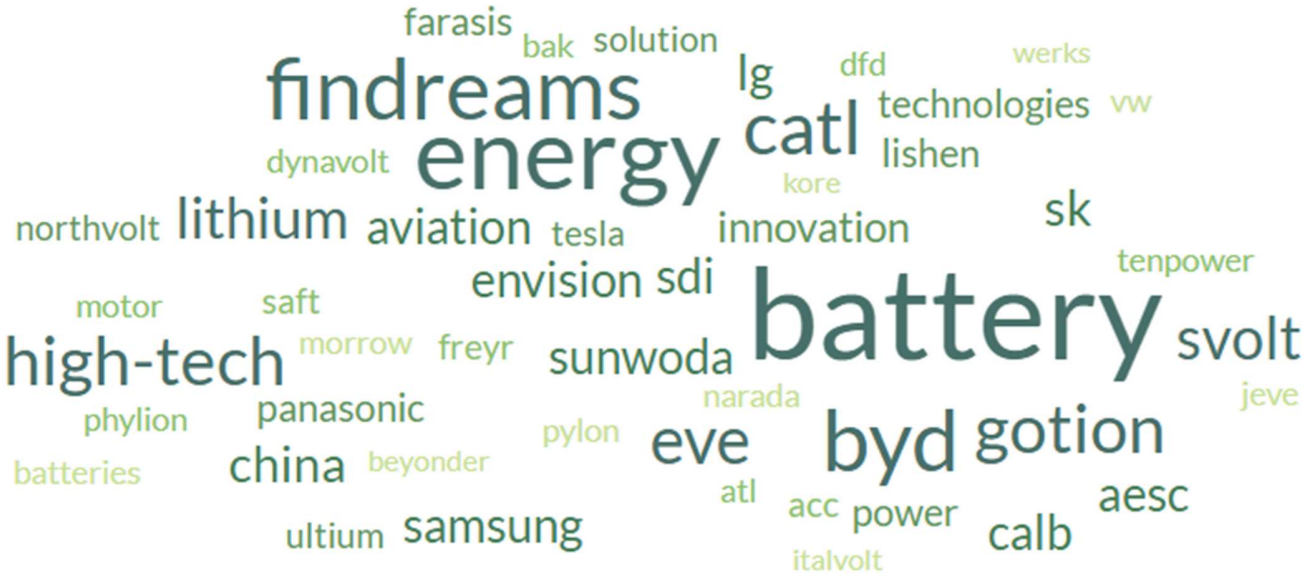

The digest focuses on key areas significant to battery value chain

Contents

Raw materials

1. Zimbabwe to Launch $270 Million Lithium Plant

Zimbabwe's state-owned Kuvimba Mining House plans to begin construction of a $270 million lithium concentrator at the Sandawana mine in the third quarter of 2025. The plant, developed in partnership with two major Chinese metals companies, will process 600,000 metric tons of lithium ore annually. It will operate under a Build-Own-Operate model for at least five years before transferring ownership to Kuvimba. The project is expected to be completed and operational by early 2027. CEO Trevor Barnard confirmed that key agreements and industry conditions are being finalized to ensure timely progress. Despite a nearly 90% drop in lithium prices due to global oversupply, demand is forecast to rebound by late 2025. Barnard anticipates price recovery by 2027, aligning with the plant's commissioning. Zimbabwe, Africa's largest lithium producer, will ban exports of lithium concentrates starting January 2027. This move is part of a national push to boost local processing capacity. Chinese investors are already building facilities to meet the new policy.
https://www.reuters.com/world/africa/zimbabwe-aims-break-ground-270-million-new-lithium-plant-this-year-2025-07-16/

2. Zangge Suspends Lithium Production After Government Order

Chinese lithium producer Zangge Mining has suspended operations at its Qinghai province subsidiary following an order from local authorities in Haixi prefecture. The directive, issued mid-July, cited non-compliance issues, though specific violations were not disclosed. The subsidiary had aimed to produce 11,000 tonnes of lithium carbonate in 2025, with 5,350 tonnes already completed in the first half. Production will only resume once compliance is addressed and government approval is obtained. Zangge expects minimal impact on its annual financial results despite the halt. News of the suspension led to a surge in lithium carbonate futures, rising over 4% to a near three-month high. Analysts believe the disruption is unlikely to cause long-term supply issues. The company has committed to rectifying operations to meet regulatory standards. The timeline for resuming production remains uncertain. The incident highlights China's increasing regulatory scrutiny over lithium mining in environmentally sensitive regions.

3. Vancouver to Host North America's Largest Lithium Refinery

Vancouver-based Mangrove Lithium has unveiled plans to build North America's largest lithium refining facility, aiming to produce 20,000 tonnes of battery-grade lithium annually—enough for 500,000 electric vehicles. The project represents a major scale-up from the company's current Delta, BC plant, increasing production by twenty times. Unlike the existing facility focused on electrochemical refining, the new plant will process spodumene concentrate, expanding upstream capabilities. Mangrove has secured agreements with U.S. gigafactories to purchase the full output. The facility will utilize a proprietary low-emission, waste-free electrolysis technology to cut costs and reduce environmental impact. While the exact site and construction timeline are yet to be confirmed, the project officially launched on July 17, 2025. The company highlights the importance of building a secure, domestic lithium supply chain amid growing global instability. Its first commercial plant in Delta is expected to start operations by late 2025 with 1,000 tonnes of annual output. These efforts mark a critical step in reshoring North American lithium processing capacity.
https://www.mangrovelithium.com/building-on-strong-customer-demand-mangrove-lithium-to-significantly-expand-north-americas-refining-capacity-with-massive-new-facility/

