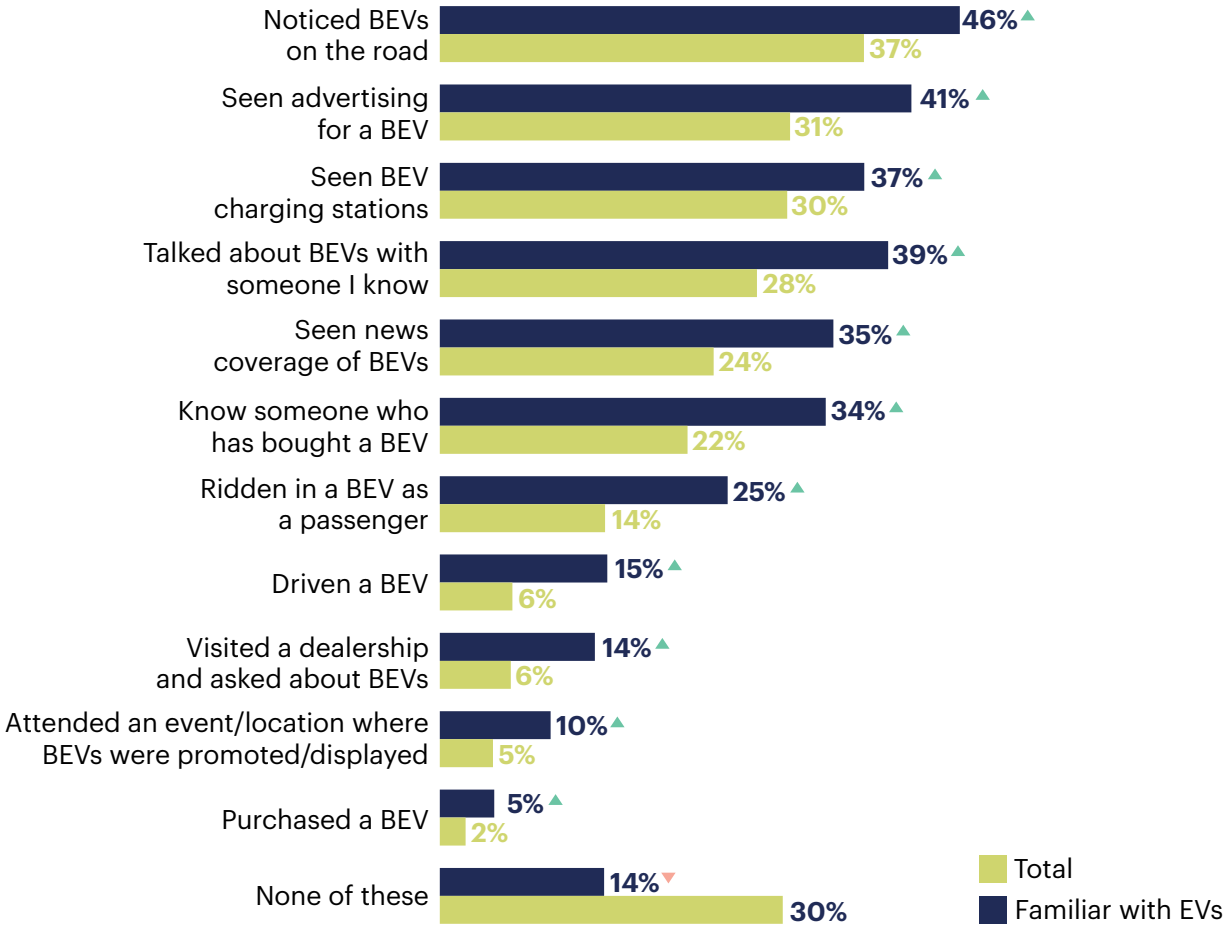
As EVs become more commonplace on Australian roads, their familiarity is steadily increasing. Encouragingly, this trend is driving greater interest in EVs as a viable option: 32% of individuals familiar with EVs are considering purchasing one, compared to just 14% among those who are less familiar with these vehicles.

Unsurprisingly, the population groups with the lowest levels of purchase intention (those in regional and remote locations, Baby Boomers and lower income groups) also have the lowest levels of familiarity with EVs.

