

## Action Plan for Government:

# Safeguarding e-bikes by stopping the fires

May 2025

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## Summary

The Bicycle Association understands from fire and rescue services, and the recent OPSS/WMG report that the recent rise in tragic e-bike battery fires is:

- caused principally by unsafe or incompatible products (e-bikes, batteries, chargers and e-bike conversion kits) which are sold direct to consumers from overseas suppliers, often via online marketplaces.
- and that demand for these high risk products is driven very largely by riders in the 'gig economy'.

In contrast, e-bikes from reputable UK brands and retailers are generally very safe.

We urge Government to adopt the following measures ASAP to meaningfully address the issue of e-bike fires and its underlying causes.

1. **Resource increased enforcement of current regulations**
2. **Address high risk imports, especially via online marketplaces**
3. **Address 'gig economy' structures, responsibilities and incentives**
4. **Close legal loopholes for non-legal and de-restricted e-bikes and kits**
5. **Strengthen battery-specific regulations**
6. **Educate the public about responsible purchase and use**

Until these measures take full effect the Government (all departments) is also urged to help safeguard the legitimate e-bike sector by:

1. **Consulting** the responsible e-bike industry at the earliest possible stage before any interventions are finalised
2. Ensure that all official communications strongly emphasise **the difference between safe and legal e-bikes, and non-legal products often incorrectly described as e-bikes.**
3. Work, not least by supporting the industry initiatives detailed below, towards **ensuring that any access or usage restrictions are applied only to unsafe e-bikes**, and ensuring that wherever possible **a national approach** is taken (rather than a patchwork of local decision-making)

The UK cycle industry is already taking action to help consumers and other stakeholders (including premises managers and transport operators) recognise reputable, safe e-bikes as opposed to high risk products. These actions include:

1. Establishing the voluntary **"BA register of safety-audited e-bike brands"** to highlight to consumers brands whose safety-related policies and quality processes have been independently audited
2. Establishing the **"E-bike Positive Responsible Retailer Pledge"** to identify shops committed to supplying only safe, legal e-bikes, safe spare batteries and chargers, and delivering safe repairs.
3. Publishing **accessible guidance** to help consumers buy safe and charge safe – and to distinguish between very safe, legal and reputable products and higher risk devices.
4. Engaging actively with **key stakeholders** including Government, strategic and local transport authorities, public transport operators and organisations, the insurance and underwriter industries, international standards development bodies, fire and rescue services, safety charities and more.

## Background and identification of high risk products and user groups

Rising numbers of fires, and tragically injuries and fatalities as a result, have been reported by fire and rescue services as involving the lithium-ion batteries widely used in e-bikes and e-scooters. There is clearly a safety issue which regulators must address effectively and with urgency.

It is now clear that **a relatively small number of high risk products and users cause the vast majority of these fires.**

In contrast, the overwhelming majority of products and customers of the reputable e-bike industry continue to be of very low risk and have a generally excellent safety record.

- **High risk products include:** e-bikes, batteries, chargers and 'e-bike conversion kits' obtained via online marketplaces, usually sent direct to consumers from overseas sellers. Battery packs which have undergone unauthorised repair or cell replacement will also be at high risk.
- **High risk users include:** riders for app-based food delivery platforms, unqualified people fitting or repairing e-bike conversion kits or battery packs, anyone tampering with or de-restricting e-bikes for more power or speed.
- **Low risk products** are generally from reputable e-bike brands, supplied by UK retailers, and used normally in accordance with the instructions.

Any regulatory response **must** be certain to effectively address these high risk products and users if fire risk is to be substantially reduced.

If on the other hand new regulations are introduced which are complied with only by reputable UK suppliers and users, it is unlikely that fire risk will in fact be very much reduced, if at all, potentially at great cost to the reputable UK suppliers who were never a significant part of the problem. In turn this will poorly serve users (who would face higher costs and restriction of choice) and the wider public interest, which benefits from a flourishing e-bike sector to help meet economic, health and environmental targets.

Please note that while in this document we restrict our comments to e-bikes (as these fall directly within our remit as the Bicycle Association) many aspects will also apply to e-scooters, other similar forms of transport and their batteries.

## About the Bicycle Association

The Bicycle Association (BA) is the UK's cycle industry trade association, with ca 140 member companies and an associated network of over 1000 retailers. Members include manufacturers, distributors, retailers and service providers. The majority of members are involved, in their different roles, with the supply of safe, legal e-bikes.

BA members must commit to a Code of Practice when joining the Association, which includes commitment to compliance with every aspect of product safety regulations. The BA provides extensive support and guidance on product (and especially e-bike battery) safety for members.

Suppliers of non-legal e-bikes are not eligible to join the BA, and this also applies to suppliers of e-bike conversion kits, pending OPSS advice on the legality of such conversions.

## E-bike fire safety proposals from the Bicycle Association

The Bicycle Association, as the national cycle industry trade association, has engaged closely and proactively with the UK's product safety regulator, the Office for Product Safety and Standards (OPSS), on the issue of e-bike fire safety. OPSS [has undertaken research on this issue](#) and has also (January 2025) provided [an overview of its regulatory responses](#), including work on the upcoming Product Regulation and Metrology Bill, which will provide them in future with additional powers to regulate.

