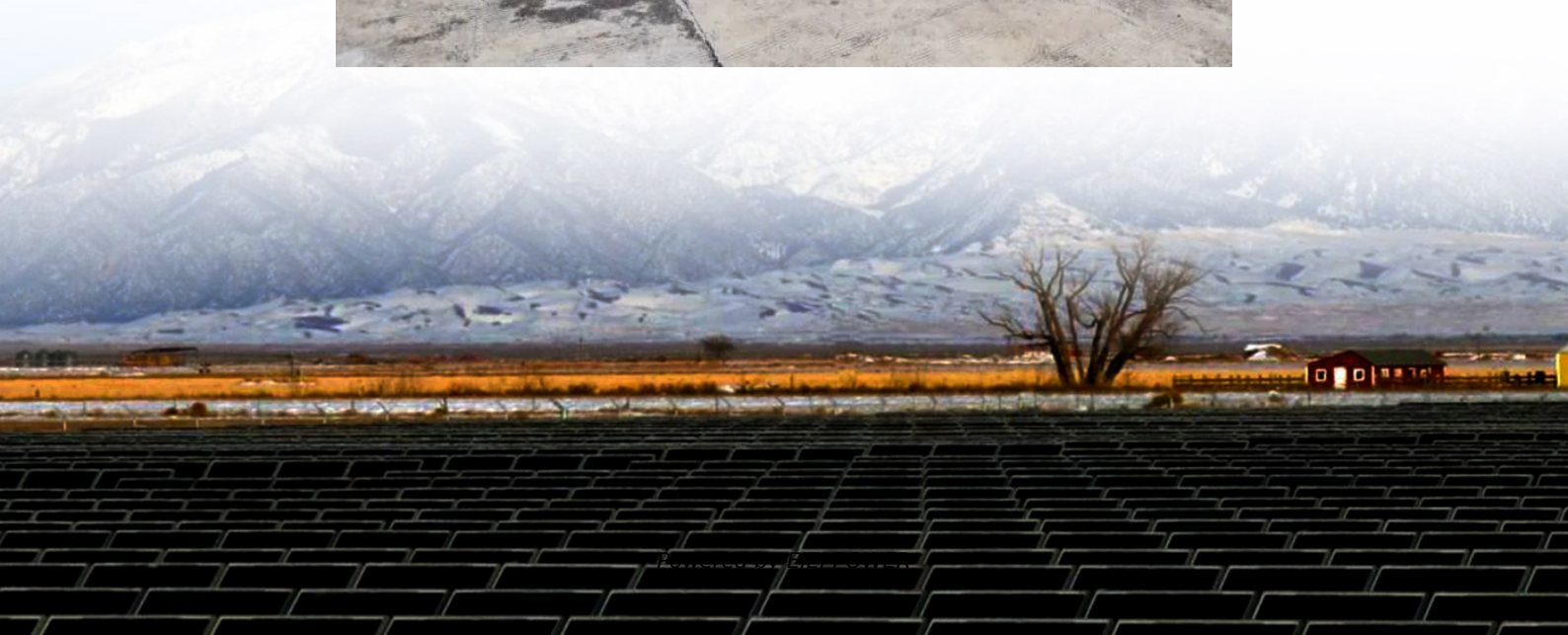


# Fire prevention measures for energy storage batteries





## Overview

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What is battery energy storage fire prevention & mitigation?

In 2019, EPRI began the Battery Energy Storage Fire Prevention and Mitigation – Phase I research project, convened a group of experts, and conducted a series of energy storage site surveys and industry workshops to identify critical research and development (R&D) needs regarding battery safety.

Are lithium-ion battery energy storage systems fire safe?

With the advantages of high energy density, short response time and low economic cost, utility-scale lithium-ion battery energy storage systems are built and installed around the world. However, due to the thermal runaway characteristics of lithium-ion batteries, much more attention is attracted to the fire safety of battery energy storage systems.

Are battery energy storage systems a fire hazard mitigation strategy?

