



# A smart transition to net zero emissions

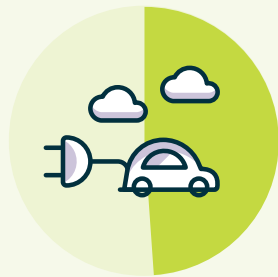
## Background to net zero emissions and Electric Vehicles (EVs)

Transport is the third-highest source of greenhouse gas emissions in Australia and emissions from transport are rising at a faster rate than emissions from any other sector.<sup>1</sup>



The Australian Government has committed to a target of net zero emissions by 2050, and a growing investment into renewable and sustainable sources of energy, including a move towards EVs, will be a major factor in determining if Australia is able to meet its targets.

While Australia has been slow to take up EVs, changes in policies and incentives, infrastructure, supply and costs will help to drive EV take up in the near future.<sup>2</sup>



# 49%

Almost half of respondents see themselves driving an electric vehicle in 2030



Electric vehicle consideration is **highest among the age range of 30-44 year olds**



# 40%

of respondents would be encouraged to **purchase an electric vehicle if government subsidies were available** to assist with the initial purchase cost



# Over 50%

of respondents **would pay more for an equivalent electric vehicle** compared to a petrol/diesel

According to the Electric Vehicle Council's Consumer Attitudes Survey 2021, 54% of Australians say they would consider buying an EV as their next car. Among their considerations are vehicle costs, and access to charging points and government incentives.

With more EVs entering the market regularly and the cost of production and battery technologies coming down, the more likely we'll see EVs on every street in the near future as they become more affordable.

<sup>1</sup> Climate Council Factsheet, Transport Emissions: Driving down car pollution in cities, 2017  
<sup>2</sup> Source: Electric Vehicle Council, Consumer Attitudes Survey, 2021

## How can Smartfleet support our clients?

We can provide an in-depth analysis of our clients' existing fleet and identify any areas of efficiency to achieve desired outcomes, across;

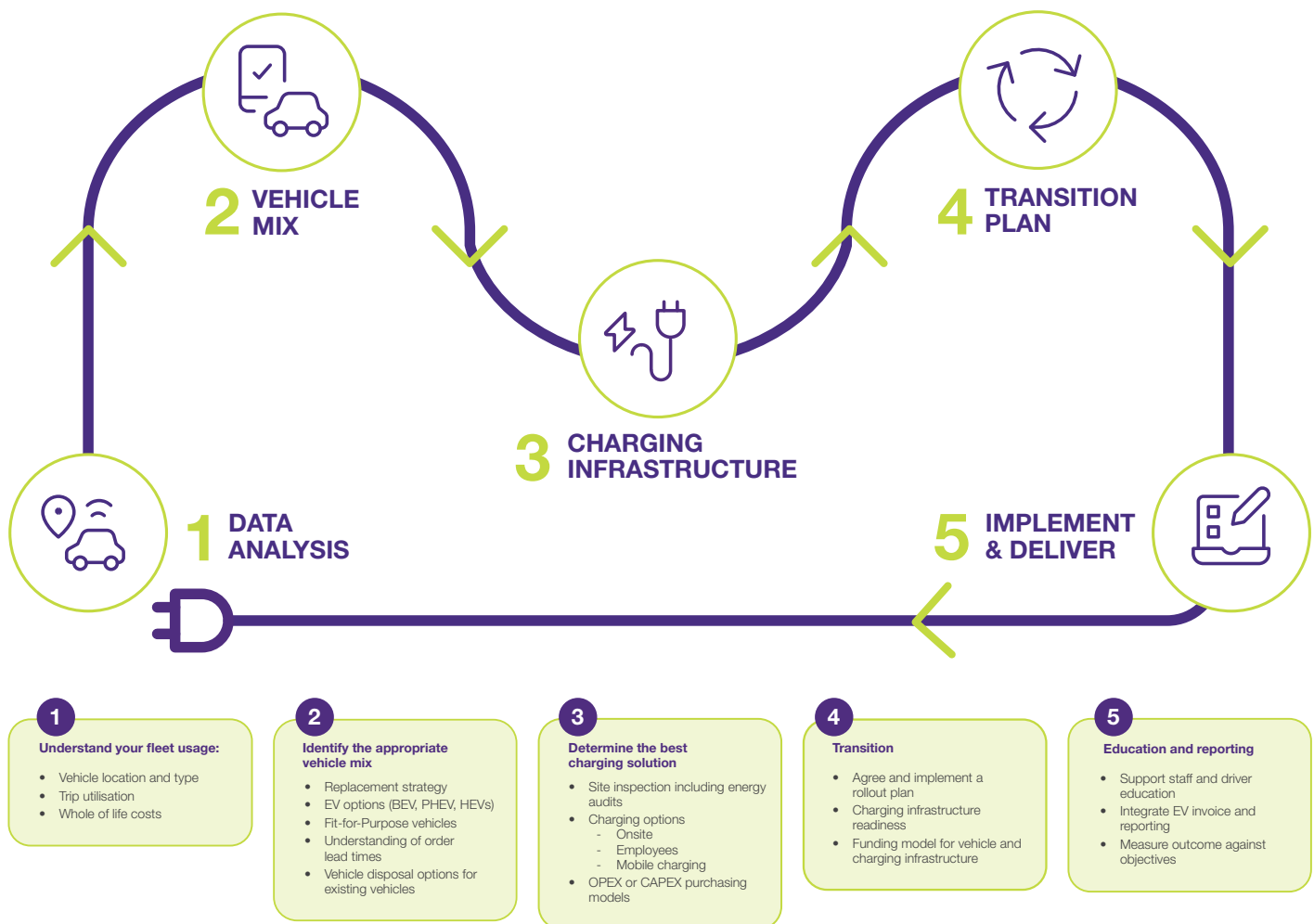
- ✓ Cost
- ✓ Safety
- ✓ Sustainability.

