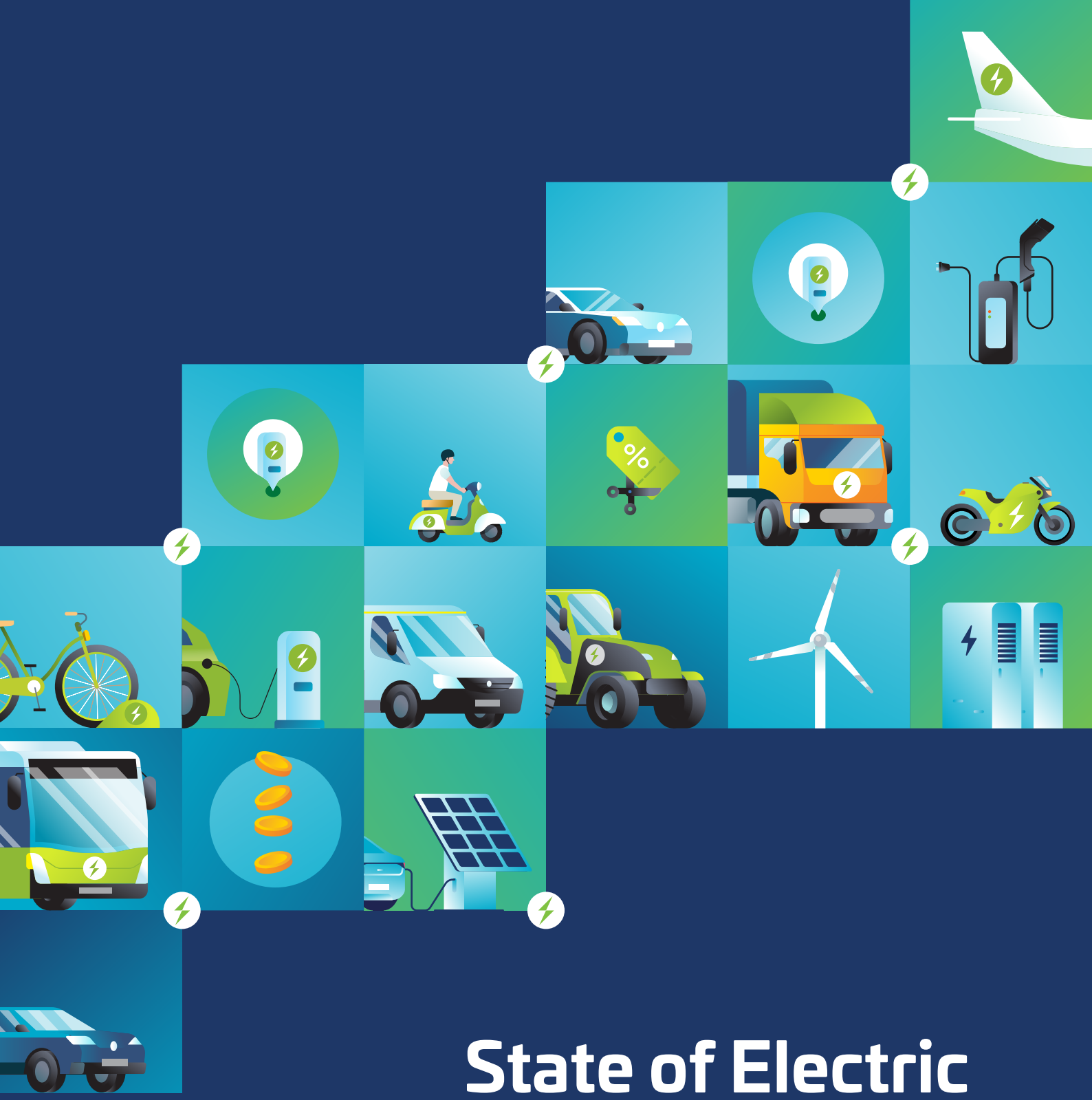


State of Electric Vehicles

MARCH 2022

ELECTRIC VEHICLE COUNCIL

ELECTRIC VEHICLE COUNCIL

State of Electric Vehicles

MARCH 2022

Contents

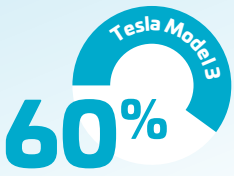
Sales Highlights

3x

Sales in Australia tripled from the previous year to 20,665 plug-in electric vehicles sold.

5%

5% of sales in the ACT were electric.



The Tesla Model 3 accounted for nearly 60% of electric vehicle sales.

Top 3 EV sales:

1. Tesla Model 3 **12,094**
2. MG ZS EV **1,388**
3. Mitsubishi Outlander PHEV **592**

Charging Highlights

There are 291 public fast charging locations around Australia.

+700

State and federal government funding has been committed to co-fund the deployment of approximately 700 additional fast charging locations over the next 5 years, each with multiple charging bays.

Types of charging:

≥ 50kW
FAST CHARGING

< 50kW
REGULAR CHARGING

Model availability highlights

34 EV models are available including 69 variants. There are 30 plug-in hybrid electric variants and 39 battery electric vehicle variants.

21

There are 21 models of utility vehicles, vans, and trucks.

11

There are 8 bus manufacturers with models available in Australia.

Electric vehicle ecosystem

Decarbonisation of transport in Australia must address all modes of transport – bikes, motorcycles, scooters, trains, trams, ferries, cars, trucks, buses, ships, planes, vans, tipper trucks, tractors and many more types of vehicles!

Sectors that require specialised vehicles, such as agriculture, mining, marine, and logistics will require more time to transition to electrified transport. The implication of this is that Australian governments must deploy electric vehicle policy to accelerate uptake immediately, based on technology readiness.

Model availability

Model availability in Australia continues to be restricted by supply constraints. Limited access to models that are available in international markets is restricting choice for Australian consumers across all vehicle segments.

Despite this, we have seen the number of electric passenger vehicle models, electric motorcycles and scooters, electric trucks, and electric buses increase.

BEV
Battery electric vehicle

A BEV is 100% powered by a battery 100% of the time.

PHEV
Plug-in hybrid electric vehicle

A PHEV has two drive trains – a battery and an internal combustion engine vehicle. The driver can choose to drive on the battery to a certain range or use the engine.

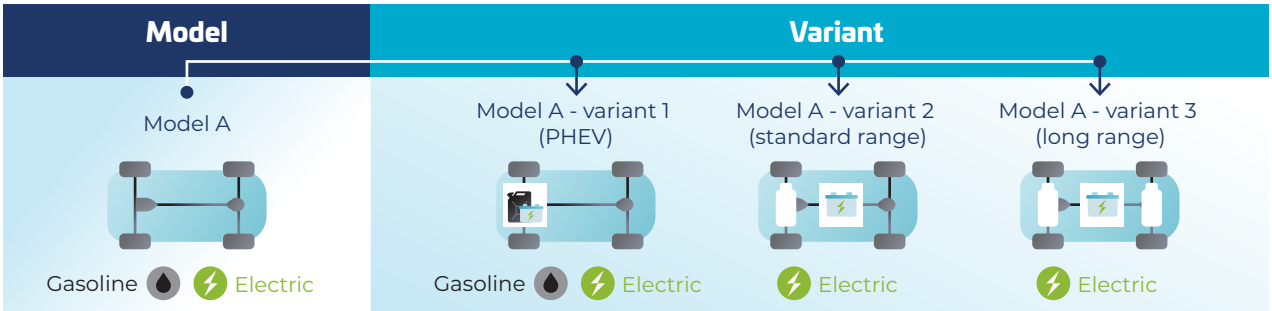
PASSENGER ELECTRIC VEHICLES

In the last six months, seven new BEV and PHEV models have been introduced to the Australian market. This brings the number of electric vehicle models available in the Australian market to 34.

These 34 electric vehicle models include a total of 69 variants. There are 30 PHEVs and 39 battery electric vehicle variants. For comparison, there are 120 battery electric vehicle variants and 40 plug-in hybrid electric vehicle variants in the United Kingdom.

In the future, we can expect to see the introduction of an additional 30 electric vehicle models, including 32 BEV and seven PHEV variants.

Diagram of model and variants



ELECTRIC MOTORCYCLES AND SCOOTERS

The electric motorcycle and scooter market has not experienced growth in model availability over the last six months. However, of the models that are available, many of them are from Australian-owned companies.

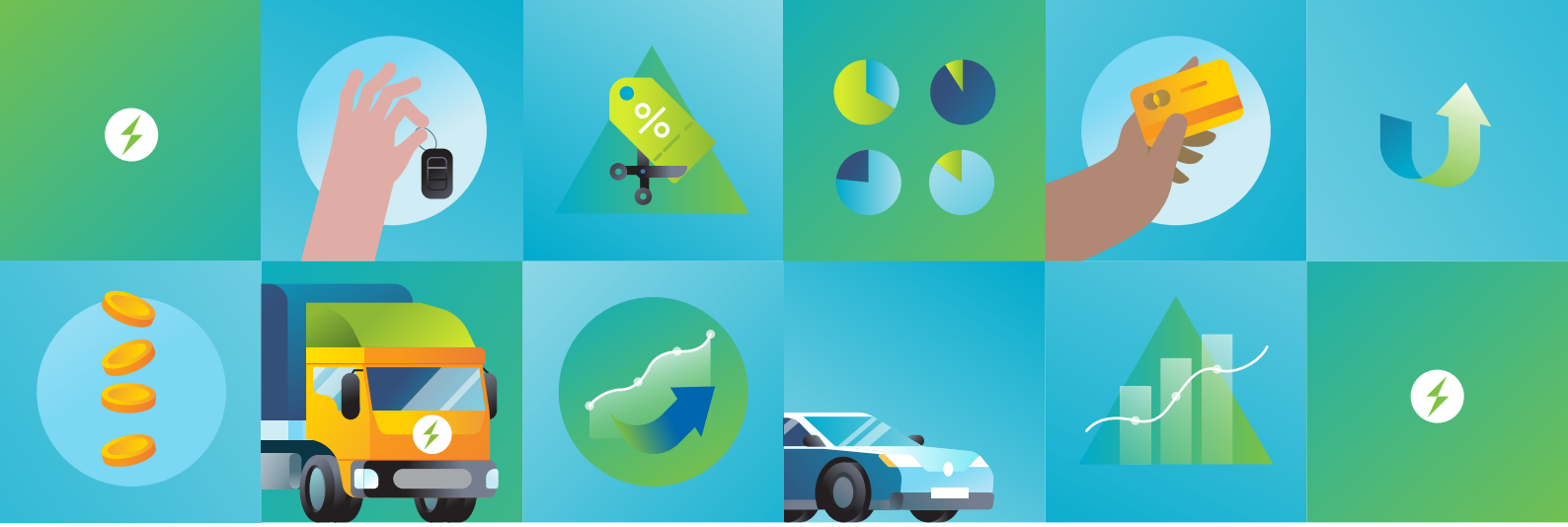
TRUCKS

The van and truck sector has seen substantial growth in the last six months, with the sector now having access to 21 different trucks, utility vehicles (5), vans (6), and trucks (10).

BUSES

There are now 11 manufacturers supplying electric buses to the Australian market. This is an increase of 4 in the last six months.

Given that many state and territory governments are increasingly committing to electrify public transport, we can expect the bus vehicle segment to continue year on year growth.