The challenges of providing effective fire and explosion hazard mitigation strategies for Battery Energy Storage Systems (BESS) are receiving appreciable attention, given that renewable energy production has evolved significantly in recent years and is projected to account for 80% of new power generation capacity in 2030 (WEO, 2023).

How can battery energy storage safety management be improved?

To strengthen battery energy storage safety management, manufacturers now conduct large-scale fire testing (LSFT) to provide evidence when assessing the risks and support regulatory approvals. Adherence to international standards ensures that BESS projects integrate fire suppression, gas detection, and proper site management.



## Fire prevention measures for energy storage batteries

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### [Battery Energy Storage Systems: Main Considerations for ...](#)

Aug 21, 2025 · This webpage includes information from first responder and industry guidance as well as background information on battery energy storage systems (challenges & fires), BESS ...

### **Advances and perspectives in fire safety of lithium-ion battery energy**

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### [Fire Safety Solutions for Energy Storage Systems , EB BLOG](#)

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### [Comprehensive Guide to BESS Safety: Fire ...](#)

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### [Marioff HI-FOG Fire protection of Li-ion BESS Whitepaper](#)

Mar 7, 2025 · The scope of this document covers the fire safety aspects of lithium-ion (Li-ion) batteries and Energy Storage Systems (ESS) in industrial and commercial applications with ...





## Energy Storage Fire Safety Technology Barriers

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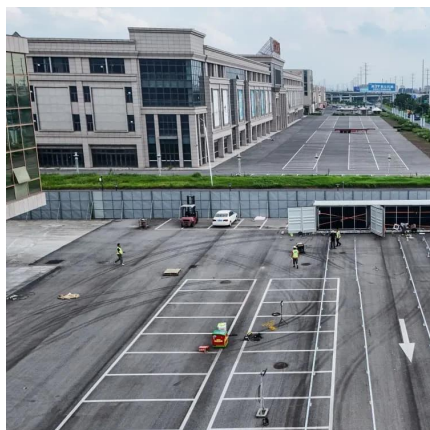
## BATTERY STORAGE FIRE SAFETY ROADMAP

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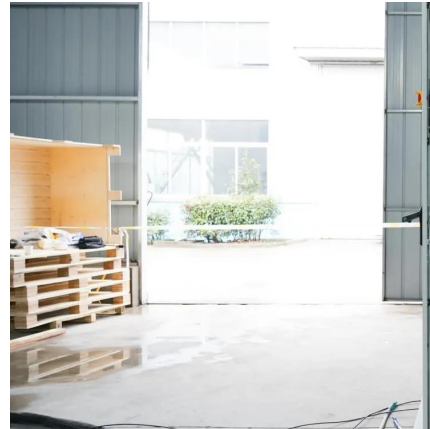
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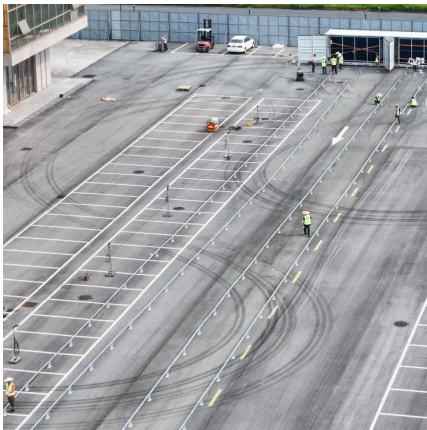
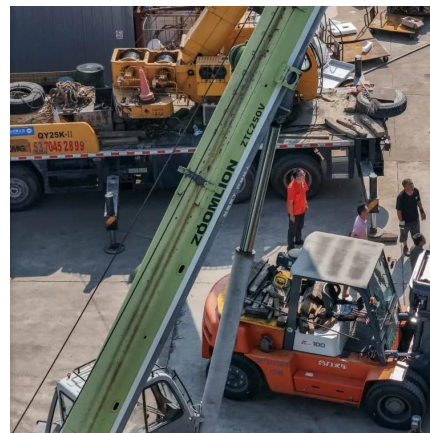


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