Using a variety of tools such as telematics, the use of pool cars and safety programs, we can help take the performance of a fleet to the next level and help clients reach sustainability goals by reducing their fleet's overall emissions.

This can be achieved by implementing a combination of initiatives such as efficient vehicle utilisation, car sharing, pool bookings and a transition of their fleet towards EVs. Depending on their business needs, our team may suggest one or more of these solutions that are fit for purpose.

## How can Smartfleet help transition my fleet to make it more sustainable?

We help to achieve a seamless transition towards a more sustainable outcome through 5 steps shown below.



## What are the types of EVs currently available in the market?

There are 4 main types of electric cars:

	HEV Hybrid Electric Vehicle	PHEV Plug-In Hybrid Electric Vehicle	BEV Battery Electric Vehicle	FCEV Fuel Cell Electric Vehicle
				
Fuel	 Petrol	 Petrol	 Electricity	 Hydrogen
Motor	 Internal Combustion Engine	 Internal Combustion Engine	 Electric Motor	 Electric Motor
	 Electric Motor	 Electric Motor		
Emissions	 CO <sub>2</sub>	 CO <sub>2</sub>	 Zero	 Water

### HEV

#### Hybrid electric vehicles

HEVs run on both an ICE and an electric motor that uses energy stored in a battery. No ability to use only the electric motor, and no ability to charge the battery by any other source except by the ICE.

Example: Toyota Camry

### PHEV

#### Plug-in hybrids

PHEVs expand on the concept of the standard hybrid vehicle. They have both an internal combustion engine (ICE) and a battery-powered electric motor. This allows the use of the electric motor for those shorter trips, whilst having the ICE available for those extended trips. Battery to store enough power to feed the electric motor and in turn decrease your petrol usage, saving dollars at the pump.

Example: Mitsubishi Outlander

### BEV

#### Battery Electric Vehicles

These vehicles run solely on battery power. Drivers can charge them at home using AC chargers or more powerful DC chargers available at public charging stations.

