

# ***ELECTRIC VEHICLE SAFER CHARGING SYSTEM***

Concerned about an electric vehicle battery fire at your EV charging site? We've got all the data and resources you need to understand and reduce your battery fire risk!



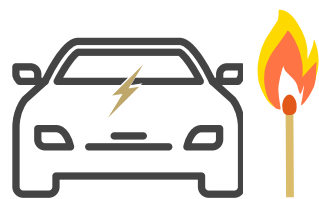
Research at [evfiresafe.com](https://evfiresafe.com)  
Learn at [evfiresafe.training](https://evfiresafe.training)



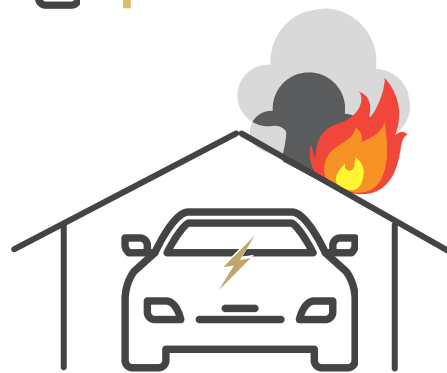
# AUSTRALIA, HOW MANY EV BATTERY FIRES HAVE WE (ACTUALLY) HAD?

Confused or concerned about the number of EV fires showing up on your newsfeed? We've found and studied incidents\* where an EV was in normal, everyday use.

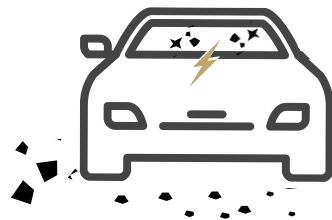
**10**  
EV  
BATTERY  
FIRES  
SINCE  
2021



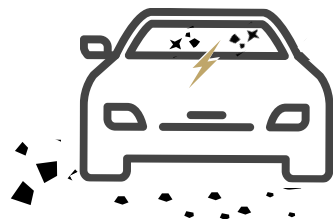
**2** Arson (criminal act)



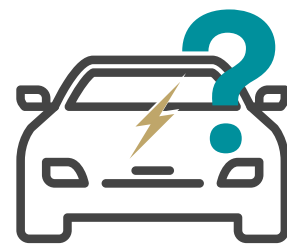
**3** External fire; fire spread to EV from a building



**3** High speed collision



**1** High speed impact with road debris



**1** Unknown cause

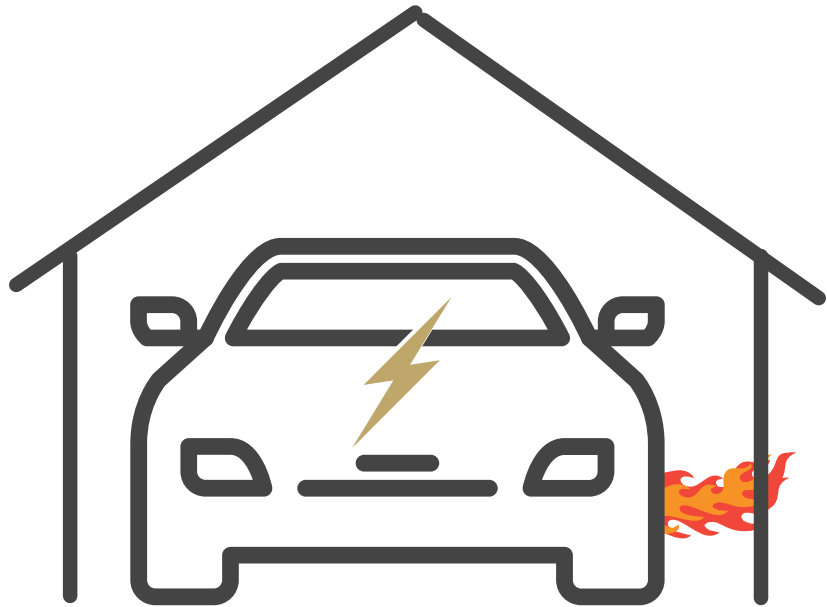


There are more than 300,000 EVs in Australia (Electric Vehicle Council State of EVs 2024 report)

\*Please note, while we attempt to track every incident, our data is not exhaustive.