While we welcome, participate in and fully support this work from OPSS, and endorse and welcome the findings of the research commissioned by OPSS from WMG into battery safety<sup>1</sup>, we consider that further actions which go beyond the direct remit of OPSS are also essential to address this fire issue.

Below we advance a regulatory approach which we believe is evidence-based, proportionate and likely to be effective in reducing fire risk in the micromobility sector. This will also safeguard the economic growth potential of e-bikes and their transport decarbonisation benefits.

In many areas [these policy proposals require cross-Government support](#), with responsible Departments including but not limited to DfT (inc. DVSA), DBT (inc. OPSS), DEFRA, Home Office, HMRC and DIT.

Below we detail our urgent requests of Government, and also outline the industry actions and initiatives already underway to ensure that consumers are enabled to choose only safe and legal e-bikes from responsible suppliers.

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<sup>1</sup> <https://www.gov.uk/government/publications/personal-light-electric-vehicle-plev-battery-safety-research>

## Requests of Government:

### Resource increased enforcement of current regulations

There are already demanding regulations for e-bike and battery product safety, and limits on motor speed and power for legal use. The mainstream e-bike industry overwhelmingly complies with these regulations and fully supports rigorous enforcement against anyone who does not. So:

- **Resource and significantly increase checks by Trading Standards** on compliance of new e-bikes with existing product safety regulations under the UKCA/CE marking framework. Use an intelligence led approach to target high risk UK sellers, repairers and fitters of conversion kits and vehicles used for food delivery in the gig economy (see next section for more detail on how to address online marketplace and other direct sales from overseas).
- **Resource and significantly increase enforcement of the EAPC regulations by police and DVSA** (so that de-restricted or non-EAPC e-bikes are taken off the streets). High profile police enforcement helps disincentivise the use of high fire risk products by e.g. delivery riders, and DVSA enforcement of type approval regulations (targeting suppliers) sends a clear message that irresponsible sale of non-EAPC vehicles (often also high fire risk) is unacceptable.
  - a. The industry and public is encouraged to report sellers of non-EAPC “e-bikes” (unregistered e-motorbikes) to DVSA, so that if knowingly sold for road use the seller can be prosecuted for type approval offences. However the suggested reporting mechanism is not fit for purpose – it is via [the general DVSA reporting page](#), where no mention is made of EAPCs, and the team who triage those emails frequently misdirect such reports (from the BA’s direct experience when reporting sellers). **Therefore we strongly urge DfT to establish a separate web page and email for the public to report non-legal e-bike sellers, so that these reports go directly to the DVSA team enforcing the existing type approval regulations.** We also suggest that this intelligence is shared, where appropriate, with police and Trading Standards teams. It may also be sensible to combine this reporting portal with a reporting portal for e-bike fire incidents, as recommended by WMG in their report for OPSS.

**We understand that enforcement is already being undertaken within available resources, but that these are limited, and that even with further resourcing and improvements, realistically these measures are unlikely to achieve very significant further change in isolation, not least because so many unsafe products arrive direct to users from overseas, not via UK sellers.**

#### Address high risk imports, especially via online marketplaces

Very many of the highest risk products arrive with consumers direct from overseas, having often (but not always) been ordered via online marketplaces – completely bypassing the reputable UK cycle industry.

This is an issue which goes well beyond e-bikes and is a well known problem for regulators. The BA supports, for example, the measures proposed to address online marketplace responsibilities by the Chartered Institute of Trading Standards<sup>2</sup> and the charity Electrical Safety First.

We are also closely following the progress of the Product Regulation and Metrology (PRAM) Bill, currently (May 2025) at Committee stage in the Commons.

As legislation is finalised, in addition to the positions endorsed above we consider that necessary actions include:

- 1) Make online marketplaces who have a UK presence **directly liable** in the case of product compliance or safety failures such as a battery fire, with practical mechanisms via which consumers or those affected by product failures can effectively seek redress. This would create a level playing field with responsible UK suppliers, who are already directly liable for product safety. **We are concerned that the PRAM Bill currently excludes consideration of liability issues, on the basis that such matters will be covered in other legislation which the Government hopes to review only by the end of 2026<sup>3</sup>. We consider liability intrinsic to proper regulation of online marketplaces, and to enable the robust framework outlined below, and to create a level playing field for responsible UK businesses.**
- 2) One mechanism to achieve this would be to create **a register of online marketplaces** with a UK presence which take on direct liability for product safety and publicise it widely, along with strong advice not to buy from other online marketplaces.
  - i. Then consider making it a civil offence e.g. to purchase a lithium battery above 100 Wh capacity (or a product containing one) direct from an online marketplace not on this register
  - ii. Set up mechanisms to ensure that packages posted to UK consumers via online marketplaces not on the UK register are subject to enhanced Customs checks or are simply blocked.
- 3) Also, to directly stop unsafe imports:
  - a) Further resource enhanced checks at the border, targeting parcels or shipments likely to contain unsafe batteries or products. We understand this approach is already being undertaken within available resources, but that these are limited, and that the scale of imports (millions of parcels per day) makes it very difficult to enforce consistently.
  - b) Engage with transport regulators e.g. IATA and the shipping/logistics industry to tighten checks on packages to ensure that high risk lithium batteries are not shipped without proper safeguards by being mis-labelled or falsely declared as other goods.