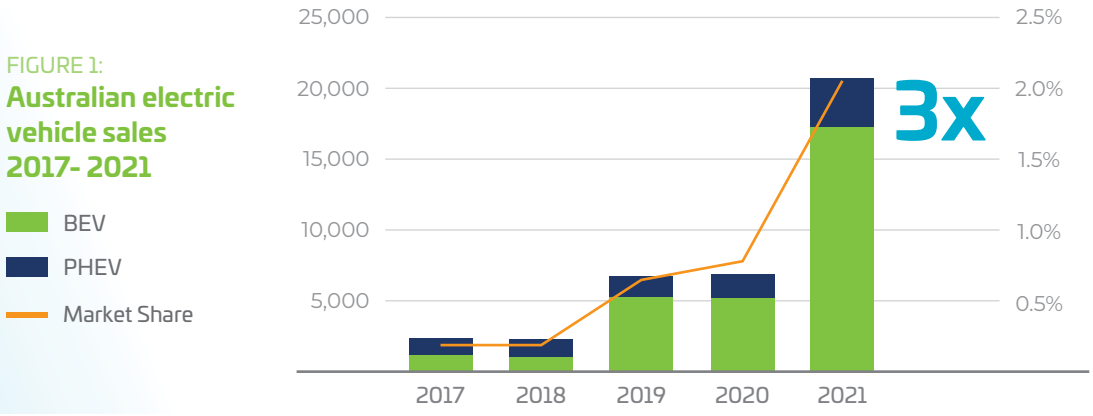
Electric vehicle sales

Electric vehicle sales rose sharply in 2021, with increased model availability, lower prices, and state and territory government incentives stimulating the market.

Sales in Australia tripled from the previous year to 20,665 electric vehicles sold, up from 6,900 in 2020. This increase represents a 2% market share of all sales, compared to 0.78% in 2020.

Strong consumer demand saw some popular models selling their full annual allocation within hours of being made available for purchase. Rising sales and long waiting lists emphasise that further growth in Australia is inhibited not by a lack of consumer demand, but by supply constraints. This lack of supply continues due to the Federal Government's inaction on fuel efficiency standards in line with major markets around the world.

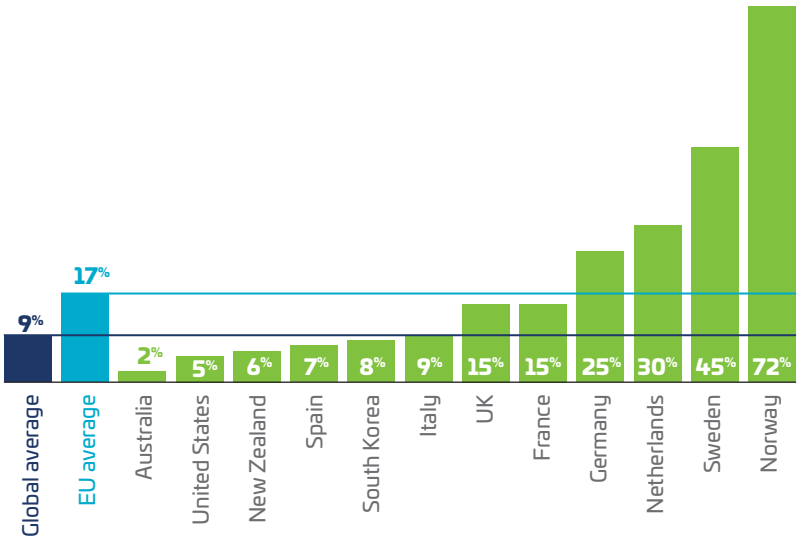
FIGURE 1:
Australian electric vehicle sales 2017- 2021



In 2021, state and territory governments introduced new policies and incentives to support Australia's transition to electric vehicles. Those with favourable policies saw sales increase. However, as these measures were introduced late in 2021, the impact on total sales was limited – the impact of these policies will become more apparent throughout 2022.

The ACT was the only market to have incentives in place throughout the entire year and performed best proportionally, with 5% of sales being electric. Most other markets remained consistent with the national figure of 2%.

FIGURE 2:
Global EV sales

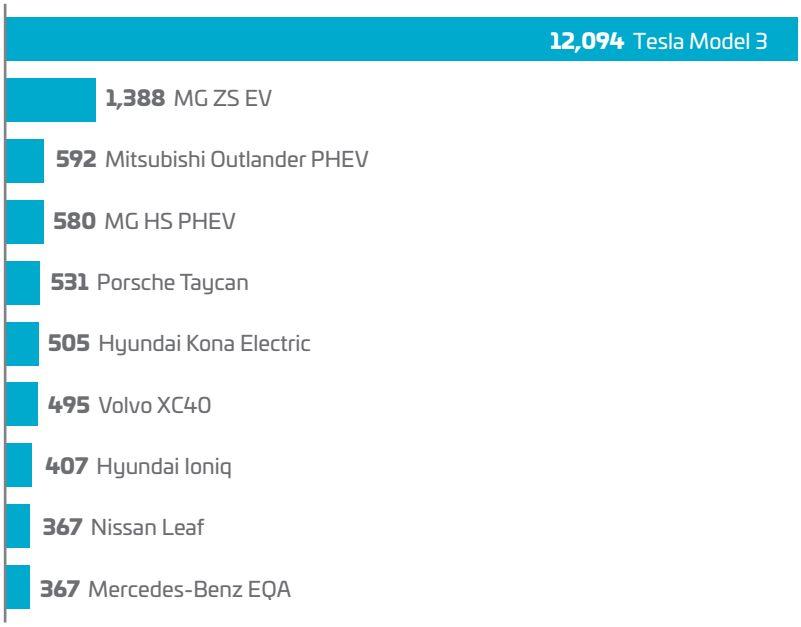


Data Sources:
- IEA, 2022: https://www.iea.org/commentaries/electric-cars-fend-off-supply-challenges-to-more-than-double-global-sales
- New Zealand Motor Industry Association, 2022: https://www.mia.org.nz/Sales-Data/Vehicle-Sales
- An official figure for China was not available at the time of publication. The 2021 market share for the world's largest electric vehice market was later confirmed to be 16%.

This year and for the first time, the Electric Vehicle Council can exclusively share official sales results from Tesla, allowing for a ranking of models by sales performance. In 2021, the Tesla Model 3 singlehandedly accounted for almost 60% of all EV sales in Australia.

Model 3 sales benefitted from several price reductions, the introduction of state incentives available to some models, and consistent availability throughout the year. This should serve to boost confidence for other manufacturers of the strengthened demand for EVs from Australian consumers and businesses.

FIGURE 3:
Model sales



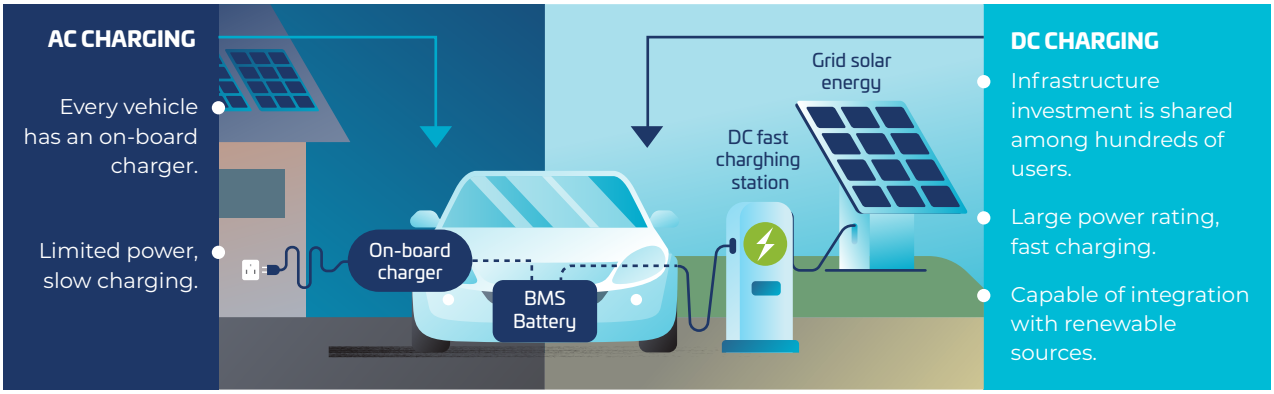
Other high performing models included the MG ZS EV, which was the most affordable EV in the Australian market in 2021. Plug-in hybrids continued to provide an electric vehicle solution for customers, as the third and fourth highest selling models.

In the performance market, Porsche's Taycan has performed well, as reflected in the global market, becoming the fifth highest selling EV and third BEV in Australia. Hyundai, Volvo, Nissan, and Mercedes-Benz round out the top 10 models.

Public charging infrastructure

INTRODUCTION TO CHARGING

Electric vehicles are plugged in to an electricity source for recharging. At home, this is typically achieved with an AC supply to the vehicle, which the vehicle converts to DC to recharge the battery. At public stations, this is typically done using a DC charger, which directly supplies the battery with a DC charge.



To keep cost, weight, and heat dissipation to a minimum AC charging in an electric vehicle is usually limited to 7kW or 11kW. This is powerful enough to recharge an electric vehicle overnight or for daily top-ups.
In public, charging speed matters much more. What constitutes 'fast enough' depends on context. If an electric vehicle driver is driving more than 400-600km in a single day, or if they don't have access to home charging, DC charging provides a faster option. In Australia, public DC charging equipment has been installed at power ranges from 25kW to 350kW.

≥ 50kW
FAST CHARGING

In this report, we use 50kW and above as the definition of 'fast charging'.

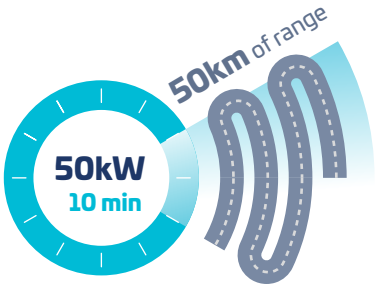
≤ 50kW
REGULAR CHARGING

We use the term 'regular charging' when referring to all chargers below 50kW.

7 - 40kW
DESTINATION CHARGING

'Destination charging' is a subset of 'regular charging' with power ranges between 7kW and 40kW.

50kW has been a standard size of fast charger, with hundreds of 50kW chargers already dotted around Australia and the world.



At 50kW, a vehicle plugged in to a charger will add about 50km of range per 10 minutes plugged in.

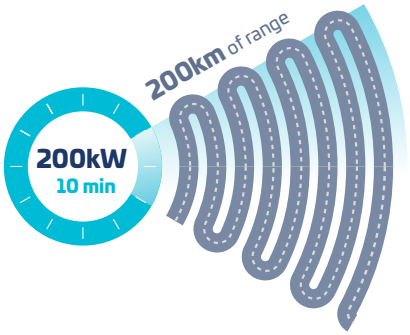
The type of charger installed is relevant to the location and intended use case. Faster chargers will suit locations where drivers stop for short periods of time, slower chargers are well suited for when drivers stop for longer periods of time.

The future?

Currently, the rate at which an electric vehicle can be charged is limited by the technology in the vehicle, and some fast chargers can supply more power than the technology in a vehicle can accept.

However, in response to rising consumer expectations, vehicle manufacturers are increasingly engineering their vehicles to be able to accept higher power levels when fast charging, to reduce the time taken to fully recharge a vehicle at a public fast charger.

Accordingly, charging equipment manufacturers are building equipment, charging network operators are deploying the higher-powered equipment, and government subsidies are being used to encourage higher power deployments in fast-charging programs. For example, the most recent NSW fast charging grant scheme focuses on 175kW and 350kW charging, rather than 50kW charging.



At 200kW, the vehicle will gain about 200km of range in ten minutes.

