



# Top 10 Energy Storage Solution Providers Revolutionizing the Industry in 2018

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### The Power Players Shaping Energy Storage

Imagine your smartphone battery lasting 3x longer - that's the scale of transformation happening in industrial energy storage. By 2018, the global energy storage market had ballooned to \$33 billion, with innovators like Tesla and LG Chem leading the charge. But who else made the cut?

#### 1. Tesla Energy - The Disruptor with a Vision

Elon Musk's brainchild didn't just make electric cars cool - their Powerwall 2 became the iPhone of home energy storage. Key achievements:

- Deployed 1 GWh of storage capacity globally
- Pioneered virtual power plant concepts in South Australia
- Reduced lithium-ion battery costs by 35% since 2015

#### 2. LG Chem - The Battery Behemoth

While you've seen their batteries in smartphones, LG's RESU systems powered 1 in 5 commercial installations. Their secret sauce? Proprietary NMC chemistry offering:

- 4,000+ full charge cycles
- 95% round-trip efficiency
- 20°C to 60°C operational range

### Emerging Technologies Making Waves

2018 saw flow batteries finally hit commercial viability. VRFB (Vanadium Redox Flow Battery) installations grew 200% year-over-year, with companies like...

#### 3. Sonnen - The German Efficiency Machine

This Bavarian innovator turned energy storage into a community game. Their sonnenCommunity platform allowed:

- Peer-to-peer energy trading
- Automatic grid services participation
- 30% faster ROI through shared storage

#### 4. BYD - China's Storage Dragon



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While known for electric buses, BYD's containerized BESS solutions dominated Asian markets. Their 40-foot Cube systems could:

- Store 3.2 MWh per unit
- Deploy in 72 hours
- Withstand typhoon-force winds

## Specialist Solutions for Unique Needs

Not all electrons are created equal. 2018 witnessed niche solutions for extreme environments:

### 5. NEC ES - The Arctic Warrior

Their AEROS(R) controllers kept storage systems humming at -40°C in Alaska microgrids. Key innovations included:

- Self-heating battery enclosures
- Dynamic viscosity management for electrolytes
- Ice-phobic busbar coatings

### 6. Fluence - The Grid Whisperer

This Siemens-AES joint venture deployed the world's largest lithium-ion battery (100 MW/129 MWh) in California. Their Gridstack(TM) technology:

- Responded to grid signals in 200ms
- Integrated 8 different revenue streams per installation
- Used machine learning for state-of-health prediction

## The Dark Horses You Shouldn't Ignore

While giants dominated headlines, these innovators carved unique niches:

### 7. GreenCharge - The Parking Lot Pioneer

Who knew parking garages could become virtual power plants? Their 2018 Brooklyn installation:

- Stored 2 MWh in concrete pillars
- Powered 300 apartments during peak hours
- Earned \$450k annually in demand charge savings

## 8. Stem - The AI Maestro

Using Athena(R) AI platform, Stem's systems became the chess masters of energy arbitrage. Real-world results showed:

- 22% higher revenues than rule-based systems
- Predictive maintenance reducing downtime by 65%
- Automatic participation in 14 different markets

## Global Expansion and Emerging Markets

As the industry matured, new battlegrounds emerged:

## 9. Leclanche - The Maritime Specialist

Swiss precision met ocean waves. Their marine storage systems:

- Cut ferry fuel consumption by 40%
- Survived 15m wave impacts
- Used saltwater cooling for zero freshwater needs

## 10. Redflow - The Outback Innovator

Australia's zinc-bromide flow batteries became the kings of remote resilience:

- 100% depth of discharge capability
- 25-year electrolyte lifespan
- Fire-safe chemistry with zero thermal runaway risk

## The Storage Arms Race Heats Up

With R&D spending hitting \$4.2 billion industry-wide in 2018, new breakthroughs emerged monthly. From solid-state prototypes to hydrogen hybrids, the sector proved it wasn't just about bigger batteries - but smarter energy management. As one industry insider quipped, "We're not selling storage tanks, we're selling electron ballet choreographers."

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