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<sup>2</sup> <https://www.tradingstandards.uk/news-policy-campaigns/campaigns/mind-the-gap-between-the-chain-and-the-platform/>

<sup>3</sup> See Lords Hansard [here \(at 5:30pm\)](#) and [here \(at 6:30pm\)](#) for comments from Lord Leong, stating that liability aspects will be covered in a review of the Consumer Protection Act 1987, expecting this work to complete by the end of 2026.

- c) Accelerate the recently announced review<sup>4</sup> around closing the *de minimis* 'loophole' – widely used by low value online marketplace shipments to evade Customs scrutiny and charges – per e.g. this briefing<sup>5</sup>. As this would inevitably raise the costs of (even unsafe) products obtained from online marketplaces, these should become less attractive to consumers. Also, the enhanced Customs scrutiny for low value parcels which is implied in eliminating the *de minimis* provision should improve border controls against unsafe battery products.

We understand that it is a very challenging issue to stop all unsafe products arriving in parcels via the online marketplaces, and that our proposals at (1) and (2) above go well beyond current political intentions (as we believe is necessary for them to be truly effective).

So while truly effective action to address SUPPLY of unsafe products is likely to remain an aspiration for some time, we consider it vital to also address DEMAND, as follows:

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<sup>4</sup> <https://www.gov.uk/government/news/chancellor-unveils-plans-to-maintain-level-playing-field-for-british-business>

<sup>5</sup> <https://epc.eu/en/Publications/The-e-commerce-challenge-Is-importing-low-value-consignments-going-to-63e250>



## Address demand from 'gig economy' structures, responsibilities and incentives

It seems increasingly clear that the current issue around e-bike battery fires is very largely driven by the use of unsafe products in the 'gig economy' food delivery sector. This is, we understand, a key driver of DEMAND for unsafe e-bike products<sup>6</sup>.

To be able to compete for jobs and make a living, delivery riders are strongly incentivised to procure at the lowest possible cost usually non-legal, usually unsafe e-bike conversion kits (and/or batteries, chargers and parts of uncertain compatibility), almost always direct from overseas sellers via online marketplaces (and with no involvement whatsoever of reputable UK e-bike suppliers).

The current 'gig economy' business model classes riders as self-employed contractors, rather than employees.

- This effectively absolves delivery app operators of any employer responsibility for providing safe and legal equipment or vehicles for the riders who deliver their services – or adequate rider training.
- The principle of “substitutability” further undermines any operator oversight of the vehicles used to make these deliveries, or rider training. A rider with a deliverer account on the app can, with very little oversight, allow another person to make the deliveries instead. While some operators claim<sup>7</sup> to conduct checks on substitute riders (mainly to satisfy “right to work” check obligations) we are not aware of any independent evidence that these checks are effective in reality.
- Some delivery operators also put in place ‘checks’ to ensure that riders who claim to deliver using an e-bike are doing so on a road legal vehicle. But we understand that these measures are almost completely ineffectual – for example one operator requires a photo of a legal bike or e-bike when setting up the account. But this can be any photo of a legal bike or e-bike – there is no check that it is the vehicle that is actually used to make the deliveries.
- Some delivery operators have co-operated with fire services, regulators and/or transport authorities (e.g. in signing up to Transport for Greater Manchester’s Food Delivery Charter<sup>8</sup>). While welcome, we view such engagement as an effort on their part towards avoiding more effective regulation, and also to frame the fires and vehicle safety issues involved in the delivery of their services as purely a rider responsibility. It seems unlikely to us that any of these moves will have any real impact on the use of illegal and unsafe e-bikes, or fire safety.

This has a number of consequences, both for the public realm and in terms of the reputational damage their use of “e-bikes” causes to the legitimate e-bike sector.

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<sup>6</sup> Pending further data, the evidence base for this assertion is limited to direct observations (clearly unsafe, DIY e-bikes are very visibly used for food deliveries on the streets of every major UK city) and off the record evaluations from fire and rescue services. But it is compatible with the formal data we do have. We understand research is underway, commissioned by ESF from UCL, which may help to quantify the proportion of fires with links to the food delivery sector, and to quantify the prevalence of non-legal e-bike use, but that data gathering for this is very difficult (especially given the destructive nature of fires, and the marginal status of many riders, who may be unwilling to participate if, for example, their immigration status is not in order). We have also suggested that fire incident data be mapped geographically against socio-economic indicators and/or accommodation types which correlate with gig economy delivery worker residents, but as yet the data is too incomplete for this to deliver useful evidence. **Government should urgently consider funding further research in this area.**

<sup>7</sup> <https://www.gov.uk/government/news/crackdown-on-illegal-working-and-rogue-employers-in-gig-economy>

<sup>8</sup> <https://news.tfgm.com/press-releases/3135c14b-c6c3-45c8-b939-3339fd13607d/uk-s-biggest-food-delivery-companies-sign-new-charter-to-help-make-greater-manchester-roads-safer>