In an EVC consumer attitudes survey conducted with carsales.com.au, 92% of respondents indicated that public fast charging infrastructure is important for encouraging the purchase of an electric vehicle.[1]

[1] EVC and carsales.com.au *Consumer Attitudes Survey 2021.*

EXISTING INFRASTRUCTURE

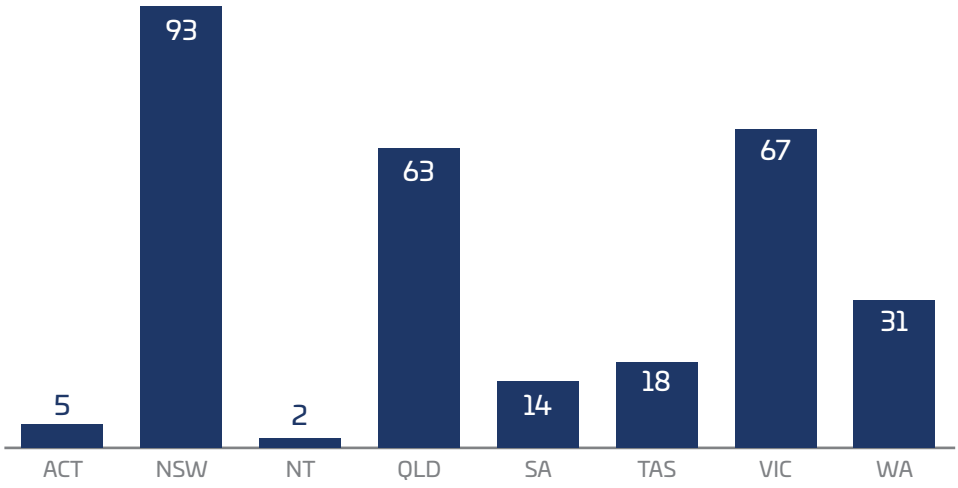
Fast charging

There are 291 public fast charging locations around Australia.

FIGURE 4:
EV fast charging locations over time - Australia

At a state-by-state level, the breakdown of fast charging locations is:

FIGURE 5:
EV fast charging locations by state/ territory



Many of these locations have multiple charging bays, meaning more than one electric vehicle can recharge at the same time.

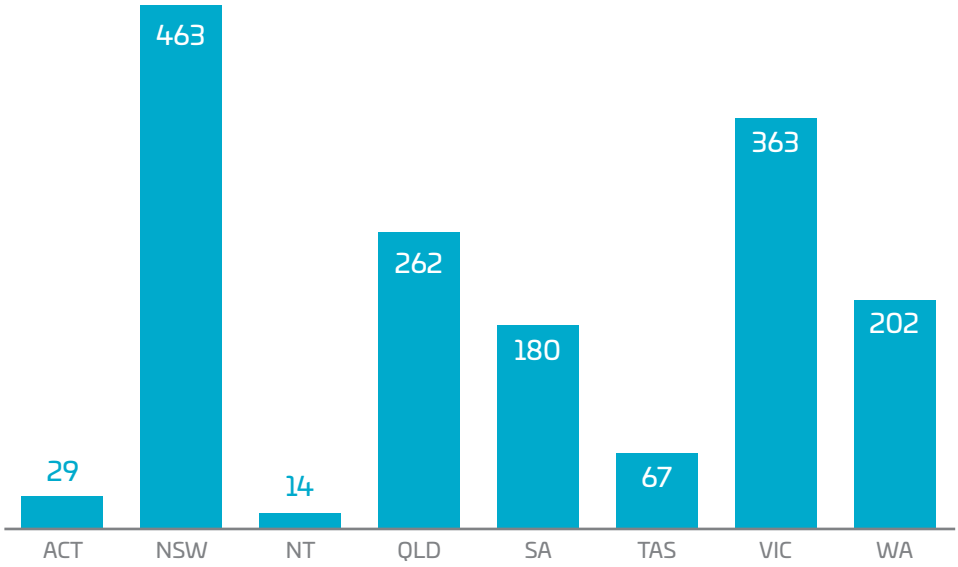
Regular charging

There are 1,580 regular charging locations in Australia.

FIGURE 6:
EV charging locations over time - Australia (regular charging)

At a state-by-state level, the number of regular electric vehicle charging locations is:

FIGURE 7:
EV regular charging locations by state/ territory



As with fast charging locations, it's commonplace to see multiple bays for vehicles to charge at the same time in a single location.

FUTURE INFRASTRUCTURE

Fast charging

State and federal governments across Australia are supporting the deployment of more fast charging equipment around the country.

700
fast charging locations
over the next 5 years

NSW is currently leading the way, with a plan to ensure fast charging is available every 100km along regional routes, every 5km in residential areas with limited off-street parking, and every 5km along major commuter corridors in Sydney.

Based on the announced funding from state and federal government programs, **Australia will see the deployment of 700 fast charging locations over the next 5 years.** These locations will typically serve multiple vehicles at the same time.

Federal Government support will increase the density of fast charging equipment in metropolitan areas, to support owners without access to home charging.

State government programs will increase the density of fast-charging equipment deployed in remote parts of the country, in places like Fitzroy Crossing, Coober Pedy, and Mount Isa, adding to the remote locations of Broken Hill, Bourke, and Caiguna on the Nullarbor. These deployments will provide confidence to drivers that they can drive to all parts of the country using an electric vehicle.

The Caiguna site is relatively unique. 1100km east of Perth, and 1600km west of Adelaide, there's no electrical grid - so it's powered by generators using spent fryer oil from the roadhouse.

A summary of new government fast-charging commitments:

Federal	$24.55m committed to co-funding 400 fast-chargers across ~200 sites, mainly in metropolitan locations.
ACT	Committed to co-funding 20 fast-chargers.
NSW	$131m committed to co-fund 1000 fast-charging bays across ~250 sites.
NT	Committed to provide funding for fast-charging. Details are yet to be announced.
QLD	$2.75m committed to add 18 additional fast-charging sites to the Queensland Electric Super Highway.
SA	$13.4m committed to add 28 regional fast charging locations.
TAS	$600k committed towards fast charging stations, to fill the gaps from the Charge Smart Program Round 1.
VIC	$6m committed to co-funding fast charging stations at 50 locations across regional Victoria.
WA	$20m committed to funding fast charging across 45 locations across regional WA.

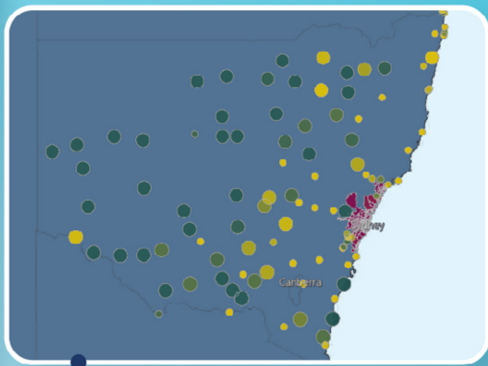
For links to charging strategies please see the policy chapter.

Over this period, more announcements will occur that will increase the number of fast charging locations deployed with government support. As the market matures, we'll also see more large-scale rollouts of fast-charging locations without government support.

Queensland
Electric Super Highway

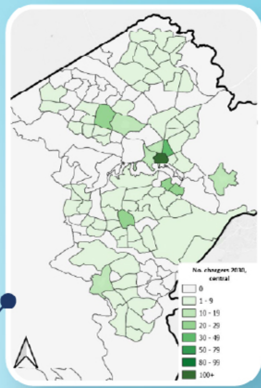
Phase 1 and 2 - Complete
Phase 3 - Under construction

NSW
EV Fast Charging Master Plan

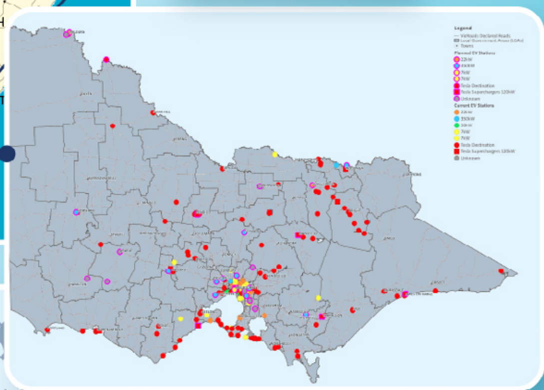


Western Australia
EV Charger Map

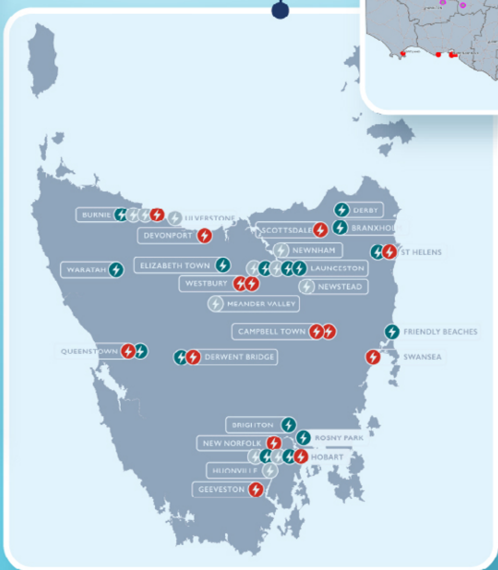
ACT
Forecast Number of Chargers



South Australia's
EV Charging Network



Victoria
Current and Planned
EV Charging Stations



Tasmania
EV Charging Stations

Fast Charging Station
Destination Charging Station
Workplace Electric Vehicle Charging Station

Destination charging

Destination charging schemes are delivering a future where an EV driver can visit the regions, secure in the knowledge that they can top up while visiting a local tourist attraction or having a meal at a local restaurant. They'll also be able to fully recharge overnight at their accommodation, so that when they wake up the next day, their battery will be full, ready for wherever they're heading next.

Multiple government grant programs have been announced to support the rollout of more destination chargers. NSW is again leading the way, with $40 million committed to support destination charging installations across commuter car parks and regional tourism locations.

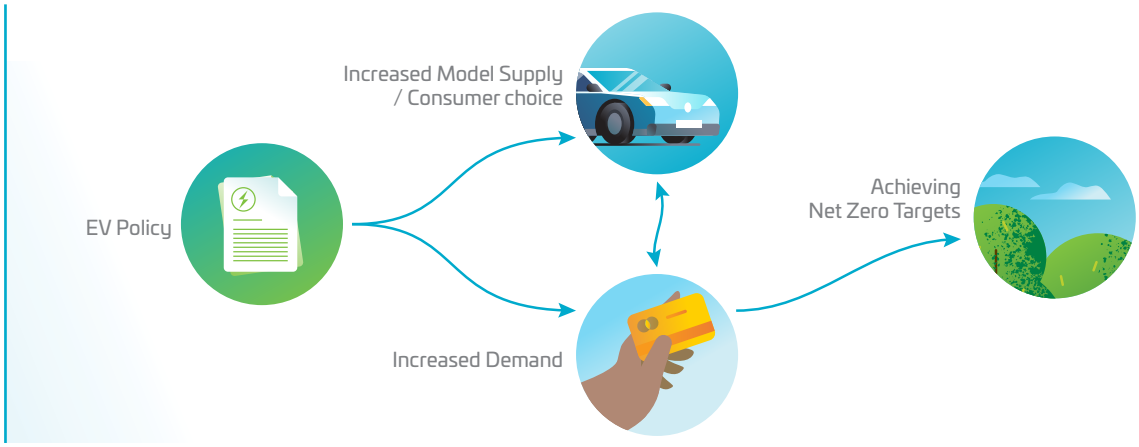
Policy

International markets where electric vehicle uptake is the strongest have government policies that concentrate on attracting a healthy supply of EV models and stimulating consumer demand.

The better the electric vehicle policy, the more vehicle manufacturers are obliged to supply a variety of electric vehicle models. The better the supply available to consumers, the more choice they have. The more choices, the more competitive the market is, with the flow on effect being downward pressure on prices.

Currently, demand for EVs is outstripping supply in Australia. There are more consumers that want to purchase electric vehicle models than the numbers that vehicle manufacturers are supplying.