Example: MG ZS EV

### FCEV

#### Fuel Cell Electric Vehicle

FCEVs use a propulsion system like that of electric vehicles, where energy stored as hydrogen is converted to electricity by the fuel cell. These vehicles for the most part are not available in Australia yet.

Example: Toyota Mirai

## Charging

## How do I charge an EV?

There's not just one way to charge your EV. Depending on the type of EV you have, it will take in a set amount of power and that will determine how long it will take to charge. This may seem complicated at first, but we're here to help demystify the process for you.

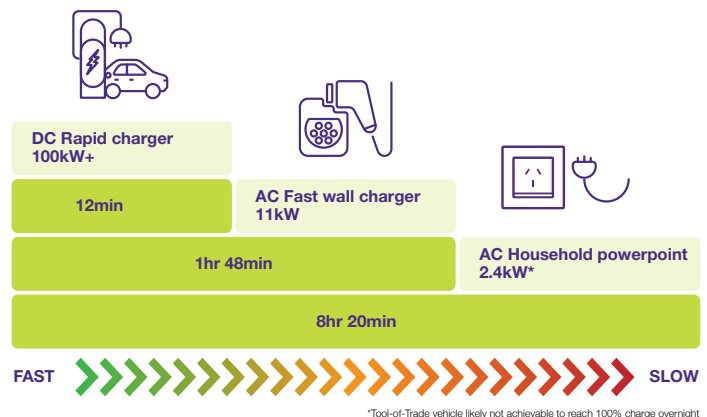
The type of electric car and the charging station type will determine how quickly an electric car will charge. However, the majority of electric cars support DC fast charging which allows a car to charge in minutes. Home charging is one of the biggest benefits with EVs, allowing you to conveniently recharge at home whenever suits you.

On average:

20kW battery charge provides range of 100kms.

## TYPES OF CHARGERS

Time to add 100km of range  
( assuming 20kWh /100km energy use



\*Tool-of-Trade vehicle likely not achievable to reach 100% charge overnight

## How do I know how long will it take for my EV to charge?

### AC Trickle charge home PowerPoint (2.4kW):

$$20\text{kW} \div 2.4\text{kW} = 8.3 \text{ hours (8hrs 20min)}$$

### AC Fast Wall charger (11kW):

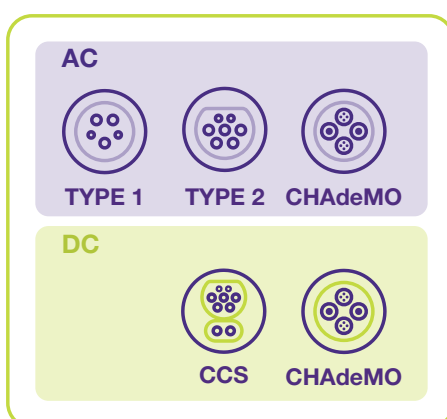
20kW ÷ 11kW = 1.8 hours (1hr 48min)

**DC Rapid charge (100kW):**

$$20\text{kW} \div 100\text{kW} = 0.2\text{hours (12min)}$$

The average battery capacity is 60kW, so when you use a standard trickle charger (this is the cable that will be provided by the vehicle manufacturer) then charging at 2.4kW would take 20 hours to reach 80% charge from empty.

## What plug types can I use to charge my EV?



**For EVs pre-2018 the Type 1 plug is most common.** Current Mitsubishi PHEVs and Nissan Leafs, whilst compatible with Type 2 plugs with AC chargers, will need to use the CHAdeMO plug for faster DC chargers.

## 1. AC chargers



Australia uses Type 2 (for vehicles manufactured and sold after 2018). This is the plug used for all current vehicles imported into Australia. Type 2 is the standard plug compatible with AC chargers.

## 2. DC chargers



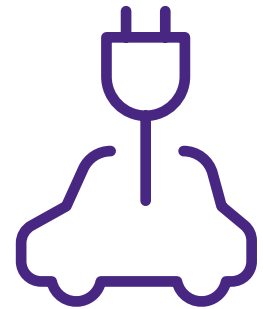
These chargers use additional ports to support three-phase or rapid DC charges known as CCS (Combined Charging System) Type 2.

