

# Plug in: to buying an electric vehicle



Driving an electric vehicle (or EV) is a smart move for the planet, and can also be good for your wallet. This step-by-step guide outlines what to look out for, what questions to ask and how to make the right choice for you.

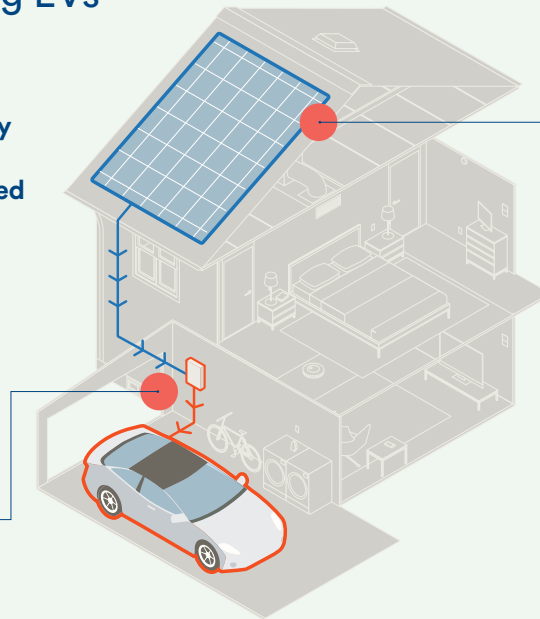
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## Step 1: Understanding EVs

### What is an EV?

An EV is a vehicle propelled by an electric motor instead of a petrol (or diesel, or LPG) fuelled internal combustion engine.

To charge your EV, you can plug it in at home, at work, at some shopping centres and car parks, or at special charging stations.



If you have solar panels, charging your EV could be extremely cheap, or even free.



With no gears and needing no oil changes, EVs are simpler to drive and maintain but have similar performance to regular vehicles.

There are also hybrid EVs that have a petrol engine as well as an electric motor, but this factsheet is only about fully electric vehicles (also called battery electric vehicles or BEVs).

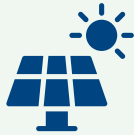


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## What are the benefits of an EV?



**Reduce your impact on the environment:** EVs have lower emissions than petrol or diesel vehicles, even when powered by an electricity system with coal power stations. As the grid gets cleaner, so will EVs. If you charge your EV from your home solar system it could have no emissions at all.



**Less waste:** Because EVs don't need regular oil, oil filter or spark plug changes, there's much less waste. The batteries will eventually need to be replaced, but most will last longer than the average person keeps a vehicle, and they can generally be reused as well as recycled.



**Cost benefits:** The electricity needed to run an EV is much cheaper than the petrol needed to drive a regular car the same distance. Servicing costs are also cheaper on average, meaning lower operating costs.



**Health:** EVs have no exhaust pipe pollution and less brake dust, meaning healthier air. They are also much quieter, reducing noise in our cities.

## Is an EV right for me?

If you're considering an EV, ask yourself:

### **Can I charge an EV at home?**

- If you have a house with off-street parking (driveway, garage, carport) you'll be able to have an electrician install an EV charger. You can also charge it from a power point.
- If you don't have off-street parking, or live in an apartment block that doesn't have charging facilities in the car park, you'll need to charge away from home. This could be at work, at a public charger at a shopping centre or car park, or at a service station.



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### How far can I drive?

- Most modern EVs have a similar range (distance driveable on a single charge) as equivalent regular vehicles, but some are a bit less, and second-hand or older ones may be a lot less. This is less likely to be a problem in the future when service stations will all have fast chargers for EVs – but for now, if you have particular long-distance needs or can't charge at home, you'll need to check whether there are available chargers to meet the needs of an EV you might purchase.

### Do I need to tow a trailer or caravan?

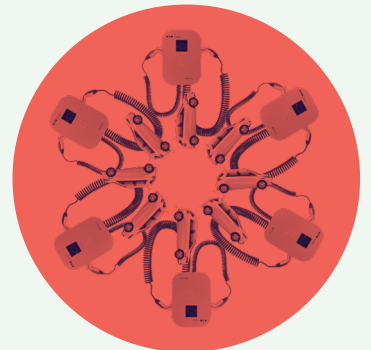
- Only a few of the EVs currently available in Australia can tow, and different ones are rated for different towing weights. Make sure you find out the towing capacity of any EV you are considering purchasing, or ask the dealer if one is available with the towing capacity you need.

### How long will the battery last?

- EV batteries have long lives (usually 10 years or more) and can be used for other things after being removed from an EV and replaced. In the end they can be recycled and almost all of the materials can be extracted and reused.

### Will it be cheaper for me than a regular car?

- At the moment, EVs cost more to buy than an equivalent regular car. But the electricity to power them is cheaper (in cents per kilometre) than the fuel for a regular car, and servicing costs are generally lower on average. Whether that means an EV is cheaper in total cost of ownership for you than a regular car depends on how much you drive. You'll need to do some maths to work it out, factoring in the purchase cost and expected electricity and servicing costs. In general:
  - If you drive more than average, it is more likely to be cheaper.
  - If you drive less than or similar to average, it may not be.
  - If the purchase cost is not too high (perhaps due to buying second-hand or getting a discount on the purchase cost) that might make it a lot cheaper in total.
  - A good dealer should help you figure it out.
  - EV prices are continuing to fall, and national and state governments are likely to provide subsidies (discounts) for EV purchases in the near future.
  - In a few years it's likely that most EVs will have a lower total cost of ownership for most people.



