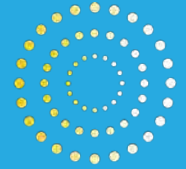




HORAN & BIRD
EVERYDAY ENERGY SOLUTIONS

ELECTRIC VEHICLE GUIDE

EVERYTHING YOU NEED TO KNOW ABOUT YOUR EV PURCHASE



Electric Vehicles (EVs) are rapidly growing in popularity in Australia as families & individuals want to take control of their Energy Future.

Are you looking at making your next car an Electric Vehicle? Let Horan & Bird help you on your journey. This guide will cover everything you need to know about EVs.

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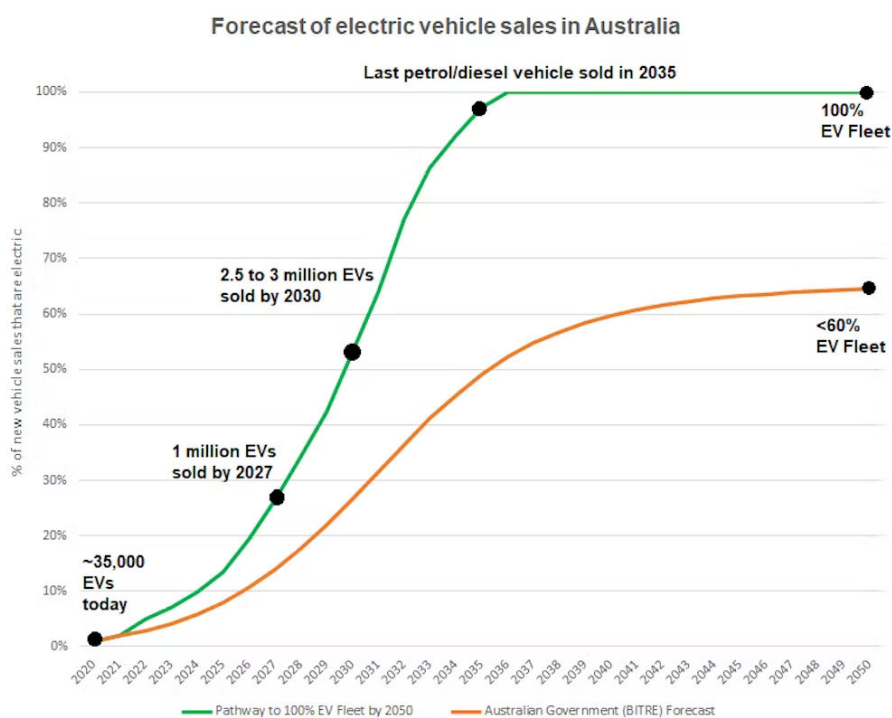




Estimated EV Uptake & Trends

As Australia transitions into the new electric world, individuals and businesses need to start to think about how big this shift actually will be. Change can be challenging, but if planned well, it will be a great opportunity for those that start now.

Below is a very compelling forecast model that depicts electric vehicle (EV) sales in Australia.



Data predicts significant household peaks in electricity charging demand between 7pm to 10pm after electric vehicles have been used all day, which will in turn cause major problems for the network. This load is the equivalent of adding an extra stove to every house. The average house charger will be 7KW single phase or 22KW three phase.

What does this mean - For a family with 3 cars, one of these will be electric within 7 years. In fact, a recent survey resulted in 60% of people indicating that their next car will be electric. Looking at your own business and employees, how many cars are in your car park right now? How much extra electricity load will a shift in more EVs add to your energy bills?



Trends

- Most car dealers are selling chargers that are actually not suitable as they only pull full load 32 amps at a time. They are a bad option for the customer.
- Customers are much better having solar-enabled smart EV Chargers like “ZAPPI”.
- Most EVs also have deals with places like Jet Charge or Charge Fox that will give them free charging for 3 – 5 years. However, most people don’t want to waste time in long lines at a petrol stations to only save \$5-\$10 of free charging.
- Fast chargers are very limited at one location. 350KW, 100KW or even 50KW Chargers need an extreme amount of infrastructure to support this.