The Federal Government has the most influence in driving an increased supply of electric vehicle models to the Australian market through policies such as fuel efficiency standards and/or sales targets.



The lack of supply policies in the Future Fuels and Vehicles Strategy means that Australian vehicle manufacturers will continue to struggle for unit allocation and Australians will miss out on the choice of vehicles they want to buy.

Demand policies similarly demonstrate to manufacturers that if they supply electric vehicle models to the Australian market, those vehicles will be incentivised and purchased.

Policies to encourage demand for electric vehicles focus on bridging the purchase cost of an electric vehicle with an equivalent internal combustion engine vehicle.

Several state and territory governments now have demand policies to incentivise the purchase of electric vehicles for consumers. Upfront subsidies, interest-free loans, reduced registration, and stamp duty exemptions are methods for the government to create demand in the consumer market.

Currently, only the Federal Government and Western Australia do not provide some form of incentive to accelerate electric vehicle uptake.

Total incentives available for a $50,000 electric vehicle (relative to a 4-cylinder petrol vehicle)

Government	Federal	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
Party	**Coalition**	**Labor/ Greens**	**Coalition**	**Labor**	**Labor**	**Coalition**	**Coalition**	**Labor**	**Labor**
Registration discount over 5 years[1]	N/A	$1,166	$0	$965	$364	$0	$0	$500	$0
Stamp duty discount	N/A	$1,450	$1,500[2]	$1,500	$500	$0	$2,000	$0	$0
Subsidy	None	$0	$3,000	$0	$3,000	$3,000	$0	$3,000[5]	$0
Interest-free loan interest savings[3]	None	$3,224	$0	$0	$0	$0	$0	$0	$0
Road User Tax over 5 years[4]	None	None	Not yet charged	None	None	Not yet charged	Not yet charged	-$1,550	None
Approximate total incentive value	$0	$5,840	$4,500	$2,465	$3,864	$3,000	$2,000	$1,950	$0
No. of Subsidies Currently Committed	0	0	25,000	0	15,000	7,000	0	20,000	0

[1] Queensland and Victorian rego discounts ongoing; Northern Territory limited to 5 years; ACT limited to 2 years.

[2] Stamp duty has been permanently phased out for EVs in exchange for the future introduction of a road user tax.

[3] Assumes 4% interest rate on a normal car loan.

[4] Assumes an average of 12,400 km travelled p.a.

[5] Available at this rate for the first 6,400 eligible vehicles purchased.

Government policy has primarily focused on accelerating uptake in the passenger and light commercial vehicle segments. This follows the trend of what is happening internationally and is largely based on technology readiness.

However, to ensure Australia reaches its net-zero commitments, strategies must be developed to decarbonise all forms of transport and vehicle segments – including trucks and buses. As the technology is now available to do so.

The Australian Capital Territory and New South Wales are the only jurisdictions with strategies in place to address bus electrification. While Queensland and Victoria do not yet have public transition strategies, both states have committed to zero emission bus targets.[2]

Currently, data exists on the average age of different vehicles currently operating in Australia, yet there is limited information on the average lifetime of vehicles.

For example, although the average age of a current passenger vehicle in Australia is 10.4 years (see Table 1), it is expected the average lifetime will be more than 14 years. The same applies for other vehicle segments.

The difference between average vehicle age and the lifetime of a vehicle is similar to human life.

For example, the average age of Australians is 37, but the average lifetime of Australians is 83.4 years.

Table 1

Estimated average age of motor vehicles (ABS Motor Vehicle Census, 2021)

Vehicle segment	Avg. Age
Passenger vehicles	10.4
campervans	17.3
Light commercial vehicles	10.8
Light rigid trucks	10.9
Heavy rigid trucks	15.9
Articulated trucks	12.3
Non-freight carrying vehicles (e.g. ambulances, fire trucks, cherry pickers, tow trucks)	14.3
Buses	11.9
Motorcycles	11.4

Given the expected lifetime for most vehicles is longer than the average age, this means that Australia **has less than 15 years for cars and 20 years** for all other vehicles to shift all new vehicle sales to electric.

As such, there is an urgent need to accelerate the uptake of electric vehicles across all vehicle segments. Industry transition, such as trucks and buses, will require coordinated investment and collaboration across government, transport, energy, and the electric vehicle industry.

[2] The Electric Vehicle Council and the Australian Trucking Association recently published a report on electric truck policy – *Electric Trucks: Keeping shelves stocked in a net-zero world.*

POLICY SUMMARY

Policies to accelerate uptake:

✓ YES

		FED	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
	Total funding	$250m	$10.12m	$595m	$4.64m	$60.25m	$53.25m	$6.78m	$100m	$21m
Financial incentives	Financial incentive to reduce the purchase cost of an EV		✓	✓	✓	✓	✓	✓	✓	
	Financial incentive to reduce the operating cost of an EV		✓			✓	✓	✓	✓	✓
	Fleet incentive			✓	✓	✓			✓	
	Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).		✓	✓	✓					
Regulatory/ supply	Fuel efficiency standard									
	Sales target			✓		✓	✓		✓	
	Government fleet target		✓	✓	✓	✓	✓	✓	✓	✓
Charging	Public charging infrastructure investment	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Smart charging and/or home charging	✓	✓		✓		✓			
	EV readiness in building development	✓	✓	✓	✓		✓		✓	✓
Awareness	Skills and training development	✓		✓	✓				✓	
	Consumer awareness and education initiatives	✓	✓	✓	✓		✓	✓	✓	✓
Strategies	EV manufacturing/ industry development plan	✓								✓
	Electric truck/heavy vehicle strategy									
	Public transport transition		✓	✓		✓			✓	
	Electric micro-mobility		✓					✓		
	Data sharing policy	✓								

Policies to be cautious of:

Several governments have indicated the introduction of a road user charge or the development of standards. We recommend caution with the implementation of these policies as they may impact the uptake of electric vehicles.

Standards development in Australia should be in line with the implementation of standards internationally so as not to create a unique market in which manufacturers of vehicles and charging equipment must sell their products. Failure to align with international standards will make products more expensive for Australians.

The introduction of a Road User Charge (RUC) in an emerging market, such as Australia, can negatively impact consumer perception and the economic benefit of purchasing an electric vehicle.

		FED	ACT	NSW	NT	QLD	SA	TAS	VIC	WA
Potential roadblocks	Road User Charge	●	●	⚠	●	●	⚠	⚠	⚠	●
	Standards development	⚠	●	●	⚠	●	⚠	●	●	⚠

⚠ YES ● NO

JURISDICTIONAL POLICY PROFILES

A robust electric vehicle strategy includes policies to increase model availability, reduce the cost of purchase, address electrification of all vehicle segments (buses, trucks, and micro-mobility), promote investment in all types of charging infrastructure, promote EV-readiness in buildings and develop training for the workforce.

The objective of these actions is to address the four key barriers to electric vehicle uptake:

1. Cost

2. Supply

3. Consumer awareness

4. Range anxiety

The following section breaks down the policies that each jurisdiction in Australia has as an action to address these four key barriers to electric vehicle uptake.

FEDERAL GOVERNMENT

Net zero commitment: 2050

The Federal Government has committed to net-zero by 2050.

Transport emissions: 19%

In 2019, transport accounted for 19% (100Mt CO2-e) of Australia's emissions. It is the country's third largest source of emissions.

Electric Vehicle Strategy:

The Future Fuels and Vehicles Strategy outlines the Federal Government's actions to address the transition to electric vehicles.

Summary table:

$250m in funding for EVs	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	NO				
Financial incentive to reduce the operating cost of an EV	NO				
Fleet incentive	NO				
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access)	N/A				
Fuel efficiency standard	NO				
Sales target	NO				
Government fleet target	NO				
Public charging infrastructure investment	YES		✓	✓	✓
EV readiness in building development	YES			✓	✓
Smart charging and/or home charging	YES	✓		✓	✓
Skills and training development	YES		✓	✓	
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	YES		✓	✓	
Electric truck/heavy vehicle strategy	NO				
Public transport transition	NO				
Electric micro-mobility	NO				
Data sharing policy	YES				
Road User Charge	NO				
Standards development	YES	⚠	⚠	⚠	⚠

Detailed breakdown policies:

Public charging infrastructure investment	• Investment of $24.55 million through the first round of the Future Fuels Fund to support the roll out of 400 public fast charging stations. The locations of the chargers are focused on metro regions.
Smart charging and/ or home charging	• The Government has announced co-investment with the private sector to fund 50,000 charging stations in Australian homes.
EV readiness in building development	• As part of the Trajectory for Low Energy Buildings, all Australian governments committed to ensuring new buildings can accommodate electric vehicle charging. • The Australian Building Codes Board is considering EV readiness in the 2022 update of the National Construction Code.
Skills and training development	• The Australian Industry and Skills Committee (AISC) approved a Battery Electric Vehicle Repair project. This includes a new qualification and updated skill sets and competencies. New training products will be available for delivery by registered training organisations (RTOs) shortly.
EV manufacturing/ industry development plan	• $5 million grant to the Australian Clean Energy Electric Vehicle (ACE EV) Group to support domestic battery electric vehicle manufacturing and a vehicle-to-grid trial.
Consumer awareness and education initiatives	• The Green Vehicle Guide website is being redeveloped and expanded to include information to consumers about new light vehicle technology available in Australia.
Data sharing policy	• ARENA's Knowledge Sharing Agents examine data from the various EV charging projects and produce aggregated insights reports for public distribution. • ARENA funding recipients are required to provide operational, load profile, cost data, and other information.
Standards development	• The NMI is participating in an international technical committee to develop a standard for measuring energy in battery electric vehicle charging stations. In parallel, NMI is working with Australian industry and consumers to establish an interim plan.

Summary:

It is encouraging that the Federal Government has committed to redeveloping the Green Vehicle Guide website to provide consumers with accurate information about the emissions rates of different vehicles. This will help to improve awareness about the emissions benefits of EV technology.

The Federal Government is also on the right track in supporting co-investment in public and private charging infrastructure through the Future Fuels Fund, which will help to address range anxiety.

Recommendations:

Building on the leadership of many state and territory governments, the Federal Government should introduce a comparable incentive package to support the uptake of electric vehicles that matches state/territory commitments, given upfront cost remains a major barrier to adoption. This could include subsidies and other tax incentives, including consideration of the fringe benefits tax for fleet and novated lease vehicles.

The Federal Government should also commit to an ambitious target for new electric sales that would align with its net zero target for 2050, as well as set interim targets that would allow for market progress to be tracked.

It is also extremely disappointing that Australia continues to be one of the only OECD nations, together with Russia, that has not adopted fuel efficiency standards, or any form of regulation to encourage an increase in the supply of low and zero emission vehicles. As other comparable nations charge ahead, Australia is becoming a dumping ground for high-emission vehicles. This not only jeopardises the Federal Government's own plan for achieving net zero emissions by 2050, but also means Australian consumers remain dependent on expensive, imported fossil fuel, and are left to suffer from the negative health impacts of the emissions from this fuel as a consequence.

A revised approach by the Federal Government would allow Australians to power their vehicles using Australian-made renewable energy. It would additionally redirect tens of billions of dollars of wages back into the local economy, instead of flowing out of the country to international fossil fuel companies.

Finally, the Federal Government should raise its ambitions for electrifying its own fleet. This would increase demand by signalling a commitment to electric vehicle technology, and also support the creation of a local, second-hand electric vehicle market.

Other:

The Australian Government has now committed $2.1 billion to partner with industry to support uptake of low and zero emission vehicles. This includes investment totalling close to $360 million by 2026 for projects and programs focused on new vehicle technologies and future fuel development through ARENA.

