

Alternative Power Report

Sept. 15, 2025

News on Alternative Power Sources



Power Systems Research
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Moving from ICE To Alternative Power

As manufacturers continue to shift their equipment production from ICE to alternative power sources, they need the latest information. That's why analysts at Power Systems Research continue to revise our global data and forecasts to provide the freshest picture available.

New China Battery 2X as Powerful as Tesla Cell?

Chinese Scientists May Have Created Powerful Lithium Metal Battery

By *Guy Youngs*, Forecast & Adoption Lead



Researchers at Tianjin University reportedly have made a battery with an energy density of over 600 watt-hours per kilogram, twice as much energy as Tesla's most advanced electric vehicle battery.

Energy density, the amount of energy stored per unit mass, determines how much power is stored in a device.

The unique approach developed by cylib and Syensqo demonstrated recovery of lithium from black mass containing various chemistries, including nickel-manganese-cobalt (NMC) and lithium-iron-phosphate (LFP), on a single operating line.

Source: *Independent* [Read The Article](#)

PSR Analysis: Lithium metal batteries are known to have a higher theoretical energy density than conventional lithium-ion batteries and are considered a promising next-generation solution. **PSR**



Editor's Note: This monthly report includes news and analysis about EV and alternative power sources such as batteries and fuel cells from analysts at Power Systems Research.

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New power source installations vary across industry segments. Contact PSR for data on your specific application needs.

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Another Major Automaker Is Abandoning Big EV Plans

Yet another big name in automaker is pulling back on its EV plans, blaming slower than expected demand for electric vehicles. Volkswagen's luxury sports car brand, Porsche, has announced that it no longer plans to build EV batteries in-house.

Cellforce, Porsche's high-performance EV battery company, will shrink and only focus on research and development, rather than production. In a statement, Porsche blamed "the slower ramp-up" of EVs and "challenging market conditions" in its biggest markets, the US and China, for the changes.

Porsche plans to continue offering internal combustion engine (ICE), hybrid, and all-electric options across every segment "well into the 2030s."

Source: *Electrek* [Read The Article](#)

PSR Analysis: While this is another example of how car manufacturers are slowing their plans for the EV revolution, we need to be clear, this is just about Porsche not manufacturing batteries, and it could be argued that the scale Porsche would obtain (versus costs) would not make sense economically. They, like many other manufacturers,

cannot compete in the battery manufacturing zone, with Chinese battery manufacturers. **PSR**