EV Charging

- 90% of EV’s are going to be charged up at home or at work.
- Best practice for battery life is to keep the battery at around 60-70% charged. So this is topping up your EV in your life routine at home, Gym, Shopping and at work.
- Most residential or small business Chargers will be 7KW single phase or 22KW three phase.
- Fast Chargers at petrol stations will only be used by people who are traveling or are in an apartment without a charger. They are not good for EV Battery life. However, as the range in EV’s increase out to 600KM it is more likely that they will book motels with EV Chargers and just use them when they get there.





Electric Vehicle Savings

Running Costs

A study from Master Electricians Australia on their EV fleet, indicated that 1kWh of Electricity is worth approximately 0.6L of fuel (the equivalent of filling up a tank at 12 cents per litre). With fuel costs currently at \$2 – \$2.30 a litre, this could mean a saving of around \$120 per week on a 60L tank.

Energy Future

The costs of EVs are now price competitive with conventional cars over their life cycle. Your energy costs will be transferred from the petrol station to your electricity bill. However, it will be a lot less overall and much better for the environment.

Smart users of EVs have already changed their patterns to shop, work, eat or go to the gym where they can continuously top up their EV's for free during the day. For example, we have seen Coles make steps by installing free EV chargers at some of their locations. Right now, it may not seem like there are many electric vehicles, but the landscape will look different in just 3 years' time with 2 in every 10 vehicles being electric, and in 7 years' time 1 in 3 electric. These numbers show that even in a regional town like Townsville could have up to 25,000 EV's in 7 years. That would fill the entire Queensland Country Bank Stadium.

Vehicle	To Travel 100KM	Cost	Cost per tank 60KWh to 60L
Electric	17 KWH's	\$3.75	\$13.2
Petrol/Diesel	9L	\$16.20	\$108





Is Your Home Electric Vehicle Ready?

When purchasing an EV Charger for your home it is critical that you do your research.

Power Supply

A typical charger uses 7KW of power which is 32 amps. This standard charger that most manufacturers offer with their cars will overload most home switchboards and require costly upgrades from your electrician.

At Horan & Bird, we recommend [Smart Chargers](#) that use Power Management features for Load – Balancing, Power Sharing and are Solar Enabled. These load balancing chargers are programmed to use Solar first (if you have a solar system) and then will charge your car when your energy usage is low and at non – peak times.

They will save you on expensive Switchboard and mains upgrades for your home.

Solar Power

Installing a solar system on your home is the best source of energy to charge your EV. It is free during the daytime, and for most models, this should be enough to cover the typical daily commute.

When buying a charger for your home, look for a Solar Enabled EV Charger. These chargers use the excess solar from your home to charge your car and only uses the grid when it must. These smart chargers are great for a long healthy battery and a cheaper power bill.





Our Choice in Home EV Chargers

At Horan & Bird, we recommend the following electric vehicle chargers for your home:

Zappi

The latest intelligent 'solar aware' charger Australia has been waiting for.

Solar Aware Charging and Dynamic Load Balancing gives you complete control of your electric car charging experience.

Choose between 7 kW or 22 kW.



Wallbox Pulsar Plus

Combination of compact size and powerful features.

The combination features make Pulsar the ideal choice for your home. Pulsar comes with an integrated cable and is suitable for every electric car with type 1 or type 2 charging plug. Choose between 7.4 kW, 11 kW or 22 kW.





Is Your Business Electric Vehicle Ready?

As Australia transitions into the new electric world, individuals and businesses need to start to think about how big this shift actually will be. Change can be challenging, but if planned well, it will be a great opportunity for those that start now.

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Smart Businesses

Motels, Hotels, AirBnB, Resorts – Will see the first wave and demand. Travelers with EVs will only stay where there are charging stations. If you want to attract Government workers and corporates, this is the opportunity. Large business around Australia are under extreme pressure to change their fleets to electric to meet their Environmental, Social and Governance (ESG).

Petrol Stations – Petrol stations are installing Fast Charger networks to attract not only fuel customers but electric customers and turning their stations into cafes to further attract them.