- Very visibly “e-bikes” are being used in public, seemingly with impunity and in association with nationally recognised food delivery brands, despite clearly going faster than a road legal e-bike should, and often without the rider pedalling (almost always not legal either).
  - This undermines public understanding of the rules around legitimate road legal e-bikes (EAPCs)
  - It also undermines the road legal e-moped and e-motorbike sector. If a vehicle is needed which goes faster than an EAPC, the moped category exists with well proven safety requirements for vehicle and rider.
  - There are significant road safety risks arising from the use of such vehicles.
- Riders (or substitute riders) are often not adequately trained to ride safely and legally. They are also incentivised to ride as fast as possible, as they are paid per delivery.
  - Unsafe or inconsiderate riding by delivery riders is commonplace. We understand that this issue features heavily in correspondence to Members of Parliament and is frequently flagged in local media. Inevitably these reports refer to “e-bike riders” ensuring that reputational damage attaches to the entire sector.
  - Road safety risks are increased – both for the riders themselves and for other road users.
- The fires mainly due to unsafe e-bikes, kits and batteries used in food delivery have driven damaging consequences for the entire legitimate e-bike sector, for example:
  - TfL’s recent restrictions on carriage of non-folding e-bikes, due to a gig economy delivery e-bike catching fire on a station platform, and the likelihood of similar actions by other public transport operators.
  - Widespread restrictions on e-bike access and parking in commercial and public premises, driven by insurer concerns.
  - Difficulties in obtaining insurance for e-bike owners, retailers, distributors and e.g. cycle logistics fleet operators.
  - Damaging by association the legitimate e-bike sector, so that consumers are deterred from taking up this healthy, enjoyable and clean form of transport
  - This in turn puts at risk the vital role of e-bikes in contributing to the decarbonisation of transport, and to congestion reduction in cities.

### *Routes to reform of the gig economy*

The BA proposes a number of routes to address this issue, recognising that the gig economy food delivery operators are likely to deploy considerable legal and political resources to frustrate any effort to change their business model, especially the “self-employed contractor” status of riders, which we understand they see as existential for their profitability.

Nonetheless, the public interest is, we believe, best served by these companies taking clear responsibility for the legality and safety of the vehicles on which their services are delivered.

We see five main routes to achieve this:

1. **Employment rights (Single Worker Status):** We understand the Government intends to consult on “Single worker status” – a concept which would, we understand, impose employer duties on gig economy operators.

This would, we understand, mean that the app operators would have a clear duty to ensure the health and safety of riders, not least in addressing road risks (see (5) below). This would clearly include ensuring that the vehicles used are road legal and safe.

However we are concerned that no firm timescale is established for this consultation, let alone for legislation.

We note that meanwhile [the EU's "Platform Work Directive"](#) which aims to address similar issues has been published, for implementation by member states by October 2026. We urge the Government to accelerate legislation in this area.

2. **Operator licensing:** The BA participated in the recent DfT consultation<sup>9</sup> on the "Regulation of on-street micromobility", in which a licensing scheme (run by local authorities or strategic transport authorities) was proposed for operators of dockless hire cycles and e-cycles. We propose extending such a scheme to ALL commercial operations using cycles on the public highway, including those using cycles for food delivery.

Our proposal is that food delivery app operators would (alongside rental bike operators) be required to be licensed to operate in each area, based on a national licensing framework with the potential for limited local adaptation.

The conditions of this license would include a requirement that riders delivering services for that operator use only identifiable, safe and road legal vehicles, and meet proper standards of training and behaviour.

If operators failed to meet these licensing conditions (for example through lax controls on substitute riders, or failing to conduct proper, regular vehicle checks) a range of penalties would be available to the licensing authority, up to and including withdrawal of a license to operate in that area.

This proposal does not require the "self-employed contractor" status of riders to be challenged directly, although the operational controls which operators would need to introduce to meet reasonable licensing requirements might make this status increasingly difficult for them to sustain legally.

It also does not very directly address fire safety of vehicles, although this would be a natural consequence of the license conditions. The proposed requirement that the vehicles be identifiable e.g. by a distinctive design specific to the operator, and/or by a vehicle ID which is traceable to the rider and operator, would also ensure that any failures in fire or road safety (or in e.g. rider behaviour) can be directly linked to the responsible operator, so that they can be held accountable against the license conditions.

As many riders (and substitutes) often work for multiple operators, arrangements could be made to standardise the rider ID system so that it can work cross-operator. A further option would be for operators to collectively fund a pool of distinctively designed (and number-plated) safe and legal delivery bikes which riders could use for deliveries when working for

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<sup>9</sup> <https://www.smartsurvey.co.uk/s/JFI3T7/>

any operator.

- 3. Mandatory use of recognisable public hire bikes:** Another potentially attractive option would be for the license to require that all deliveries by electric cycle must be made on a hire e-bike from a licensed public rental bike operator. This would have a number of advantages as a “quick fix” solution:
- The hire bikes are known to be fully legal and safe
  - Recharging of hire bikes is not done in the rider's home, removing the danger to life from unsafe batteries
  - The hire bikes are easily recognised visually, so that members of the public receiving deliveries can assist with enforcement or reporting of breaches of license terms. If the delivery arrives on a non-hire e-bike, it is clearly not legitimate.
  - Hire bike fleets are likely to be already available in areas of high urban density where food delivery operations are popular. The extra uptake from food delivery riders would increase ridership and viability of these public bike hire schemes, allowing them to further develop their public transport role.
  - Food delivery app operators could make collective arrangements with hire bike operators to enable their riders to obtain affordable bike rental. Unfortunately, it is likely that this would be seen as a profit line for companies, who might try to charge rental at exploitative rates to riders. This should be prevented by requiring that operators cannot tie riders to any particular hire operator or arrangement (for example by ensuring that the app only or preferentially gives work to riders who hire bikes through the operators' favoured deal). A ceiling on hire rates would therefore be provided by the rates which the general public pay for the hire bikes - the operator would be free to hire an e-bike at the public rates if their operator's deal was not better (assuming that the rental bike T&C permit commercial use...).
- 4. Street trading legislation:** There may also be a route to bringing food delivery into a licensing regime though a small modification to street trading laws so that their scope extends to providing commercial services on-street, specifically delivery services using a vehicle which is not a motor vehicle.

