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EV CHARGING
MADE SIMPLE

A practical guide for Australian homes, apartments and public charging.



Lower running costs

Charge at home or on the go

Works with solar and battery

Practical tips and real examples

PlaceNest Learn
Australian Edition · October 2026

INSIDE THIS GUIDE

Charging at home, at work and on the road

AC versus DC • Home installation • Solar integration

Commercial charging costs • Safety • Buying checklist

AUSTRALIA • OCTOBER 2026

Illustrative pricing: public AC/DC charging can vary by network, location, charging speed, fees and time. Always check the station price.

Educational guide • General information, not electrical advice

Charging an EV is simpler than it sounds

An electric vehicle stores electricity in a traction battery and uses it to drive.



At home

Plug into a suitable home charging outlet or dedicated EV charger. Many owners charge overnight or when rooftop solar is available.

On the road

Use compatible public AC or DC chargers. Charging time depends on the vehicle, charger, battery level and conditions.

TWO KEY UNITS

kW = charging power (speed)

kWh = electricity delivered (amount)

The charger does not decide the speed alone. Your vehicle limits how much AC or DC charging power it can accept.

Three ways to charge

Charging equipment and electrical supply affect how quickly energy is delivered.

1 Portable charging from a suitable socket

Usually the slowest option. Socket rating, circuit condition, EV charging equipment and manufacturer guidance matter. Avoid extension leads and unapproved adapters.

2 Dedicated home AC wall charger

Often the most convenient regular option. A licensed electrician assesses circuit capacity, switchboard, earthing, protection and installation requirements.

3 Public DC rapid charging

Useful for travel and faster top-ups. Vehicle capability, battery temperature, state of charge and station sharing can reduce the advertised maximum speed.

How long does charging take?

Use a simple estimate, then allow for real-world losses and tapering.

BASIC APPROXIMATION

Energy needed (kWh) ÷ charging power (kW)

= charging hours (before losses and limits)

Example: 30 kWh ÷ 7 kW ≈ 4.3 hours

AC example

A vehicle needs 30 kWh. A nominal 7 kW home charger might take around 4-5 hours, depending on vehicle and losses.

DC example

A 100 kW station does not guarantee 100 kW throughout a session. Charging often slows as the battery fills.

Charging from 10% to 80% is often faster per percentage point than from 80% to 100% at a DC rapid charger. Follow your vehicle guidance.

Understanding your EV battery

A larger battery usually offers more stored energy, but not automatically better efficiency.

Battery capacity (kWh)

A hypothetical 60 kWh usable battery can store more energy than a 40 kWh battery. The vehicle manages the accessible energy and battery health.

Consumption (kWh/100 km)

This tells you how much electricity the vehicle uses to travel 100 km. It varies with speed, weather, tyres, hills and climate control.

ILLUSTRATIVE DRIVING RANGE

60 kWh usable ÷ 18 kWh per 100 km

≈ 333 km under those assumptions

Real range can be lower or higher. Do not use this simplified calculation as a promise for a specific vehicle.

For trip planning, check your car’s actual efficiency and reserve enough energy for weather, detours and charger availability.

What does EV charging cost?

Energy used × the electricity price gives a useful first estimate.

HYPOTHETICAL HOME CHARGING EXAMPLE

Energy added	**30 kWh**
Electricity price	**$0.30/kWh**

30 × $0.30 = $9.00

Cost per 100 km

At 18 kWh/100 km and $0.30/kWh, energy costs $5.40 per 100 km before charging losses and other vehicle costs.

Public charging

Public AC and DC prices can be different and may include session, idle or parking fees. Check the app before plugging in.

The example excludes charging losses, demand charges, fixed supply charges and the cost of installing a home charger.

Choosing a home charging setup

A safe installation is more important than buying the highest advertised power.

01 **Electrical supply**

A licensed electrician checks your supply, phase arrangement, switchboard and existing loads.

02 **Charger location**

Consider parking position, cable reach, weather protection, pedestrian access and accessibility.

03 **Power management**

Dynamic load management can reduce charging when other household appliances need power.

04 **Smart scheduling**

A compatible charger or vehicle can use off-peak tariffs or daytime solar availability.