Shopping Centres – Incentivising retail customers by having free charging stations at shopping centres will provide yet another reason to attract more people. EV parking is always closet to the entrance and is seen as 'premium parking'.



Is Your Business Electric Vehicle Ready?

Restaurants & Cafes – Not only will you get premium parking, your car will be charging while you eat. Places like Hungry Jacks are partnering with Fast Chargers, as they know they can attract customers to their outlets for 20 minutes whilst their car is super charged.

Clubs, Sporting fields, events – Larger clubs, sporting fields and event spaces with room for more car parks, will have to have EV chargers earlier than most.

Attract & Retain Staff

People will want to charge their vehicles at work and not at home. With new bi-directional car chargers, you can charge your car for free during the day using solar power at work and run your house with your car at home.

Business that embrace this change to electric vehicles, allowing them to charge their vehicle for free at work will not only attract, but hold on to their best staff. Furthermore, the more cars that we can charge during the day, the huge load it will take off the Grid at night.

Planning

What you need to be doing right now:

1. Is your current building EV ready? (Solar, Car parking, Grid capacity).
2. What is your yearly energy usage and will EVs move you to a large user?
3. How many of your staff or customers will need EV Chargers?





Our Choice in Business EV Chargers

At Horan & Bird, we recommend the following electric vehicle chargers for your business:

AURIGA by EVolution

The only Aussie-made pedestal EV charger.

Install this AC unit as a 7kW (single phase) or 22kW (three phase) dual Type 2 port hardware for fast, simultaneous charging of two electric vehicles that provides between 40 to 100 kilometers of range per hour of charge.

Multiple payment options, including QR code, App, RFID or credit card. Floor mounted, modular & multi-functional, with auto-illuminating light for extra security.



AURA by Charge-Amps

Designed for use within apartments and public car parks, AURA is a dual port (2 x 22Kw) three phase EV charger that is wall or floor mounted with a fabricated pedestal. Multiple payment options, including QR code or credit card.



Wallbox Copper SB

The Copper SB charger guarantees EV drivers' satisfaction thanks to its integrated socket, enabling EV charging for any electric vehicle on the market. Choose who accesses your charger with the RFID card reader and easily connect to the charger with the myWallbox app







Vehicle to Home Charging (V2H)

Electric Vehicles are a very large battery that can also run your home. Whilst this is still fairly new technology, it can be done with certain vehicle types such as the Nissan Leaf Gen 2. Essentially, bi-directional charging allows you to use the power from your EV to power your home. This will require you to purchase a two-way directional charger (there are few in Australia currently).

Vehicle to Load Charging (V2L)

Vehicle-to-load (V2L) is a similar concept to V2H, just on a smaller scale – enabling your car to provide AC power to devices and appliances as opposed to entire homes or the electricity grid.

This function on Electric Vehicles is a must-have when looking at purchasing an EV. The ability to run and extension lead from your EV to run appliances (15 amps or 3.6KW) in your home or even whilst camping, is a major bonus.

So which cars offer V2L in Australia?

BYD Atto 3

Genesis GV60

Genesis Electrified GV70

Genesis Electrified G80

Hyundai Ioniq 5

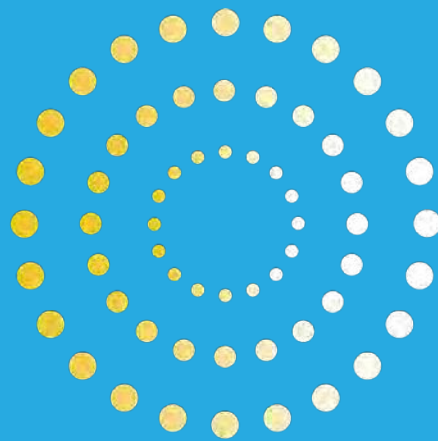
Kia EV6

Kia Niro EV

MG ZS EV

Mitsubishi Outlander PHEV





HORAN & BIRD

EVERYDAY ENERGY SOLUTIONS

1300 467 262

info@horanandbird.com.au

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