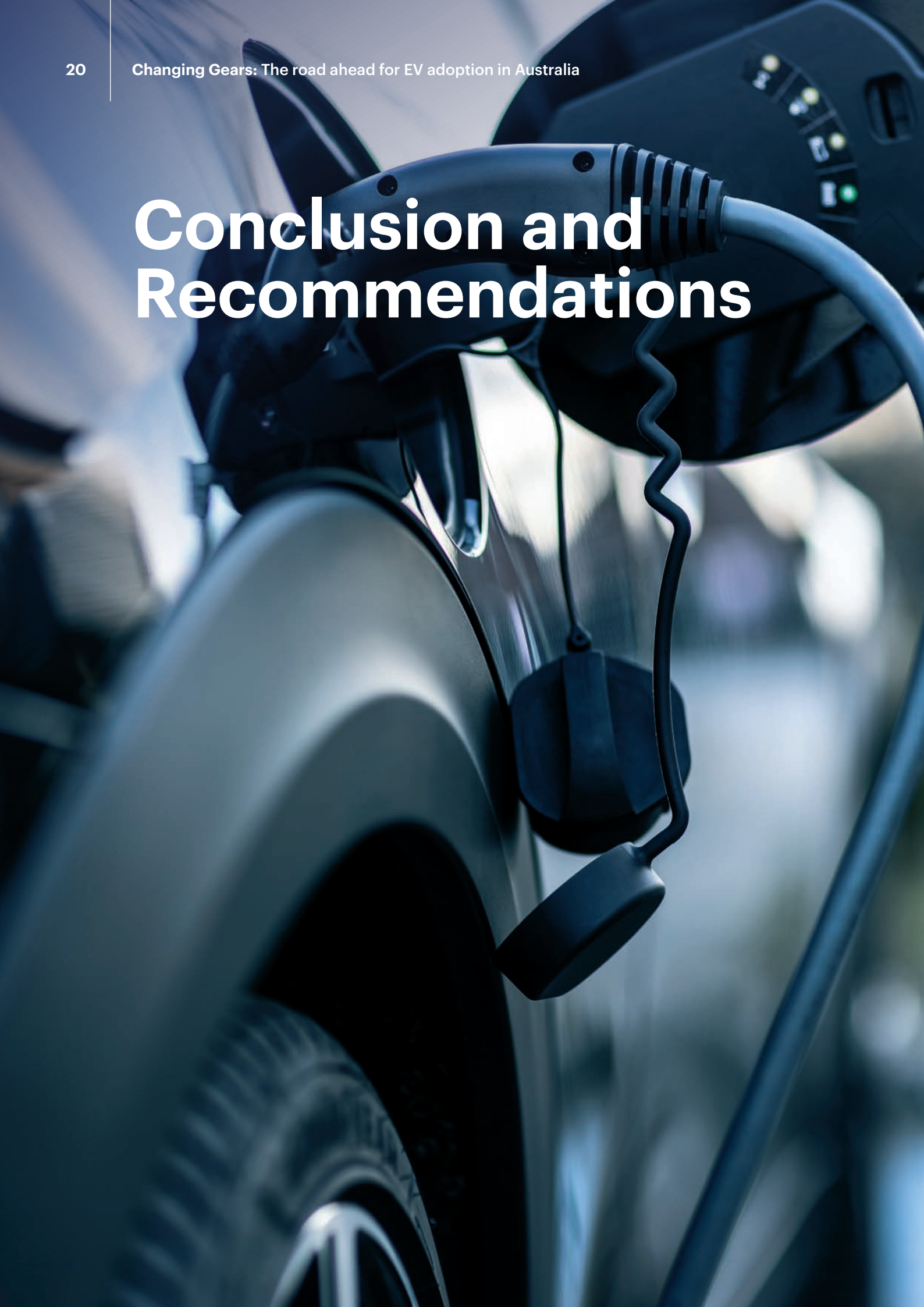
Our data shows that even indirect interactions, such as encountering EVs on the road or knowing someone who owns one, significantly enhance drivers' knowledge and confidence about EVs.

Proactively boosting drivers' familiarity with EVs may be an effective strategy to building ongoing support. Facilitating more direct interactions through open events and drive days will continue to improve understanding and consideration of EVs across the population.

Thinking about battery electric vehicles (BEVs), which of the following have you done in the last 12 months



Conclusion and Recommendations



Australia's EV market is currently at an inflection point, with sales accelerating rapidly off a low base.

A growing number of consumers are attracted to the environmental and economic benefits of going electric. However, many Australians feel that EVs remain out of reach or impractical due to a combination of upfront cost, affordable model availability, charging infrastructure and low awareness.

Overcoming these barriers will require a sustained, collaborative effort from government, industry and consumer groups.