Under the Future Fuels Program, the Federal Government is currently seeking expressing of interest for low and zero emission vehicle fleet demonstrations. The funding is intended to support charging infrastructure for light and heavy vehicle fleets, as well as partly cover some of the upfront cost for heavy vehicle fleets.

Lead department/s:

Department of Infrastructure, Transport, Regional Development and Cities; Department of Industry, Science, Energy and Resources; Treasury Department; Department of Agriculture, Water and the Environment

Stay up to date:

The Australian Government publishes details of its electric vehicle and related policies on various Departmental or agency websites. Including:

- https://www.industry.gov.au/data-and-publications/future-fuels-and-vehicles-strategy
- https://arena.gov.au/funding/future-fuels-fund/

AUSTRALIAN CAPITAL TERRITORY

Net zero commitment: 2045

The ACT has committed to net-zero by 2045, and interim targets of: 50–60% by 2025; 65–75% by 2030; 90–95% by 2040.

Transport emissions: 63.5%

In 2019, transport accounted for 63.5% of the ACT's emissions. It was the largest source of emissions for the Territory.

Electric Vehicle Strategy:

The Parliamentary and Governing Agreement 2020 outlines the Territory's actions to address the transition to electric vehicles.

Summary table:

$10.12m in funding for EV	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	YES	✓			
Fleet incentive	NO				
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	YES	✓	✓	✓	
Fuel efficiency standard	NO				
Sales target	NO				
Government fleet target	YES		✓	✓	
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and grid integration	YES	✓		✓	✓
EV readiness in building development	YES			✓	✓
Skills and training development	NO				
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	YES	✓	✓	✓	✓
Electric micro-mobility	YES		✓	✓	✓
Data sharing policy	NO				
Road User Charge	NO				
Standards development	NO				

Detailed breakdown policies:

Financial incentives	• Two years of free registration for new or used ZEVs. • Residents of the ACT can apply for a $15,000 interest free loan to assist with the purchase of a ZEV. • ZEVs that are purchased for the first time are eligible for a full stamp duty exemption.
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access)	• Preferential lane access exists for ZEV drivers in transit / high-occupancy vehicle lanes.
Sales target	• Signatory to the COP26 Declaration on acceleration the transition to 100% zero emission cars and vans. • The ACT Government has committed to adopt an ambitious target new ACT vehicle sales to be zero emission by 2030.
Government fleet target	• 100% of new government fleet leases are now zero emission vehicles, where fit for purpose.
Public charging infrastructure investment	• The Government has committed $1.3M to deliver 50 publicly accessible EV chargers in the ACT in 2022.
Smart charging and/ or home charging	• The Realising Electric Vehicle-to-Grid Services (REVS) project will see 51 Nissan LEAF EVs deployed across the ACT to test and provide Vehicle 2 Grid services. The EVs will be part of the ACT Government fleet and when plugged in will provide Frequency Control Ancillary Services (FCAS) to the National Electricity Market (NEM). • Residents of the ACT can apply for The Sustainable Household Scheme - a $2,000 - $15,000 no interest loan to buy energy efficient products; electric vehicle charging infrastructure and the installation cost for this product are included in the scheme.
EV readiness in building development	• The ACT Government has committed to amend the Territory Plan to ensure that new multi-unit and mixed-use developments are EV-ready.
Consumer awareness	• In 2021, a mailout and digital ad campaign was delivered on the benefits of electric vehicles. • The government's New Climate Action website includes information on electric vehicles. • The ACT is developing a Fleet Advisory Service to provide information to commercial fleet advisors about how they can switch their fleets to ZEVs. • The Public Charging Outlook resource supports the development of a public charging network in the ACT.

Public transport transition	• The ACT has committed to a zero emission public transport system by 2040. • The Zero-Emission Transition Plan for Transport Canberra outlines the pathway to achieve the ACT Government's ambition of a zero-emission public transport system by 2040.
Electric micro-mobility	• There are two e-scooter trials in the ACT at present (with Neuron and Beam) to encourage commuters to consider e-mobility and active travel in conjunction with public transport, to replace private vehicle travel.

Summary:

The ACT Government is on the right pathway for reducing the upfront cost of purchasing an EV, one of the primary barriers to uptake. Its package of incentives offers the greatest discount on upfront EV costs in the country, and is a strategic approach which utilises the key levers available to State/Territory Governments, including: stamp duty waivers, annual vehicle registration waivers and interest-free loans.

In addition to encouraging private EV uptake, the ACT Government has already achieved its target of 100% new zero emission passenger vehicles in its government fleet. It is also taking strong, positive steps towards electrifying its public transport fleet. The government is also supporting the trial of electric micro-mobility to encourage a shift towards active transport options.

Recommendations:

While the ACT has some excellent initiatives to support EV uptake, there is still more work to be done to increase the rollout of charging infrastructure. The Government's charging outlook is a step in the right direction, but further work will be required to incentivise private investment in the territory to ensure the goal of 1,000 public chargers by 2030 is achieved.

Additionally, building on the signing of the COP26 Declaration to achieve 100% zero emission passenger vehicle sales by 2040, it would be excellent to see the ACT Government formalise its ambitious target of 100% zero emission passenger vehicle sales by 2030, and also have a greater focus on electrifying heavy vehicles, including urban trucks.

Lead department/s:

Environment, Planning, and Sustainable Development Directorate (EPSDD), Transport Canberra and City Services (TCCS), and Chief Minister, Treasury, and Economic Development Directorate (CMTEDD)

Stay up to date:

News and media announcements on EV policy, published Government strategies and websites.

NEW SOUTH WALES

Net zero commitment: 2050

50% emissions reduction target by 2030, net zero by 2050.

Transport emissions: 20%

In 2019, transport accounted for 20% (28 Mt CO2-e) of the state's emissions. It is the second largest source of emissions in the state.

Electric Vehicle Strategy:

The NSW Electric Vehicle Strategy outlines the state's actions to address the transition to electric vehicles.

Summary table:

$595m in funding for EVs	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	NO				
Fleet incentive	YES	✓		✓	
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	YES	✓	✓	✓	
Fuel efficiency standard	NO				
Sales target	YES		✓	✓	
Government fleet target	YES		✓	✓	
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging incentive	NO				
EV readiness in building development	YES			✓	✓
Skills and training development	YES		✓	✓	
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	YES	✓	✓	✓	✓
Electric micro-mobility	NO				
Data sharing					
Road User Charge	YES	⚠	⚠	⚠	⚠
Standards development	NO				

Detailed breakdown policies:

Financial incentives	• $3,000 rebates for the first 25,000 eligible EVs sold. • Stamp duty will be phased out on eligible EVs.
Fleet incentive	• $105 million via a competitive reverse tender auction process to assist private businesses, not-for-profits and local councils to transition their fleets. • The NSW EV Fleets Incentive includes a fixed amount of $400 per vehicle for BEV smart base charging at business premises or employees' homes. This funding is limited to subsidising the purchase price for smart chargers only. • Stamp duty exemption on eligible EVs applies to both public and private fleets.
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access)	• BEVs and FCEVs have access to T2 and T3 transit lanes until at least 31 October 2022.
Sales target	• "Vast majority" of new car sales by 2035. • Signatory to the COP26 Declaration on acceleration the transition to 100% zero emission cars and vans.
Government fleet target	• The NSW Government has a target for all passenger vehicle fleet to be BEVs by 2030 with an interim target of 50% by 2026.
Public charging infrastructure investment	• Investing $171 million to build a network of ultra-fast charging stations (including $20M for destination charging and $20M for commuter carparks). • EV Superhighways will involve co-investment in ultra-fast chargers at minimum 100km intervals across all major NSW highways. • The NSW Charging Masterplan showcases the current and indicative future network of public EV fast chargers in NSW. • The NSW Government is encouraging businesses, commercial property owners/managers, local governments and site operators/owners to host an EV charging station through the Drive Electric NSW EV Fast Charging Site Host EOI.
EV readiness in building development	• DPIE is developing tools for owners, tenants, building managers and strata managers to guide them through retrofitting existing buildings to be EV-ready.
Skills and training development	• NSW has announced specialised training to support the introduction of electric buses in New South Wales, as part of a partnership between TAFE NSW and Volvo Bus Australia. This will involve short courses to help mechanics upskill in EV technologies, such as working safely with high voltage systems.

Consumer awareness and education initiatives	• Development of Vehicle Emissions Star Rating Program that provides consumers with a star rating on environmental performance of vehicles. • DPIE will fund series of free EV test drive days for consumers and fleet managers.
Public transport transition	• The Zero Emission Bus Transition Strategy outlines how NSW will transition its 8,000 plus bus fleet to zero emission vehicles. • Expressed intention to support local bus manufacturing.
Road User Charge	• NSW will introduce a distance-based road user charge (RUC) for eligible EVs of 2.5c/km (in 2021-22 dollars) from 1 July 2027 or when battery EVs reach 30% of new vehicle sales, whichever comes first. • PHEVs will be charged a fixed 80% proportion.

Summary:

The NSW Government has taken significant steps to assist in reducing the upfront cost of purchasing an EV through the phase out of stamp duty, and the introduction of a $3,000 subsidy for 25,000 EVs. The government is also leading the country with its strong investment in a state-wide charging network, with a plan to support both urban and regional EV travel.

Building on its strong government fleet target, the NSW Government has also signed the COP26 Breakthrough Declaration, committing to 100% zero emission passenger vehicle sales by 2040. Finally, NSW is also leading the country with its ambitious strategy to electrify its bus fleet over the coming decade.

Recommendations:

Building on its leadership in introducing financial incentives for passenger vehicles, the NSW Government should continue to increase its commitments to this program to support the achievement of its 2035/2040 sales targets, and set interim targets to inform the magnitude of support required moving forward.

The introduction of an electric heavy vehicle strategy would also be a positive step towards reducing transport emissions in the state. Additionally, opportunities to encourage the safe introduction and adoption of electric micro-mobility will be important for supporting greater active transport trips. It is also important the NSW Government carefully monitor EV uptake to ensure the future introduction of a RUC does not risk achieving net zero emissions.

Finally, while NSW has launched a commendable fleet incentive program, it should consider expanding to include novated leasing vehicles to encourage the decarbonisation of all fleet vehicles registered in New South Wales.

Lead department/s:

The Department of Planning, Industry and Environment (DPIE) and Transport for NSW (TfNSW)

Stay up to date:

Sign up to receive updates from the NSW Government on electric vehicles.

NORTHERN TERRITORY

Net zero commitment: 2050

The Northern Territory has committed to net-zero by 2050.

Transport emissions: 8%

In 2019, transport accounted for 8% (1.28 Mt CO2-e) of the Northern Territory's total emissions.

Electric Vehicle Strategy:

The Northern Territory Electric Vehicle and Implementation Plan 2021-2026 outlines the Territory's actions to address the transition to electric vehicles.