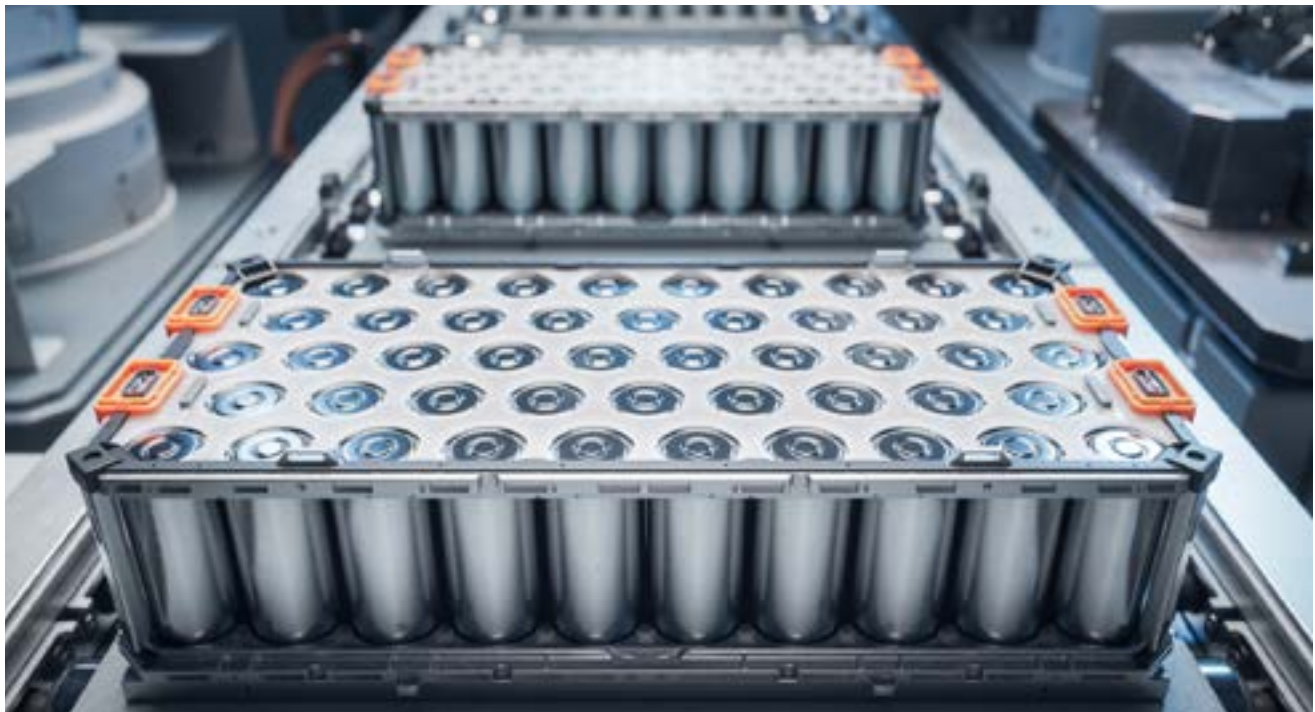
When Will Battery Prices Fall, and By How Much?

The automotive industry is currently paying about €54 per kilowatt-hour for LFP battery cells and €58 per kilowatt-hour for NMC battery cells. Three years ago, when the price of battery-grade lithium was soaring into the stratosphere and supply chain interruptions were affecting industries around the globe, LFP batteries were costing manufacturers €127 per kilowatt-hour, with NMC batteries costing €140 per kilowatt-hour — both more than double their cost today.

At today's prices, the 81kWh battery for a Kia EV3 costs the manufacturer €4,700.

Prices are expected to fall by a further 10% to 15% by 2030, with further price reductions coming partly from capacity expansions at factories and partly from production process improvements as well as modifications in cell chemistry.

Batteries imported from China, including all export costs are more than 20% cheaper than cells manufactured in Europe, regardless of whether the production site is operated by a Chinese or a European company.



Source: *Clean Technica* [Read The Article](#)

PSR Analysis: Battery cell prices have already fallen significantly, a trend that is expected to continue. CATL is now claiming its sodium ion batteries — called Naxtra — will eventually cost as little as \$10 per kWh moving forward. This could promise battery costs (for the manufacturer) of less than half of their current costs.

CATL Launches World's First LFP Battery: 470+ Mile Range, Fast Charging

At the Munich Motor Show, the global leader in electric vehicle batteries made its presence known. CATL introduced its Shenxing Pro, deeming it “the world’s first LFP battery to deliver a 758 km WLTP range.”

The extended driving range is only a piece of it, however. CATL’s new battery is safer (versus other Lithium ion types) and features a record-breaking 12-year, 1,000,000 km lifespan, all while promising a lower cost. It’s also now the fastest-charging battery in Europe, with 12C peak charging speeds. In just 10 minutes, the new battery can add nearly 300 miles (478 km) WLTP range

Source: *Clean Technica* [Read The Article](#)

PSR Analysis: While Tesla (who not so long ago was seen as making the best batteries) can’t even make one battery cell that is at least as good as Panasonic, CATL is actually pushing the industry forward by investing and moving ahead in leaps and bounds. The US continues to fall behind in more and more areas as China surges ahead with battery development. **PSR**

India’s EV Pickup Revolution Could Set Country’s EV Future

India’s electric vehicle market is growing steadily at 24-25% annually, but from a surprisingly small base — EVs represent just 2.5% of all vehicles sold in 2024. However, one segment could change that trajectory dramatically: electric pickup trucks. These are not the big pickup trucks that US readers are familiar with, but rather this is based on India’s own vehicle categorization, which we would define as light small trucks.



