

Electrical safety requirements for lithium-ion battery powered e-transport devices

Summary of submissions, January 2026

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1 Summary

Energy Safe Victoria consulted on a proposal to declare lithium-ion battery powered e-transport devices – such as e-bikes, e-scooters, and e-skateboards – as “controlled electrical equipment” under section 55 of the *Electricity Safety Act 1998 (Act)*. Controlled electrical equipment must be certified to electrical safety standards and marked accordingly before it can be supplied in Victoria.

Consultation was undertaken through a public consultation paper and an associated survey, complemented by two webinars that provided information to stakeholders during the consultation period. In total, we received 208 survey responses and 22 written submissions. Respondents included suppliers, retailers, manufacturers, emergency services, government agencies, industry bodies and community members, with the strongest engagement coming from stakeholders involved in the e-bike market.

Consultation feedback showed broad agreement that lithium-ion battery powered e-transport devices present increasing electrical safety risks, particularly in relation to battery fires. There was strong support for regulatory action to improve safety assurance, including certification and marking requirements on e-transport devices.

Stakeholders consistently emphasised the importance of national consistency, proportionality and regulatory clarity. Many submitters expressed a preference for a nationally harmonised approach and recognition of international standards, while acknowledging the need to address immediate safety risks.

This paper provides detail on who participated in the consultation and the feedback received, which will inform Energy Safe’s next steps. We are further considering whether certain lithium-ion battery powered e-transport devices should be declared controlled electrical equipment. Our further assessment will take into account stakeholder feedback, evidence of safety risks, alignment with national and interstate frameworks, and the potential impacts on consumers and industry.

2 Consultation feedback

Energy Safe's role under the Act is to ensure the safety of electrical equipment supplied and used in Victoria. One regulatory tool available under section 55 of the Act is the power to declare certain classes of electrical equipment to be "controlled electrical equipment", which requires products to meet prescribed safety requirements, including certification and marking.

In August 2025, Energy Safe published a consultation paper outlining a proposal to declare certain lithium-ion battery powered e-transport devices as controlled electrical equipment under section 55 of the Act. The proposal was intended to improve safety outcomes by strengthening pre-market assurance and minimising the availability of unsafe devices.

The purpose of the consultation process was to hear from manufacturers, suppliers, retailers, transport and safety experts, local government, community and the public on the proposal to declare e-transport devices as controlled electrical equipment. All stakeholders were encouraged to provide feedback in an online survey, or through the contact details supplied.

How we consulted

The consultation period ran from 28 August to 13 October 2025 and included:

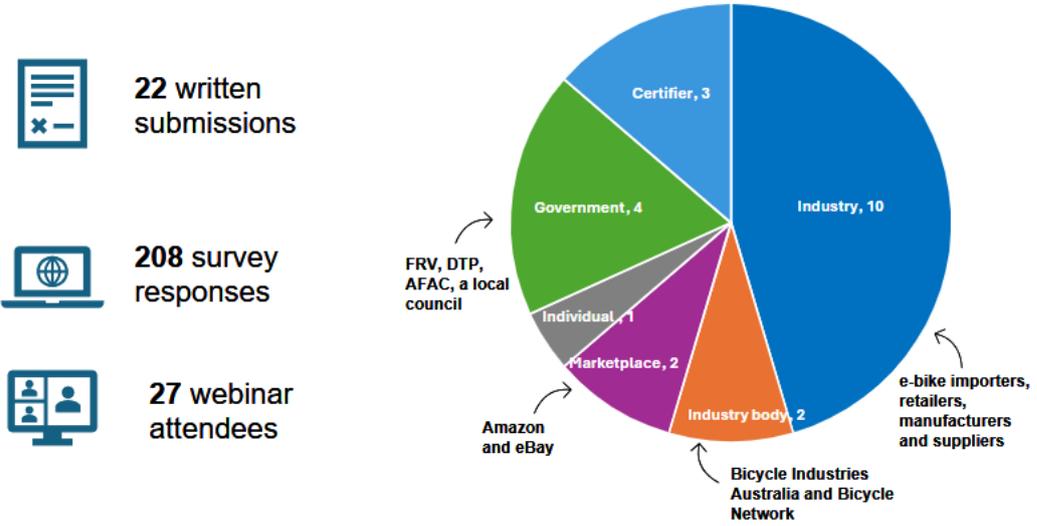
- a published consultation paper on Energy Safe's website
- an opportunity to provide formal feedback in writing to Energy Safe (consultation@energysafe.vic.gov.au)
- an online survey
- two stakeholder webinar events.

Through consultation, our aim was to understand industry, community and expert perspectives on improving electrical safety for e-transport devices, given the growing number of incidents involving fire events. By consulting widely, we welcomed stakeholder views on current risks, the practicality of the proposal, and impacts on e-transport users and the industry.

