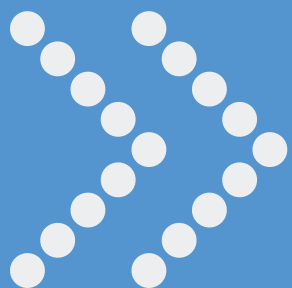


# Battery Storage: Do's & Don'ts



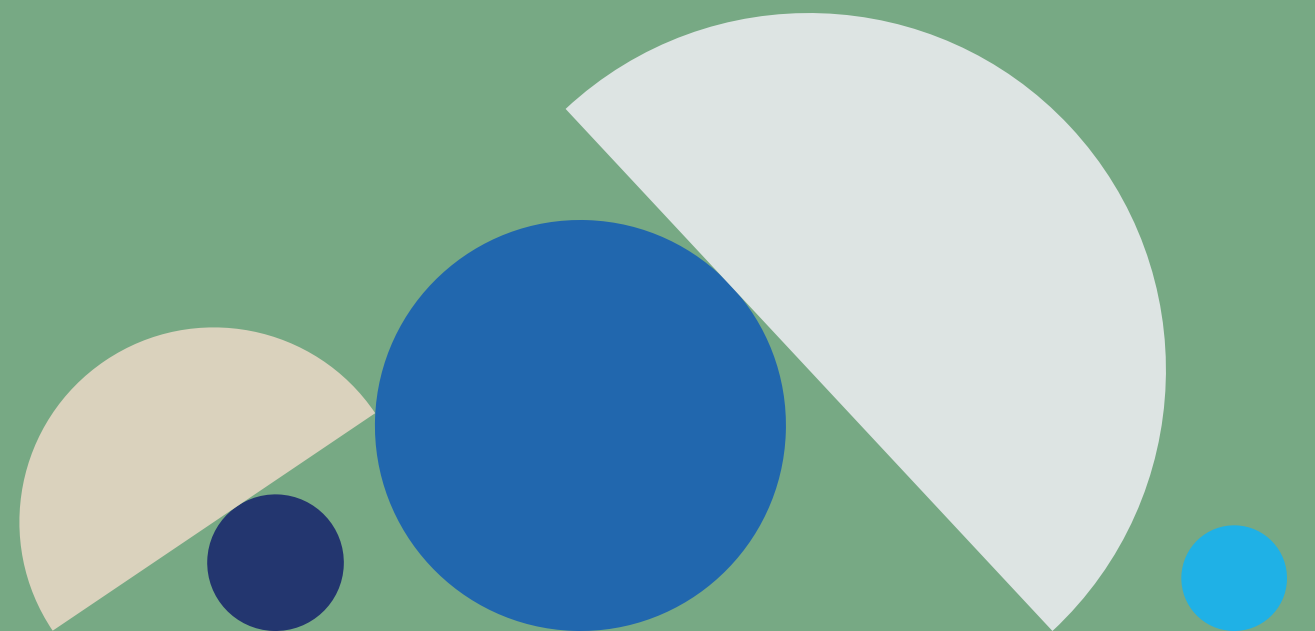
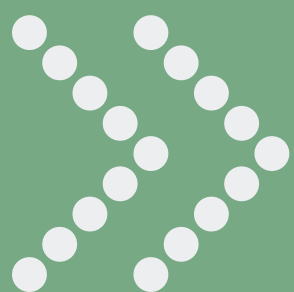
# Intro:



Discover the advancements in battery storage technology, enabling cost-effective storage of renewable energy for flexible usage. Reduce reliance on traditional power sources and embrace the benefits of battery storage. However, it's important to operate this technology safely and efficiently.

Check out our Do's and Don'ts for effective planning and operation.

This guidance is designed to support Risk Engineers in understanding best practices.



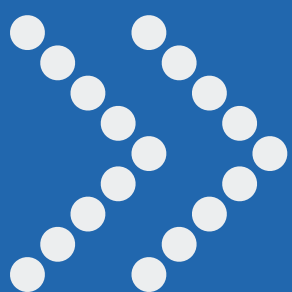
# Do:



**Choose safe and quality technology**, like newer LiFePO<sub>4</sub> (LFP) Batteries and components from reputable brands with local technical support.

