

E-transport

Electric Vehicles (EVs) have been in general use for a number of years but with the UK Government's target of achieving net zero carbon emissions by 2050 they are becoming more prevalent, with a key enabler to this being the UK Government's aspiration to eliminate the sale of petrol and diesel cars by 2030.

The sales of EVs have continually increased for a number of years with EVs outselling diesel models during 2021, seeing an increase in growth of 66% from 2019.

In addition to electric cars, Electric Personal Transport have also seen an increase of sales as this also fits with the Government's carbon reduction agenda.

The following sections aim to outline and consider the pertinent risk management points associated with EVs.

Electric Vehicles (EVs)

Spaces

To support the Government's aspiration, the Department for Transport (DfT) shared a consultation detailing the proposed regulatory changes, resulting in thousands of charging points across the country. The Future Homes Standard proposals are as follows and are expected to come into effect in 2025 (England).

Residential buildings

- > Every new residential building with an associated car parking space to have a chargepoint.
- > In addition, every residential building undergoing major renovation with more than 10 car parking spaces to have cable routes for electric vehicle chargepoints in every car parking space.

New non-residential buildings

- > Every new non-residential building and every non-residential building undergoing a major renovation with more than 10 car parking spaces, to have one chargepoint.
- > Cable routes for an electric vehicle chargepoint for one in five spaces.

Existing non-residential buildings

- > At least one chargepoint in existing non-residential buildings with more than 20 car parking spaces.

E-transport

Vulnerable road users

Because EVs are much quieter than other vehicles, they can cause a risk to vulnerable road users such as cyclists and visually impaired pedestrians.

In July 2019 the EU passed the 'Regulation on the Sound Level of Motor Vehicles', making it a legal requirement for new EVs to have a noise-emitting Acoustic Vehicle Alert System (AVAS) to alert road users of their presence when driving or reversing below 12mph.

Batteries

Once ignited, high voltage battery fires (predominantly lithium-ion batteries) can be very intense and difficult to extinguish and can also release high levels of toxic gases. See link below for further QBE information regarding lithium-ion battery risks: qbeeurope.com/news-and-events/blog-articles/lithium-ion-battery-risks-in-warehousing-and-distribution/

Due to technology used within EVs being in its infancy, fires are relatively rare and as such first response and fire services have limited experience of dealing with such incidents. Robust guidance on dealing with an EV fire is yet to be published and as such the best means of control would be immediate evacuation and calling the Fire Rescue Service.

Charging

The growing use of EVs has seen the need to provide charging facilities in workplaces, which, if not suitably managed, can introduce enhanced potential hazards. The following points must be considered prior to progressing.

> The fire safety management strategy should consider practical passive (building controls such as fire doors), active (firefighting equipment with fire rescue service attendance as primary) and managerial (processes and procedures) control measures as part of the fire risk assessment for the premises when selecting and designing areas for use as electric charging points.

- > Risk Assessments should consider the risk from charging EVs when the premises are unoccupied. The measures to be considered should include:
 - > Physical separation of the charging points from any process and storage areas;
 - > A suitable power supply with control and isolation systems;
 - > Fire detection and warning in case of fire;
 - > Smoke ventilation for the removal of toxic fumes, which will also assist firefighting;
 - > Location of firefighting equipment such as fire extinguishers;
 - > An emergency action plan in the case of fire, including evacuation plan;
 - > Staff training in the safe charging of vehicles and fire procedures, including the safe shut down of the charging process.
- > Where charging points are to be provided in multi-storey car parks consideration should be given to locating these in open air at roof deck level to minimise the potential for fire spread within the structure. QBE regard the installation of sprinkler systems as best practice for multi storey car parks where charging facilities are present.
- > Charging areas must be free of any flammable or combustible material, other than those which form parts of the vehicle and chargers.
- > Charging points for electric road vehicles should not normally be located within buildings.
- > Charging bays should be clearly signed and marked out to enable vehicles to park close to the charging point and prevent the stretching of charging cables.
- > Vehicle charging points must be installed by a competent electrician (such as those recognised by the NICEIC, the Electrical Contractors Association (ECA), NAPIT or SELECT in Scotland).
- > Installations must be compliant with [IET] Wiring Regulations BS 7671 and the IET Code of Practice for Electric Vehicle Chargepoint Equipment Installation, reinforcing the importance that installations are carried out by a competent person.



E-transport

- > An electrical circuit should be dedicated to the use of the chargers and not be part of a ring main or used for other purposes. A suitable fixed residual current device (RCD) should be installed as additional protection for vehicle charging supplies.
- > Visual inspections of chargers should be made at periodic intervals with records kept. Any damaged equipment should be isolated and taken out of use until it has been inspected by a competent electrician and repaired as necessary.

It must be noted that in addition to increased charging facilities at domestic dwellings and commercial locations, hotels will also see an increasing demand for charging facilities. These installations may be within basement or adjoining car parks and reinforces the importance of completing a robust fire risk assessment with the areas listed above considered.

Electric-powered transporters

“Powered transporters” fall within the legal definition of a motor vehicle under the Road Traffic Act 1988 and the rules that apply to motor vehicles also applying to powered transporters. There are several vehicle types that sit under this banner, including:

- > Electric bicycles;
- > Electric scooters;
- > Electric skateboards;
- > Electric mopeds;
- > Electric tricycles;
- > Electric hoverboards;
- > Electric unicycle.

As a motor vehicle, powered transporters must comply with various pieces of Road Traffic Legislation, including but not limited to:

- > Driving with a licence;
- > Driving/riding with insurance;
- > Driving/riding other than on a road;
- > Need to be taxed.

Whilst there are several transporters categorised under this heading, the most prominent and widely publicised are e-scooters. With a recognised increase in use, a number of local authority ‘e-scooter trials’ are currently underway at a number of locations across the UK. These were implemented following a drive from the DfT during the summer of 2020 in support of the 2050 zero carbon emissions journey. The trial has been extended until late 2022 where a decision on progressing will be made.

Any rental companies involved in the trial have a responsibility to ensure:

- > they provide relevant insurance;
- > the equipment is properly stored, maintained and provide safety equipment to the hirer. The wearing of a safety helmet is a requirement as per motorcycle and bicycle use.

Despite their increased prominence, the recently revised issue of the Highway Code (2022) failed to specifically provide details for e-scooters. It is expected that post completion of the trial and the acceptance of e-scooters as a mode of travel, further iterations of the Highway Code would detail correct operation on the public highway.

Summary

The promotion, purchase and utilisation of E-transport has grown and continues to grow exponentially with both EVs and powered transporters becoming more prominent. This brings additional risks due to the material structures and requirements to operate the equipment, such as high voltage batteries and charging.

To support QBE clients an associated **Risk Essential** provides a detailed risk management checklist whilst contemplating the use or operating electric vehicle charging points.

QBE European Operations

30 Fenchurch Street
London EC3M 3BD
tel +44 (0)20 7105 4000
QBEurope.com