This would then allow local authorities to impose a licensing system, and the considerations listed above may apply.

The Bicycle Association does not have legal expertise in this area, but we would urge Government experts to consider whether a minor change in this legislation would provide useful regulatory powers to address this sector.

- 5. Strict enforcement on operators of H&S road risk obligations:** Our final suggestion for Government is to consider whether even with the existing regulatory structure and no licensing, gig economy food delivery operators may be subject to health and safety requirements which, if strictly interpreted and enforced, may address many of the issues listed above.

These requirements [are detailed on gov.uk here](#).

Notable extracts include (our bold):

*As an employer, you must manage health and safety risks to workers who drive a vehicle or ride a motorcycle, **other powered two-wheeler or bicycle** on the road as part of a work activity. Health and safety law applies to work activities on the road in the same way as it does on a fixed site.*

*This applies to employees and **anyone engaged to work for you in the gig economy**, including:*

- limb (b) workers (dependent contractors)*
- self-employed people*

*The law applies to both company and grey fleet vehicles. **A grey fleet vehicle is owned and driven by a worker for business purposes.***

The way that is worded, explicitly including dependent contractors and self-employed workers in the gig economy, and including worker-owned vehicles, suggests that the "riders are self-employed contractors" defence against any obligations attaching to the operator might not hold (for HSE obligation purposes at least).

If enforceable on gig operators, the various obligations listed by HSE on the link above would go a very long way towards addressing the issues of non-legal e-bikes, fire risk, rider behaviours and more. For example:

*Make sure your company policy does not put riders and drivers under pressure and encourage them to take unnecessary risks, for example to exceed safe speeds because of agreed arrival times.*

*You must make sure workers are adequately trained at no cost to them.*

Again the Bicycle Association does not have the specialist legal expertise in this area to evaluate whether this is a useful approach. Nor do we know whether HSE would be willing or in a position to pursue this matter.

But we urge Government to carefully evaluate this possible approach.

*Interim measures to address rider safety*

While we very strongly advocate for measures which place the safety responsibility on the delivery service operator, not the rider, we understand that this will take some time to implement.

As interim measures (and taking every care not to stigmatise or blame riders, and fully recognising that operators will attempt to use their support for any of these measures to distract from the need to make them as operators to take full safety responsibility) we would support:

- a. Provision (paid for by operators) of secure, outdoor battery charging lockers outside residential buildings where riders live (these installations could be triggered at rider request) or potentially in central areas where riders work (so that batteries could be left there overnight to charge, and picked up the next morning).

Local government could consider finding suitable spaces for city centre charge lockers, and national government may need to consider whether e.g. permitted development easements are needed to facilitate these installations.

- b. Educational measures and engagement in all relevant languages to ensure riders are aware of the risks from low quality e-bike batteries and unsafe/incompatible chargers, and also about the rules for road legal e-bikes, and about the relevant provisions in the Highway Code.
  - a. Operators should ensure that riders really do read and note these messages, for example by requiring riders (and substitutes) to regularly read and pass simple tests on these safety messages before the app will allocate jobs.
  - b. If operators do not do this, local authorities and fire and rescue services could continue their own comms work and e.g. engage with local restaurant owners to ensure that info is handed to riders as they pick up deliveries.

### Close legal loopholes for non-legal and de-restricted e-bikes and kits

It is currently legal to sell e-bikes which exceed the speed and power requirements for an EAPC, if these are marketed as for use only on private land. Such vehicles cannot be used legally on road (but often are, anyway, especially in the gig economy food delivery sector).

This 'loophole' means that authorities have no power to stop sales of dangerously high-speed or high-power vehicles – including many used in crime, and many which also pose a high fire risk.

- We propose that it be made illegal to sell any electric vehicle capable of propelling itself at above 25 km/h which is not road legal, with some tightly controlled exceptions for any legitimate uses of such vehicles (such as dirt bike racing on closed circuits).
- Similar laws and penalties should apply to anyone fitting a conversion kit to a normal cycle which converts it to an 'e-bike' which exceeds EAPC limits.
- We suggest that (because of the many legitimate uses, and practicality of enforcement) it should remain legal to sell non-EAPC "private land use only" electric vehicles with max motor speed less than or equal to 25 km/h – but only if these are permanently and prominently marked as such, with significant penalties for the removal of such markings. This would include for example ride on toys, hoverboards, e-scooters (pending the hopefully swift introduction of a new regulatory framework for micromobility) and "twist and go" e-bikes which have not obtained type or individual vehicle approval.
- We also propose defined legal penalties for anyone who de-restricts or tampers with an EAPC such that it becomes a motor vehicle or powered transporter in law (for example increasing the maximum motor assistance speed to above 25 km/h). In France, a specific offence exists to prevent this, with penalties of up to 30,000 Euro for persons or companies who carry out or enable such tampering (such as those who sell 'dongles' or similar equipment to de-restrict otherwise road legal EAPCs).