**Prioritise safety** by wearing proper PPE and ensuring those responsible are trained in safe operation and isolation.

**Follow manufacturer instructions** for operation and maintenance of the system.



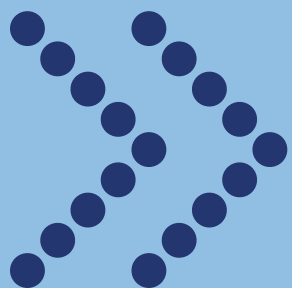
# Do:



**Consult with experts** with a proven track record for installation and maintenance.

**Assess placement and sizing** of the battery system for optimal performance and safety.

**Consider remote monitoring** and alarm systems for live status updates.



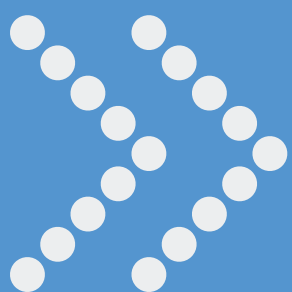
# Do:



**Update fire systems** and emergency response plans to reflect new risks.

**Inform local fire service** of the battery energy storage system details and whereabouts.

**Consider warranty extensions** and inform your insurance provider.



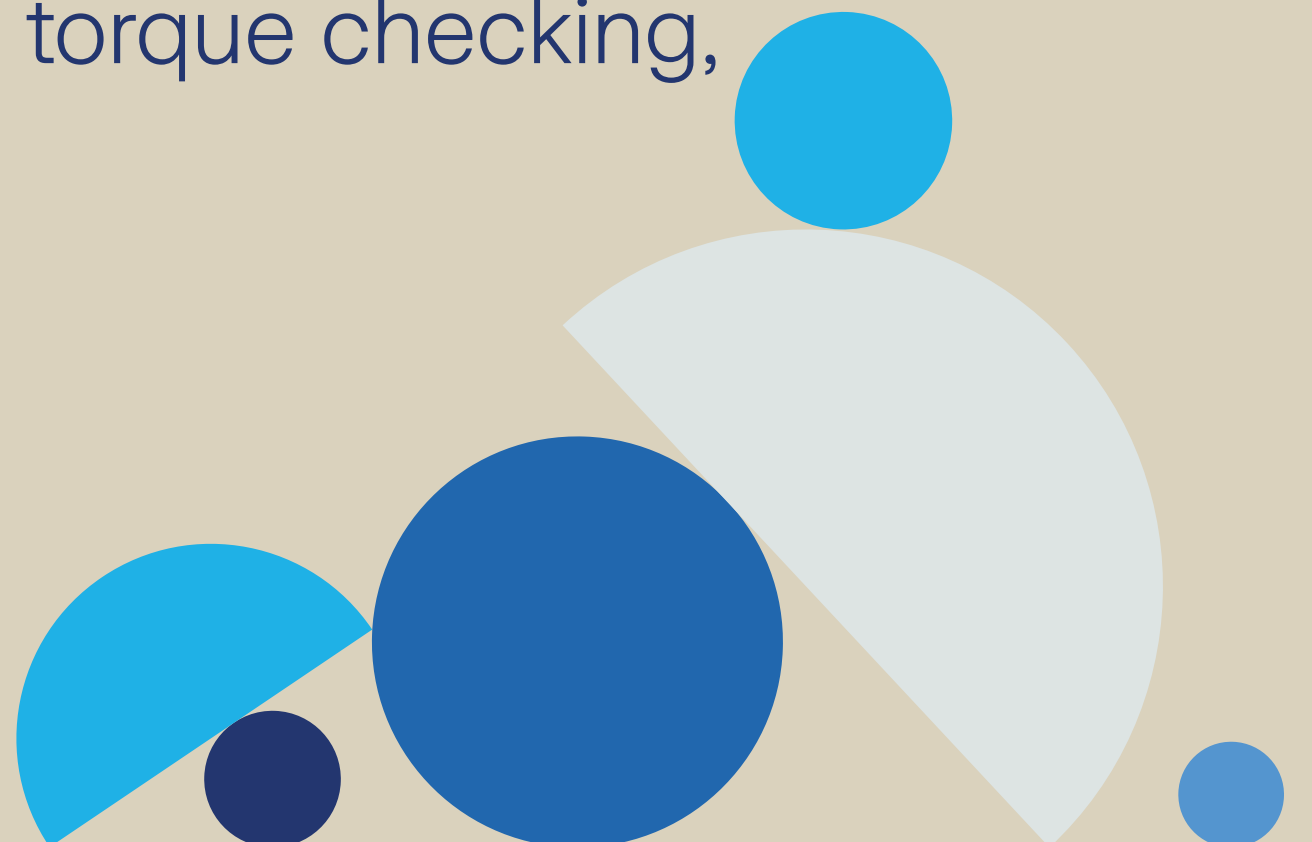
# Don't:



**Don't allow untrained colleagues to handle the workings** of these systems due to the presence of stored energy and high voltages.

**Don't ignore monitoring** as 24/7 monitoring of temperatures and charge states is crucial for safety and system performance.

**Don't neglect maintenance.** Perform regular checks and tests to ensure system health, including thermography, vent cleaning, torque checking, and fire alarm tests.

