THE CHEAP ENERGY CAMPAIGN

THE DANGERS OF LITHIUM-ION BATTERIES

There have been several major fires at grid-scale battery arrays in recent years. The most recent significant incidents occurred on February 19 2025 at East Tilbury, Essex, on 29th January 2025 in Melbourne, Australia and on January 18 2025, at the Moss Landing Energy Storage Facility in California, .

The latter fire destroyed most of a 300-MW battery array owned by Vistra Energy, leading to the evacuation of about 1,200 residents and the closure of a major highway.

Li-ion batteries have caused at least 646 deaths world-wide and the figures are rising[1].The conclusions of a recent research paper ("Remarks on the Safety of Lithium –Ion Batteries for Large-Scale Battery Energy Storage Systems (BESS) in the UK" by Professors Edwards and Dobson of Oxford University) were as follows:

"The extremely high, intrinsic stored electrochemical and chemical energy density in large battery energy storage systems (BESS) has the very real potential to cause catastrophic disasters and dangers to life.

Industrial-scale Lithium-ion Battery Electrical Storage Systems (BESS) facilities such as are currently proposed – and indeed are being built across the entire UK—must be correctly categorised as potentially "Hazardous", that is: Defined as having the very real potential not only to create highly dangerous events but also the production of hazardous substances[2] – all posing a real threat of injury or danger- to life to site employees, first-responders, fire-fighters, and the local populous. There is also the possibility of significant damage to the natural environment both on the BESS site facility but also further afield.[3]"

[1] https://www.ul.com/insights/lithium-ion-battery-incident-reporting

[2] In the li-ion battery fire in Madrid on 2 April 2025 which resulted in two deaths, one of the deaths was from toxic fumes see: https://www.theseasidegazette.com/2025/04/113681/deaths-in-garage-fire

[3] https://doi.org/10.1007/s10694-024-01682-x

The problem is not just confined to large battery arrays. In the US, there were over 25,000 incidents of minor fires relating to lithium-ion batteries between 2017 and 2022[4].

LITHIUM-ION BATTERY FIRES IN THE UK

Lithium-ion battery fires have become a significant concern in the UK, with recent statistics showing a sharp increase in incidents. Since 2020, 190 people have been injured in fires related to lithium-ion batteries in the UK, with 10 fatalities[5]

In 2023, UK fire services attended 46% more fires linked to lithium-ion batteries compared to 2022, with almost three fires occurring daily[6],[7]. The total number of lithium-ion battery-related fires in 2023 reached 921[8].

Key Statistics

E-bikes accounted for nearly a third (29%) of all lithium-ion fires, with 270 incidents in 2023, a 70% increase from 158 in 2022[9].

E-scooter fires increased by 7%, from 117 in 2022 to 125 in 2023[10].

Electric car fires rose by 33%, from 89 in 2022 to 118 in 2023[11].

Electric bus fires increased by 22% in 2023[12].

Electric truck fires quadrupled, although only seven fire services reported on these incidents[13].

The Environmental Services Association (ESA) reports that 48% of all waste fires in the UK each year are caused by lithium-ion batteries[14].

In the last year, over 1,200 battery fires occurred in bin lorries and at waste sites across the UK, marking a 71% increase[15].

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[4] https://www.ajg.com/news-and-insights/features/lithium-ion-battery-fires-a-burning-issue-for-urban-centers-and-beyond/
[5] https://www.checkfire.co.uk/fire-safety-news/lithium-ion-battery-dangers-the-stats/
[6] https://internationalfireandsafetyjournal.com/uk-sees-rise-in-lithium-ion-battery-fires-in-2023/
[7] QBE Europe report
[8] https://www.britsafe.org/safety-management/2024/fires-caused-by-lithium-ion-batteries-up-46-last-year
[9] https://www.checkfire.co.uk/fire-safety-news/lithium-ion-battery-dangers-the-
[10] ibid
[11] https://internationalfireandsafetyjournal.com/uk-sees-rise-in-lithium-ion-battery-fires-in-2023
[12] Ibid
[13] https://metrostor.uk/how-common-are-lithium-ion-battery-fires/ibid
[14] https://metrostor.uk/how-common-are-lithium-ion-battery-fires/
[15] https://nfcc.org.uk/over-1200-battery-fires-in-bin-lorries-and-waste-sites-across-the-uk-in-last-year