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### Step 2: Buying an EV

#### Finding the right EV and dealer for you

Once you know what you need with range, towing ability and charging, you can look for information about what EVs are available and how much they cost.

- A lot of car dealers don't know much about EVs, so you may need to rely on specialist dealers or websites that are focused on EVs such as the Australian Electrical Vehicle Association or the Australian Government's Green Vehicle Guide.
- If you know or meet someone with an EV, ask them about their experience. Most EV owners are happy to provide recommendations.
- When you do find a dealer with an EV that might be right for you, ask them lots of questions about whether it will meet your needs, and how much it will cost to run. If they are not very helpful, think carefully about whether they can be relied on to give you the information you need.



Buying the wrong EV can be an expensive mistake. A dealer who is helpful and answers your questions clearly gives you the best opportunity to be confident on your choice.

#### Should I buy new or used?

As with regular cars, it depends on your vehicle usage and budget.



Early EV models had a range of only 120 – 140 km, while modern EVs will do 450 km or more, noting that the range will lessen slightly over time as the battery ages.



Second-hand EVs generally cost around \$15,000 and up, new models start at around \$45,000.



If buying a used EV, make sure you find out what condition the battery is in, how much remaining life it has, and what the cost will be to replace it if necessary.



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### Some second-hand EVs were never originally sold in Australia, but instead were imported privately.

These cars may be difficult to find parts or mechanics for. If you want to buy one of these, you'll need to do quite a bit of research, or get expert assistance, to figure out if it's worth it or not.

#### Questions to ask an EV seller.

Many car dealers are still unfamiliar with EVs, so you may have difficulty getting accurate answers to some questions. If a seller can't answer your questions, it's best to find another one who can. It is difficult to determine if the vehicle will meet your needs without specialist knowledge.



#### **Questions to ask the dealer:**

- What is the warranty? (On both the car and its battery)
- What is the driving range?
- Has it got a portable charger with it? If not – you should insist on one coming with it.
- How long does it take to charge on:
  - A power point using the portable charger?
  - A fixed (usually wall-mounted) home charger?
  - A commercial Fast Charger?
- Does it have the standard charging socket (called a CCS2) or a different one?
  - If a different one ask:
    - What charging socket does it have?
    - Is it compatible with chargers currently available and in use?
    - Are Fast Chargers available for the socket it has?
- If it's second-hand, ask:
  - How much mileage has it done?
  - How many cycles has the battery completed?
  - What is the health of the battery?
  - What is the range of the EV in its current state?
  - Are parts readily available, and mechanics who can work on it in your area?
  - What are the servicing requirements?
  - Does it have any of its original warranty remaining? What about a battery warranty?
- What purchase and other rebates are currently available for EVs?



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### Consumer guarantees

Australian Consumer Law gives you rights and protections when buying products, called consumer guarantees. These apply regardless of the warranty that comes with your electric vehicle but are different between vehicles bought from manufacturers or dealers, used vehicles bought privately, and vehicles sold at auctions.

The full set of consumer guarantees applies to vehicles purchased from car dealers or manufacturers. They must:

- be of acceptable quality, that is:
  - safe, lasting, with no faults
  - look acceptable
  - do all the things someone would normally expect them to do.
  - match descriptions made by the salesperson, on labels, and in promotions or advertising
- match any demonstration model you were shown be fit for the purpose the business told you it would be fit for and for any purpose that you made known to the business before purchasing
- come with full title and ownership – the vehicle will belong to you after purchase
- be free of ‘undisclosed securities’ – so there is no debt of any kind attached to the product (e.g. from a previous owner)
- come with ‘undisturbed possession’ – so no one has a right to take it away or prevent you from using it (e.g. being repossessed by a previous owner’s finance provider)
- meet any extra promises made about performance, condition and quality, such as product warranties or money-back offers
- have spare parts and repair facilities available for a reasonable time after purchase.

For vehicles bought from private sellers or auctions, only the consumer guarantees about full title and ownership, undisclosed securities, and undisturbed possession apply.

However, some state governments may have additional protections such as an ‘implied warranty’ (a fit-for-purpose requirement, e.g. that a vehicle must work or be roadworthy if the seller said it was). Check with your state or territory consumer protection agency for more information (use [this list](#) to find yours).



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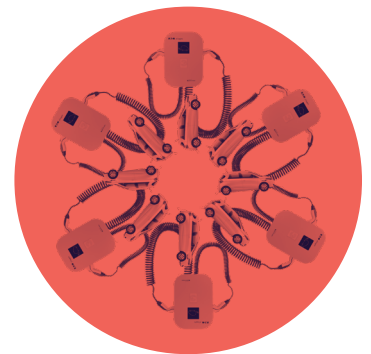
### Step 3: Rebates, charges, and extra costs

Are there any discounts, rebates, or extra fees and charges for buying an EV?

- Some state governments are offering purchase price rebates or registration discounts to encourage people to buy EVs. When you're ready to purchase one, check with your state government to see what's available and how to apply.
- Some state governments have introduced or plan to introduce road-user charges where EV owners pay an annual fee based on how far they travel. This will probably eventually apply to all vehicles, as a replacement for fuel taxes.
- You will probably need to install a fixed charger for your EV. This is a one-off extra cost, but it enables faster and possibly cheaper charging. For more info, see the "Using my EV" factsheet.
- Some local councils offer rebates or discounts for installing fixed chargers. Check with your local council.

Deciding if an EV is right for you, and purchasing an EV can be a simple and rewarding process. Use this as your step-by-step guide.

Already have an EV? Check out our guide 'Plug in: to using your EV' to find out about charging, your rights, consumer protections and how to get the most out of your car.



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