

**Submission  
No 33**

## **ELECTRIC AND HYBRID VEHICLE BATTERIES**

**Organisation:** NSW Environment Protection Authority (EPA)

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# NSW Environment Protection Authority submission

Joint Standing Committee on Road Safety

Electric and hybrid vehicle batteries



# Acknowledgement of Country

The NSW Environment Protection Authority acknowledges the Traditional Custodians of the land on which we live and work, honours the ancestors and the Elders both past and present and extends that respect to all Aboriginal people.

We recognise Aboriginal peoples' spiritual and cultural connection and inherent right to protect the land, waters, skies and natural resources of NSW. This connection goes deep and has since the Dreaming.

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We also acknowledge our Aboriginal and Torres Strait Islander employees who are an integral part of our diverse workforce and recognise the knowledge embedded forever in Aboriginal and Torres Strait Islander custodianship of Country and culture.

# Table of Contents

<b>Joint Standing Committee on Road Safety</b>	<b>i</b>
<b>Electric and hybrid vehicle batteries</b>	<b>i</b>
Introduction	2
Regulatory activity	2
Collaboration with industry and government	2
Supporting safe collection, disposal and the circular economy	3
Community education	3

# Introduction

As the environmental steward and regulator for New South Wales, the Environment Protection Authority (EPA) is committed to a sustainable future.

Batteries will play an important role in achieving net zero emissions for New South Wales. This includes batteries in electric and hybrid vehicles, as well as in many other products. However, the EPA recognises that we need appropriate safeguards in place to protect human health and the environment from potential adverse effects. These safeguards need to apply to the entire lifecycle of a battery through design, manufacture, use, collection, transport, repair, re-use, resource recovery and where necessary, safe disposal.

The EPA is particularly concerned about the risk of fires related to damaged lithium batteries. The EPA is aware of increased reports of fires in waste collection vehicles and at waste transfer stations caused by, or attributed to, lithium batteries. These are not necessarily lithium batteries from electric and hybrid vehicles, with stakeholders reporting many fires from small handheld devices that contain lithium batteries. Lithium batteries are common in a wide range of household consumer products that can find their way into municipal waste streams due to incorrect disposal. Batteries of any kind, and products containing batteries, should not be put in any kerbside council collection bin.

The EPA is actively engaged in ways to reduce the risk of battery-related fires and prevent harm to human health and the environment. We have a role in regulating the transport of dangerous goods in New South Wales (including the transport of lithium batteries) and the storage and management of e-waste. We continue to collaborate with industry to explore ways to mitigate the risk of lithium battery fires. We work with industry and government partners to support product stewardship for batteries, minimising the product's environmental impact through all the stages of its lifecycle. The EPA also conducts public education and awareness programs about the risks of unsafe battery disposal and supports the safe collection and disposal of batteries through the funding of Community Recycling Centres and Household Chemical Cleanout events.

## Regulatory activity

The EPA regulates the transport of dangerous goods under the *Dangerous Goods (Road and Rail Transport) Act 2008* (NSW) and related regulations. Lithium batteries are classified as dangerous goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code). The ADG Code sets out the requirements for transporting lithium batteries. Dangerous goods transport regulations are well harmonised across Australia for a consistent national approach.

The EPA also regulates facilities that undertake waste storage as a scheduled activity under the *Protection of the Environment Operations Act 1997* (NSW). The EPA undertook inspection campaigns in 2021-22 and 2023 at several e-waste facilities and lithium-ion battery storage facilities in metropolitan and regional Sydney. These inspections found high rates of non-compliant packing and storage practices, prompting battery storage facilities to update their battery storage, handling and transport procedures. The EPA has observed that continued regulatory oversight of this sector is needed, as well as support for the development of lithium-ion battery recycling infrastructure.

