

## SolarInnovate Energy Solutions

# Exterior design of energy storage container



## Overview

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What are the challenges in designing a battery energy storage system container?

The key challenges in designing the battery energy storage system container included: **Weight Reduction:** The container design had to be lightweight yet strong enough to withstand operational stresses like shocks and seismic forces, ensuring the batteries were protected during transport and deployment.

What is a battery energy storage system container?

A Battery Energy Storage System container is more than a metal shell—it is a frontline safety barrier that shields high-value batteries, power-conversion gear and auxiliary electronics from mechanical shock, fire risk and harsh climates.

What makes a good shipping container design?

**Weight Reduction:** The container design had to be lightweight yet strong enough to withstand operational stresses like shocks and seismic forces, ensuring the batteries were protected during transport and deployment. **Compliance with International Standards:** The container design should meet stringent international standards for shipping containers.

How do I integrate an efficient HVAC system into the container design?

We integrated an efficient HVAC system into the container design by: Incorporating two AC chillers to cool the battery area, regulating the temperature inside the container. Installing two mounted fans on top of the transformer block to circulate the air and ensure efficient heat dissipation.

Why should you consider a container design?

The container was also weatherproof, offering protection against environmental elements. Strategically placed access points and an optimized

internal space simplified maintenance. The design helped the client reduce operational downtime and maintenance efforts.

What makes a good container?

**Weather Resistance:** As the container would be kept outdoors, it must withstand environmental conditions like rain, extreme temperatures, and high winds, while keeping the internal components safe. **Doors, Frames and Handles:** Aesthetic design was also a key consideration. We needed doors, frames, and handles to be visually appealing and easy to use.

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