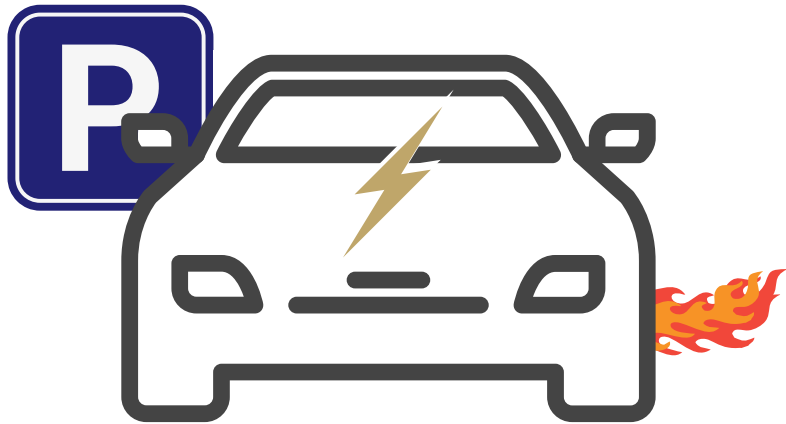


# WHERE DID THEY ALL HAPPEN?



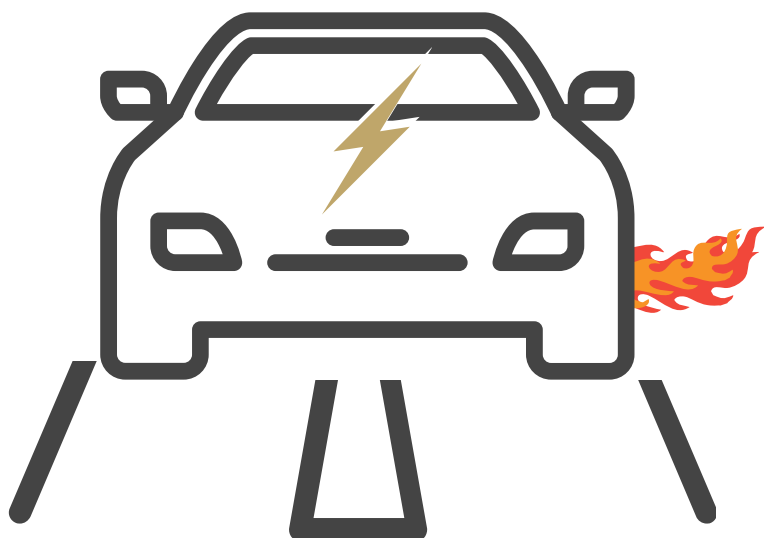
3

Underground / enclosed spaces (all in private home garages)



3

Outside & parked (arson and unknown)



4

Outside & driving (high speed collisions)



# WERE ANY CONNECTED TO CHARGING?

Yes. In one incident the EV was connected to charging, located on a street outside the owner's home. Neighbours called emergency services after noticing 'smoke' inside the vehicle. It was fully charged at the time.

1



## **Charging unit:**

dedicated, electrically compliant AC charger

## **Location:**

Parked on the street outside a private home

## **Injuries:**

Firefighter suffered minor injuries in flashover when vehicle door was opened

## **Cause:**

Is currently unknown, but under investigation

## **Damage:**

No damage to property other than vehicle, which was written off

## **Outcome:**

Connection to charging was coincidental and did not cause the fire





# CAN EV CHARGING CAUSE A BATTERY FIRE?

It's an important point that:



A normally operating electric vehicle...



...connected to an electrically compliant charger...