Based on this research, some key recommendations include:

- **Clearing the Air – busting the myths on safety, and range anxiety**
  Address EV education gaps about safety and range anxiety: Fund education campaigns to increase familiarity, knowledge and confidence in EVs, and to provide consumers with accurate and up to date information on the state of technology and the marketplace. Education should include opportunities to drive, ride in and interact with EVs to maximise physical touchpoints for consumers.
- **Navigating the charge - develop confidence in knowledge of charging station network.**
  What does it cost? Where can I go? Do I have to wait? While the charging network in Australia continues to expand, drivers need clearer information on where and how to charge their electric vehicles. Addressing range anxiety and simplifying the charging process are crucial for enhancing convenience and user experience. Effective communication about charging costs and procedures is a key aspect for increasing EV adoption and driver confidence.
- **Ready to serve! Creating repair capacity and an established network**
  Expand an EV repair and service network that is fit for purpose: Invest in upskilling mechanics and modernising repair supply chains to ensure dependable and convenient EV maintenance. Strengthening these aspects will significantly enhance consumer confidence in the reliability of electric vehicle ownership.
- **Boosting support for the second-hand car market – incentives**
  Support the growth of a second-hand EV market: Implement policies and incentives to develop a second-hand EV market that broadens the consumer base able to afford EVs, facilitating more equitable product adoption and accelerating overall market growth.
- **Battery Health - The New Frontier in EV Maintenance and Regulation**
  Introduce standardised battery health testing and reporting: While battery testing tools exist in Australia, their use is unregulated, and mandatory testing is not currently proposed. Requiring annual battery health tests for all EVs and establishing a clear and standardised assessment of battery health would build trust in the long-term viability of EVs among consumers.

As adoption rises, new issues around insurance, servicing, charging, battery health, and end-of-life will undoubtedly emerge. It will be crucial that government, industry and motorist associations work proactively together to resolve pain points and ensure a smooth transition for all Australian drivers.

By proactively shaping the policy agenda, driving public awareness, and developing innovative solutions, it will be possible to accelerate the uptake of EVs in a way that is affordable, equitable and optimises the benefits for drivers, the environment and the transport system as a whole.

Changing Gears

Changing Gears: The road ahead for EV adoption in Australia is the first instalment of a two-part report produced by NRMA Insurance. The second report will include an analysis of EVs versus hybrid vehicles focusing on several critical aspects including cost comparison, repair considerations, battery recycling, and implications of public policies and government subsidies.

Methodology

NRMA Insurance commissioned global research company Ipsos to undertake a nationally representative survey. Results from that survey are referenced throughout the report when mentioning the attitudes and perceptions of Australians. In total 2,079 interviews were conducted via online panels between 7th to 20th of February in 2024. Quotas were applied and data is weighted to match the profile of the Australian population by age, gender and location. The precision of Ipsos online polls is calculated using a credibility interval with a poll of 2,000 accurate to +/-2.5 percentage points. For more information on Ipsos' use of credibility intervals, please visit the Ipsos website. Statistical margins of error are not applicable to online polls. All sample surveys and polls may be subject to other sources of error, including, but not limited to coverage error and measurement error.

About NRMA Insurance: A Help Company

NRMA Insurance is Australia's most trusted insurance brand,[1] helping more than three million Australians protect what matters.

Help has been at the heart of NRMA Insurance since its beginnings in 1925 as a member-only company that provided motor insurance policies to the first drivers in NSW. NRMA Insurance has grown to become a national brand that helps people protect their cars, homes and businesses. It has a proud history of working with communities to build their resilience against extreme weather and keep people safer on the road. NRMA Insurance helps Australians understand their local risks and prepare for extreme weather through its Help Nation initiative.

NRMA Insurance is backed by IAG, Australia and New Zealand's largest general insurer.

About Ipsos

Ipsos is one of the largest market research and polling companies globally, operating in 90 markets and employing nearly 20,000 people.

Their passionately curious research professionals, analysts and scientists have built unique multi-specialist capabilities that provide true understanding and powerful insights into the actions, opinions and motivations of citizens, consumers, patients, customers or employees. Our 75 business solutions are based on primary data from our surveys, social media monitoring, and qualitative or observational techniques.

"Game Changers" – our tagline – summarises our ambition to help our 5,000 clients navigate with confidence our rapidly changing world.

[1] Roy Morgan Most Trusted Brands 2023

Disclaimer:

This Report has been prepared by Ipsos for Insurance Australia Group (IAG) to provide general information about consumer attitudes to electric vehicles in Australia. This Report has been developed by carrying out primary and secondary research. Cross referencing of available data points was also carried out. To the extent possible, the data has been verified and validated on a best effort basis. However, there can be no guarantee that such information contained in the whitepaper is correct as of the date it is received or that it will continue to be correct in the future. Ipsos does not take any responsibility for the veracity of the underlying data.

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