Light commercial pickup trucks dominate India’s commercial vehicle market, commanding approximately 57% market share with over 543,000 units sold in fiscal year 2024. This makes them the largest single vehicle category in the commercial sector, and potentially the key to achieving India’s ambitious electrification targets.

Source: *Clean Technica* [Read The Article](#)

PSR Analysis: This segment represents the single largest opportunity for commercial vehicle electrification in India. This electric pickup revolution is being driven by these compact, urban-focused vehicles rather than traditional pickup trucks, which remain largely absent from the Indian electric vehicle market. **PSR**

Structural Disorder To Improve Lithium and Sodium Batteries

Researchers at Humboldt University in Berlin have used structural disorder to develop high-performance anodes for lithium and sodium-ion batteries with high charging speed and stability.

The research involved disrupting the atomic order of the batteries in a targeted way to enhance ionic conductivity, increase cycling stability, and unlock novel storage mechanisms of batteries. Traditional batteries have highly

ordered crystal structures to provide predictable pathways through the electrodes

It is said to change significantly when first charged but retains important structures, which results in high storage capacity and a service life of over 2,600 charging cycles with similar performance.

Source: *BEST Magazine* [Read The Article](#)

PSR Analysis: Structural disorder seems like the reverse of what is needed in Anode materials, but this is one of those instances where the opposite happens, and it improves the anode in order to allow increased energy storage. This is another instance of batteries being improved as research continues into battery chemistry.

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Platinum Demand Scenarios Show Hydrogen's Fatal Constraint

Hydrogen advocates have a habit of ignoring the obvious constraint sitting at the core of their preferred technology. They speak of cost declines, of economies of scale, and of green hydrogen pipelines, but rarely acknowledge that the chemistry of proton exchange membrane fuel cells depends on a scarce and irreplaceable metal.

Platinum is the key to making PEM fuel cells work. It splits hydrogen molecules at the anode, allows protons through the membrane, and accelerates the slow reaction that combines oxygen with electrons and protons at the cathode

Global platinum supply is about 250 to 280 tons per year. Roughly a third goes into automotive catalytic converters, another quarter goes into jewellery, about a fifth goes into industrial catalysts, and the rest is split among glass, electronics, and a few other emerging uses.

Source: *Clean Technica* [Read The Article](#)

PSR Analysis: Given that the global Platinum market is already in deficit to the tune of around 30 tons per year (10% to 12% pa), prices have already been climbing even before the potential growth of Hydrogen ICE or Fuel Cells. This scarce material will offset any economies of scale for hydrogen use. **PSR**



Zinc Battery Breakthrough Boosts Stability, Safety

Zinc-ion batteries are gaining traction in the marketplace as a safer and more affordable alternative to current lithium-ion technology and now researchers at Chungnam National University have developed a nanoscale zinc-bonded polyacrylic acid (ZHP) layer that significantly improves the performance and stability of the batteries