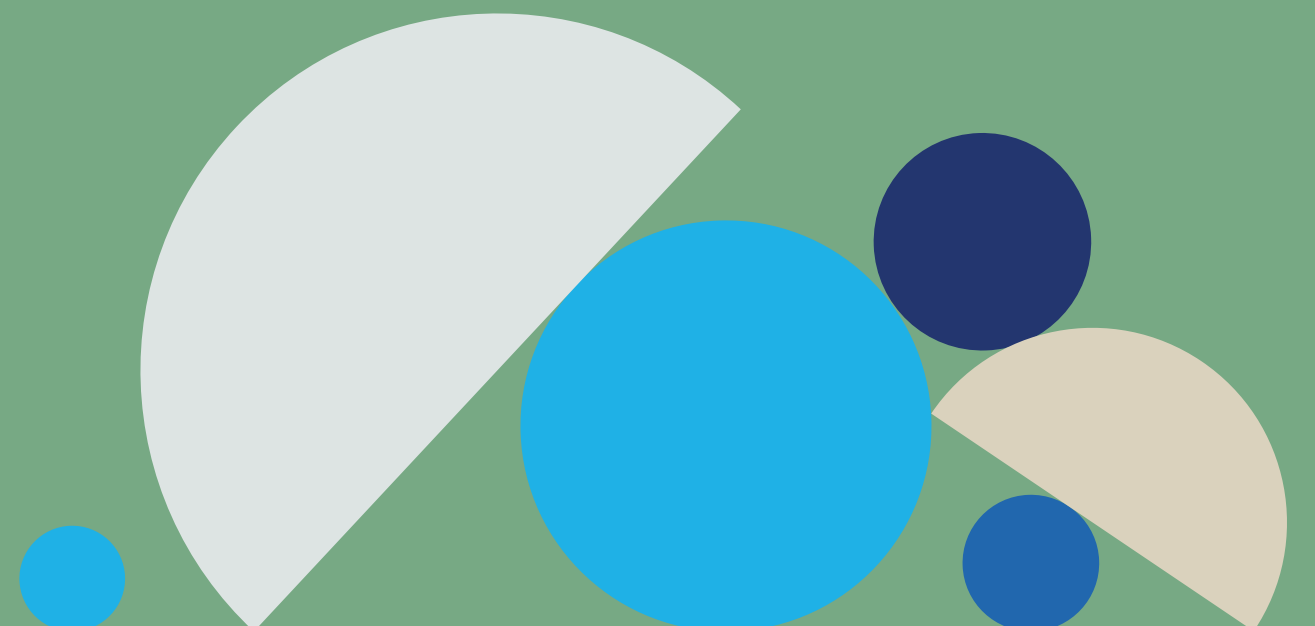
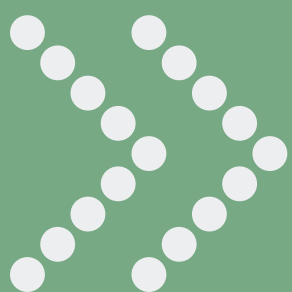


# Don't:



**Don't disregard the state of charge.** Operating battery systems at too low a charge state can cause permanent damage or reduce capacity. Maintain a minimum operating threshold of 20% charge state and limit depth of discharge (DoD) to 20% - 40%.

**Don't expose batteries to extreme temperatures.** Operating them above 30°C can lead to degradation of power and capacity.



# Don't:



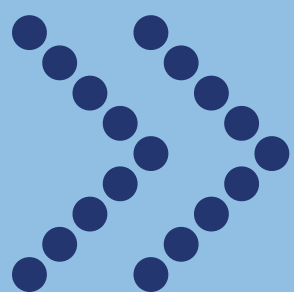
**Don't expect 100% capacity throughout the lifespan.**

Capacity fade is normal, and replacement is typically considered when capacity is below 70% - 80% of the original capacity.

**Don't forget to plan for recycling** at the end of the system's useful lifespan to ensure safe disposal and recycling of lithium batteries.

**Don't overlook the potential financial impact.**

Higher insurance premiums may result from expensive equipment and subsequent damage claims costs.



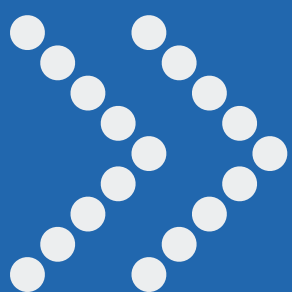


# Summary



Battery storage systems offer immense potential for harnessing renewable energy and achieving greater energy independence; however, they are not a “fit and forget” technology and need regular monitoring and maintenance to ensure their efficient and safe operation.

Employee training and awareness, and associated risks assessments should be implemented to mitigate any problems that may occur.



# Get in touch



For more information on Battery Storage and many more risk insights, get in touch with ZRS today.



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