4. Spark Identifies Four Key Lithium Drill Targets in Brazil

Spark Energy Minerals has confirmed four high-priority lithium drill targets at its Arapaima project in Brazil's Lithium Valley. The identified zones—Testa, Pedro, Robertinho/Bob, and Macuco—were validated through detailed fieldwork and geochemical sampling. A highlight from Macuco revealed a lithium concentration of 1,217 ppm in black mica, one of the strongest results to date. In July, Spark collected 62 rock and 20 stream sediment samples to support ongoing exploration. These pegmatite-hosted zones showed strong lithium potential with easy access and drill-readiness. The company plans to launch its first diamond drilling campaign in Q3 2025 to test these targets. Concurrently, exploration continues across the Caladão Granite, also targeting rare earths and gallium. Spark's leadership views these results as a major step forward in its

strategic expansion. The project's location within Brazil's rapidly developing Lithium Valley adds further significance. Spark is positioning itself for a breakthrough in one of the world's most promising lithium regions.
https://www.sparkminerals.co/news-2025/spark-confirms-four-high-priority-lithium-drill-targets-in-brazil-s-lithium-valley-1-217-ppm-li-at-macuco

5. UK Invests £8.1M in Lithium-Ion Battery Recycling Project

A UK-based consortium led by Mint Innovation, along with Jaguar Land Rover, LiBatt Recycling, and the University of Warwick's WMG, has secured £8.1 million to develop a lithium-ion battery recycling demonstration project. The initiative is part of the government's DRIVE35 programme, supporting EV and battery innovation through 2035. Set in the West Midlands, the three-year project will showcase Mint's low-carbon, hydrometallurgical technology to recover lithium, nickel, and cobalt from used EV batteries. The goal is to establish a circular, domestic supply chain by reintegrating these materials into new battery production. Jaguar Land Rover and LiBatt will provide industrial integration, while WMG leads R&D efforts. Half of the funding comes from the Advanced Propulsion Centre UK, emphasizing government support for sustainable mobility. The project aims to address rising EV battery waste, projected to hit 235 kilotons by 2040. It also supports UK efforts to reduce reliance on imported critical minerals. This marks a key step toward building a net-zero battery economy.
https://www.mint.bio/news-and-press/8-1-million-partnership-to-accelerate-lithium-ion-battery-project-in-the-uk

6. E3 Lithium Confirms 5 Million Tonne Resource in Alberta's Garrington District

E3 Lithium has filed its NI 43-101 technical report confirming a measured and indicated resource of 5.0 million tonnes of lithium carbonate equivalent (LCE) in the Garrington District of central Alberta. An additional 0.3 million tonnes is classified as inferred. The filing, effective June 25, 2025, confirms there are no material changes from earlier announcements. The report was prepared and verified by independent Qualified Persons Meghan Klein, P.Eng., and Alexey Romanov, PhD, P.Geo. This marks a major milestone in E3's resource expansion efforts and further strengthens its total lithium inventory in Alberta, now exceeding 21.2 million tonnes LCE. The Garrington resource adds depth to E3's Clearwater Project, located in the nearby Bashaw District. The company's focus remains on advancing direct lithium extraction (DLE) technologies to support commercial-scale production. This filing demonstrates E3's commitment to transparent, standards-compliant reporting. The update enhances investor confidence and supports future development planning.
https://www.e3lithium.ca/newsroom/news-releases/e3-lithium-announces-filing-of-ni-43-101-technical-report-for-updated-resource-estimate-in-the-garrington-district

7. NLC India in Talks to Source Lithium from Africa via Russian Partnership

NLC India, formerly Neyveli Lignite Corporation, is in advanced talks with a Russian state-owned enterprise to acquire an equity stake in a lithium mining block in Mali, West Africa. This move marks a strategic shift for NLC from its traditional coal and lignite focus toward critical mineral sourcing. The partnership is part of India's broader push to secure reliable lithium supplies for its growing electric vehicle and clean energy sectors. The proposed deal would grant NLC access to raw lithium, reducing reliance on imports and enhancing domestic supply chain resilience. The agreement is reportedly in its final negotiation stages, with equity terms under discussion. NLC's recent financial growth has enabled it to pursue overseas mineral assets. The initiative aligns with India's national goals of self-reliance in energy storage and battery manufacturing. By partnering with Russia, India strengthens its global footprint in the lithium value chain. This step highlights NLC's evolving role in supporting India's clean energy transition.
https://telematicswire.net/neyveli-lignite-in-talks-with-russian-state-enterprise-for-sourcing-lithium-from-africa/

8. Pilbara's $611M Lumsden Point Hub to Power Lithium Exports

Pilbara Ports Authority is advancing the $611 million Lumsden Point Logistics Hub at Port Hedland in Western Australia's Pilbara region. The project recently completed a 1 km causeway linking two new wharfs to the logistics hub, complete with a 12 m wide road and pipeline corridors. Four strategic land allocation agreements have been secured with partners including

the Australian Renewable Energy Hub, Qube, Toll, and Kimberley Marine Support Base. Funded by the federal government ($565M), the WA government ($96.6M), and a consortium of mining firms (A$65M), the hub is designed to streamline exports of battery metals—especially lithium and copper concentrates. The first wharf is scheduled to go online by mid-2026, followed by the second later in the year. Lumsden Point will also facilitate imports of renewable energy infrastructure such as wind turbines. This dedicated export infrastructure boosts Australia's position in the global battery minerals supply chain and supports national goals for economic diversification and energy transition.
https://www.pilbaraports.com.au/about-pilbara-ports/news,-media-and-statistics/news/2025/july/more-milestones-reached-for-landmark-lumsden-point

9. Vulcan Energy Secures €104M to Advance Lithium Project in Germany

Vulcan Energy has raised €104 million in funding to support its lithium extraction project in Germany's Upper Rhine Valley. The capital will bolster development of the company's Zero-Carbon lithium project, which combines geothermal energy and sustainable lithium recovery. The financing strengthens the project's ability to deliver battery-grade lithium hydroxide with minimal greenhouse gas emissions. This milestone reinforces Vulcan's leadership in Europe's efforts to establish a domestic lithium supply chain for EV batteries. Construction activities and pilot testing are expected to scale up significantly following funding close. The company aims to ramp lithium production within the coming years as demand from European automakers grows. The project aligns with EU goals to reduce reliance on imported critical minerals and support regional energy transition. Vulcan's approach integrates clean energy generation with mineral production, positioning it as a potential model for sustainable lithium sourcing in Europe.
https://api.investi.com.au/api/announcements/vul/53c01a3a-cf5.pdf

