2019 Utility Energy Storage Market Snapshot: The Year Storage Went Mainstream

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When Batteries Outgrew the Toy Aisle

Remember when "energy storage" made people think of AA batteries? 2019 changed that perception faster than a Tesla Powerwall charges. The Smart Electric Power Alliance's 2019 Utility Energy Storage Market Snapshot reveals an industry hitting puberty - awkward growth spurts, sudden capability jumps, and regulatory growing pains.

The Numbers That Made Utilities Sit Up Straight

Let's crunch the digits that turned heads:

- US cumulative capacity: 2GWh (enough to power 200,000 homes for 1 hour)
- Annual deployments: 760MWh (45% jump from 2017)
- Utility-scale dominance: 395MWh installed (11.3% YoY growth)

California's Storage Gold Rush

The real action happened where sunshine meets silicon. California accounted for 40% of new deployments, with projects like:

- LS Power's 250MW Gateway Project (phased commissioning)
- NextEra's 230MW solar+storage hybrid plants

Why the frenzy? Utilities finally saw storage as cheaper than building new peaker plants - the industry's "aha!" moment.

The Safety Dance: NFPA 855 Enters the Chat

September 2019 brought the energy storage equivalent of fire drills. The NFPA 855 standard arrived like an overprotective parent, mandating:

- Fire suppression systems that could drown a data center
- Safety buffers making storage sites look like maximum security prisons
- Emergency protocols giving firefighters battery chemistry crash courses

"We went from 'stick it in a shed' to 'build Fort Knox' overnight," quipped one project developer.

Hawaii's Storage Aloha Spirit

While California hogged headlines, Hawaii quietly became the storage density champion:

30% of new solar paired with storage
Kauai's 52MWh Tesla system offsetting 3.7M gallons of diesel annually

Island grids became living labs for managing renewable volatility - with storage as the shock absorber.

The Massachusetts Curveball
East Coast entrants played regulatory chess. Massachusetts' SMART program:

Paid solar+storage systems $0.35/kWh (vs $0.29 for solar alone)
Sparked 83MW of behind-the-meter projects in 12 months

"We turned storage into a revenue-generating asset class," boasted one Bay State regulator.

T&D Deferral: Utilities' New Favorite Excuse
2019's magic words for project approvals? "Transmission and distribution upgrade avoidance." Storage became the duct tape holding aging grids together:

ConEd's Brooklyn Queens Demand Management: $200M saved in substation upgrades
PG&E's 730MWh portfolio targeting wildfire-prone areas

"Why rebuild lines when batteries can time-shift electrons?" became the industry pickup line.

Lithium's Monopoly Gets Challengers
While lithium-ion ruled 89% of deployments, 2019 saw:

ESS Inc's iron flow batteries powering Oregon microgrids
Form Energy's multi-day storage prototypes
Hydrostor's compressed air projects in Canada

The storage buffet was finally expanding beyond lithium-flavored entrees.

The Interconnection Queue Shuffle
Developers faced a new headache - storage's popularity became its own enemy:

CAISO queue: 680 storage projects pending (vs 112 in 2017)
Average approval time ballooning to 18 months

"We need a dating app for storage and grid operators," joked a frustrated developer at SPI 2019.

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Financial Innovation: Storage Gets Sexy
Wall Street's 2019 storage crushes included:

- Green Bond issuances hitting $2.1B for storage projects
- First solar+storage securitization (8point3's $104M deal)
- Tax equity structures getting more creative than a Picasso painting

Lessons From the Storage Playground
2019 taught the industry three hard truths:

- Safety standards could make or break project economics
- Stacking value streams required PhD-level spreadsheet skills
- Regulatory lag threatened to stall the storage rocket

As the decade closed, one thing became clear - storage had graduated from science project to grid cornerstone. The 2020s would need bigger report cards.

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