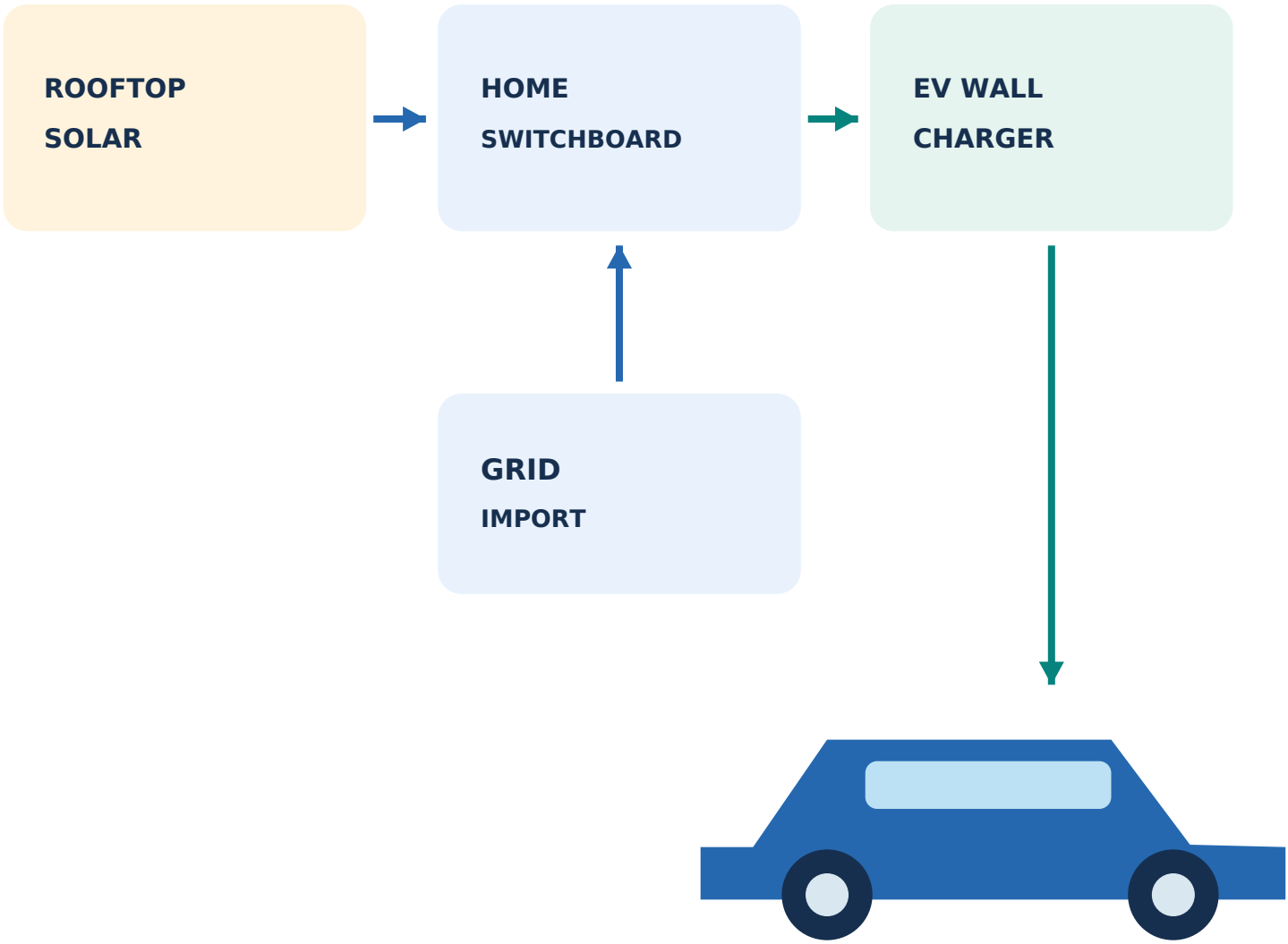
05 **Future planning**

Consider a second EV, renovations and possible solar/battery integration without oversizing blindly.

Australian electrical work must be performed by appropriately licensed professionals. Do not install or modify a fixed EV charger yourself.

Where does charging power come from?

At home, an EV may charge from rooftop solar, the electricity grid or both.



Solar-aware charging

A compatible charger can follow spare solar output and reduce grid imports.

Grid-assisted charging

The grid supplies electricity when solar output is insufficient.

Charging priorities depend on your charger and energy-management settings.

Should a home battery charge your EV?

It can be possible, but compare the losses, costs and energy priorities.



Why it may not help

An EV can use much more energy than a typical home battery stores.

Conversion losses can increase, leaving less energy for your home.

When it may help

Specific tariffs or energy strategies may make it worthwhile.

Check the equipment supports the intended energy flow.

ILLUSTRATIVE ENERGY COMPARISON

EV charging requirement: 30 kWh. Home battery usable energy: 10 kWh. Before losses or household demand, the battery holds only around one-third of the EV charging requirement.

Compare direct solar-to-EV charging with charging via home storage.
Include winter and several consecutive cloudy days in your assessment.

When should you charge?

The cheapest time depends on your electricity plan and household demand.

Daytime solar

If you have spare solar, charging while it is available may avoid buying grid energy. Compare against the export payment you would otherwise receive.

Off-peak grid

Some electricity plans offer lower prices at certain hours. Check the actual rate, any conditions and whether your charger can schedule reliably.