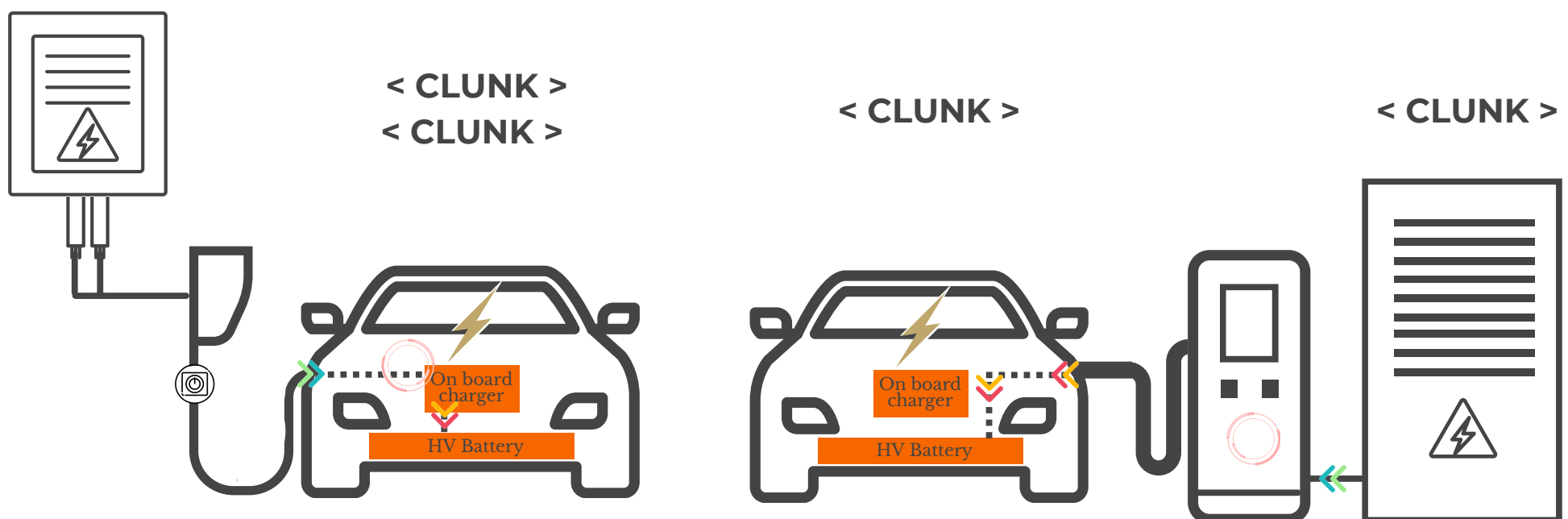
...that is installed to relevant wiring standards...



...by a qualified and experienced person

## **CANNOT cause a battery fire**

*(In Australia, that's an RCM Tick charger, installed to ASNZ3000 App P, by your electrician.)*



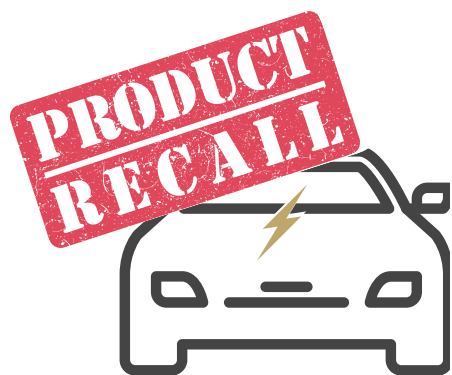
Ever heard a 'clunk' noise when you plug an EV in?

That's the safety systems, checking for pilot proximity, electrical ground faults, over temperature, positive connections, voltage, drive away protection and much more...



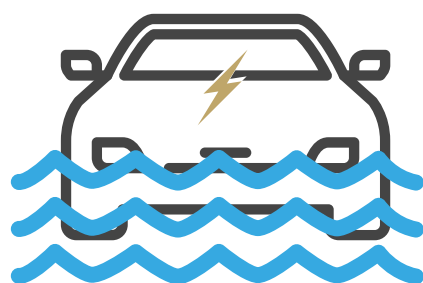
# SO, WHY DO EV FIRES HAPPEN AT CHARGING?

Where it can be identified, charging-connected EV battery fires occur due to:



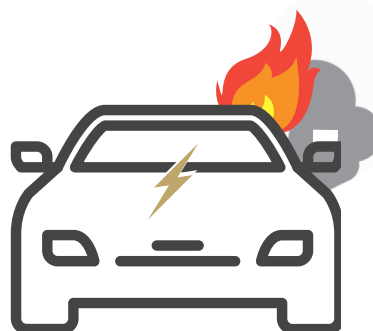
## **A battery fault during manufacture**

- A fault may lead to cell collapse and fire, months or even years after manufacture
- Often the reason for fires with no obvious cause



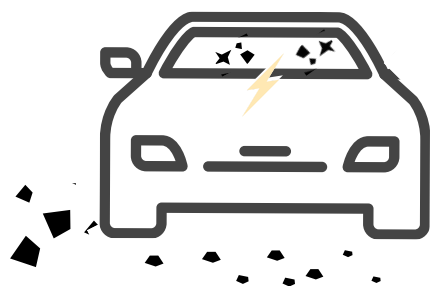
## **Submersion in a body of water, usually salty**