## Collaboration with industry and government

In December 2023 and February 2024, the NSW EPA brought together industry and government stakeholders for roundtable discussions on the challenges with end-of-life batteries. This included Fire and Rescue NSW, Safework NSW, and NSW Fair Trading. The roundtables highlighted the importance of a comprehensive response, including ongoing community engagement on safe disposal options and the state of onshore battery recycling infrastructure. The EPA continues to work closely with industry and government stakeholders to identify and respond to these issues.

In March 2024, the EPA also established a NSW Government battery fire prevention working group. The first meeting was held on 21 March 2024 and attended by Fire and Rescue NSW, SafeWork NSW, NSW Fair



Trading, and Transport for NSW. The group recognised the need to coordinate the NSW Government's future actions to prevent and minimise the impact of battery-related fires across NSW.

The EPA also continues to engage with its regulatory counterparts in Australia and New Zealand through the Heads of Environment Protection Authorities (HEPA) forum to explore ways to address the regulatory policy challenges in managing lithium batteries. This forum has identified several opportunities to explore in this area, including the opportunity to develop a standardised set of guidance on the safe storage and handling of lithium batteries.

The EPA is also working closely with the voluntary national product stewardship scheme for battery recycling, B-cycle.

## Supporting safe collection, disposal and the circular economy

Hazardous chemicals within a battery can create a fire if the battery gets damaged, such as when compacted in a garbage truck. Batteries contain a range of metals including lead, mercury and lithium which can be hazardous to the environment when disposed of incorrectly. Batteries should not be thrown into household bins because they contain chemicals that contaminate our waste streams, pollute the environment, and can cause catastrophic fires.

The EPA has partnered with Local Councils to collect batteries at all Community Recycling Centres<sup>1</sup> and Household Chemical Cleanout Events. This includes some larger batteries, for example, batteries from electric bikes and scooters, and lead-acid batteries from cars. It does not include embedded batteries or those that are an unusual shape that might not fit into the collection containers. Batteries dropped off at a Community Recycling Centre or Household Chemical Cleanout Event are recommended to have the terminals covered by a non-conductive tape like clear sticky tape.

If a lithium battery is embedded in an electronic product and cannot be easily removed, it is dangerous to try to remove it. Instead, leave it as it is and recycle it through an e-waste recycling facility or e-waste drop-off event. Some Community Recycling Centres will also accept e-waste.

The EPA maintains dedicated webpages on safe battery recycling<sup>2</sup> and Community Recycling Centres<sup>3</sup>.

## Community education

The EPA regularly seeks to educate the community on the risks of batteries and the how to safely dispose of them. In August 2023, the EPA rolled out social media content that warned of the risks of batteries and provided advice for consumers on how to properly dispose of old, unused, or dead batteries. This awareness campaign also included a press conference, media release, television interviews, letters to councils, e-newsletters to five million Service NSW customers and a new designated page on the EPA website with information on safe battery disposal.

## National solution

The EPA's view is that this is a national issue that needs intervention at a Commonwealth level. The issue continues to grow and is most concerning in small consumer goods and micro mobility devices such as e-bikes and e-scooters. The issue will amplify without intervention and presents ongoing significant safety risks for the people of NSW.

Most materials needed to manufacture these devices are imported. Australia needs to control what is imported with robust design standards. Importers of these products need to be responsible for the cost of

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<sup>1</sup> The EPA provides funding for Community Recycling Centres. The Centres are operated by councils and other organisations in partnership with the EPA.

<sup>2</sup> <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/household-recycling-overview/safe-battery-recycling>.

<sup>3</sup> <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/household-recycling-overview/community-recycling-centres>.

their collection and disposal. The EPA recommends that the most sustainable solution is a well-designed mandatory product stewardship scheme that delivers extended producer responsibility (EPR) for these products. It will be the best solution to the growing problem and establish the necessary collection systems, recycling infrastructure and public awareness to ensure safe recycling of batteries as they continue to become more prevalent across society. The Queensland government is currently considering various EPR options for national environment ministers to discuss later in 2024.