## Private and Public charging

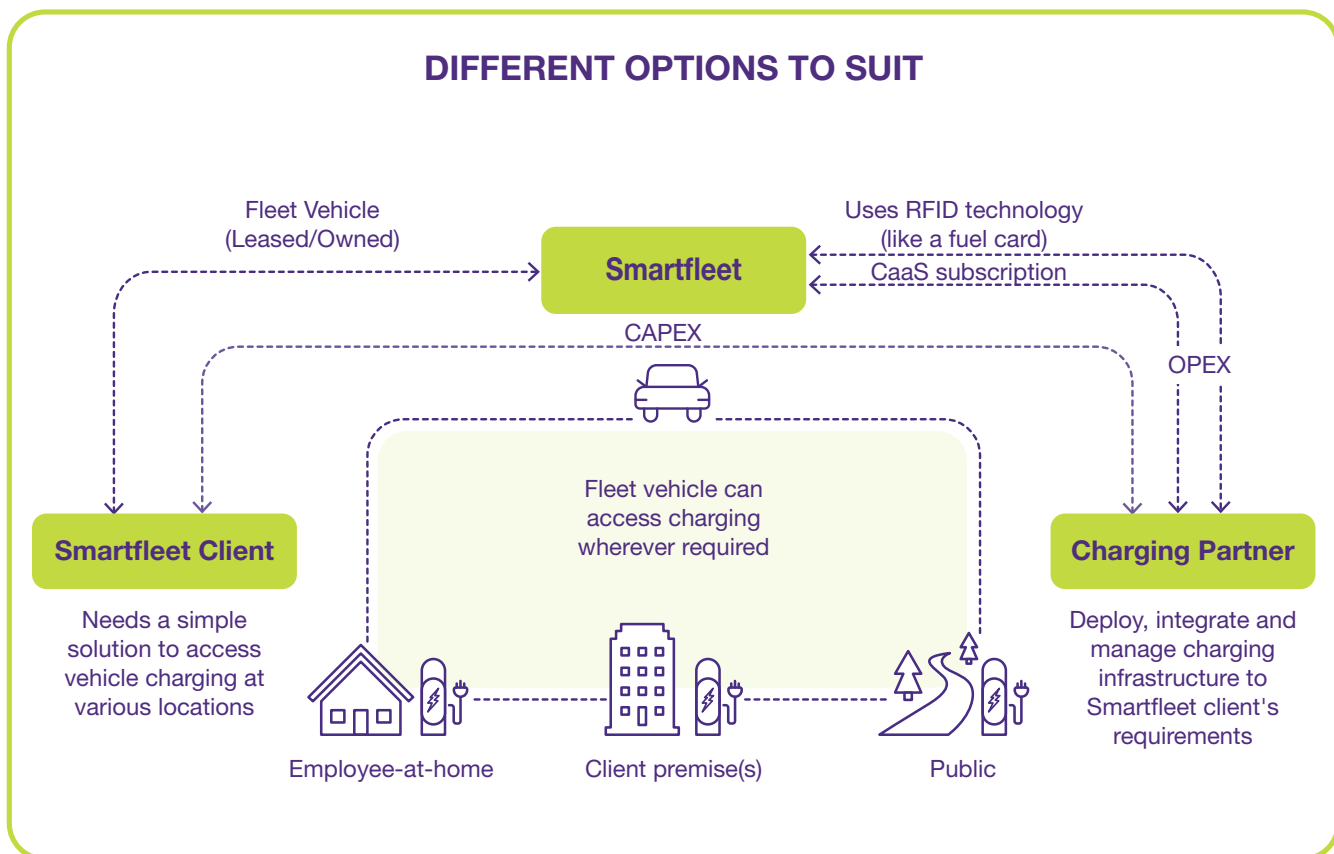
### What private charging options do I have and can Smartfleet assist me?

