

Consultation Response

Which?'s response to the Department of Energy Security and Net Zero (DESNZ) consultation on Plug in solar: Regulatory amendment and interim product specification

Submission date: 30/06/2026

Summary

Which? welcomes the opportunity to respond to the government's consultation on plug in solar: regulatory amendment and interim product specification.

Plug-in solar offers potential benefits for consumers, particularly for those in households where traditional rooftop arrays are not viable. However, given the significant safety concerns that have been identified, we urge the government to do further work to ensure robust measures are in place before these products enter the UK market.

Full response

Many households are concerned about volatile and high energy prices and solar panels create the opportunity for them to save money on their energy bills by generating their own electricity. Plug-in solar is particularly attractive as it is more affordable than a rooftop system due to its smaller size and lower installation costs. This, together with its portability, also makes it a good option for people living in flats with balconies, and renters.

However these obvious advantages should not obscure the need to address safety issues. There is evidence that plug-in solar creates particular risks for some households in the UK that need to be addressed before these products are brought to market. The risk to individual households and to future confidence in the sector demands that the government take a suitably risk based approach.

Safety risks associated with plug-in solar

Plug-in solar could pose significant safety risks for some households. These include the risk of poorly mounted panels falling or blocking exits, and electrical safety risks, particularly if the property doesn't have a modern electrical circuit. These risks have been spelt out in a report from [Electrical Safety First](#) and a [joint statement by ECA, Electrical Safety First, IET, NICEIC and SELECT](#) and include

- **Electrical safety.** Fire risk due to overloading electrical circuits in homes with old wiring, and interference with Residual Current Devices (RCDs), causing nuisance tripping which may result in failure to identify serious faults.

- **Physical safety.** Risks associated with improper mounting or placement, such as falling panels or blocked exits.
- **Risks caused by consumer behaviour,** such as the use of multiple units or ‘daisy chaining’ - using multiple cables to reach a socket.
- **System and regulatory risks:** Failure to notify District Network Operators (DNOs) threatens local network stability - particularly where multiple units may cause overload, and a lack of clarity around how any damage caused by plug-in solar will be dealt with by insurance companies.

The government commissioned [Plug-in solar electrical safety study](#), that is included in the consultation, recognises that some households will require support but suggests ‘optional or targeted advisory support’ will be sufficient to address these issues. The study also highlights specific risks in relation to multi occupancy buildings, higher risk residential settings and rented properties and suggests frameworks may need to specifically address these cases. It also notes the need for additional fire safety assessments covering behaviour with different materials and in different mounting configurations.

To address these issues the government has proposed the development of an interim standard using a German standard as the basis. This will stipulate the warnings and information that should be provided to consumers both on the product and in an information leaflet included with the product. As noted below, there are important differences between household electrical systems in Germany and the UK, which suggests the standard would require significant amendments.

Use of an interim standard

Whilst there are circumstances in which an interim standard is appropriate, this approach does emphasise the need for quicker availability over a robust safety-led standard, and it is therefore only appropriate where the level of risk is low. Interim standards can also make it more difficult to enforce compliance from manufacturers and consumers when the expected, later developed set of standards are released.

Information solutions

We are also sceptical that the consumer information solutions suggested can adequately address the risks that have been identified. It is likely that plug-in solar will be heavily marketed and as a result consumers will see a lot of information about the benefits of the units. Behavioural biases will also mean that consumers may not engage with instructions, particularly if they are technical or if following the instructions may result in consumers not achieving the benefit they hoped to see. There may also be access barriers that prevent some consumers engaging with the information.

- Present bias means that consumers may prioritise immediate benefits (energy savings) over long term safety risks and optimism bias may cause consumers to overestimate the likelihood of positive outcomes (the solar panels working safely) over their solar panels causing harm.
- Consumers are unlikely to see the warnings and advice until after they have purchased the solar panels. Consumers may not understand or engage with instructions that refer to technical electrical requirements.
- There is often a basic assumption that products that are available on the market are safe, which reduces the amount of attention paid to warnings.

- Some consumers may be particularly vulnerable if they struggle to read instructions due to technical language, small fonts, or limited ability to read English.

As the study notes, plug-in solar is likely to be installed by people with varying levels of knowledge, relocated, passed to new owners and paired with different equipment. This means that there is a high probability that written instructions will be lost or not used after the initial installation.

We are also concerned that cheap non-compliant plug-in solar may become available through online marketplaces where surveillance and enforcement of electrical products is very weak. This reflects wider concerns about online product safety but these concerns are relevant if, as expected, these are popular products that consumers may search for online.

Comparisons with Germany.

Plug-in solar is widespread in Germany and this is often used as an example for how it can be successfully introduced in the UK. However, for a number of reasons including older housing stock in the UK, different electrical systems and different regulations, the UK tends to have older electrical circuits. For example 25% of owner occupied homes in the UK entirely lack any form of RCD protection.¹ Regulations allowing plug-in solar in Germany were only introduced in May 2024, previously small solar units had to be installed by a qualified electrician.

Supporting safe household electrification

We recommend that the government undertake further work to identify solutions that will effectively mitigate the safety concerns that have been raised, including whether a qualified electrician should be required to confirm that the electrical system is suitable. The government should also consider if the provision of information, either as proposed or in an enhanced form, will be sufficient to ensure safe mounting, safe use of the units, and notification of the DNO, or whether other prompts or requirements are needed. The provision of information and the use of any additional mechanisms should be closely monitored to ensure rules are followed.

More broadly, the government should develop a strategy to help homeowners to identify if their home has an out of date electrical system and make any necessary upgrades. The incompatibility of older electrical circuits with plug-in solar illustrates a broader challenge in delivering the electrification of UK homes, as installing batteries, EV chargers and vehicle to grid charging units will require homes to have modern up to date electrical circuits.

Upgrading these circuits is the responsibility of the property owner, but the government should have a strategy for how it will identify properties with older circuits and support property owners to understand the changes required and, where necessary, provide financial support. Financial support could be made available by allowing electrical upgrades as an ancillary cost if property owners seek financing for installing a heat pump, solar panels or battery.

¹ UK Parliament Written Question (HL10593)

About Which?

Which? is the UK's consumer champion, here to make life simpler, fairer and safer for everyone. Our research gets to the heart of consumer issues, our advice is impartial, and our rigorous product tests lead to expert recommendations. We're the independent consumer voice that works with politicians and lawmakers, investigates, holds businesses to account and makes change happen. As an organisation we're not for profit and all for making consumers more powerful.

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June 2026