Summary table:

$4.64m in funding for EVs	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	NO				
Fleet incentive	YES	✓		✓	
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	YES	✓	✓	✓	
Fuel efficiency standard	NO				
Sales target	NO				
Government fleet target	YES		✓	✓	
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging	YES	✓		✓	✓
EV readiness in building development	YES			✓	✓
Skills and training development	YES		✓	✓	
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	NO				
Electric micro-mobility	NO				
Data sharing policy	NO				
Road User Charge	NO				
Standards development	YES	⚠	⚠	⚠	⚠

Detailed breakdown policies:

Financial incentive to reduce the purchase cost of an EV	• Registration fees are waived for EVs for five years. • Reduced stamp duty for EVs by $1,500 for five years.
Fleet incentive	• Registration and stamp duty incentives are available to fleets.
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access)	• Nominated EV parking (for charging) is available in public car parks.
Government fleet target	• Increase the number of EVs in the Territory Fleet by 200 by 2030 (estimated cost $3M). • Install a minimum of 400 charging points at identified priority government buildings.
Public charging infrastructure investment	• A contribution to the cost of 80 workplace and public chargers. • A contribution to fast chargers at strategic locations across the NT.
Smart Charging and/ or home charging incentive	• A contribution to the cost of 100 home chargers.
EV readiness in building development Skills and training development	• The Territory is investigating amendments to the NT Planning Scheme and to update standard lease agreements to include a requirement for EV charging facilities where appropriate.
Skills and training development	• The NT EV Strategy includes an action to investigate the need for developing guidelines on electrical safety issues associated with EV charging installations; partner with industry, tertiary institutions and training providers; investigate the need for skills development in servicing EVs and EV charging infrastructure.
Consumer awareness and education initiatives	• The NT EV Strategy includes an action to provide information to consumer on the benefits and costs of EVs, as well as information on driving range, length of charging times, life of an EV and servicing.
Standards development	• The Territory is working with other jurisdictions and industry to coordinate EV charging standards and principles, including the development of charging guidelines.

Summary:

The Northern Territory Government has committed to an ambitious and commendable package of EV incentives to support residents in making the switch to an EV. This includes the waiving of registration fees, and an exemption from stamp duty – two policy levers available to every state and territory government. This strategic approach has the NT Government punching above its weight in terms of its initial EV policy.

The NT Government's Fleet commitment is also a good first step, together with its funding for public and home charging to assist in reducing range anxiety.

Recommendations:

To assist in informing the continuing development of the NT's EV policy, it is recommended that a sales target be set to highlight the government's commitment to electrification, with the setting of interim goals to inform the composition of the financial incentive package moving forward.

The NT Government should also start to outline details of its planned charging infrastructure investment; produce an EV industry develop plan to build on existing industry in the region, and build on its initial actions to make a stronger commitment towards electrifying its public transport fleet.

Lead department/s:

Northern Territory Department of Infrastructure, Planning and Logistics.

Stay up to date:

Via the Department of Infrastructure, Planning and Logistics website.

QUEENSLAND

Net zero commitment: 2050

Queensland has committed to net-zero by 2050.

Transport emissions: 13%

In 2018, emissions from the transport sector contributed 13% or 22.6 $MtCO_2e$ of Queensland's total emissions.

Electric Vehicle Strategy:

Queensland's Zero Emission Vehicle Strategy and Action Plan outlines actions to address the transition to electric vehicles.

Summary table:

$60.25m in funding for EVs	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	YES	✓			
Fleet incentive	YES				
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	NO				
Fuel efficiency standard	NO				
Sales target	YES		✓	✓	
Government fleet target	YES		✓	✓	
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging	NO				
EV readiness in building development	NO				
Skills and training development	NO				
Consumer awareness and education initiatives	NO				
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	YES	✓	✓	✓	✓
Electric micro-mobility	NO				
Data sharing policy	NO				
Road User Charge	NO				
Standards development	NO				

Detailed breakdown policies:

Financial incentive	• $3,000 incentive for 15,000 cars under $58,000. • Electric vehicles are registered in the lowest fee segment (min. saving approx. $70.00).
Sales target	• 50% of new passenger vehicle sales to be zero emission vehicles by 2030. This includes 200,000 passenger zero emission vehicles by 2027. • 100% of new passenger vehicle sales to be zero emission vehicles by 2036.
Government fleet target	• 100% of eligible QFleet passenger vehicles to be zero emission vehicles by 2026.
Public charging infrastructure investment	• Funded the initial installation of 31 fast charging sites for the Queensland Electric Superhighway (QESH) in 2017 and subsequent investment of $2.5million for 13 new charging stations in 2020. • In June 2021, the Queensland Government announced a further $2.75 million of funding for an additional 18 chargers in regional or inland areas.
Public transport transition	• Every new TransLink funded bus added to the fleet to be a zero emission bus from 2025 (in South-East Queensland) and from 2025 – 2030 (across regional Queensland). • There are currently 2,500 TransLink-funded buses operating on the South East Queensland network.

Summary:

The Queensland Government has released a new Zero Emission Vehicle Strategy, which includes support for reducing the upfront cost of EVs. It also builds on the State's previous leadership in rolling out public DC charging infrastructure to further expand the public network through partnerships with private charging point operators. A number of strong targets have been adopted including: 100% of the eligible government fleet to be zero emission by 2026, 50% of new passenger vehicle sales to be zero emission by 2030, and 100% by 2036. Additionally, the Government has introduced sensible regulations to enable the use of electric micro-mobility and encourage a shift towards active transport options.

Recommendations:

The release of Queensland's new Zero Emission Vehicle Strategy puts the state on a pathway to catching up with leading EV jurisdictions in Australia. Further consideration is still required of how Queensland can directly encourage the supply of EVs to the local market, and further drive down upfront costs through review of annual registration and stamp duty fees. While an initial commitment has been made to transition the public transport bus fleet to zero emission vehicles, greater ambition would align Queensland with efforts in other States. Additionally, Queensland has an important role to play in the electrification of trucks, including consideration of enabling local manufacturing opportunities.

Lead department/s:

Department of Transport and Main Roads.

Stay up to date:

The Queensland Government provides updates on their EV strategy on their website.

SOUTH AUSTRALIA

Net zero commitment: 2050

South Australia has committed to net-zero by 2050.

Transport emissions: 19%

In 2019, transport emissions accounted for 19% of SA's emissions.

Electric Vehicle Strategy:

The Electric Vehicle Action Plan (2020) outlines the State's actions to address the transition to electric vehicles.

Summary table:

$53.25m in funding for EV	Policy	Upfront cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	YES	✓			
Fleet incentive	NO				
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	NO				
Fuel efficiency standard	NO				
Sales target	YES		✓	✓	
Government fleet target	YES		✓	✓	
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging incentive	YES	✓		✓	✓
EV readiness in building development	YES			✓	✓
Skills and training development	NO				
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	NO				
Electric micro-mobility	NO				
Data sharing policy	NO				
Road User Charge	YES	⚠	⚠	⚠	⚠
Standards development	YES	⚠	⚠	⚠	⚠

Detailed breakdown policies:

Financial incentives	• $3,000 subsidy for 7,000 new BEV sales under $68,750. • 3-Year Registration Fee exemption for new BEVs until 1 July 2025.
Sales target	• South Australian has signed the COP26 Declaration for 100% Zero Emission Vehicles.
Government fleet target	• The SA Government light vehicle fleet will transition to zero emission vehicles by 2030 within existing budgets.
Public charging infrastructure investment	• South Australia's Electric Vehicle Charging Network (part of $13.4m grant funding) provides funding for DC Fast and DC Ultra-Fast Stations at more than 50 service locations across South Australia. • South Australia's Electric Vehicle Charging Network (part of $13.4m grant funding): provides funding to install 7kW or above chargers in overnight accommodation (hotels, motels & holiday parks) for paying guests.
Smart charging/and or home charging incentive	• Up to $2,000 for an EV Smart Charging Subsidy. • The system must include a 7kW or above smart EV charger that is remotely and dynamically managed to respond to total site electricity demand and to align EV charging with periods of high renewable energy generation and/or low electricity grid demand.
EV readiness in building development	• The state has some provisions for EV readiness, though these have not yet been institutionalised though these have not yet been mandated.
Consumer awareness	• The EV Fleet Pledge is a program to create a business network of likeminded organisations to drive the transition to electric vehicle fleets.
Road User Charge	• The road user charge will commence from 1 July 2027 or when the sale of battery electric vehicles reaches 30 per cent of new motor vehicles sale in South Australia, whichever is earlier. • The RUC will be charged at: o 2.0 cents per kilometre (indexed) for plug-in hybrid vehicles; and o 2.5 cents per kilometre (indexed) for any other electric vehicles. Note: the incoming SA Government has committed to repealing plans to introduce the RUC.
Standards development	• The State contributes to National policy objectives on EV charging, EV signage, and EV identification in registration databases.

Summary:

The SA Government signed the COP26 Declaration, committing to 100% zero emission passenger vehicle sales by 2040. In line with this commitment it has introduced a commendable initial package of financial incentives to assist in reducing the upfront cost of purchasing an EV for residents. SA has also made a strong commitment to support the rollout of public charging infrastructure to assist in addressing range anxiety.

Recommendations:

Building on its current financial incentive program for passenger vehicles, the SA Government should continue to increase its commitments to this program to support the achievement of its 2040 sales targets, and set interim targets to inform the magnitude of support required moving forward.

The commitment by the incoming SA Government to repeal the planned road user charge will ensure EV uptake is not negatively impacted, and help to support the State's transition to net zero emissions.

Lead department/s:

The Department for Energy and Mining (DEM).

Stay up to date:

Renewables SA website.

TASMANIA

Net zero commitment: 2030

The Tasmanian Government has introduced legislation to allow for an emissions target of net zero from 2030, with the capability to generate 100% of its electricity needs from renewable sources.

Transport emissions: 19%

In 2019, transport accounted for 19% of Tasmania's emissions. It is the State's second largest source of emissions.

Electric Vehicle Strategy:

Tasmania does not currently have an electric vehicle strategy.

Summary table:

$6.78m in funding for EV	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	YES	✓			
Fleet incentive	NO				
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	NO				
Fuel efficiency standard	NO				
Sales target	NO				
Government fleet target	YES		✓	✓	
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging	NO				
EV readiness in building development	NO				
Skills and training development	NO				
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	NO				
Electric micro-mobility	YES		✓	✓	✓
Data sharing policy	NO			✓	✓
Road User Charge	YES	⚠	⚠	⚠	⚠
Standards development	NO				

Detailed breakdown policies:

Financial incentives	• Stamp duty waiver for two years for the purchase of new or used battery electric or fuel cell vehicles. • Two-year waiver on registration fees for EVs bought by hire car companies and tour companies.
Government fleet target	• 100% of the government vehicle fleet will be EV by 2030.
Public charging infrastructure investment	• $1.2m has been invested over two rounds of the Charge Smart Program.
Consumer awareness and education initiatives	• The Government has previously partnered with AEVA for “try and drive” events.
Electric micro-mobility	• Legislation passed in November 2021 allows for personal mobility devices, such as e-scooters and e-skateboards to use footpaths, shared paths, bicycle paths and some roads.
Road User Charge	• The Tasmanian Government will introduce a road user charge for zero and low emission vehicles from 1 July 2027, or when zero and low emissions vehicles make up 30 per cent of all new vehicle sales. • The administration of the charge and proposed rates are currently under development.

Summary:

The Tasmanian Government has introduced a stamp duty exemption for EVs, which is a commendable starting point for reducing the upfront cost of EVs. It has also set a worthy government fleet target of 100% zero emission vehicles by 2030, and is starting to support the safe adoption of electric micro-mobility.

Recommendations:

The Tasmanian Government should set a clear EV sales target for the passenger vehicle fleet, aligned with its commitment to net zero emissions, and ensure it introduces a suite of financial incentives that will enable the state to achieve this target.

Tasmania should also carefully review its infrastructure commitments as part of the development of a broader EV strategy, and consider opportunities to also encourage the electrification of heavy vehicles across the state. It is also important the Tasmanian Government carefully monitor EV uptake to ensure the future introduction of a RUC – which should replace existing road taxes – does not interfere with achieving net zero emissions by 2050.

Other:

The Tasmanian Government has funded a total of $6 million for EV bus trial.

Lead department/s:

Departments of Treasury and Finance, and State Growth.

Stay up to date:

Subscribe to government media releases, monitor www.climatechange.tas.gov.au.

VICTORIA

Net zero commitment: 2050

Legislated target of net-zero emissions by 2050.