Who we heard from

We received 208 survey responses, 22 written submissions, and hosted two webinars attended by 27 participants. Respondents included suppliers, retailers, manufacturers, emergency services, government agencies, industry bodies and members of the community. Engagement was strongest from stakeholders in the e-bike sector.

Figure 1: Overview of submissions



The table below lists the organisations and individuals who provided written feedback during the consultation period.

Table 1: Stakeholders who made written submissions

Stakeholder type	Submitter
Industry - E-bike importers, retailers and manufacturers	Ocycle
	The Electric Bicycle Co
	Tribe Bikes
	Cargocycles
	Lug and Carrie
	Leitner Electric Bikes Australia
	Sheppard Cycles Australia
	REV Bikes
	Bosch Australia
Certification and testing bodies	SAA Approvals
	UL Solutions
	Certification Body Australia
Government and emergency services	Fire Rescue Victoria
	Australasian Fire and Emergency Service Authorities Council
	Department of Transport and Planning (Victoria)
	Hume City Council (Victoria)
Membership and industry organisations	Bicycle Industries Australia
	Bicycle Network
Online marketplaces	Amazon Australia

	eBay Australia & New Zealand
Consultancies and individuals	Zipidi
	Individual submitter (Victoria)

Key themes from submissions

We have identified the following five themes across the written submissions. All submissions have been published on Energy Safe Victoria's website www.energysafe.vic.gov.au/consultations

Theme 1 – Consensus on the need for action to address battery fire risks

There was strong consensus that lithium-ion battery powered e-transport devices present increasing electrical safety risks, particularly risk of fires during charging, storage and use.

Emergency services, local government and government agencies highlighted the severity and frequency of incidents and the risks posed to building occupants, property and first responders.

"Fires involving lithium-ion batteries have been found to be four times more likely to result in injury than other fires" - Government and emergency services

Industry and membership organisations generally accepted that regulatory action is necessary to improve product safety and reduce unsafe devices in the market. Several submitters noted that addressing product safety at the source is preferable to downstream responses such as usage restrictions or bans.

"We support Energy Safe's objective to ensure that e-transport devices are certified to safety standards and clearly marked before they can be sold in Victoria. We are also supportive of regulatory changes that would recognise trusted overseas product safety standards as suitable standards to which products being sold in Australia may comply." – Online marketplace

Theme 2 – Strong preference for national consistency and harmonisation

A dominant theme was strong concern about different regulatory obligations across states, with a clear preference for nationally consistent requirements.

Many submitters argued that Victoria-specific requirements would increase compliance costs, complicate supply chains and disadvantage suppliers operating across multiple jurisdictions. New South Wales was frequently cited as a benchmark, with stakeholders noting the substantial costs already incurred to meet its requirements.

Several submitters said that national or Commonwealth-led approaches, including import controls, would be more effective in addressing unsafe products entering the Australian market.

"We should be aiming at a regulatory system that is unified from importation and vehicle classification at the Federal level, to electrical regulation, state and federal, to consumer regulation, and to vehicle and road rules by the states" – Australian not-for-profit cycling organization.

Theme 3 – Concerns about the cost of certification

Submitters also raised concerns about the cost and complexity of certification, particularly if additional, Victoria-specific certification testing was required.

Importers and retailers highlighted the financial burden of testing, certification and staff time, and warned that increased costs could reduce product availability, increase prices and force some suppliers from the market.

Submitters emphasised that recognising existing certification testing would be critical to managing costs and minimising unintended impacts.

"New South Wales has already established the most stringent regulations in Australia, and creating separate standards across states will significantly increase compliance costs for suppliers and manufacturers" – Australian E-bike supplier

Theme 4 – Support for recognising international standards

Closely linked to cost concerns, many stakeholders supported the recognition of international safety standards, including EN (European), IEC (International) and UL (United States) standards, as acceptable evidence of certification compliance.

Submitters argued that these standards are widely used for certification, regularly updated and aligned with global best practice, particularly in relation to battery safety. Recognition of international standards was seen as a way to reduce duplication, lower costs and improve safety outcomes.

Some submitters also raised concerns that reliance on outdated or narrowly scoped standards could undermine safety objectives.

"We believe prior to any declaration being made on e-transport device...enable international electrical safety standards - including IEC, EN, and UL standards - to be recognised where these provide equivalent or higher safety outcomes" – Online marketplace company

Theme 5 – Definitions, scope and transition timeframes

A number of submissions raised concerns about the proposed definitions and scope, particularly for e-bikes.