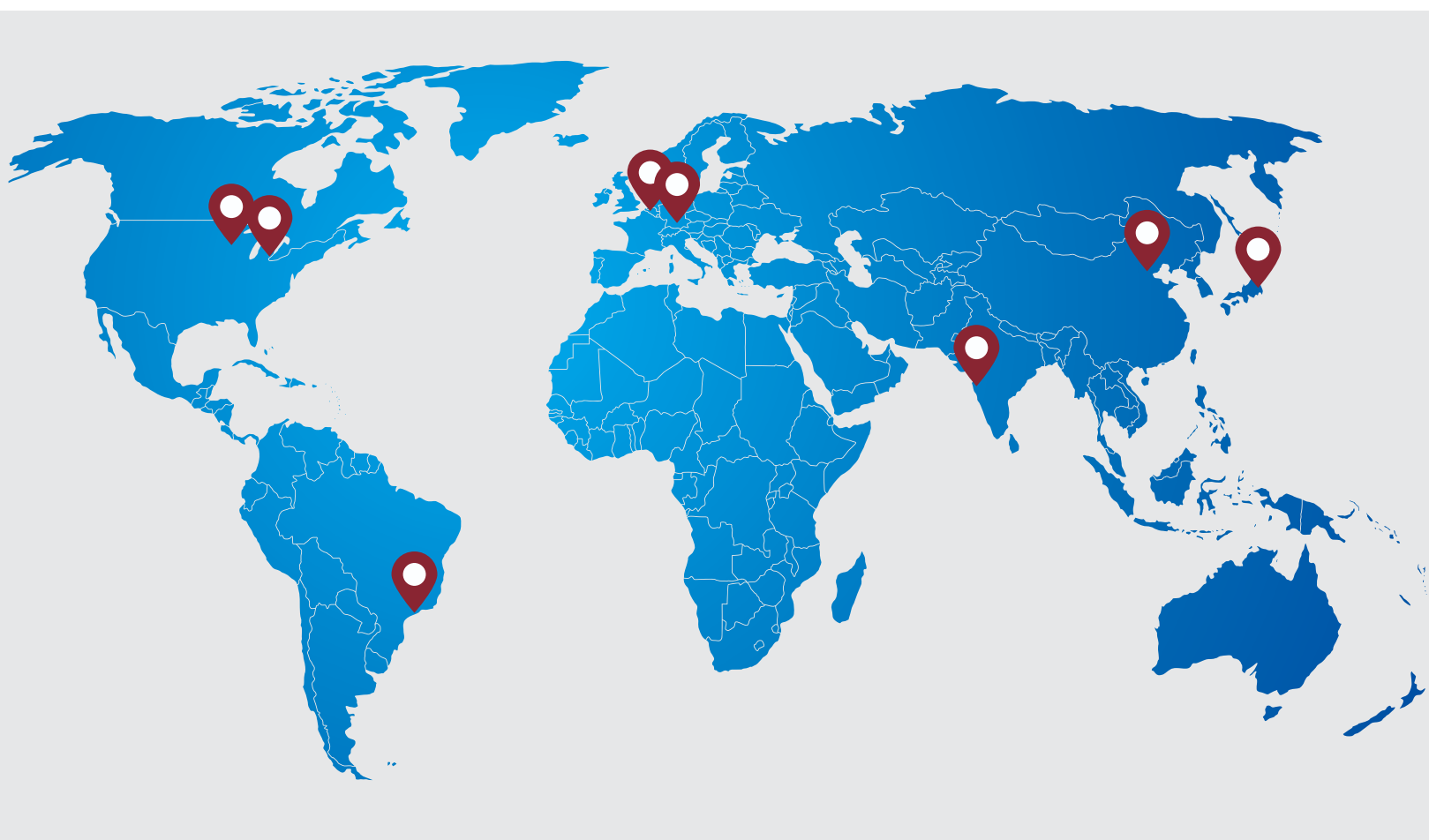
The ZHP layer prevents dendritic growth, corrosion and side reactions, stabilizing the anode interface and enhancing ion transfer. Dendrite growth on anodes can significantly reduce a battery's performance.

Source: *BEST Magazine* [Read The Article](#)

PSR Analysis: This is another good example of the level of battery research that China is pushing for and could lead to significant improvements on Zinc ion batteries. **PSR**

A Final Note

Mercedes is turning to its biggest luxury rival as it struggles to sell EVs – [Click Here...](#) **Rimac** unveils solid state battery and EV powertrain production – [Click Here...](#) **WPI** advances scalable lithium battery recycling – [Click Here...](#) **Are Electric Bikes** actually now replacing car trips? – [Click Here](#) **PSR**



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