- Could be during a natural disaster like floods or hurricanes where the EV is submerged for days
- Salt water gets into the battery pack and corrodes cells which may lead to fire days or weeks later



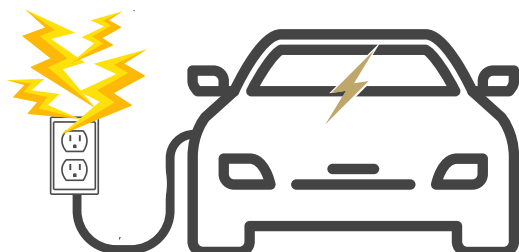
## **External fire spreading to the EV on charge**

- Another fire, like an electrical fire\*, starts near the charging EV and spreads
- Depending on the intensity of the fire, it can involve the battery pack



## **Collision with the charging unit**

- It doesn't often cause a battery fire, but collisions with charging units is one of the leading insurance claims in Australia!



## **\*Poor charging practices**

- Old electrical wiring, underrated extension cords, overloaded power boards...fires have also been caused by using travel adaptor plugs and wiring an EV directly to power lines 🤯 🦴

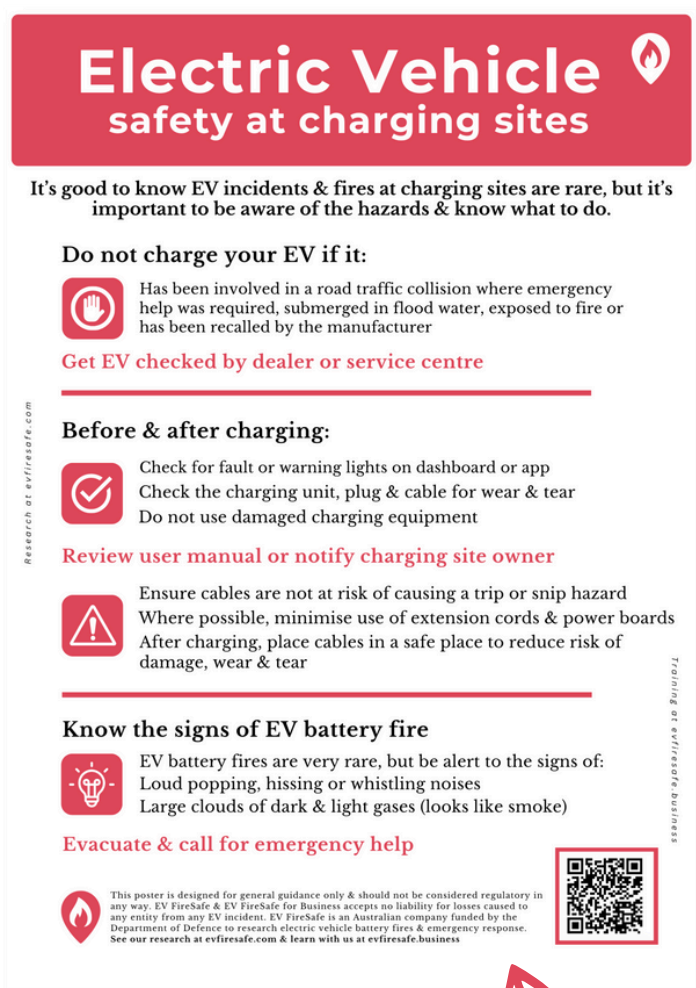


# REDUCING EV FIRE RISK THROUGH SIMPLE STEPS

We have heaps of good information to reduce EV fire risk at charging for everyone, and making your site safer for emergency responders! We call it the...

## EV SAFER CHARGING SYSTEM

1 Download our FREE Safer EV Charging Safety Poster at [evfiresafe.com/ev-charging-fire-risk](https://evfiresafe.com/ev-charging-fire-risk)



It's FREE at our website!

2 For strata, body corp & owners committees, jump to our [EV SCS for APARTMENTS](#)



3 For EV fleet & sites, check out our [EV SCS for FLEET, SUSTAINABILITY & FACILITIES MANAGERS](#)



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# DATA-DRIVEN LEARNING...



STAY UP TO DATE WITH EV FIRESAFE



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## ELECTRIC RESPONDER

BY EV FIRESAFE

EV FIRESAFE'S TRAINING PROGRAM  
FOR EMERGENCY RESPONDERS