#### Smartfleet charger options

- Multiple providers of EV charging infrastructure solutions for Smartfleet
- Fit-for-purpose hardware and software based on client charging needs and onsite technical assessment
- Wide selection of 'smart' AC (Fast) to DC (Rapid) chargers, with RFID compatibility
- Purchasing options including CAPEX or OPEX 'Charging-as-a-Service' CaaS subscription programs for budget flexibility.



#### DIFFERENT OPTIONS TO SUIT



CaaS (Charging-as-a-Service) is a subscription-based EV charging package giving you the option to pay a monthly subscription fee instead of all upfront costs at once.

## What are the costs to implement a charging station?

Based on the number of charging points you decide to install in your station and the types of chargers you need, the installation costs can vary. As an estimated range, an AC Fast Wall Smart charging setup at a residence of an employee could start from \$2,900. DC Rapid chargers on the other hand, can start from \$25,000 and go up to \$60,000+. Installation costs at a commercial premises differ and are usually higher.



## What public charging options do I have and can Smartfleet assist me?

At Smartfleet, we partner with Chargefox, the largest charging network in Australia.

With thousands of plugs, the public network includes standard AC (22kW), Rapid (50kW) and ultra-rapid chargers (~100/150kW+). Please note: The speeds listed are up to, not what will be achieved each time.

Smartfleet is able to provide you with Radio-Frequency Identification (RFID) cards, that can be used in the issuer's public charging networks. These RFID cards can also be used as part of any compatible chargers, for details see the above CaaS diagram. Drivers can download the Chargefox app to view all the locations available.

RFID identifies the charger that the vehicle is using. Usage and costs are then provided to Smartfleet for reporting.

For more information, please visit <https://www.chargefox.com/rfid/>



## Incentives and Rebates

### What are some of the government incentives that can help support the transition of my fleet?

As the state and federal government ramp up their efforts to support the take up of EVs, there are a number of incentives and rebates available for organisations looking to transition to EVs.\*

Making the transition to EVs could provide significant tax incentives for eligible vehicles. Click below to find out more about the support available in your state or territory.

- [New South Wales](#)
- [Victoria](#)
- [Queensland](#)
- [Australian Capital Territory](#)
- [Tasmania](#)
- [Northern Territory](#)
- [South Australia](#)
- [Western Australia](#)



### What is the Electric Car Discount Policy and how can it help me?

The Electric Car Fringe Benefits Tax Exemption legislation passed in November 2022. Any eligible new EVs purchased after 1 July 2022 or second-hand EVs first registered after the same date will be exempt from the Fringe Benefits Tax (FBT) if they fall below the luxury car tax threshold (\$84,916 in 2022-23). Any import tariffs (where previously applicable) will also be waived.

This will reduce the cost of EVs for fleet-operated businesses because the exemption from FBT is applicable to EVs where the employer is providing benefit vehicles to their employees and those vehicles have a private use component.

Discounts will be available to the following types of EVs below the threshold:

- Battery Electric Vehicles;
- Hydrogen Fuel Cell Electric Vehicles
- Plug-in Hybrid Electric Vehicles (exemption will end on April 1st 2025, with exemptions being applied for existing leases until they expire).

[Check the ATO website for latest guidance.](#)

### Does the FBT exemption include charging infrastructure?

The ATO has advised that the home charging station is not a car expense associated with providing a car fringe benefit for electric cars. Further guidance is being developed by the ATO to clarify how in-home charging equipment is expected to be valued from a FBT perspective.

### What is the impact on reportable fringe benefits?

Whilst the eligible EVs are FBT exempt to an employer/employee, the benefit has to be reported in an employee's income statement. This could have an impact on the employee's benefits or concessions such as family assistance payments, HECS/HELP, child support obligations and Medicare levy surcharge. Smartfleet recommends clients to seek independent financial advice.

\*Smartfleet does not administer government rebates and incentives, we will work with our clients to achieve the best outcome.

## FAQs

Here's a quick glossary of some of the commonly used terms and acronyms in this document.

