A Summary Briefing

Future Homes - Electrical Safety in the Net Zero Home
Electric Vehicles

The UK has set climate change targets which will mean an inevitable change to our housing stock and the way we use energy. However, we must ensure that this does not come at the expense of consumer safety.

Introduction

Electrical Safety First is the UK charity dedicated to reducing deaths and injuries caused by electrical accidents. Our report focuses on some of the technologies that may be present within the home of the future, the potential electrical safety risks that may be associated with the net zero transition and recommendations to mitigate them.

This summary focuses specifically on the safety risks outlined in the report that may be associated with the transition to a low carbon future in relation to **electric vehicles**.

To read the full report visit:
www.electricalsafetyfirst.org.uk/futurehomes

What Does the Future Home Look Like?

A net zero ready or future-proofed home is likely to consist of a highly insulated building fabric and include many technologies and solutions that are not commonplace within the UK today. Features may include low carbon heating, on-site renewable electricity generation and highly efficient building services installed to make homes comfortable and functional, such as improved ventilation and lighting. It is also increasingly likely that many homes will have an electric vehicle and associated on-site charging.

This summary details safety risks that may be associated with electric vehicles and recommendations to mitigate them.

Decarbonisation of Transport

Transport was responsible for over a quarter of UK greenhouse gas emissions in 2018, of which road transport was the largest source of emissions, mainly due to the impact of passenger cars. The decarbonisation of personal transport will therefore be critical to meeting our climate change targets. The challenge is significant; over 38 million cars in the UK will have to be replaced by Ultra Low Emission Vehicles (ULEVs).

The Prime Minister's 10 Point Plan confirmed that the UK would end the sale of new petrol and diesel cars and vans by 2030, with the sale of certain hybrid vehicles permitted until 2035.

As Electric vehicles (EVs) become more popular, there will be increased demand for chargepoints at home and in public places. If an EV is not charged in a safe way there can be electrical safety risks for the user. There is evidence that inadequate public charging infrastructure for EVs in the UK is forcing drivers to take risks by opting for highly dangerous alternatives at home.

Risks	Recommendation
Some of the dangerous charging practices that consumers may adopt if they cannot locate a professionally installed public or private charging point include using standard domestic extension leads to charge vehicles outside, daisy-chaining extension leads together and allowing extension leads to cross pavements. These practices dramatically increase the risks of socket overload and electrical shock or fire, which could lead to serious injury or death.	Further consumer education is needed around the risks of using a standard 13A plug and socket to charge an EV. Consumer organisations, Industry and Government should collaborate to ensure that consumers have appropriate information when they switch to EVs from standard diesel and petrol cars.
Installers are only required to be registered to deliver installations when Government grants are provided, meaning that installers of EV charge points do not necessarily have to be registered with the Government's Office for Zero Emission Vehicles (OZEV). If a charge point is not installed by a specialised and certified installer, such as a registered electrician, then there can be safety risks to the consumer, particularly due to the devices being high powered and often located outside where they can get wet.	The Department for Transport and devolved governments must ensure that there is adequate financial support for households to install charging infrastructure at home using an OZEV authorised installer.
Anyone can apply to their local council to request the installation of a charging point on their street and local authorities can apply for grant funding via the Government's On-Street Residential Chargepoint Scheme. However, access to charging can be particularly challenging for those living in flats and access to public charging points appears to be a postcode lottery, with the number of public charging devices per 100,000 of population varying across the UK.	The Department for Transport, OZEV, Local Authorities and Industry must ensure that there is adequate EV charging infrastructure across the UK to reduce the risk associated with dangerous charging practices. Support should be focused on areas where existing chargepoint deployment is particularly low. Consideration should be given to undertaking a mapping exercise to ensure that the deployment of future projects is co-ordinated, and that a further disparity by geography is not created.

Conclusion

In summary, there is a risk that the increased use of EVs could create electrical safety risks if the demand for chargepoints at home and in public places is not met.

It is important that public electrical charging points are therefore made more accessible across the UK and that adequate financial support is provided to ensure households can install safe charging infrastructure at home. There is also a need to raise awareness of the risks of using dangerous charging practices.

Contact Us

To discuss any of the recommendations detailed in this summary or in the wider report, please contact the Electrical Safety First team.

Email: policy@electricalsafetyfirst.org.uk

Other summaries available focus on housing infrastructure, product safety and growing the installer base.
Visit **www.electricalsafetyfirst.org.uk/futurehomes** to find out more