Transport emissions: 25%

In 2019, transport accounted for 25% (22.7 Mt CO2-e) of Victoria's emissions. Transport is the second largest source of emissions in Victoria.

Electric Vehicle Strategy:

The Zero Emissions Vehicle Roadmap outlines the state's actions to address the transition to electric vehicles.

Summary table:

$100m in funding for EV	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	YES	✓	✓		
Financial incentive to reduce the operating cost of an EV	YES	✓			
Fleet incentive	YES	✓		✓	
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	NO				
Fuel efficiency standard	NO				
Sales target	YES		✓	✓	
Government fleet target	YES		✓	✓	
Public DC charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging	NO				
EV readiness in building development	YES			✓	✓
Skills and training development	YES		✓	✓	
Consumer awareness and education initiatives	YES			✓	✓
EV manufacturing/industry development plan	NO				
Electric truck/heavy vehicle strategy	NO				
Public transport transition	YES	✓	✓	✓	✓
Electric micro-mobility	NO				
Data sharing policy	NO				
Road User Charge	YES	⚠	⚠	⚠	⚠
Standards development	NO				

Detailed breakdown policies:

Financial incentive to reduce the purchase cost of an EV ncentives	• $3,000 subsidy paid at point of sale for first 4,000 ZEVs sold under the current $68,740 threshold. • 20,000 subsidies in total with more details to be announced on future phases. • 1x subsidy available for an individual and 2x subsidies for a business. • ZLEVs receive a $100 concession on annual registration fees.
Fleet incentive	• EV Charging for Council Fleets and EV Charging for Business Fleets Programs. • The two fleet programs will provide up to $1.5 million each in grant funding for EV fleet infrastructure proposed by any of Victoria's 79 local governments, and businesses that are commercial-for-profit, not-for-profit, or community-based. • Fleets are eligible to apply for the ZEV subsidy twice. • The Commercial Sector Innovation fund (total $5 million) provides grants to applicants to pilot and/or trial ZEV technology and accelerate business readiness for broader uptake of ZEVs. Applications can include purchase incentives, ZEV trials, charging at fleet depots and other proposals up to $2 million.
Sales target	• 50% of new light vehicle sales to be ZEV by 2030. • Signatory to COP26 declaration on ZEVs. • ZEV Expert Advisory Panel formed to make recommendations on the policies, programs and initiatives required to meet the 2030 target of 50% new light vehicles sales being ZEV.
Government fleet target	• Procurement of 400 ZEVs (not PHEV) (and supporting chargers) by 2024. • Strategy in development to achieve COP26 declaration of fleet transition by 2035.
Public charging infrastructure investment	• $5 million Destination Charging Across Victoria Program. Recent announcement of the 32 successful applicants will result in the installation 141 electric vehicle fast-charging stations in 116 tourist and high-use areas across Victoria.
EV readiness in building development	• EV-ready New Buildings Study currently underway.
Skills and training development	• $10 million Clean Economy Workforce Skills Initiative, which includes the new 16-member Jobs and Skills Taskforce, will develop a 10-year workforce strategy exploring renewable energy, circular economy practices and climate change adaptation, including ZEV technologies.
Consumer awareness and education initiatives	• ZEV Facts webpage.

Public transport transition	• All new public transport buses to be ZEV from 2025. • $20m ZEV bus trial currently in EOI phase.
Road user charge	• Zero and Low Emissions Vehicle (ZLEV) Road User Charge (RUC). • The RUC commenced from 1 July 2021 and is administered by VicRoads. The RUC is 2.5c/km for ZEVs and 2.0c/km for low emissions vehicles (plug-in hybrids).

Summary:

The Victorian Government signed the COP26 Declaration, committing to 100% zero emission passenger vehicle sales by 2040, and additionally has set a strong interim target of 50% EV sales by 2030. In line with this commitment, it has introduced an initial subsidy to assist in reducing the upfront cost of purchasing an EV for residents. Victoria has also made a strong commitment to support the electrification of its public transport fleet.

Recommendations:

Building on its current financial incentive program for passenger vehicles, the Victorian Government should continue to increase its commitments to this program to support the achievement of its 2030 and 2040 sales targets. Victoria should also consider providing further support for the rollout of public charging infrastructure, and develop strategies for the electrification of transport segments, particularly heavy vehicles and micro-mobility.

Finally, the Victorian Government should pause its Road User Charge until EV sales reach at least 30% to align with other states, and increase the overall effectiveness of its subsidy scheme. It should be noted that the inclusion of PHEVs in the RUC scheme, coupled with their exclusion from the subsidy scheme, penalises consumers for choosing lower emissions vehicles.

The RUC should be reconsidered for introduction in future years as a replacement of existing road taxes, once the state is clearly on a trajectory towards achieving its future sales targets, or otherwise risks jeopardising its chances of achieving its commitment to net zero emissions by 2050.

Other:

Victoria has appointed a ZEV Expert Advisory Panel (EAP) to make recommendations on the policies, programs and initiatives required to meet the 2030 target of 50% new light vehicles sales being ZEV.

Lead department/s:

Department of Environment, Land, Water and Planning.

Stay up to date:

ZEV website, ZEV mailbox, and Solar Victoria newsletter.

WESTERN AUSTRALIA

Net zero commitment: 2050

WA has committed to net-zero by 2050.

Transport emissions: 13.66%

In 2019, transport accounted for 13.66% (14.90 MtCo2 -e) of WA's emissions. It is the state's third highest source of emissions.

Electric Vehicle Strategy:

The State Electric Vehicle Strategy for Western Australia outlines the State's actions to address the transition to electric vehicles.

Summary table:

$21m in funding for EVs	Policy	Cost	Supply	Consumer awareness	Range anxiety
Financial incentive to reduce the purchase cost of an EV	NO				
Financial incentive to reduce the operating cost of an EV	YES	✓			
Fleet incentive	NO				
Behaviour incentives (e.g. discounts, exemptions from toll roads, preferential lane access).	NO				
Fuel efficiency standard	NO				
Sales target	NO				
Government fleet target	YES		✓		
Public charging infrastructure investment	YES		✓	✓	✓
Smart charging and/or home charging	NO				
EV readiness in building development	YES			✓	✓
Skills and training development	NO				
Consumer awareness and education initiatives	YES			✓	✓
EV/EV value chain manufacturing/industry development plan	YES		✓	✓	
Electric truck/heavy vehicle strategy	NO				
Public transport transition	NO				
Electric micro-mobility	NO				
Data sharing policy	NO				
Road User Charge	NO				
Standards development	YES	⚠	⚠	⚠	⚠

Detailed breakdown policies:

Financial incentive to reduce the operating cost of an EV	• EVs are exempt from the On-demand Passenger Transport Levy.
Government fleet target	• The WA EV Strategy has a target of achieving a minimum 25% electric vehicle for all new light and small passenger, and small and medium SUV government fleet by 2025/26. *(Not including police vehicles or vehicles that attract fringe benefits tax)*
Public charging infrastructure investment	• $20 million for a public fast charging network of 90 chargers at 45 locations, averaging less than 200km apart. • $800,000 charging infrastructure in government buildings to support the WA state fleet target. • *The EV Action Plan: preparing WA's electricity system for EVs* is the reference document outlining the State's strategy for public charging infrastructure and grid integration.
EV readiness in building development	• The EV strategy outlines a requirement for EV ready provisions in public building capital works projects and the Government's support for the amendments to the National Construction Code.
Consumer awareness	• $80,000 to support EV demonstration and awareness raising events for fleets. • A guide to electric vehicles.
EV/EV value chain manufacturing/ industry development plan	• WA has a Future Battery Industry Strategy.
Standards development	• The government will consider the development of standards in collaboration with other states and territories.

Summary:

The WA Government has made a strong investment in supporting the rollout of public charging infrastructure across the state in an effort to reduce range anxiety. It has also undertaken some efforts to improve consumer awareness of EV technology.

Recommendations:

The WA Government needs a comprehensive EV strategy that includes financial incentives to support the adoption of EVs, and supports the electrification of public transport, heavy vehicles, and micro-mobility.

WA should also increase its ambitions for electrifying the government fleet in order to support the development of a local second-hand EV market in the near future.

Finally, WA should further support local efforts to expand the supply of battery materials locally, and in turn, establish local battery manufacturing.

Lead department/s: Department of Water and Environmental Regulation.

Stay up to date: Electric Vehicle Strategy | Western Australian Government (www.wa.gov.au)

Passenger vehicles available now

Make	Model	Variant	BEV/PHEV	Segment	Price ($ AUD)	Battery size (kWh)	Range (km)	0-100 (km/s)
Audi	e-tron suv	e-tron SUV 50	BEV	SUV	137,100	71	336	6.8
		e-tron SUV 55	BEV	SUV	146,100	95	436	5.7
	e-tron sportback	e-tron Sportback 50	BEV	SUV	148,100	71	342	6.8
		e-tron Sportback 55	BEV	SUV	157,100	95	444	5.7
BMW	X5	X5 xDrive45e	PHEV	SUV	135,400	24.0	80	5.6
	330e	330e	PHEV	Sedan	86,900	12.0	57	5.8
	530e	530e	PHEV	Sedan	122,400	12.0	54	5.9
	745e	745e	PHEV	Sedan	209,400	12.0	52	5.2
	I3s 120Ah	I3s 120Ah	BEV	Subcompact	71,900	42.0	329	6.9
	MINI	Electric hatch	BEV	Subcompact	55,650	32.6	233	7.3
		Countryman Plug in hybrid	PHEV	Compact SUV	64,000	7.6	44	6.8
Hyundai	Ioniq	Electric Elite	BEV	Sedan	48,970	28	311	9.9
		Electric Premium 2020	BEV	Sedan	53,010	38	311	9.9
		Plugin Elite	PHEV	Sedan	41,990	8.9	63	10.6
		Plugin Premium	PHEV	Sedan	46,490	8.9	63	10.6
	Ioniq 5	Ioniq 5 2WD	BEV	SUV	71,990	72.6	451	7.4
		Ioniq 5 AWD	BEV	SUV	75,900	72.6	430	5.2
	Kona	Electric Elite - standard	BEV	SUV	54,500	39.2	305	9.9
		Electric Elite - long range	BEV	SUV	62,000	64	484	7.6
		Highlander - long range	BEV	SUV	66,000	64	449	7.6
		Highlander - standard range	BEV	SUV	60500	39.2	305	9.9
Jaguar Land Rover	Range Rover	Range Rover	PHEV	SUV	136,187	15	48	6.7
		Range Rover Sport	PHEV	SUV	216,575	15	48	6.8
	I PACE	I PACE	BEV	SUV	138,460	90	470	4.8
Kia	E-Niro	2021 Kia Niro Sport Wagon	PHEV	Wagon	50,490	8.9	58	7.8
		2021 Kia Niro S Wagon	PHEV	Wagon	46,590	8.9	58	7.8
		2021 Kia Niro EV Sport Wagon	BEV	Wagon	65,990	64.0	455	7.8
		2021 Kia Niro EV S Wagon	BEV	Wagon	62,590	64.0	455	7.8

