Introduction

E-bikes and e-scooters are becoming increasingly popular. Most are powered by lithium-ion batteries which can be charged in the home. It is important when charging e-bikes and e-scooters, you do so safely to avoid a risk of a fire starting and putting others and buildings at risk.

**Note:** Privately owned e-Scooters are illegal to use on public roads, cycle paths or footpaths and cannot be brought onto University premises. This guidance therefore refers only to e-bikes and specifically the storage and charging of their batteries.

With an increased use of e-bikes, comes a corresponding fire safety concern associated with their charging and storage.

The use of these products is expected to continue to rise. Some fire services and fire investigators have seen a rise in e-bike and e-scooter battery fires. Currently there is limited data relating to the number of fires, but London Fire Brigade reported 8 fires caused by e-bikes and e-scooters in 2019. This rose to twenty-four in 2020 and fifty-nine by December 2021.

On occasions batteries can fail catastrophically, they can ‘explode’ and/or lead to a rapidly developing fire. The incorrect disposal of lithium-ion batteries in general household and recycling waste can lead to significant waste fires. Prevention messaging is therefore important in supporting both Fire Risk Assessment processes and owners and building occupiers.

**e-Bikes – General Information**

Your local Facility Manager (FM) and/or local Safety Managers may have specific guidance on using and handling Lithium-ion or other re-chargeable batteries in a particular part of the university, that must be followed. They will be able to advise on Risk Assessment, local rules and the risks posed by e-bikes where they are charged or safely stored is designated spaces. They may also be able to offer general advice to owners on the safe use, storage and charging of these products.

**Students.** If you are in student residences, you should contact your local facilities management team for specific assistance and advice for storage and charging. Check the Student Residences Facilities Management page for more information. For other University locations, you should ask your local School Administration team or supervisor who your local contact is.
Staff. If you are unsure who your local Facility Managers (FM) or Building Safety Managers are you should ask your line manager or School Administration Team. A directory of building Facilities Managers is available on the Campus Division SharePoint site.

Buying
- Only buy e-bikes, matching chargers, and matching batteries from reputable retailers.
- Many fires involve counterfeit electrical goods. Items which don’t meet British or European standards pose a huge fire risk and while genuine chargers (or battery packs) may cost more, it’s not worth putting your life at risk and potentially destroying property by buying a fake charger to save a few pounds.
- If buying an e-bike conversion kit, purchase from a reputable seller and check that it complies with British or European standards. Take particular care if buying from online auction or fulfilment platforms. Also be aware that if buying separate components, you should check that they are compatible.
- Register your product with the manufacturer to validate any warranties – batteries are usually included in warranties. Registering makes it easier for manufacturers to contact you in the event of safety or recall information.
- Check any products you have bought are not subject to a product recall. You can do this but checking Electrical Safety First’s website or the government website.

Storage
Note: Some University building managers (Facility Managers and/or Local Safety Managers) do not allow e-Bikes/e-Bike batteries in buildings, this is a local decision based on hazards and local Fire Risk Assessment.

- Responsible Persons (Facilities Managers, Local Safety Managers) must be consulted before bringing an e-Bike/e-Bike battery into University premises other than designated University bike stores. They can advise on Risk Assessment, local rules and the risks posed by e-bikes where they are stored, charged, or left in common areas such as means of escape, bike stores. They may wish to offer advice to owners on the safe use, storage and charging of these products.
- Do not store or charge e-bikes/e-bike batteries on escape routes or in communal areas of a multi occupied building. If there’s a fire, it can affect people’s ability to escape.
- Do not store e-bikes where they may present a hazard or nuisance to others e.g. near building entrances, walkways, wheelchair access ramps, goods entrances, fire escape routes, student access routes or working areas.
- Store e-bikes and their batteries in a cool place. Do not store them in excessively hot or cold areas.
- Follow manufacturer’s instructions for the storage and maintenance of lithium-ion batteries if they are not going to be used for extended periods of time.

Note: Fireproof Lithium-ion Battery boxes, bags and storage/charging cabinets are commercially available

Charging
- If you wish to charge your e-bike batteries at the university, you will need to seek permission from local Facility Managers and/or local safety managers and comply with local rules and only charge batteries only as directed.
• Batteries must be inspected prior to charging. Any damaged or suspect batteries must not be charged and should be safely disposed of. Check batteries for:
  o Leakage
  o Damaged or corroded wiring and connectors
  o Damaged packaging
  o Dented corners
  o Discolouration/heat damage
  o Unusual odours
  o Swelling
• All batteries must be charged in accordance with the Original Equipment Manufacturer (OEM) instructions.
• Do not overcharge your battery – check the manufacturer’s instructions for charge times.
• Only Original Equipment Manufacturer (OEM) approved chargers are to be used.
• Chargers used on work premises must be subjected to an annual Portable Appliance Test (electrical safety check).
• Chargers must be subjected to a visual before-use safety check.
• Chargers featuring safety features such as polarity mismatch, current limiting and cell balancing are preferred.
• Batteries are not to be left unattended during charging. It is permissible to monitor from a distance provided appropriate technical or administration systems are available to monitor charging batteries. Such measures must be documented and controlled in a Safe System of work (SSoW). Your local Facility Manager and/or local safety manager will be able to advise if local safe systems of work for remote battery charging are provided.
• Batteries must be charged in the designated charging area. Your local Facility Manager and/or local safety manager will be able to advise on local designated charging areas.
• Do not cover battery chargers when charging as this could lead to overheating or even a fire.
• Do not charge batteries or store your e-bike near combustible or flammable materials.
• Do not overload socket outlets or use inappropriate extension leads (use un-coiled extensions and ensure the lead is suitably rated for what you are plugging in to it).
• In the event of an e-bike or lithium-ion battery fire at the university – do not attempt to extinguish the fire. Follow the university fire action protocols; alert others, leave the building, raise the alarm, call 999 and security services, raise the alarm, go to the fire assembly point and inform the nearest fire warden.

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Battery damage and disposal
• Batteries can be damaged by dropping them or crashing e-bikes. Where the battery is damaged, it can overheat and catch fire without warning. Check your battery regularly for any signs of damage and if you suspect it is damaged it should be replaced and should not be used or charged.
• If you need to dispose of a damaged or end of life battery, don’t dispose of it in normal/household waste or normal recycling. These batteries, when punctured or crushed can cause fires in bin lorries, recycling, and waste centres. The manufacturer may offer a recycling service. Alternatively check with your local authority for suitable battery recycling arrangements in your area.

**e-Bike Risk Assessment**

You may be required to complete a risk assessment should you wish to take e-bike batteries on to university premises. You should contact your local building managers/facility managers for guidance on whether a specific risk assessment is required for your place of work.

**Resources**

[Sustainability guidance on e-Bikes](#)

[General University Cycle Policies](#)

Enjoy and ride your e-bike safely and ensure you are using these products within the [gov.uk electric bike rules law](#).

*This guidance is based on National Fire Chiefs Council ([www.nationalfirechiefs.org.uk](http://www.nationalfirechiefs.org.uk)) document - E-bike and e-scooters Fire safety guidance - Jan 2022*