

China Kills Off "Cascade Utilization": Battery Recycling Overhaul Hits as End-of-Life Wave Arrives

Policy & Regulation · Aug 20, 2026

Table 1. China EV battery retirements, 2026–2030. The 2026 cohort is small in volume but sets the policy template; 2028 is the inflection year.

Year	Retired batteries (GWh)	Tonnes (Mt)	Source
2026	~43	~0.9	MIIT / CABIA estimates
2028	~93	~2.0	Industry roll-forward
2030	~171	~3.6	MIIT long-range outlook
Cumulative 2026–2030	~470	~10.1	NEGUP analysis

For most of the past decade, “cascade utilization” was the polite phrase for taking retired EV batteries and giving them a second life as stationary storage. In 2026, China’s Ministry of Industry and Information Technology pulled the policy rug out. **MIIT Announcement No. 20 of 2026** repealed the cascade utilization framework, removed roughly 100 companies from the official compliant-recycler whitelist, and tightened recovery-rate targets — all just as the first real wave of EV retirements is hitting. The policy shift is the most consequential structural change to the Chinese recycling market since 2018.

What the MIIT Announcement Actually Changed

Three things, all of them in force from the announcement date:

- **Cascade utilization is no longer a recognized end-of-life pathway.** Second-life use as stationary storage, telecom backup or low-speed EV packs is treated the same as primary recycling: the battery must enter a compliant recycling line. This eliminates the price-premium that second-life certification gave retired packs in 2023–2025.
- **100 companies were removed from the compliant-recycler whitelist.** The whitelist fell from 156 firms to 56. Most removals were smaller regional players that could not demonstrate the new audit thresholds for traceability, safety, and recovery rate. The survivors are concentrated in Guangdong, Zhejiang, Jiangsu, Hubei and Sichuan.
- **Stricter recovery-rate thresholds.** Lithium recovery must now reach $\geq 90\%$ at the smelter step, nickel and cobalt at $\geq 98\%$, and manganese at $\geq 95\%$. Plants that miss these targets lose the “compliant” label and lose access to OEM take-back contracts.

The Retirement Wave Is Real This Time

Between 2015 and 2020, China deployed roughly 6–8 GWh per year of EV traction batteries, almost all passenger-vehicle NMC packs with 8-year / 150,000 km warranties. **The first large cohort of those**

packs is reaching end-of-life in 2026–2028.

Industry data compiled from MIIT filings and the China Automotive Battery Innovation Alliance:

- **2026 — ~43 GWh / ~900,000 tons of retired traction batteries**, predominantly early-NMC passenger packs plus a smaller commercial-vehicle cohort.
- **2028 — ~93 GWh / ~2.0 million tons**, with the first large wave of 2017–2018 passenger-EV retirements.
- **2030 — ~171 GWh / ~3.6 million tons**, by which point the cumulative Chinese retirement stock crosses half a million tons per year.

To put 171 GWh in perspective, that is roughly the total global grid-scale storage build-out in 2024. The recycling industry is being asked to absorb the equivalent of a year-and-a-half of the global BESS market in single year, as feedstock.

What the Policy Shift Means for Equipment

With cascade utilization off the table, the bottleneck in 2026 is not feedstock — it is *compliant processing capacity*. The 100 companies that lost their whitelist status had, in aggregate, more than 30 GWh of nominal disassembly capacity, almost all of it now stranded. The 56 surviving compliant recyclers collectively have about 65 GWh of capacity against a 43 GWh 2026 feedstock — tight, but workable. The structural squeeze hits in 2027–2028.

- **Automated disassembly is no longer optional.** Manual teardown cannot meet the throughput needed for a 90% lithium recovery rate at a feedstock cost that still leaves recycler margin. Robotic modules that identify cell chemistry, discharge state, and pack architecture on intake are now the procurement standard.
- **Discharge and safety testing become the gating step.** Retired packs come in with unknown state-of-charge, water ingress, and often physical damage. A line that can discharge a pack to a defined safe state in under 30 minutes, then route it correctly to dismantling, is the difference between a compliant recycler and a stranded one.
- **Sorting accuracy drives hydrometallurgical yield.** The new recovery thresholds are measured at the smelter step, but the input stream must be sorted by chemistry. Lines that can identify and route NMC, LFP and NCA fractions cleanly into separate black-mass streams get a yield premium.
- **Traceability is now a regulatory requirement.** The MIIT rules require per-pack provenance records. Lines that integrate barcode/RFID tracking from intake through to black-mass shipment reduce the audit burden materially.

NEGUP MACHINE builds automated pack-discharge stations, robotic disassembly cells, and end-of-line testing systems for EOL batteries. The same line architecture that serves a high-volume cell manufacturer can serve a high-volume recycler, with the disassembly and discharge steps taking the place of the welding and formation steps. We are not naming recycler customers here, but the policy data above is exactly what those buyers are working against.

What Buyers Outside China Should Take From This

The MIIT shift is local policy, but the technology implications are global:

- **Cascade utilization is now legacy.** If a 2023-vintage second-life business case is still in a board deck, it is no longer bankable in China and will be increasingly hard to defend in other markets as EU and Korean regulators watch the Chinese move.

- **The first 2026 retirement wave sets the audit template.** Expect EU Battery Regulation enforcement and Korean recycling rules to converge on the Chinese recovery thresholds within 18–24 months.
- **Equipment orders are the leading indicator.** The 2026–2027 disassembly-line order book at the top 10 Chinese recyclers is the best publicly available proxy for how the industry expects policy to tighten further. Watch that order book.