Such a law would be a powerful disincentive for high risk groups, such as delivery riders, whose modified and often non-legal e-bikes (converted from normal bikes) present a very high fire risk.

We understand that these measures might be implemented into law under secondary legislation once the Product Regulation and Metrology Bill is passed into law.

We recognise that a blanket stop on sales of non-road-legal vehicles would also potentially restrict the sale of e-scooters, ride-on toys and similar devices, many of which do not pose significant risk to others, and would probably not be practical to enforce.

- But this can be simply addressed by ensuring that any legal block on sales of "private land only" vehicles applies only to vehicles whose motor can propel them at above 25 km/h (and so which almost by definition pose significant risk to others).
- Any vehicles with higher speeds with legitimate uses (e.g. dirt bikes) could be exempted for that specific purpose.
- In addition, Government could consider making any new restrictions on >25 km/h vehicles, as outlined above, apply only to electrically propelled vehicles. This might potentially be reassuring to motorsport users – the enforcement framework for combustion motors is already well established and understood.

However the prevalence of high speed 'private land only' electric vehicles being used illegally on road means that serious consideration should in our view be given to restricting sales of such

equipment. The OPSS/WMG report also recommends that some existing rights be restricted in this area<sup>10</sup>.

Finally, the BA fully endorses proposals made by the Motorcycle Industries Association (MCIA) with regard to reforms of regulations around L-category vehicles, including throttle-controlled light mopeds and motorcycles. With improvements to regulations as called for by the MCIA, these properly regulated vehicle categories could become more attractive and accessible for riders or delivery services for whom the speed and power limits of EAPCs are insufficient. The BA would welcome more use of lightweight motor vehicles (L-category) for urban transport of goods and people, recognising potential benefits for congestion, air quality and environmental impact.

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<sup>10</sup> See recommendation 7, page 229, [in the full report](#).



## Tighten battery-specific regulations

As noted above, we understand that all evidence available to date (from fire and rescue services, OPSS, and industry surveys) is consistent with our clear understanding that products from the mainstream e-bike industry are overwhelmingly safe and compliant with existing regulations and standards.

The industry also continues, at international level via BSI, CEN and ISO/IEC, to further develop and improve the testing standards which apply to e-bikes and e-bike batteries, noting the many well founded recommendations for improvements to standards detailed in the OPSS-commissioned report on PLEV battery safety from WMG<sup>11</sup>.

We have noted and carefully considered a range of options open to regulators, for example

- Requiring mandatory conformity assessment body approval of the whole e-bike before it may be placed on the market
- Requiring mandatory conformity assessment body approval of the battery, charger and drive system only (i.e. the electrical parts tested for safety and compatibility as a complete system)
- Requiring mandatory conformity assessment body approval of just the battery pack (and potentially also the quality processes used in series production)
- As above but with any suitable accredited third party test lab able to issue approvals, rather than a conformity assessment body being required.
- Maintain the status quo (self-certification under General Product Safety and CE marking legislation), and apply the other actions listed in this document to reduce supply and demand for unsafe products, and use existing market surveillance tools to address any remaining suppliers of unsafe products.

In evaluating these approaches we have considered

- Technical/engineering completeness and cost/benefit of particular interventions (e.g. does the whole integrated system and all of its parts need to be approved for compatibility, or is it sufficient to simply ensure that the battery is sufficiently specified to withstand fire risks?)
- Practicality (e.g. is there sufficient UK approval capacity to implement proposals which require it?)
- Likely effectiveness (will it actually stop unsafe imports of batteries or conversion kits arriving direct to consumers in small packages – the cause of most fires – or just load costs onto already responsible suppliers?)
- Cost to consumers and industry - both in monetary terms and in international supply chain complication if specific approvals are required only for the relatively small UK e-bike market. Any UK-specific extra compliance requirements would likely lead to significant reduction in choice of reputable products for UK consumers, as responsible international suppliers may be unable to justify approval costs for just the relatively small UK e-bike market. Irresponsible overseas suppliers (usually via online marketplaces) of already unsafe products would in contrast be completely unaffected (because they would ignore these new regulations with impunity, as they do current product safety regulations) and, if costs of only reputable products rise as a result, consumers may be driven to use more unsafe ones, making the problem worse.

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<sup>11</sup> <https://www.gov.uk/government/publications/personal-light-electric-vehicle-plev-battery-safety-research>

There is a strong case to suggest that if supply of unsafe goods via online marketplaces and demand for them via the gig economy were to be addressed, fire incidence would be so much reduced (or close to eliminated) that the current status quo of regulation (manufacturer self-certification) would once again be acceptable (as it is in most other countries in the EU, where gig economy worker rights are better regulated).

However, realistically closing off UK supply and demand for unsafe products will take significant time and may be hard to achieve.

We also recognise that there will be some naïve or careless e-bike importers whose unsafe goods would not be affected by measures to address either online marketplace or the gig economy, and further official (and enforceable) expectations of battery safety (beyond the statutory guidance already published by OPSS<sup>12</sup>) would be helpful in enforcement against such suppliers.

## Our proposal

We therefore propose that the existing self-certification framework is maintained but that for e-bike and e-scooter battery packs, compliance with specific safety standards becomes mandatory. This is similar to the product safety framework which already applies to toys.