10. Argentina Lithium Extends Payment Terms for Paso de Sico Option

Argentina Lithium & Energy Corp. has amended its Paso de Sico Option Agreement, originally signed in September 2022, to extend the final payment deadline. The agreement allows its subsidiary, ALE, to acquire 100% interest in four lithium concessions covering 791.3 hectares at Salar de Rincon. The amendment extends the final cash payment of USD 418,000 from March 31, 2025, to September 30, 2025, in exchange for a USD 41,800 extension fee. Instead of paying in cash, the company will issue 995,954 shares at CAD 0.06 per share, subject to TSX Venture Exchange approval. The total option value remains at USD 1.5 million over three years. These concessions are part of the company's strategic Rincon West lithium brine project in Argentina's Lithium Triangle. The amendment helps Argentina Lithium preserve cash while maintaining full control of the acquisition timeline. It reflects prudent capital management during active exploration. Investors await regulatory approval and further updates on the project's advancement.
https://argentinalithium.com/news/argentina-lithium-enters-into-amendment-to-previously-executed-paso-de-sico-option-agreement/

11. Rio Tinto and ENAMI Finalize $3B Chilean Lithium Joint Venture

Rio Tinto and Chile's state-owned ENAMI have signed a binding joint venture agreement to develop the Salares Altoandinos lithium project in Chile's Atacama region. Under the deal, Rio Tinto will take a 51% stake and contribute up to USD 425 million through cash and technology, including its Direct Lithium Extraction (DLE) system from Argentina. The project covers three salt flats—Aguilar, La Isla, and Grande—estimated to hold over 15 million tonnes of lithium carbonate equivalent. Initial production is set to begin at 35,000 tonnes per year, ramping up to 75,000 tonnes within three years. The total project investment is projected at USD 3 billion. The venture supports Chile's national lithium strategy and emphasizes low-impact, sustainable extraction. Governance will include three board members from Rio Tinto and two from ENAMI. Regulatory approvals are expected by the first half of 2026. Commercial production is targeted for 2032, establishing the JV as a major new player in global lithium supply.
https://www.riotinto.com/en/news/releases/2025/rio-tinto-and-enami-sign-binding-agreement-for-salares-altoandinos-lithium-project-in-chile

12. Lithium Hydroxide Emerges as the Key to Next-Gen EV Batteries

High-purity lithium hydroxide monohydrate (LHM) is increasingly favored for advanced electric vehicle batteries, especially those using nickel-rich NMC and NCA cathodes. It supports higher energy density, extended driving range, and longer battery life compared to lithium carbonate. LHM enables more efficient cathode synthesis at lower temperatures, reducing structural degradation and enhancing performance. With a lithium content of about 29%, it delivers greater energy output, essential for premium EVs. Traditional lithium hydroxide production methods are energy-intensive, but newer technologies like direct lithium conversion (DLC) and direct lithium extraction (DLE) are cutting emissions and operational costs. Demand for LHM is rapidly growing and is projected to surge 300% by 2030, driven by global EV expansion. Prices, while down from their 2022 peak, remain strong due to sustained demand. LHM also plays a crucial role in future battery technologies like solid-state batteries, serving as a feedstock for lithium metal anodes. Its scalability and cleaner processing make it vital for a sustainable battery supply chain.
https://www.miningmagazine.com/technology/news-analysis/4517360/quality-lithium-hydroxide-ev-batteries

13. Argentina Approves Galan Lithium Project, Rejects Ganfeng's Application

Argentina has approved Galan Lithium's $217 million project at the Salar del Hombre Muerto under its RIGI investment incentive program, while rejecting a similar application by China's Ganfeng Lithium. Galan becomes the sixth project accepted into RIGI, joining Rio Tinto's Rincon project as the only other mining initiative approved so far. Ganfeng's application was denied because its Mariana project had already commenced operations, violating RIGI's requirement for new, forward-looking investments with a minimum two-year development window. This is the first mining rejection under RIGI, signaling the government's strict adherence to eligibility criteria. Galan's project is expected to produce around 20,850 tonnes of lithium carbonate equivalent annually by 2027, generating over $180 million in export revenue from 2029. Argentina aims to boost foreign investment through transparent policies as it cements its role as a top global lithium producer. The RIGI decision highlights the importance of regulatory alignment for international developers. Investors now await rulings on pending projects from firms like Posco and Los Azules. Argentina's clear stance may influence investment behavior across emerging lithium markets.
https://chemweek.com/document/show/phoenix/6049083/Argentina-OKs-Galan-lithium-project-rejects-Ganfeng-application-Reuters?connectPath=&searchSessionId=980a2982-9aa8-4319-a448-3aed706b0a95

14. Rio Tinto Expands Lithium Exploration in Quebec Through Azimut Option

Rio Tinto Exploration Canada has expanded its partnership with Azimut Exploration by including lithium rights on the Wabamisk East property in Quebec's James Bay region. This move consolidates Wabamisk East with the Corvet and Kaanaayaa titles into the unified CKW project portfolio. Under the revised option agreement, Rio Tinto can earn a 50% interest by spending C$25 million on exploration and paying C$1.7 million in cash by the end of 2028. Minimum exploration spending includes C$1.15 million by end-2025 and increasing annual commitments up to C$12 million. Rio can further increase its stake to 70% with an additional C$60 million investment and would then become operator. Azimut will lead the project's initial phase and retains gold and copper rights outside the lithium zone. Wabamisk East features the high-grade Lithos target, with surface samples up to 7.43% lithium oxide over a 4 km² area. This agreement highlights Rio Tinto's strategic push to strengthen its lithium position in Canada.
https://azimut-exploration.com/site/assets/files/7325/azm_rtec_revised_agreement_wabamisk_east_en_wfig.pdf

15. Yahua and LGES Advance $612M Moroccan Lithium Refinery Plan

Chinese lithium producer Yahua and South Korea's LG Energy Solutions (LGES) are moving forward with plans to build a lithium salts refinery in Morocco's north, anchored by a $612 million first-phase investment. The facility is designed for an annual capacity of 90,000 tonnes of lithium salts, with initial output set at 30,000 tonnes per year. While exact timelines were not disclosed, the project represents a deepening collaboration to secure downstream battery-grade supply chains. The refinery will serve as a strategic node for European and U.S. markets, leveraging Morocco's trade advantages. Yahua already has long-term supply agreements with LG entities, including delivery commitments through 2026. The project underscores North Africa's growing role as a regional hub for lithium processing and export. Investment is expected to ramp up further in future phases, supporting global EV battery material demand. The joint venture is part of broader industry efforts to diversify lithium refining away from China. By integrating production closer to end markets, Yahua and LGES aim to enhance supply chain resilience. Analysts view Morocco as an emerging destination for battery materials infrastructure given its geopolitical position and export agreements.

