A Summary Briefing

Future Homes - Electrical Safety in the Net Zero Home

Housing Infrastructure

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 **housing infrastructure**.

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 housing infrastructure and recommendations to mitigate them.

Housing Infrastructure

Currently, the UK has the oldest housing stock in Europe, and most likely the world. The state and age of these homes differs between nations within the UK and between tenures; Wales has the oldest housing stock in the UK, whilst Northern Ireland has the most modern. Across the UK, the private rented sector has the highest proportion of homes built pre-1919 with the owner-occupied sector following close behind. Homes built pre-1919 have the highest prevalence of electrical problems.

With older properties being more likely to have poor electrical wiring, which could cause significant safety risks if not addressed, the UK's ageing housing stock presents a challenge along the route to decarbonising our homes.

Risks	Recommendations
Despite the importance of ensuring that electrical wiring is safe and capable of embracing low carbon solutions, the state of an electrical circuit in a home is not captured by housing condition reporting (e.g. English Housing Survey or Decent Homes Standard reporting). As such, it is unclear what proportion of homes fail to meet the minimum standards due to poor electrical wiring or whether homes cannot safely adopt low carbon technologies due to capacity constraints.	Government housing departments in all four nations should ensure that housing standard reporting contains references to the state of electrical wiring and seek to understand capacity constraints. This would enhance their understanding of the suitability of building stock for the future and identify where improvements are needed.
Whilst national housing surveys provide the Government with a useful overview of the whole building, they only provide a snapshot and do not prevent occupants from being exposed to significant risks, or ensure that homes are fit for the future. The need for an updated assessment is more important than before, as the condition and age of wiring needs to be understood if net zero ambitions are to be realised. Regular five-yearly checks of electrical wiring across all tenures would support the decarbonisation of the building stock and help ensure that homes are safe.	Government housing departments in all nations should introduce a common, cross-tenure housing standard for electrical safety which includes mandatory five-yearly electrical safety checks for all homes in all parts of the UK. These checks could become mandatory on the sale of the property, alongside the current requirement for Energy Performance Certificates.
Energy suppliers currently provide a range of free services to vulnerable customers as part of their Priority Services Register Obligations, including free annual gas checks. However, nothing is provided to assess electrical risks. There is a need for parity across electricity and gas in terms of the support available.	The UK Government and energy suppliers should consider launching free services, including electrical checks, to support the electrical safety of vulnerable consumers as we transition away from gas.
The Scottish Government has recently consulted on its Heat in Buildings Strategy which includes consideration for how further financial support may be offered to households to enable them to complete the retrofitting work required, and there are already financial support schemes for retrofit in place across the UK. However, it is essential that this support also enables safety improvements to be made alongside any remedial works needed to facilitate the adoption of low carbon solutions.	The UK Government should ensure that any funding made available for low carbon technologies has a portion reserved for associated remedial and/or ancillary works such as rewiring or the installation of a new fusebox.
The prevention of fire should be a priority. However, if an electrical fire does occur, it is essential that as much evidence as possible is gathered to enable remedial action and reduce the risk of future incidents. Despite ageing infrastructure being a key factor, the Fire and Rescue Incident Reporting System does not record the age of the property affected or if the most recent Electrical Installation Condition Report (EICR) was passed or failed. It is important to note that the approach to reporting varies across the devolved administrations. However, the need to enhance our understanding of the cause of fires is essential and property age and tenure should be considered key factors.	The Home Office and Devolved Governments should ensure that information relating to property age, tenure and EICR status following an electrical fire is recorded in a consistent and comparable way to enable better tailoring of guidance and policy to reduce future risks.

Conclusion

In summary, there is a risk that old wiring throughout the ageing housing stock may not be able to cope with the increased electricity demand of future homes, which could lead to major events such as electrical fires or outages if not adequately considered and managed. As such, steps must be taken to ensure that the condition and age of electrical wiring and capacity constraints are understood through increased reporting, regular safety checks and free support for safety improvements to vulnerable customers.

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 electric vehicles, product safety and growing the installer base.
Visit **www.electricalsafetyfirst.org.uk/futurehomes** to find out more