For e-bike and e-scooter batteries, compliance with the current version of either EN 50604 (for light electric vehicle batteries) or alternatively approvals to the US-focused Underwriters' Laboratory standard UL2271<sup>13</sup> should be designated as acceptable, to minimise duplicative regulatory burdens on international supply chains. Consideration could also be given to adding e.g. the Chinese standard GB38031-2025 to the list.

The standards referenced would need to be regularly reviewed and updated as standards evolve (e.g. it is likely that the successor to EN 50604 will be an IEC standard). The authors of the WMG/OPSS report would be well placed to evaluate candidate standards.

We expect future e-bike battery standards to incorporate many if not all of the recommendations made by the OPSS/WMG report, so this mechanism would ensure that these can be brought into application as soon as practical.

If compliance with one of these standards could not be credibly evidenced then an approval from a relevant Conformity Assessment Body would be required before the item could be placed on the market.

This framework would be enforced by Trading Standards both proactively (using intelligence-led enforcement actions which the responsible industry would be pleased to support) and reactively (with significant penalties imposed on suppliers if their products were found to be non-compliant after any fire incident) and of course at the border.

Most mainstream UK and EU suppliers will already have battery packs compliant with EN 50604 from August 2025, when the transition period expires for the previous version of the designated e-bike standard EN15194, so it would be sensible for any change to be introduced no sooner than this. The cycle industry must be consulted to ensure that any proposed transitional arrangements are practicable.

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<sup>12</sup> <https://www.gov.uk/guidance/statutory-guidelines-on-lithium-ion-battery-safety-for-e-bikes>

<sup>13</sup> To provide suppliers with the option of alignment with upcoming USA federal requirements, any UK option should also include any additions imposed by CPSC for the USA market, per e.g. this report: <https://www.bicycleretailer.com/industry-news/2025/04/30/cpsc-e-bike-lithium-ion-battery-testing-proposal-advances-public-comment>

## UK regulations review

Also, we urge that DEFRA speeds up its review of the UK's (environmental-focused) battery regulations. These should make it mandatory for battery suppliers/producers to contribute to end of life processing/recycling costs, for example by participating in the cycle industry's battery collection and recycling scheme (which is currently under development on a voluntary basis).

If, as expected, new UK regulations mirror aspects of the EU's new Batteries Regulation (which already applies in Northern Ireland), further safety benefits will also arise from e.g. the requirements around production quality controls, battery management systems and battery passports, as those requirements come into force. This would be welcomed by the UK cycle industry.

But as DEFRA reviews the UK's equivalent legislation, we urge them to carefully review and omit from any UK legislation any clauses duplicating the requirements in Article 11 of the EU Regulation which require e-bike and e-scooter batteries (termed Light Means of Transport or LMT batteries) to be repairable at individual cell level. As the OPSS/WMG research confirms<sup>14</sup>, this particular requirement introduces very serious safety concerns.

Government should also consider controls on all unauthorised (by the manufacturer) lithium battery repair and re-celling, for example requiring all businesses conducting such activities to meet certain safety standards, and requiring all such modified battery packs to be clearly labelled with the details of the company who re-celled or modified them (so that the modifier becomes clearly liable for their safety, not the original manufacturer).

## A note about e-bike conversion kits

There is a significant risk that any tightened regulations imposed on suppliers of complete e-bikes may be undermined and evaded by suppliers of e-bike conversion kits or separate components. This is another reason to focus on the safety of the battery itself: any regulations must be worded to apply to any battery pack marketed or intended for use as an e-bike battery – so that complete e-bikes, kits and separate batteries would all be covered.

The BA strongly believes that consumers and retailers must be fully informed about the additional risks of fitting a kit (as opposed to purchasing a complete e-bike) and the responsibilities which they take on as its manufacturer – including covering or removing any existing branding on the 'donor' bike before labelling it with their own details as manufacturer.

These concerns and a proposal for kit supplier best practice are set out in a joint BA/ACT retailer press release<sup>15</sup> and in our *BA Guide to e-bike conversion kits*<sup>16</sup>.

The BA is also pleased to be part of the steering group for the development of an OPSS-sponsored fast-track standard (PAS) which aims to set out safety requirements for e-bike conversion kits.

<sup>14</sup> See page 120 onwards [in the main report](#)

<sup>15</sup> <https://bicycleassociation.org.uk/news/press-release/72/72-BA-and-ACT-flag-official-guidance-to-retailers-on-e-bike-conversion-kits>

<sup>16</sup> <https://bicycleassociation.org.uk/resources/e-bike-resources/36/ba-guide-to-e-bike-conversion-kits-2024>

## Educate the public about responsible purchase and use

Building on existing work from e.g. Fire England and OPSS, Government must continue to provide public education on how to safely purchase and use e-bikes.

- One strand should focus on targeted messaging to high risk groups, and particularly address the risks of buying from online marketplaces and of buying and using third party batteries and chargers which may not be compatible or safe.
- A second strand should use positive messaging to promote purchasing of safe and legal e-bikes from reputable suppliers. **In this work we urge Government to support and promote the industry initiatives detailed overleaf.**
- A third strand of work could be to raise public awareness of the existing, established rules for EAPCs, and what is and is not road-legal. This would help counteract the misleading effect on public understanding of many non-legal food delivery vehicles and e-scooters being ridden seemingly with impunity, despite not being road legal. This would also help enhance fire safety by directing law-abiding purchasers to only road legal e-bikes, which are more likely to be safe than the non-road legal alternatives.