16. China Uncovers Major 490 Million Tonne Lithium Ore Deposit in Hunan

China has discovered a vast lithium ore deposit in Linwu County, Hunan Province, estimated at 490 million tonnes and containing around 1.31 million tonnes of lithium oxide. The deposit is classified as an altered granite-type resource, which is easier and cheaper to extract than brine-based lithium. In addition to lithium, the site contains valuable by-products such as rubidium, tungsten, and tin, enhancing its overall economic appeal. This find follows years of detailed geological surveying and modern exploration techniques. With this addition, China now holds approximately 16.5% of the world's lithium reserves, making it the second-largest globally after Chile. The discovery further solidifies China's leadership in lithium processing, where it already controls over 70% of global refining capacity. The new reserve will strengthen domestic EV and battery manufacturing supply chains. As a hard-rock deposit, it allows for more stable year-round production compared to climate-sensitive brine operations. While full-scale development will take time, the find could significantly influence global lithium markets. It may also trigger increased exploration activity across other Chinese provinces.

17. Century Lithium Powers Battery-Grade Metal Anodes from Angel Island Material

Century Lithium Corporation has achieved a notable breakthrough by converting lithium carbonate sourced from its Angel Island project in Nevada into high-grade lithium-metal anodes (Li-MA). The conversion was performed by Alpha-En Corporation using its patented room-temperature process. The 99.8% pure lithium carbonate—produced by Century's Demonstration Plant—yielded Li-MA with excellent areal capacity and extraction efficiency. In pilot testing, Century's lithium material surpassed comparable imports in performance quality. This collaboration validates Century's technical capabilities and supports the development of a domestic US lithium supply chain. Century Lithium continues to advance Angel Island through permitting, engineering, and extraction facility development. The result strengthens its position in the emerging electric vehicle and stationary energy storage markets. The milestone demonstrates the scalability of its integrated lithium production and processing approach. It also boosts investor confidence in Angel Island's future role in providing homegrown battery materials.
https://www.centurylithium.com/news/century-lithium-reports-battery-grade-lithium-metal-anodes-produced-from-angel-island-lithium-carbonate

18. Tozero Builds Commercial Demo Plant for Battery Recycling in Germany

Munich-based startup Tozero is constructing its first commercial demonstration plant for lithium-ion battery recycling at the Gendorf Chemical Park in Bavaria. Set to begin operations in late 2025, the facility will validate Tozero's proprietary hydrometallurgical process for recovering high-purity lithium and graphite from black mass. The process achieves over 80% lithium recovery, exceeding EU recycling targets. Tozero will outsource battery dismantling and shredding to specialized partners to ensure safety and scalability. The plant benefits from Gendorf's existing industrial infrastructure, enabling fast setup and cost-efficient deployment. The investment is supported by EU funding through the EIC Accelerator programme. This facility serves as a crucial step toward full-scale production planned for 2026. Tozero aims to reduce Europe's reliance on imported raw materials by advancing a circular economy for battery components. The project marks a significant milestone in strengthening Europe's domestic battery recycling capabilities.
https://www.tozero.solutions/news/demonstration-plant-in-gendorf

19. Lithium South Accelerates HMN Project Feasibility with Key Appointment

Lithium South Development has appointed Claudio C. Zalewski as Director of Development & Construction for its Hombre Muerto North (HMN) lithium project in Argentina, leveraging his 40 years of lithium-brine expertise. The company has initiated a fast-track development strategy with four key streams: feasibility study tender, design criteria, financial modeling, and execution planning. The feasibility study tender is expected by Q3 2025, with final results due in Q1 2026. Argentina's RIGI investment regime, offering fiscal stability and tax relief, is expected to improve project economics. Lithium South has also secured an option for the Hydra X1 and X2 blocks, expanding its holdings to over 10,000 hectares. Discussions continue with OEMs, miners, and financiers, although exclusivity has ended amid challenging market conditions. The HMN resource stands at 1.58 million tonnes LCE with strong PEA figures, including a US$934 million NPV and 31.6% IRR. Its location near POSCO and Rio Tinto adds strategic value. With feasibility and funding alignment underway, the project is moving swiftly toward construction.

https://www.lithiumsouth.com/posts/lithium-south-strengthens-the-development-team-and-fast-tracks-hmn-project-feasibility/

EV's and Batteries

20. GM and LG Unveil Dual Battery Strategy to Power Future EVs

General Motors and LG Energy Solution are expanding their battery strategy to lower EV costs and boost performance. Their Ultium Cells joint venture will convert its Spring Hill, Tennessee plant to produce lithium iron phosphate (LFP) cells, with commercial production targeted for late 2027. LFP batteries will power more affordable, mid-range EVs like trucks and SUVs. In parallel, GM and LG are developing lithium manganese-rich (LMR) prismatic cells that promise over 400 miles of range and improved energy density. LMR pre-production will start in late 2027, with full-scale launch in 2028. GM has already produced around 300 LMR prototype cells. This chemistry cuts reliance on cobalt and lowers battery pack complexity. The combined use of LFP, NMCA, and LMR batteries gives GM flexibility across EV segments. The initiative supports domestic battery production and strengthens supply chain security. Overall, the dual-chemistry approach is designed to make EVs more cost-competitive and widely accessible.