Peak periods

Charging during expensive time-of-use periods can cost more. Smart scheduling may help if it suits your driving needs.

Demand management

Avoid simultaneous high loads where possible. Dynamic charger control can help keep total household demand within electrical limits.

Compare the total household bill, not just the EV rate. A special EV tariff may change other rates, supply charges or eligibility conditions.

Public charging: what will it cost?

Commercial charging prices differ across networks, charger types and locations.

ILLUSTRATIVE PUBLIC CHARGING RATES

Charging type	Typical example	Cost / kWh
AC destination	Slower AC charging	**$0.40–$0.60**
DC fast	Faster DC charging	**$0.50–$0.70**
DC ultra-rapid	High-power DC charging	**$0.60–$0.80**

EXAMPLE: PAYING TO ADD 30 kWh

$0.40/kWh	**$12.00**
$0.60/kWh	**$18.00**
$0.80/kWh	**$24.00**

WHY TWO CHARGERS CAN COST DIFFERENT AMOUNTS

Charging speed and type (AC versus DC), operator pricing, station location, time of day, subscriptions, idle/parking fees and dynamic prices can all matter.

Important: These are illustrative price bands, not verified current tariffs for every operator. A session may also incur connection, parking or idle fees. Check the live charger app or screen before starting a charge.

Everyday EV charging safety

Small habits help prevent electrical and trip hazards.

01 **Use approved equipment**

Follow your vehicle and charger instructions; avoid unapproved plugs, adapters and extension leads.

02 **Inspect cables**

Do not use damaged plugs, cracked insulation or overheating equipment.

03 **Keep connections safe**

Keep connectors clean and follow manufacturer guidance on moisture and weather exposure.

04 **Protect the area**

Position cables to avoid trips, strain and damage from vehicles or doors.

05 **Get faults checked**

Stop using faulty equipment and contact a qualified electrician or the charging operator.

If you notice smoke, burning smells or electrical danger, stop if safe to do so, move away and follow emergency-services guidance.

A practical home-charging checklist

Use this when comparing vehicles, chargers and installer quotes.

- [ ] What is my EV’s maximum AC charging power?
- [ ] How many kilometres do I typically drive each day?
- [ ] How much energy will I need to add on most nights?
- [ ] Can my home safely support the proposed charger power?
- [ ] Do I need single-phase or three-phase charging capability?
- [ ] Will the charger work with my solar inverter and energy system?
- [ ] Can charging pause or reduce power when household demand rises?
- [ ] What is my actual off-peak, peak and solar export tariff?
- [ ] What is the full installed price, including switchboard upgrades?
- [ ] What warranties, support, monitoring and software updates apply?

Get a written electrical assessment and itemised quote. Charging equipment must suit both your vehicle and your property.

Three everyday charging examples

These are fictional scenarios, not promises about a specific vehicle or property.

Apartment resident with no private charger

Check building rules, owners corporation arrangements, fire and electrical requirements, and nearby public charging options. Never run unsafe cables through common areas.

Household with rooftop solar

Compare solar-aware charging during the day with overnight charging. A smart charger can be useful when work-from-home patterns and solar surplus align.

Household with solar, home battery and EV

Set priorities deliberately. You may prefer solar-to-EV first, reserve the stationary battery for evening household use, and charge from the grid when prices are favourable.

Charging terms in plain English

These definitions help you interpret advertisements and charging screens.

AC charging	Alternating-current charging; the car’s onboard charger converts energy for its battery.
DC charging	Direct-current charging; station equipment supplies DC to the car battery.
kW / kWh	Power rate / energy quantity. Do not confuse charger speed with battery size.
State of charge	How full the EV battery is, usually shown as a percentage.
Charging curve	How the vehicle’s charging power changes through a session.
Load management	Adjusting charging power to avoid overloading electrical supply.
Solar surplus	Solar generation remaining after other household electricity use.
Time-of-use tariff	Electricity price that varies according to time or other plan rules.
Connector compatibility	Whether the vehicle and charging equipment can physically and electrically connect.

EV efficiency and battery figures are vehicle-specific. Check the manufacturer’s specifications rather than assuming a charging station can deliver its full rating.

Further reading and editorial notes

Start with official Australian sources and your vehicle manufacturer.

Australian Government energy information

Australian Government EV information

Australian EV charging infrastructure guidance

Australian electrical safety - state/territory regulator

National construction and building information

PLACE NEST EDITORIAL NOTE

Published October 2026. This guide is general educational material for Australian audiences. All prices, ranges, charging times and calculations are illustrative. Check current tariffs, product specifications, site electrical requirements, incentives and safety rules before purchase or installation.

Related PlaceNest Learn topics: Solar • Home batteries • Solar + battery