## Industry Actions

### BA Register of Safety-Audited E-bike Brands

The Bicycle Association is currently rolling out a safety-audited accreditation scheme to help consumers and regulators distinguish easily between safe, legal products from the reputable UK industry, and the high-risk products which are, we understand, overwhelmingly responsible for the rise in e-bike fires.

Provisionally titled **The BA Register of Safety-Audited E-bike Brands**, this soft-launched to industry in early 2025 and the first batch of audits are currently underway.

A public launch (likely with a snappier name, probably “E-bike Safety Register”) is expected in H2 2025.

Participation in this scheme is voluntary. E-bike brands wishing to be listed will have their quality processes, standards compliance policies and a sample of product technical files audited by a qualified industry compliance professional to ensure that their products are safe and fully road legal as EAPCs. The audit will also include checking that the supplier is meeting their waste battery and electrical equipment obligations.

We expect that by listing no more than 20 brands on this Register, we will be able to direct consumers to over 90% of the reputable e-bikes on the UK market (and that remaining reputable suppliers will swiftly also apply for audit)

The aim is that:

- Consumers can be reassured that e-bikes from brands on the Register are safe and legal
- Insurers and premises managers can use the listing of an e-bike brand on the Register as an indication of its likely relative safety

We intend to further develop the Register to:

- Include oversight from a recognised accreditation body such as BSI or CTSI
- Work with the insurance industry to ensure it meets their needs
- Once we have clear guidance from OPSS on the regulatory requirements for e-bike conversion kits, to create a separate register so that suppliers of electrically safe and tested e-bike conversion kits can be listed.

We would be very happy to provide further details on the Register’s audit requirements, more background on its design, or to answer any questions on this initiative.

### E-bike Positive Retailer Pledge

The safety audit scheme covers the supply side of the industry, and it is accompanied on the retail side by the “E-Bike Positive Retailer Pledge” to provide consumers assurance that they can identify retailers supplying only safe and legal e-bikes.

A joint development between the BA and the Association of Cycle Traders, this includes an online dealer finder. It is now live at: <https://ebikepositive.co.uk/find-an-e-bike-positive-retailer/> .



### E-bike Positive consumer campaign

This is a public-facing campaign aiming to strengthen consumer confidence in reputable e-bikes, initially backed by the BA, ACT, Cycling UK and Bosch, and with current work ongoing to widen industry support. Read more at <https://ebikepositive.co.uk/>

### Guidance, resources and support

Extensive industry-produced guidance documents, position statements and links to official advice and resources are available at: <https://bicycleassociation.org.uk/pages/e-bikes> including for example this info sheet:

**E-bikes and fire safety: what you need to know**

Alarming headlines about e-bike fires don't tell the whole story. This is what you need to know about e-bikes and fire safety.

This guidance was developed for the UK cycle industry by the Bicycle Association with the support of the Association of Cycle Traders.

**BICYCLE ASSOCIATION** **ACT**

**VERY SAFE\***

- ✓ Bought as a complete system of e-bike, charger and instructions.
- ✓ Bought from a UK based seller and with a Declaration of Conformity and UKCA/CE marking to indicate it meets UK/EU standards.
- ✓ From a reputable brand.
- ✓ Bought from and maintained by a reputable retailer.
- ✓ Charged only with the original charger and using only the manufacturer's original battery packs.
- ✓ Fully road legal as an Electrically Assisted Pedal Cycle.
- ✓ Used according to the instructions.



**MAY PRESENT FIRE RISK**

- ! If assembled by the rider or an unqualified person or business by adding an e-bike conversion kit to a normal bike.
- ! And/or if bought direct from an overseas seller, not answerable to UK Trading Standards (including many sales via online marketplaces).
- ! If it does not meet UK/EU standards.
- ! If it has been tampered with or de-restricted.
- ! If it uses batteries and chargers from different suppliers, of uncertain compatibility and safety.
- ! If the battery pack has been damaged.
- ! If instructions are missing or incomplete.



**\* PLEASE NOTE:** Products with all of the characteristics listed above as "very safe" present, in our understanding and based on the information currently available, low levels of fire risk for responsible users who use them according to the instructions. But this can only be indicative. Further, if damaged or abused any lithium battery system can present very serious fire risk. Users are strongly advised to both follow the manufacturer's instructions in full and to observe the safety guidance published by fire services, for example from Fire England: [www.fireengland.uk/fire-safety/charging-your-e-bike-or-e-scooter](http://www.fireengland.uk/fire-safety/charging-your-e-bike-or-e-scooter).

You can also access Fire England's advice by scanning this QR code:



This document is not intended to form part of a formal risk assessment and is not a compliance document; it is for guidance only.

Additional detailed advice on battery sourcing and compliance, much of which has kindly been reviewed by OPSS, is provided via the BA Technical Service to our member companies.

### Key stakeholder engagement

The Bicycle Association has initiated ongoing engagement on this issue with numerous stakeholders, including:

- The cycle industry, UK and international
- National government, strategic and local transport authorities
- Public transport operators and organisations
- The insurance and underwriter industries
- International standards development bodies
- Fire and rescue services
- Safety charities
- Other stakeholders, such as adjacent industry bodies, road safety organisations and more