https://news.gm.com/home/newsletter-archive/2025/newsletter-07-18-2025.html

21. Ultion Technologies Secures Series A Funding to Boost U.S. Battery Production

Ultion Technologies, based in Nevada, has closed a Series A funding round led by Torus, with support from the state-backed Battle Born Venture fund. The investment will help Ultion increase its lithium iron phosphate (LFP) battery production capacity by more than five times. Ultion is currently the only vertically integrated U.S. company delivering advanced LFP cells at scale, with a near fully domestic supply chain. The move addresses U.S. overreliance on foreign battery imports, particularly from Asia, which dominates global production and processing. Ultion's leadership team includes industry veterans with experience in major international battery plants. Its Nevada facility benefits from a dry climate, local lithium sources, and strategic logistics access. The expansion will create U.S. manufacturing jobs and enhance energy security. The funding supports Ultion's aim to serve growing grid storage and EV markets. This marks a step toward building a resilient, domestic battery ecosystem in the U.S.

https://batteriesnews.com/ultion-technologies-secures-series-a-funding-to-build-critical-us-battery-manufacturing-capacity/

22. Pure Lithium Relocates to Chicago with $46M Investment

Pure Lithium Corporation is relocating its headquarters and operations from Boston to Chicago, investing $46 million to support its transition from research to commercial battery manufacturing. The company will establish a semi-automated pilot line to integrate its proprietary lithium-metal reactor technology. The new facility, set to open in Chicago's Fulton Market district by late 2025, will produce batteries for EVs, drones, consumer electronics, grid storage, and defense applications. The relocation is backed by Illinois' Reimagining Energy and Vehicles (REV) incentive program, which offers tax credits, workforce support, and research collaboration opportunities. At least 50 new jobs are expected to be created. The move positions Pure Lithium near Argonne National Laboratory, facilitating work on scaling lithium-metal anode production using recycled materials. The facility will be central to the company's commercialization efforts. This expansion strengthens Chicago's role as a clean energy manufacturing hub. Pure Lithium's move reflects growing momentum in U.S.-based advanced battery production.

https://gov-pritzker-newsroom.prezly.com/governor-pritzker-announces-pure-lithium-corporation-to-relocate-company-operations-to-illinois

23. SK On Secures Korean Lithium Hydroxide for U.S. Battery Expansion

SK On, the electric vehicle battery arm of South Korea's SK Group, has signed a supply agreement with EcoPro Innovation for up to 6,000 metric tonnes of lithium hydroxide by the end of 2025. This quantity is enough to power batteries for approximately 100,000 EVs. The deal supports SK On's efforts to meet U.S. Inflation Reduction Act requirements, as Korean-sourced materials qualify for federal incentives and avoid restrictions tied to Chinese imports. The lithium hydroxide will be

processed at SK On's cathode facilities in Korea before being shipped to its U.S.-based gigafactories. EcoPro, which began production in 2021, is ramping up capacity in both Korea and Hungary, targeting 79,000 tonnes annually by 2028. SK On and EcoPro are also in talks for a multi-year supply agreement covering 2026 through 2028. The move marks a strategic step toward reducing SK On's reliance on Chinese lithium, which accounted for over 80% of South Korea's imports last year. It reinforces the company's supply chain resilience amid shifting global battery market dynamics.

24. Exyte Wins Top Award for CATL Battery Gigafactory in Germany

Exyte has received the Facility Diamond Partner Award from CATL for its pivotal role in delivering CATL's first large-scale battery cell gigafactory outside China, located in Arnstadt, Germany. The facility includes one of Europe's largest dry rooms, engineered to maintain ultra-low humidity for high-quality lithium-ion battery cell production. Exyte joined the project in 2019, overseeing design, engineering, procurement, construction, and commissioning while navigating complex German regulatory requirements. Test production began in December 2022, with full-scale production testing completed by the end of 2024. Sustainability features such as waste heat recovery and water recycling were integrated into the plant's design. The award highlights Exyte's capability in delivering advanced clean manufacturing infrastructure. Executive Board Member Mark Garvey emphasized the partnership's role in advancing sustainable innovation and economic growth. The project strengthens Europe's efforts to localize EV battery manufacturing. As battery demand rises, Exyte is positioned as a key player in Europe's clean energy transition.

https://batteriesnews.com/exyte-receives-facility-diamond-partner-award-for-catl-battery-cell-gigafactory-in-germany/

Salts and Electrolyte

25. Epsilon Backs Non-China EV Battery Material Supply for Global Clients

Battery materials firm Epsilon Advanced Materials is positioning itself as a key partner for EV cell makers and auto OEMs seeking graphite anode and lithium iron phosphate (LFP) cathode materials sourced outside China. China currently dominates over 90% of global processing capacity for these materials, raising concerns over supply chain vulnerability amid recent export restrictions. Epsilon's proprietary synthetic and natural graphite technologies—supported by R&D in Germany—and its LFP cathode innovation mean clients can qualify for non-China sourcing credentials. The company operates manufacturing facilities in India, the U.S., and Finland, with combined output expected to reach 60,000 tonnes by 2027, ramping to 220,000 tonnes by 2030. Its Indian R&D and production hub is fortified by a ₹15,350 crore investment in Karnataka for advanced materials and battery testing. Epsilon aims to offer secure, compliant supply chains aligned with localization and sustainability goals. The firm has already obtained customer qualification samples and is poised to sign offtake deals in coming months. This strategy addresses growing demand for supply chain diversification and helps partners meet regulatory standards while reducing dependency on Chinese exports.

https://batteriesnews.com/epsilon-to-collaborate-on-non-china-ev-battery-material-sourcing/

LFP-ESS and Start ups

26. LG Energy Solution to Supply U.S.-Made Batteries for 600 MWh Solar+Storage Project

LG Energy Solution Vertech will supply a 600 MWh battery energy storage system (BESS) for the Santa Tera Solar and Storage Project, a 150 MW solar facility being developed by D.E. Shaw Renewable Investments (DESRI) in New Mexico. The BESS will use lithium iron phosphate (LFP) battery modules manufactured in Michigan, aligning with U.S. energy storage tax credit requirements and policies favoring domestic production. LG Vertech will also provide its AEROS software suite and long-term services for the project. Engineering and construction will be handled by SOLV Energy. The project represents LG's strategic shift from EV batteries to stationary energy storage, repurposing its Michigan facilities to support grid-scale demand. The Michigan plant now operates three LFP lines with a combined annual capacity of 16.5 GWh. This move reinforces the push toward domestic battery manufacturing and supply chain resilience. The Santa Tera project aims to support grid stability amid rising electricity demand from sectors like AI and data centers. It marks a significant step in the growth of U.S.-based renewable energy infrastructure.

