# Analysis of the lithium battery energy storage system industry chain


## Overview

Technological innovation is the primary driver of the clean energy transition, yet systematic evaluations of technological dependency and bottleneck risks across the full lithium battery supply chain remain limited. decarbonized, and resilient future transportation and power sectors. This study establishes a multi-dimensional framework to measure international . nergy and providing critical support to the electric grid. Despite progress in relocating supply chains for raw materials from home or allied countries, the control and power electronic industry has lagged, in part due to lower prof t margins and cost-based domestic supply chain incentives. Many . The global lithium-ion battery market exceeded USD 150 billion in 2025, an increase of over 20% from 2024, but its economic and strategic significance extends far beyond market size.

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## Energy Storage Manufacturing Analysis

NLR researchers aim to provide a process-based analysis to identify where production equipment may struggle with potential increases in demand of lithium-ion and flow batteries over the

## Building a Robust and Resilient U.S. Lithium Battery Supply Chain

Demand for lithium batteries is set to grow rapidly, driven primarily by the increased adoption of electric vehicles (EVs) and energy storage systems (ESSs) on the electrical grid.

## Advanced Lithium-Ion Energy Storage Battery Manufacturing in the

Although lower-priced batteries may benefit battery consumers (e.g., EV manufacturers) in the short term, reliance on imports for these critical components may present supply chain diversification risks

## Battery Energy Storage System (BESS) Supply Chain Analysis

Battery Energy Storage System (BESS) Supply The United States faces a significant challenge in keeping pace with the evolving and increasingly digitized grid.

## 2021 2024 FOUR YEAR REVIEW SUPPLY CHAINS FOR THE

The White House, Department of Energy (through MESC), and other agencies are continuing to engage and coordinate with industry on supply chain challenges through the American Battery Materials

## Friendshoring the Lithium-Ion Battery Supply Chain: Final

The last report in a series of three, this piece outlines the assembly of lithium-ion battery cells into modules as well as different battery end-uses, and addresses current U.S. policy gaps in

## Global battery markets are growing strongly - and so are the supply

Battery energy storage has grown at an exceptional pace, with global installations increasing more than 20-fold in storage capacity over the past five years. This growth has been

## Global lithium battery industry technology dependency network and

Technological innovation is the primary driver of the clean energy transition, yet systematic evaluations of technological dependency and bottleneck risks across the full lithium

## Critical risks in an industry chain-based global lithium supply

This study aims to uncover the static structure of the lithium-related trade network from the perspective of the global supply chain and to

simulate the dynamic process of supply chain risk

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