Some stakeholders supported a single, clear definition aligned with national or road safety frameworks to reduce confusion for suppliers and consumers. Others highlighted the need to clearly distinguish between different device types, such as pedal-assist e-bikes, throttle-controlled devices and higher-powered vehicles.

Some submitters also emphasised that transition timeframes should reflect whether existing certifications are recognised, with time allowances provided to clear existing stock if required.

"The timing of any new requirements corresponds to the standards adopted." – Industry retailer

What the survey responses told us

The survey included both multiple-choice and open-ended questions, giving respondents the chance to provide detailed feedback.

Survey respondents were predominantly device users and prospective purchasers. Around 75 per cent of respondents indicated that they either own an e-transport device (approximately 59 per cent) or are considering purchasing one (around 16 per cent).

A smaller proportion of respondents identified as suppliers or importers (around 9 per cent combined), while others participated due to a professional or community interest in transport or safety. A small number of respondents identified other interests, including general road users or members of the public.

Most respondents were based in Victoria, with 22 participants responding from interstate or overseas.

At a high level, the survey results show strong support for action to address electrical safety risks, particularly through certification and marking requirements. Key figures include:

- 81% agree action is needed to address battery fire risks
- 86% support certification and marking
- 63% would pay more for certified devices
- 93% are aware of fire risks from unsafe charging

These findings indicate broad community and industry backing for improved safety assurance. More detail on the survey results is provided below.

Need for action on electrical safety

Q1: Do you agree something needs to be done to improve the electrical safety of e-transport devices? Why did you answer that way?

Most respondents agreed that something needs to be done to improve the electrical safety of e-transport devices. Around 81% supported additional measures, with comments often highlighting concerns about battery fires, electrical faults and unsafe charging practices. A smaller number felt current requirements were sufficient or were unsure, usually due to limited awareness of existing regulations.

Certification and marking requirements

Q2: Do you think suppliers of e-transport devices should certify and mark the device to indicate it complies with safety standards? Why did you answer that way?

There was strong support for requiring suppliers of e-transport devices to certify and mark the e-transport devices to indicate they comply with safety standards.

About 86% of respondents supported this, noting that visible marking would help consumers identify safer products and increase confidence that devices have been properly tested. Those who disagreed generally assumed existing requirements already apply or felt certification would not influence their purchasing decisions.

Impact on purchasing decisions

Q3: If you are thinking about purchasing an e-transport device, would knowing the product was safety certified inform your purchasing decision? Why did you answer that way?

Around 83% of respondents said certification would influence their choice when buying an e-transport device, mainly because it would provide assurance that the product is safe to use at home. A smaller group said certification would not affect their decision, citing price, performance or brand as higher priorities.

Willingness to pay more for safety

Q4: Would you be willing to spend more on an e-transport device if it was safety certified? Why did you answer that way?

A majority of respondents indicated they would pay more for a certified device. About 63% said improved safety justified a higher price, while 25% were not willing to pay extra and 12% were unsure, often referencing affordability concerns or the view that safety should be a baseline requirement.

Awareness of existing requirements

Q5: Did you know that e-transport chargers should already display the Regulatory Compliance Mark (RCM)? Why did you answer that way?

Awareness of current rules was mixed. Only 39% of respondents knew that chargers must display the Regulatory Compliance Mark (RCM), while 58% were unaware. Comments suggested that inconsistent labelling and limited visibility contribute to low consumer awareness.

Understanding of fire risks

Q6: Did you know that overcharging e-transport devices or using incompatible chargers can create risk of fire? Why did you answer that way?

Awareness of fire risks was very high. About 93% of respondents recognised that overcharging or using incompatible chargers can cause fires, with comments referring to battery overheating, poor-quality chargers and media reports of incidents. A small number were unaware or unsure, often assuming built-in protections would prevent unsafe charging.

Industry participation and compliance

Q7: Do you supply or sell e-transport devices in Victoria? What type of devices do/might you supply? Approximately how many e-transport devices do you supply/sell in Victoria each year?

Around 46% of respondents said they supply or sell e-transport devices in Victoria. Among these:

- E-scooters were most common (78%)
- E-bikes were also popular (64%)
- Smaller proportions sold chargers and power supplies (41%) or batteries (33%)
- Some focused on servicing and repairs rather than supplying complete devices

Few provided annual sales estimates, but those who did reported between 50 and 500 devices per year, with one supplier reporting around 5,000 devices, and another indicating that they supplied around half of the e-transport devices sold in Victoria.

Q8: If you are a retailer or importer, do you find it difficult to ascertain if an e-transport device currently complies with safety standards? Why did you answer that way?

Retailers and importers generally said it was not difficult to determine if a device complies with safety standards – around 90% said it was straightforward, while 10% cited challenges, often due to unclear Australian requirements or reliance on overseas standards.