https://www.energy-storage.news/lg-es-to-supply-us-made-bess-for-desris-arizona-santa-tera-solar-storage-project/

27. Central China Begins Construction of 400 MW / 800 MWh Grid-Side Energy Storage Project

Construction has commenced on Central China's largest grid-side standalone shared energy storage project in Dupai Village, Lijiang Town, Xinguan County, Ji'an City, Jiangxi Province. The facility, developed by Zhonghong Puneng and built by its subsidiary Xingan Feichi New Energy, will have 400 MW of power capacity and 800 MWh of storage, effectively acting as a massive "super power bank" for the regional grid. It will utilize high-safety lithium iron phosphate batteries with digital management systems, ensuring charge–discharge efficiency exceeding 92%. Once operational, the project is expected to increase Ji'an's renewable energy absorption by 15% and reduce carbon emissions by 156,000 tonnes annually—equivalent to planting one million trees. With a total investment of RMB 1.28 billion, the project will create around 500 construction jobs, generate over RMB 100 million in annual economic output, and contribute RMB 250 million in taxes over its lifetime. As part of Jiangxi Province's independent energy storage pilot program, it sets a benchmark for shared storage infrastructure. The facility will support renewable integration, frequency regulation, and peak load balancing to enhance grid stability. It also paves the way for future market-based energy trading initiatives. This milestone highlights China's rapid progress in utility-scale energy storage deployment.

28. Tariffs Threaten U.S. Battery Storage Expansion, Yale Study Warns

A recent Yale Clean Energy Forum study highlights the growing strain that Trump-era tariffs are placing on the U.S. battery energy storage system (BESS) market. Import duties on lithium-ion cells, which could rise as high as 80%, are already delaying or canceling grid-scale storage projects. The study found that tariffs undermine market adoption by disrupting technology cost curves, making storage systems less affordable despite falling global battery prices. As a result, investor confidence and project economics are suffering. The report also notes that LG Energy Solution plans to shift EV battery lines toward energy storage system production to counteract declining EV demand tied to reduced incentives. U.S. storage deployment now depends on stabilizing policy, reshoring supply chains, and scaling domestic manufacturing. Without swift action, the nation risks falling behind on clean energy and grid resilience goals. The study calls for smarter trade policy integration with climate strategy. It concludes that protectionist measures may backfire unless paired with long-term industry support.

https://cleanenergyforum.yale.edu/2025/07/22/impacts-of-trump-administration-tariffs-on-the-battery-energy-storage-system-market

29. Hinen Unveils 2400W Balcony Energy System for Urban Homes

Hinen has launched the E-Series H2.4S, a compact 2400W balcony energy system designed for urban households seeking affordable and DIY-friendly solar solutions. The system features a sleek, weatherproof enclosure with quiet 30 dB operation and supports tool-free installation in just two minutes. It allows modular battery expansion from 2.56 kWh up to 15.36 kWh across six battery packs. With four independent MPPT inputs, it can accommodate up to 3,600W of solar input, offering flexibility even in shaded or small spaces. The integrated $LiFePO_4$ batteries offer over 8,000 charge cycles and come with a 10-year warranty. The unit is equipped with heating and cooling systems, enabling operation in temperatures as low as –20°C. A mobile app gives users real-time control of energy usage, automation features, and operational modes. Optional off-grid output and smart meter integration support energy independence. The system aligns with Hinen's vision of scalable, accessible clean energy for everyday consumers. It reflects the company's drive to bring innovation and sustainability to residential solar storage.

https://www.hinen.com/pages/hinen-launches-2400w-balcony-energy-system

30. Southern Xinjiang Connects Largest 500 MW / 2 GWh Energy Storage Plant to Grid

On July 19, 2025, Southern Xinjiang successfully completed and grid-connected its largest independent energy storage power station, a 500 MW / 2 GWh lithium iron phosphate (LFP) facility near Kashgar. Covering 119,000 square meters, the project marks the biggest standalone battery storage site in China to date. Developed by Huadian Xinjiang and built by PowerChina's 16th Hydropower Bureau, it features a hybrid inverter system that enhances grid stability through both grid-forming and grid-following technologies. The station is linked to the Kashgar 750 kV substation via a 220 kV line and is

designed for future expansion to 1 GW / 4 GWh. Equipped with 100 LFP storage units, it can store 570 million kWh of electricity during off-peak hours and release 520 million kWh during peak periods, significantly reducing solar curtailment. The project cost around CNY 1.6 billion and supports the region's fast-growing solar capacity. Strategically located in an area with over 2,800 hours of annual sunshine, it improves energy utilization and grid flexibility. It also plays a vital role in local economic development and future smart-grid integration. The plant showcases China's leadership in scalable clean energy storage infrastructure.

31. Tesla on Track to Launch U.S. Cathode and LFP Cell Production in 2025

Tesla is moving forward with plans to manufacture lithium-iron-phosphate (LFP) battery cells and cathode materials in the United States, with production expected to begin later in 2025. The new facility in Sparks, Nevada, adjacent to Tesla's existing Gigafactory, will have an initial production capacity of approximately 10 GWh annually, primarily serving energy storage products like Megapack and Powerwall. Tesla is outfitting the plant with manufacturing equipment sourced from CATL and is implementing wet-coating technology common in high-efficiency cell production. The company is also developing a blended LFP cathode that includes small amounts of nickel-based materials to boost performance and thermal stability. These efforts are part of Tesla's broader strategy to reduce dependence on overseas battery supply chains, especially from China, while leveraging U.S. tax incentives under the Inflation Reduction Act. The Nevada facility will work in tandem with Tesla's lithium hydroxide refinery in Texas to establish a fully domestic battery material pipeline. Tesla reported deploying 9.6 GWh of storage in Q2 2025 and is on track to exceed 100 GWh in cumulative installations soon. This expansion supports the company's goal of lowering battery costs and securing long-term energy supply resilience.

