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Global battery market ,“next-gen” storage categories and critical raw materials’ supply chain

Lithium-ion battery pack prices just hit a record low of $108/kWh — but the real story is what this unlocks. Australia is already installing 40 kWh LFP home batteries for ~$5,000 AUD after rebates. That’s about $125/kWh installed — the point where storage abundance becomes unavoidable.

BloombergNEF shows the long slide from $1,474/kWh in 2010 → $108 today. But the disruption isn’t the chart — it’s the chemistry underneath.

The world is consolidating around one winner:

🔋 LFP packs in China are already $60–80/kWh

🔋 Cell-only LFP is trending toward $40–50/kWh

🔋 Stationary LFP is so cheap it’s erasing entire “next-gen” storage categories

Vanadium? Too slow, too costly, too heavy. NMC? Losing every high-volume segment. And sodium-ion? Yes, promising — but here’s the inconvenient truth:

🔋 Sodium-ion simply cannot scale at LFP speed.

When LFP began its rise, the global battery market was tiny — maybe 100 GWh. Today the market is over 1 TWh and scaling toward 3–5 TWh by 2030. Sodium is trying to enter a space 10× larger than when LFP began scaling — with none of LFP’s already-built giga-factories. It will find niches, but it won’t overrun lithium’s dominance this decade.

The head start is too big. The ecosystem too entrenched.

Meanwhile, LFP’s success is detonating a new lithium demand cycle:

🔋 Cheaper packs → bigger EV batteries

🔋 Cheaper packs → massive home + grid storage deployment

🔋 Cheaper packs → LMFP upgrades at zero manufacturing cost

🔋 Cheaper packs → more lithium per capita, globally

And here's the part analysts keep dancing around:

🔋 Lithium supply is not scaling fast enough.

Most new mines are delayed, underfunded, or years behind approvals. DLE is promising but not commercial at global scale.

Exploration budgets collapsed during the downturn. And demand is roaring back because storage economics just flipped.

This isn't a soft landing. It's a widening gap between what's possible with cheap LFP and what supply chains can deliver.

Australia's $5k 40 kWh battery is the early warning. When households can add 40 kWh like it's a new dishwasher, the entire grid model breaks — and fossil peakers can't compete.

The transition isn't slowing. It's accelerating because LFP got so cheap it became inevitable.

The world is running on one chemistry — LFP → LMFP — and that means one thing:

Lithium demand is about to run hotter, longer, and far tighter than any current forecast dares to admit.