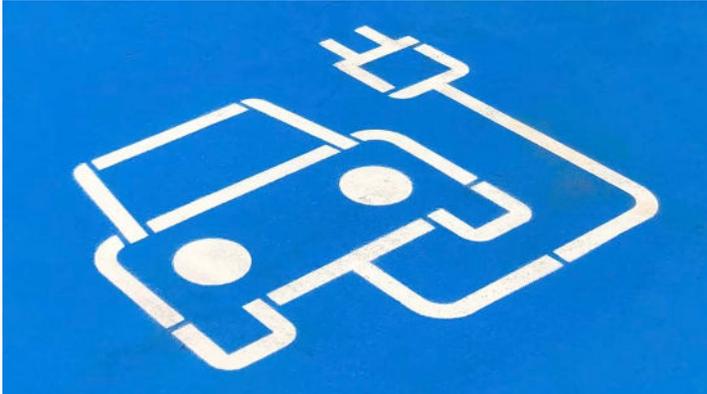


# Expired electric-car batteries to threaten Australian environment from 2030, experts warn

Most electric car manufacturers forecast battery degradation after seven or eight years – which is when Australia will be bracing for a new environmental danger, experts warn.

Joshua Dowling 10:30 02 June 2023



A landmark university study has warned the rapid rollout of electric cars in Australia could become a threat to the environment from 2030 unless urgent action is taken to deal with the mega-tonnes of expired batteries.

In another dent to the environmental credentials of electric cars – when the mining of raw materials, vehicle production, and end-of-life are calculated – the peak body overseeing recycling said Australia is not prepared for the sharp increase in battery-powered cars.

And, the authority warned, there is a high risk of serious environmental harm if certain battery materials end up in landfill.

New research by the University of Technology Sydney – commissioned by the not-for-profit Battery Stewardship Council – has revealed 30,000 tonnes of used electric vehicle batteries will enter the waste stream in Australia by 2030, just seven years from now.

That's when the batteries in new electric cars sold today are estimated to begin losing their effectiveness and will need to be replaced.

Most electric-car manufacturers will only warrant their battery packs for seven or eight years, at which point they are estimated to lose about a third of their storage capacity.



This means the number of electric car battery waste is expected to reach 1.6 million tonnes in Australia by 2050.

For now, electric-vehicle battery recycling is in its infancy locally and many of the broken-down parts need to be stripped here and sent offshore for processing – on diesel-powered cargo ships.

If sent to landfill, the materials from lithium battery packs in electric cars can leach toxic materials into the environment and can also catch fire.

One of Australia's few electric-car battery recyclers, Hamish Lee, who runs the EcoCycle firm on the outskirts of Melbourne, told *ABC Radio*: "These are very big, very powerful lithium batteries. If they're not handled correctly, they can give you a show, that's certainly for sure."



The recycler, who was breaking-down a 450kg battery pack from an electric car during his interview with *ABC Radio*, said the aim was to recycle as much material as possible, but conceded some had to be sent offshore for processing.

"Nothing is really wasted. It's all part of our downstream," he told *ABC Radio*. "Once we ... get our critical metals out, the plastic inside the batteries goes over the fence to (a neighbouring recycler) ... everything has a home, everything is repurposed."

Research commissioned by the Battery Stewardship Council – and conducted by the Institute for Sustainable Futures at the University of Technology Sydney – found:

- There are an estimated 100,000 electric cars already on Australian roads;
- By 2030 it is projected there will be 600,000 tonnes of batteries in electric cars sold in Australia;
- By 2040 this number will grow to more than 2.5 million tonnes of batteries in electric cars sold in Australia;
- By 2050 this number will grow to more than 4.1 million tonnes of batteries in electric cars sold in Australia;
- By 2030 the number of *expired* electric-car batteries will grow to almost 30,000 tonnes per annum and by 2040 to more than 360,000 tonnes per annum;
- By 2050 the volume of *expired* electric-car batteries entering the waste stream will have reached 1.6 million tonnes.



In a media statement, Libby Chaplin, the CEO of the Battery Stewardship Council, which commissioned the report, said electric vehicle batteries "present increasing risks" which the automotive industry and recyclers are "yet to deal with at scale".

"It is essential that this work starts now, while it is in its infancy, to explore and establish the infrastructure needed to recover precious resources and avoid the major property and public health issue of stockpiling and fires into the future," said Ms Chaplin.

In an interview with *ABC Radio*, Ms Chaplin noted: "These batteries are made from finite resources ... everyone involved in the lifecycle of an (electric car) battery works together to make sure it doesn't go to waste."

The automotive and recycling industries say they are still working through the electric vehicle battery stewardship discussion paper. Submissions are due on June 30, 2023, ahead of recommendations to be published by the end of this year.

In a statement to *ABC Radio*, the Department of Climate Change and Energy said the Federal Government is "working with industry to reduce waste from all products, including electric vehicles and their batteries."



Meanwhile, data from the Battery Stewardship Council shows in Australia most expired batteries – from phones, computers and other household items – end up in landfill.

"Our recycling rate for batteries other than used lead-acid batteries is exceedingly low. Only 10 per cent of household batteries are recycled in Australia, well below international best practice," the authority noted in a recent report.

Data compiled by the Battery Stewardship Council shows Switzerland recycles 71 per cent of household batteries – the highest reported rate in the world – whereas Australia recycles 10 per cent, which is significantly lower than the next worst ranked country, Cyprus, at 25 per cent.

However, strict protocols on battery recycling – if mandated – would lead to higher prices for electric cars at a time the industry had been forecasting drastic price reductions.

"Recycling batteries is challenging and expensive because in Australia we have a small population and a very large land mass," a report by the Battery Stewardship Council notes.

Which is why it is "essential to ensure that the cost of recycling is built into the price of the product."