https://www.argusmedia.com/pages/NewsBody.aspx?id=2713873&menu=yes

32. Verbund and Fluence Launch Major Battery Storage Projects in Germany

Verbund has partnered with Fluence Energy to develop two large-scale battery energy storage systems (BESS) in Germany, totaling 92 MW / 186 MWh in capacity. The first project in Weißenthurm-Kettig will deliver 50 MW / 100 MWh, while the second in Elsterberg-Coschütz will provide 42.9 MW / 86.5 MWh. Both systems feature a modular design to enable scalability and efficient performance, likely using Fluence's Gridstack Pro technology. Noise reduction and cybersecurity compliance were key selection factors due to the urban proximity of the sites. These projects are part of Verbund's broader plan to expand its German storage capacity to 1 GW by 2030. Fluence, with over 750 MW of storage projects in Germany, will also provide integrated software and operational services. The systems will support grid stability through frequency regulation, energy trading, and flexibility services. Verbund plans to manage and trade storage capacity using in-house algorithms. The initiative reflects growing regulatory and financial support for energy storage in Germany. It sets a benchmark for future utility-scale energy storage developments in Europe.

https://www.verbund.com/en/group/news-press/press-releases/2025/7/15/fluence

33. Envision Energy to Supply 200 MWh Battery Storage Systems in Scotland

Envision Energy has been contracted to deliver two battery energy storage systems (BESS), each rated at 50 MW/100 MWh, for Field's Holmston and Drum Farm projects in Scotland. The Holmston site, located in South Ayrshire, began construction this summer, while work at Drum Farm near Keith is set to begin in early autumn. Both projects are expected to be completed and operational by the end of 2026. The systems will use lithium iron phosphate (LFP) batteries and come with a 15-year service agreement, ensuring long-term reliability and performance. These projects are designed to address grid congestion, provide local flexibility, and support greater renewable energy integration. Envision emphasized the strategic value of the Scottish market in its European expansion. Field's CEO described the projects as key milestones in the UK's clean energy transition. The installations will deliver essential services such as frequency response and grid stability. Together, they mark a significant step in scaling up utility-scale storage across the UK.

https://batteriesnews.com/envision-energy-contracted-to-deliver-two-100-mwh-battery-energy-storage-projects-for-field-in-scotland/

34. LG Energy Solution Pivots to Energy Storage Amid EV Market Headwinds

LG Energy Solution is shifting focus toward energy storage systems (ESS) in the U.S. as uncertainty clouds the electric vehicle market due to upcoming tariff hikes and the scheduled expiration of federal EV purchase incentives in late 2025. In response to softening EV demand, LG is accelerating plans to convert its Michigan facility into a large-scale LFP battery cell manufacturing site dedicated to ESS. This pivot moves production timelines forward by about a year. The company aims to more than double its ESS battery output in North America, growing from 17 GWh in 2025 to over 30 GWh by 2026. This strategy capitalizes on steady demand from utilities, data centers, and renewable energy developers, supported by U.S. tax incentives under the Inflation Reduction Act. LG's modular LFP chemistry offers cost-effective solutions ideal for grid-scale applications. The company joins peers like Tesla and BYD in repurposing EV battery infrastructure for stationary storage markets. Long-term ESS contracts are helping LG secure stable revenue amid EV market volatility. This transition strengthens domestic battery manufacturing while supporting the U.S. energy transition.

https://www.automotiveworld.com/news/lg-pivots-to-energy-storage-in-us-cites-ev-uncertainty/

Technology and Regulatory

35. LG Energy Solution Chooses Pouch-Type LFP Cells for Energy Storage Systems

LG Energy Solution has decided to use pouch-type lithium iron phosphate (LFP) cells in its energy storage systems (ESS), deviating from the industry trend of large prismatic cells commonly used by major Chinese manufacturers. This decision is driven by LG's existing production capabilities, which are tailored to pouch formats rather than prismatic ones. The company is manufacturing these cells at its facilities in Michigan, Nanjing, and Wroclaw using its JF-series modules, including upgraded JF2 and JF2S models with higher energy capacity. While pouch cells are lighter and more flexible in design, they require additional safety mechanisms to manage thermal risks. LG is also working on elongated pouch formats to enhance energy density, a challenge for prismatic designs. Although considering a shift toward prismatic production, LG is cautious due to high investment costs. By focusing on pouch cells, LG can accelerate ESS deployment using current infrastructure. This approach could offer logistical and cost benefits but may present integration and safety complexities. The market will closely watch LG's progress as it scales pouch-based ESS solutions.

36. China Adds Export Controls on Key Battery Cathode and Lithium Technologies

China has revised its export control catalog to include critical battery technologies such as lithium iron phosphate (LFP), lithium manganese iron phosphate (LMFP), and related phosphate-based cathode preparation processes. Effective July 15, 2025, companies must now obtain government licenses to export these technologies, although the export of finished materials like cathode powders remains unrestricted. The updated policy also includes non-ferrous metal processing technologies tied to lithium, such as brine extraction, lithium carbonate/hydroxide refining, and lithium metal production. This move is part of China's broader strategy to protect national interests and maintain a competitive edge in global battery technology. Given China's dominance in lithium processing and EV battery manufacturing, the new restrictions may increase costs and access barriers for foreign automakers and battery producers. Projects outside China that rely on Chinese tech could face delays or need to seek alternative solutions. The controls highlight China's leverage in the global battery supply chain. In response, countries like the U.S., India, and members of the EU may accelerate domestic investments in battery R&D and manufacturing. The policy marks a turning point in global energy storage geopolitics.
https://batteriesnews.com/china-revises-catalog-of-technologies-subject-to-export-controls-battery-cathode-material/

37. Macsen Labs Achieves Breakthrough in Sodium-Ion Battery Chemistry

Macsen Labs, a long-established Indian chemical manufacturer, has achieved a key breakthrough in sodium-ion battery technology by successfully developing a high-performance Prussian White cathode material. The company has filed a provisional patent for its proprietary synthesis method and battery performance optimization process. Using its in-house electrochemistry lab, Macsen has validated energy densities exceeding 150 mAh/g—comparable to lithium iron phosphate (LFP) batteries. Prussian White offers excellent sodium-ion mobility and structural stability, while using abundant, low-cost materials such as sodium and iron. This positions it as a viable alternative to lithium-based chemistries, especially in markets with resource or cost constraints. Macsen is advancing toward pilot-scale production, aiming for operational readiness by early 2026. A new division, Macsen Energy, has been created to lead the company's focus on energy storage innovation. The

technology is well-suited for applications in grid storage, rural electrification, and short-range electric vehicles. This achievement marks a significant step for India in developing next-generation battery solutions.

