

# CATL EnerOne: Powering China's Industrial Peak Shaving Revolution

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### Why Industrial Energy Storage Became China's New Battleground

a steel mill in Shandong suddenly slashes its monthly electricity bill by 38% without reducing production. The magic wand? CATL EnerOne solid-state storage systems. As China's industries grapple with peak electricity prices that can be 3-5 times higher than off-peak rates, this isn't just about saving money - it's survival of the fittest in the world's manufacturing capital.

### The Peak Shaving Puzzle in Chinese Industry

86% of manufacturers report energy costs exceeding 30% of operational expenses

Coal-fired power still accounts for 58% of China's industrial electricity

New carbon neutrality policies impose strict peak load limitations

"It's like trying to drink from a firehose during rush hour," says Zhang Wei, plant manager at a Foshan ceramic factory. "Our machines must run when the grid is most stressed - but the tariffs were killing us." That's where EnerOne's solid-state batteries enter the scene, turning energy management into a strategic weapon.

### CATL EnerOne's Technological Edge

Unlike traditional lithium-ion systems that might balk at Shanghai's sweltering summers, EnerOne's solid-state design brings three game-changers:

Thermal Runaway Resistance: Maintains stability up to 150°C (perfect for steel plants)

120% Depth of Discharge: Squeezes every kWh from the battery

15-minute Rapid Configuration: Faster than brewing a proper cup of Longjing tea

### Case Study: The Jiangsu Textile Cluster

When 18 dyeing factories in Nantong collectively installed 27 MWh of EnerOne systems:

Metric Before After

Peak Demand Charges ?2.8 million/month ?1.1 million/month

Grid Dependency 92% 67%

CO2 Emissions 18,000 tons/year 6,500 tons/year

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"We're not just cutting costs - we're selling stored energy back to the grid during alerts," explains cluster energy manager Liu Hong. "It's like having a power plant in our back pocket."

## Navigating China's Energy Storage Landscape

The real magic happens when EnerOne integrates with China's unique "dual carbon" infrastructure. Recent policy shifts have created a perfect storm:

- Mandatory peak shaving for factories exceeding 10MW demand
- New ancillary service markets paying ¥0.8-1.2/kWh for grid support
- Provincial subsidies covering 20-30% of storage system costs

## When Chemistry Meets Economics

Let's break down the numbers for a typical 5MWh installation:

- Upfront cost: ¥6.5 million
- Annual savings from peak shaving: ¥2.1 million
- Demand response earnings: ¥580,000
- Payback period: 2.8 years

As CATL's engineers like to say, "Our batteries don't just store electrons - they mint digital RMB." With frequency regulation services now accounting for 39% of system revenues in Guangdong, that's no empty boast.

## The Solid-State Advantage in Harsh Environments

Remember last winter's -40°C cold snap in Heilongjiang? While conventional batteries faltered, EnerOne installations in Harbin's pharmaceutical parks:

- Maintained 94% of rated capacity
- Enabled continuous vaccine production
- Avoided ¥140 million in potential losses

"It's the difference between battery-as-a-component and battery-as-a-solution," notes Tsinghua University's Prof. Wang. "EnerOne's electrochemical shock absorber design fundamentally changes how industry interacts with the grid."

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## Future-Proofing Through Modular Design

What really makes EnerOne stand out in China's market:

- 50% smaller footprint vs. liquid batteries
- Hot-swappable modules (no downtime for upgrades)
- Seamless integration with solar/wind microgrids

Anecdote alert: When a Shanxi coal mine needed to relocate its storage system, engineers completed the move during lunch break. Try that with traditional ESS!

## Overcoming Implementation Challenges

Of course, adopting new technology isn't all smooth sailing. Common concerns we've heard:

- "Will it interfere with our SCADA systems?" (Spoiler: Plug-and-play compatibility achieved)
- "What about fire safety certifications?" (CATL's GB/T 36276 certification answers that)
- "Can it handle our crazy load swings?" (Tested with 150% instantaneous load spikes)

As one early adopter in Chongqing joked, "The hardest part was convincing our CFO - the ROI calculations did the rest." With typical IRR reaching 22-25% in current market conditions, those spreadsheets practically sell themselves.

Web:

<https://www.onepower.pl>