<b>BEV</b>	Battery Electric Vehicle
<b>EV</b>	Electric vehicle
<b>FBT</b>	Fringe Benefits Tax
<b>FCEV</b>	Fuel Cell Electric vehicle
<b>HEV</b>	Hybrid Electric Vehicle
<b>ICE</b>	Internal combustion engine
<b>Net zero</b>	Ensuring the carbon footprint added to the atmosphere doesn't exceed the amount removed
<b>PHEV</b>	Plug-in Hybrid Electric Vehicle

For more information about the state of EVs in Australia, please visit the [Electric Vehicles Council](#).

### 1. Why should I add electric vehicles (EVs) to my fleet?

Due to the nature of their operations, fleet cars often end up clocking more kilometres and may also have higher expenses for fuel and maintenance, making sustainability a core issue that needs to be addressed.

As a business, when you choose to transition your existing fleet to an EV fleet, it can help you make it more sustainable, efficient and cut down on operational costs. By taking this step, you'll also become an active player in contributing to Australia's net zero emissions target by 2050.

### 2. What are the benefits of using an electric vehicle?

In the long run, EVs are cheaper to run, maintain and service. Ongoing servicing costs can be a pain point for petrol and/or diesel-powered vehicles that have done more kilometres. Servicing an EV is comparatively easier, less frequent and cheaper than their petrol/diesel counterparts. Further, the cost of using electricity to charge an EV is about 40% less than what you will spend on petrol if you use a similar vehicle over the same distance. You can find out more about the savings you can pocket if you own an EV through this calculator on the [Electric Vehicle Council website](#).

### 3. Is it cost-effective to have an electrified fleet?

Servicing an EV is comparatively easier, less frequent and cheaper than their petrol/diesel counterparts. There are also several government incentives and rebates that you can avail to help offset the costs of running an EV fleet. The government has recently passed the Electric Car Discount Policy to make electric cars FBT exempt if employers allow employees to use the cars for personal and professional use. You can even leave the hassle of managing your fleet to us, and we can do the hard work for you to ensure your fleet is operational in the most cost-effective manner.

### 4. Where can I charge my electric vehicle?

Depending on the requirements and utilisation of your fleet, there are a number of charging options. Including the installation of 'smart' AC (Fast) to DC (Rapid) chargers.

Smartfleet partners offer access to various public charging networks.

## 5. What sort of range do EVs have?

The range of an EV – that is, how far can it travel on a single charge – is a tricky answer because there is no one-size-fits-all response. The factors that influence the range include the type of car you have, your average daily use, your charging method, your car's battery health, your driving style and weather conditions.

As a general guide, the ABS's survey of general motor use in 2019/20 highlighted that the average Australian drives about 232 kms/week (or just 33 kms daily), hence a range of about 400 km should be adequate for most private and business needs.

## 6. How long does an EV battery life last?

EV batteries have a long life span. What's more, new EVs already come with a battery warranty that ensures your battery usage for a certain length of time (usually up to 5-8 years) or until a certain distance is covered (up to 100,000 kms). The battery will decrease in performance the more it gets used. Charging up to only 80% instead of 100% can also help you keep your battery in optimum health.

## 7. Can the infrastructure handle so many EVs?

According to the Electric Vehicle Council's [State of Electric Vehicles report](#), EVs only represent a very small percentage of new car sales currently (at 3.39%). Hence, they're not adding any significant load to the existing infrastructure. If you choose to charge your EV at home, its load on your home power circuit is minimal, as the EV smart chargers are equipped to prioritise your home essentials such as lighting, heating etc. The common practice is to charge your EV overnight, when there's more capacity at hand for clean power generation. Energy providers have started to offer lower overnight power rates to incentivise overnight charging making it more cost effective.

## 8. What type of vehicles are available and how long do I have to wait to get an EV?

Please click [here](#) for a full list of available vehicles and current lead times.

> Please contact your Client Relationship Manager to find out more and to discuss your needs further.