https://batteriesnews.com/macsen-labs-achieves-breakthrough-in-sodium-ion-battery-chemistry-files-provisional-patent-and-advances-toward-pilot-scale-manufacturing/

38. SVOLT to Begin Trial Production of Semi-Solid-State Batteries in Q4

SVOLT Energy Technology will initiate trial production of its first-generation 140 Ah semi-solid-state batteries in the fourth quarter of 2025. These soft-pack cells, offering an energy density of approximately 300 Wh/kg, are designed to bridge the gap between conventional lithium-ion and future solid-state technologies. Targeted for BMW's Mini brand, full-scale production is expected to begin by 2027. A second-generation version with improved energy density of 360 Wh/kg is already under development. SVOLT will utilize an existing production line for the initial trials, allowing for a faster development cycle. The company is also pursuing all-solid-state battery technology, with energy densities projected to reach 400 Wh/kg, aimed at both EVs and aerospace applications. Semi-solid batteries offer improved safety, higher energy capacity, and cost efficiency, making them suitable for next-generation electric platforms. This move marks a strategic step in SVOLT's long-term innovation roadmap. Its partnership with BMW reflects growing industry confidence in the company's advanced battery solutions. Success in trial production could establish SVOLT as a key player in solid-state battery commercialization.

39. CATL's Sodium-Ion "Salt Battery" Targets Cost-Effective EV Market

CATL has unveiled its new sodium-ion battery, branded as Naxtra, aiming to offer a lower-cost, lithium-free alternative for electric vehicles and energy storage systems. The battery boasts an energy density of around 175 Wh/kg, on par with lithium iron phosphate (LFP), and is noted for improved cold-weather performance and extended cycle life. Mass production is expected to begin in December 2025. While the chemistry could reduce battery costs by 25–30%, analysts warn it may fall short in performance for long-range EVs. Sodium-ion batteries currently account for less than 1% of the global market, with projections suggesting only modest growth unless major breakthroughs occur. CATL believes sodium-ion could eventually replace up to half of LFP use, though experts remain skeptical. The battery is better suited for stationary storage or entry-level EVs where cost and safety outweigh energy density. Broader adoption will depend on supply chain scaling and relative lithium pricing. For now, the salt battery represents a strategic, if limited, shift in the global battery landscape.

40. QuantumScape & PowerCo Deepen Alliance to Scale Solid-State Batteries

QuantumScape and Volkswagen's battery arm, PowerCo, have expanded their strategic licensing and early production collaboration to accelerate commercialization of QuantumScape's QSE-5 solid-state lithium-metal battery cell. PowerCo will provide up to $131 million in milestone-based payments over the next two years—adding to a previously committed $130 million—upon meeting technical and production benchmarks. PowerCo now gains earlier involvement in pilot-scale automation and QSE-5 production at QuantumScape's San José facility, advancing efforts to scale manufacturing and deliver higher volumes of prototype cells. The updated agreement also grants PowerCo and its partners the non-exclusive rights to produce up to 5 GWh annually of QSE-5 cells, including for OEMs outside Volkswagen. This deal reflects deepening confidence in QSE-5 as a disruptive platform capable of boosting range, charging speed, and safety compared to conventional lithium-ion chemistries. QuantumScape CEO Siva Sivaram called the expansion a clear signal of strategic, technical, and financial alignment between the two firms. The enhanced funding and production roadmap mark a pivotal step toward bringing solid-state battery technology into series production in the EV market.

https://batteriesnews.com/quantumscape-and-powerco-expand-collaboration-to-accelerate-solid-state-battery-technology-commercialization/

41. BMW i Ventures Backs Estes Energy to Advance Modular Battery Platform

Estes Energy Solutions, a California-based startup, has secured $11 million in seed funding co-led by BMW i Ventures and Fortescue Ventures to accelerate development of its advanced modular battery platform. The company's platform is chemistry-agnostic, supporting both NMC and LFP cell configurations for diverse applications. Estes offers two swappable pack formats: a high-energy-density NMC pack for performance-focused needs, and a cost-efficient LFP version for high-use sectors. This

flexibility enables OEMs to deploy the same system architecture across multiple industries, including aviation, robotics, rail, marine, and construction. The funding will also support pilot manufacturing and initial product deployments by late 2025. Estes plans to expand its engineering team and scale domestic production to help strengthen the U.S. battery supply chain. The startup positions itself as a diesel replacement solution provider with resilient, high-performance battery systems. BMW i Ventures praised the team's practical engineering approach and market readiness. Estes aims to fill a key gap in industrial electrification with adaptable, U.S.-manufactured energy solutions.

https://batteriesnews.com/bmw-i-ventures-co-leads-investment-in-estes-energy-to-advance-state-of-the-art-battery-technology/

42. LG Energy Solution Wins Third Patent Lawsuit Against Chinese Battery Maker

LG Energy Solution has secured its third consecutive legal victory in Germany against Chinese battery manufacturer Sunwoda, reinforcing its strong intellectual property position. The latest ruling found Sunwoda guilty of infringing LG's patented electrode assembly structure, particularly in batteries used in the Dacia Spring electric vehicle. As a result, Sunwoda must halt sales in Germany, recall and destroy infringing products, provide financial disclosures, and pay damages. This follows two prior wins in May involving LG's safety-reinforced separator coating technologies, which led to the first-ever ban of Chinese battery products in the German EV market. LG holds an extensive IP portfolio with over 40,000 registered patents and more than 72,000 pending applications in battery-related technologies. A company spokesperson emphasized LG's commitment to defending its innovations and supporting a fair global licensing environment. Industry analysts believe these rulings could pressure other Chinese battery firms to reevaluate potential IP risks. The outcome also highlights the growing importance of patent protection in the global battery supply chain.
https://batteriesnews.com/lg-energy-wins-third-suit-against-patent-freeloading-chinese-battery-firm/