Make	Model	Variant	BEV/PHEV	Segment	Price ($ AUD)	Battery size (kWh)	Range (km)	0-100 (km/s)
Lexus	ux300E	ux300E	BEV	SUV	82,515	54.3	360	7.5
Mazda	MX-30 Electric	E35 Astina	BEV	SUV	65,490	35.5	224	TBC
Mercedes-Benz	EQC400	EQC400	BEV	SUV	141,300	80.0	434	5.1
	A250e	A250e	PHEV	Hatch & Sedan	68,989	15.6	73	6.6
	GLC300e	GLC300e	PHEV	SUV	95,700	13.5	46	5.7
	E300e	E300e	PHEV	Sedan	126,200	13.5	50	5.8
	EQA	EQA 250	BEV	SUV	79,300	66.5	480	8.9
MG	MG HS PHEV	MG HS PHEV	PHEV	SUV	46,990	16.6	63	6.9
Mitsubishi	Mitsubishi Outlander	Mitsubishi Outlander 2021	PHEV	SUV	47,390	13.8	54	-
	Mitsubishi Eclipse	Mitsubishi Eclipse	PHEV	SUV	46,490	13.8	55	10.4
Nissan	Leaf	Leaf	BEV	Small car	49,990	40	270	7.9
		Leaf e+	BEV	Small car	60,490	62	385	6.9
Polestar	Polestar 2	Polestar 2 - Standard Range Single Motor	BEV	Sedan	59,990	61	440	7.4
		Polestar 2 - Long Range Single Motor	BEV	Sedan	64,990	75	540	7.4
		Polestar 2 - Long Range Dual Motor	BEV	Sedan	69,990	75	480	4.7

Make	Model	Variant	BEV/PHEV	Segment	Price ($ AUD)	Battery size (kWh)	Range (km)	0-100 (km/s)
Porsche	Taycan	Taycan	BEV	Sedan	156,300	79.2	369	5.4
		Taycan with Performance Battery Plus	BEV	Sedan	168,320	93.4	434	5.4
		4S	BEV	Sedan	194,700	79.2	365	4
		4S with Performance Battery Plus	BEV	Sedan	206,720	93.4	414	4
		Turbo	BEV	Sedan	276,300	93.4	420	3.2
		Turbo S	BEV	Sedan	345,800	93.4	405	2.8
		Taycan 4 Cross Turismo	BEV	Wagon	176,600	93.4	437	5.1
		4S Cross Turismo	BEV	Wagon	205,300	93.4	436	4.1
		Turbo Cross Turismo	BEV	Wagon	279,000	93.4	425	3.3
	Cayenne	E-Hybrid	PHEV	SUV	147,400	17.9	47	5
		E-Hybrid Coupe	PHEV	SUV	155,800	17.9	47	5.1
		Turbo S E-Hybrid	PHEV	SUV	295,600	17.9	47	3.8
		Turbo S E-Hybrid Coupe	PHEV	SUV	299,300	17.9	47	3.8
	Panamera	4 E-Hybrid	PHEV	Sedan	249,500	17.9	56	4.4
		4 E-Hybrid Platinum Edition	PHEV	Sedan	249,500	17.9	56	4.4
		4 E-Hybrid Executive	PHEV	Sedan	258,900	17.9	55	4.5
		4 E-Hybrid Sport Turismo	PHEV	Wagon	256,800	17.9	56	4.4
		4S E-Hybrid	PHEV	Sedan	294,600	17.9	54	3.7
		Turbo S E-Hybrid	PHEV	Sedan	426,500	17.9	53	3.2
Tesla	Model 3	Model 3 – Rear-Wheel Drive	BEV	Sedan	59,900		491	6.1
		Model 3 – Long Range	BEV	Sedan	73,200		612	4.4
		Model 3 – Performance	BEV	Sedan	84,900		567	3.3
Volvo	XC40	Recharge Plug-in Hybrid	PHEV	SUV	64,990	10.7	44	7.3
		Recharge Pure Electric - Twin	BEV	SUV	79,990	78	418	4.9
	XC60	Recharge Plug-in Hybrid	PHEV	SUV	97,990	18.8	81	4.8
	XC90	Recharge Plug-in Hybrid	PHEV	SUV	118,990	18.8	77	5.3

Passenger vehicles available in the future

Make	Model	Variant	BEV/ PHEV	Segment	Price ($ AUD)	Battery size (kWh)	Range (km)	0-100 (km/s)	Available
Audi	e-tron suv	e-tron SUV S	BEV	SUV	TBC	95	372	4.5	Q1 2022
	e-tron sportback	e-tron sportback S	BEV	SUV	TBC	95	351	4.5	Q1 2022
	e-tron GT	e-tron GT	BEV	Sedan/ Coupe	TBC	93.4	452	4.1	H2 2022
BMW	iX	iX xDrive40	BEV	SUV	135,900	77.0	420	6.1	2022
		iX Xdrive40 Sport	BEV	SUV	141,900	77.0	420	6.1	2022
		iX Xdrive50 Sport	BEV	SUV	169,900	112	620	4.6	2022
	X3	X3 xDrive30e	PHEV	SUV	104,900	12.0	46	6.1	2022
	iX3	iX3	BEV	SUV	114,900	80.0	460	6.8	2022
	i4	i4 eDrive40	BEV	Coupe	99,900	84	590	5.7	Late Q1 2022
		i4 M50	BEV	Coupe	124,900	84	510	3.9	Late Q1 2022
BYD	BYD Atto 3	BYD Yuan Plus	BEV	SUV	35,000	TBC	500	5.0	Feb 2022
Genesis	G80	G80 electrified	BEV	SUV	TBC	87.2	500	4.9	H1 2022
	GV60	GV60 RWD	BEV	SUV	TBC	77.4	451	-	H1 2022
		GV60 AWD	BEV	SUV	TBC	77.4	451	-	H1 2022
		GV60 performance	BEV	SUV	TBC	77.4	451	4	H1 2022
	GV70	GV70 electrified	BEV	SUV	TBC	77.4	400	4.5	H1 2023
Jaguar Land Rover	Range Rover	Range Rover Evoke	PHEV	SUV	102,000	15	62	6.4	2022
Kia	EV6	2022 Kia EV6	BEV	SUV	TBC	77.4	528	7.3	Q2 2022
		2022 Kia EV6 GT-Line	BEV	SUV	TBC	77.4	505	5.2	Q2 2023
Mercedes-Benz	EQB	TBC	BEV	SUV	TBC	TBC	TBC	TBC	2022
	EQS	TBC	BEV	Sedan	TBC	TBC	TBC	TBC	2022
	EQE	TBC	BEV	Sedan	TBC	TBC	TBC	TBC	2022
	EQV	TBC	BEV	People Mover	TBC	TBC	TBC	TBC	2022
	EQA	EQA 350 4M	BEV	SUV	TBC	TBC	TBC	TBC	Feb-22
MG	MG ZS EV	MG ZS EV	BEV	SUV	46,990	51	320	8.6	Mid 2022
Mitsubishi	Mitsubishi Outlander	Mitsubishi Outlander 2022	PHEV	SUV	TBC	13.8	54	-	2022
Peugot	e-2008	e-2008	BEV	SUV	TBC	50	332	TBC	2022
	508	508	PHEV	SUV	TBC	11.6	63	TBC	2022
	3008	3008	PHEV	SUV	TBC	13.2	59	TBC	2022

Make	Model	Variant	BEV/ PHEV	Segment	Price ($ AUD)	Battery size (kWh)	Range (km)	0-100 (km/s)	Available
Porsche	Taycan	GTS	BEV	Sedan	237,000	93.4	485	3.7	Q2 2022
	Cayenne	E-Hybrid Platinum Edition	PHEV	SUV	160,300	17.9	47	5	Q2 2022
		E-Hybrid Coupe Platinum Ed.	PHEV	SUV	160,900	17.9	47	5.1	Q2 2022
Tesla	Model S	Model S – Long range	BEV	Sedan	TBC		652	3.2	TBC
		Model S – Plaid	BEV	Sedan	TBC		637	2.1	TBC
	Model X	Model X – Long Range	BEV	SUV	TBC		560	3.9	TBC
		Model X – Plaid	BEV	SUV	TBC		536	2.6	TBC
	Model Y	Model Y	BEV	SUV	TBC		505 (est)	3.7	TBC
Volvo	XC40	Recharge Pure Electric – single motor	BEV	SUV	72,990	69	423	7.4	Mid 2022
Volkswagen	ID.4	ID.4	BEV	SUV	TBC	45.0	TBC	TBC	2022

Electric two-wheelers

Make	Model	Segment	Price ($AUD)	Battery size (kWh)	All electric range (km)
EMoS	iTango	LA	3,999	1.25	60
	iTank	LA	5,999	1.56	70
		LC	5,999	1.56	60
	EH'7	LA	5,999	2.16	160
		LC	5,999	2.16	100
	CT-KARGO	LA	14,999	-	100
	CT-KUBE	LA	12,999	-	100
Evoke	Urban Series	Motorbike	7,999	7.8	200
Fonzarelli	Arthur 1	Scooter	3,990	3	50
	Arthur 2	Scooter	4,990	5.5	50
	Arthur 3	Scooter	6,990	8	100
	X1	Scooter	10,990	8	80
	NKDa	Motorbike	7,715	8	50
	NKDs	Motorbike	10,715	8	100
	NKD+	Motorbike	13,215	10	150
	NKDx	Motorbike	15,715	12	200
Harley-Davidson®	LiveWire™	Motorbike	49,995	15.5	235
HORWIN	EK3	LC	6,999	2.88	80
Savic	Alpha	Motorbike	23,990	11	200
	Delta	Motorbike	16,990	9	150
Super Soco	SUPER SOCO TC MAX	Motorbike	5,490	110	75
	SUPER SOCO CPX	Scooter	7,690		75
	SUPER SOCO CUX Scooter	Scooter	4,990		75
Vmoto	EVS1	LC	5,999	2.7	140
WYLD	G	LA	4,999	1.2	50
	T	LA	4,999	1.2	50
	R	LA	5,499	1.8	80
		LC	5,499	1.8	80
	THANG	LA	5,499	1.8	60

Electric buses

Make	Model	Range (km)
Bus and Coach International	BCI Citirider e-bus	300
BusTech Group	Proterra ZDI	325
Custom Denning	Element EV	500
Daimler Truck and Bus	eCBC	300
Foton Bus Australia	Foton 12.5m Electric City Bus	N/A
Nexport Pty Ltd.	BYD K9RA (Gemilang chassis)	250
Optare	Tempo 11.5m	N/A
SEA Electric	E4B Minibus	250
Volgren Australia	Volgren (BYD Chassis)	250
Volvo Bus	BZL	N/A
Yutong	E12 e-bus	320

Electric vans and trucks

Make	Model	Segment	Battery size	Range
ACE	ACE Cargo Light	Light commerical van	23.2	200
	ACE Yewt	Utility van	23.2	200
BLK Auto	The JAC N55 EV	Truck	96.7	200
Daimler Truck and Bus	Fuso eCanter Safety GVM 7490 kg	Truck	82.8	100* *@ full GVM
Electric Trucks Australia / TrueGreen Mobility	BYD T3	Van	50.3	300
EV Automotive	EC11	Van	73.6	200
Ford	E-transit	Van	68	317
GB Auto	TEMBO 4x4 E-LV	Conversion	28.4/56.8	80/160
JAC motors	N55 EV truck	Light duty truck	96.7	200
Janus Electric	Kenworth T403	Truck conversion	600	400-500
Renault	Kangoo Maxi	Van	33	200
Safescape	Bortana EV	Dual cab Ute	52	120
SEA Electric	E4V	Van	88 kWh	250
	SEA 300-85	Truck Cab-Chassis	100 kWh – 136 kWh	220 (unladen)
	SEA 500-140	Truck Cab-Chassis	136 kWh	160 (unladen)
	SEA 500-225	Truck Cab-Chassis	136 kWh – 250 kWh	200 (unladen)
	SEA 300-45	Truck Cab-Chassis	70 kWh	200 (unladen)
Voltra	e-cruiser	Conversion	42.24	100
Volvo Trucks	Volvo FL Electric	Medium duty truck	200 to 396kWH	300
	Volvo FE	Medium duty truck	200 or 265kWh	220
Zero automotive	ZED70	Conversion	88	350

State of Electric Vehicles

MARCH 2022

ELECTRIC VEHICLE COUNCIL