

Alternative Power Report

February 18, 2025

News on Alternative Power Sources



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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.

Is Toyota Largest Auto Funder of Climate Deniers in US?

New Report Targets Toyota

By *Guy Youngs*, Forecast & Adoption Lead



Toyota has been revealed to be the largest auto industry funder of climate deniers in US Congress, according to a report released today by Public Citizen.

Toyota sells more gas-powered, polluting vehicles than any other company on Earth, and thus it has a vested interest in continuing to sell those polluting vehicles. But the problem is that gas-powered, polluting vehicles are not good for the health of humans or other living beings on this planet

Toyota has repeatedly ranked as one of the strongest funders of pro-pollution, anti-EV, and climate denying propaganda in the world.

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

PSR Analysis: Previously, the auto industry has taken advantage of changes in government, trying to get money-



saving clean air rules torpedoed even after implementation, but not this time, except for Toyota. The big concern behind all of this is whether Toyota will begin to struggle like Nissan and other legacy carmakers (with the impact of the EV revolution). **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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Tesla Sales Drop 60% in Germany

Tesla's sales dropped nearly 60% in January in Germany compared to the same period last year, and the same thing is happening throughout Europe. The two main reasons are believed to be the introduction of the new Model Y and the disapproval of Tesla CEO Elon Musk and his meddling in politics, which is especially not appreciated in Europe

Obviously, Tesla will use the Model Y transition as an excuse, and there's some truth to it. However, Tesla was transitioning the Model 3 around the same time last year, which also negatively affected 2024 sales

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

PSR Analysis: The real question here is whether or not this is a one month blip, or is this a trend developing. The concern for Tesla is that they are suffering because of Elon Musk, and not just in Europe. There is strong evidence of this happening in USA and Canada, too. **PSR**

Nissan Ditches Honda, Eyes Foxconn Alliance

After unsuccessful negotiations with Honda, Nissan has ended discussions about a merger and is now searching for a new partner, reports "Nikkei." Among the potential candidates is the Taiwanese technology giant Foxconn.

Nissan abandoned plans for a \$60 billion merger with Honda, which could have made it the third-largest car manufacturer in the world. The primary issue reportedly was disagreements over the terms of the merger.

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

PSR Analysis: Nissan is struggling to deal with the EV revolution. After successfully launching and selling the Leaf, they have fallen behind in the EV race. Nissan continues to lose market share and has not introduced new models in a long time. Their future is in doubt long term with new threats like Tesla, BYD, and other Chinese automakers gaining momentum. **PSR**

Recycling Battery Metals Could Supply 25% Of Europe's EVs By 2030

Recycling could enable Europe to cut its reliance on EV battery mineral imports by up to a quarter by the end of the decade, a new study finds. Materials from end-of-life batteries and gigafactory scrap have the potential to build up to 2.4 million EVs locally in 2030, according to research by Transport & Environment (T&E).

Recycling spent cells and production scrap could provide 14% of the lithium, 16% of the nickel, 17% of the manganese, and a quarter (25%) of the cobalt that Europe will need for electric cars in 2030.

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

PSR Analysis: As concern mounts over a possible shortage of battery minerals (Cobalt and ethical mining, Lithium's potential shortfall, etc.) any move that reduces the need to mine or extract raw materials, is welcome. However, the big problem for recycling is - and will continue to be - a lack of raw materials to recycle. **PSR**

Sodium-ion Batteries Struggle To Beat Lithium-ion on Cost

In recent years, sodium-ion batteries have emerged as a key contender to the dominant lithium-ion technology, which has experienced supply shortages and price volatility for key minerals

often described as a cheaper alternative, primarily thanks to abundant sodium and low extraction and purification costs, a new study finds that sodium-ion batteries will require a set of technology advances and favorable market conditions to approach lithium-ion on price

Whereas cathodes are the key cost driver for lithium ion, the anode is the most expensive component in sodium ion batteries. Therefore, increasing the specific capacity of hard carbon anodes as yet another critical design direction. Replacing hard carbons with alloying-anodes, such as tin, is one of the possible approaches. An alternative design direction is to forgo an anode material altogether and opt for an anode-free cell configuration

Source: *Energy Storage Solutions* [Read The Article](#)



PSR Analysis: This analysis shows that Sodium batteries are still not yet ready to compete with Lithium ion batteries, especially when it comes to cost, but there are possibilities and routes to obtain parity or exceed Lithium ion batteries. **PSR**

New Cathode Material for Solid-State Batteries

SK On, the South Korean battery manufacturer, has unveiled research data about a new cathode material for solid-state batteries. The cathode material is lithium manganese rich layered oxide.

It has a specific energy density rivalling that of high nickel cathode materials and is achieved by the use of a new production process.

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

PSR Analysis: This change in the production process will, if commercialized, make cathode production much simpler and cheaper as it avoids excessive heat treatments. **PSR**

Battery Metal Demand May Outpace Supply by 2030

The consultancy firm McKinsey has suggested efforts to reduce carbon emissions with electric vehicles (EVs) might be undermined by the lack of critical minerals supply. Demand for EVs will grow by six times from 2021–2030 but supplies of critical minerals will not be enough to meet demand for battery materials, according to McKinsey.

McKinsey said a sharp increase in lithium mining will have to take place, as it is becoming the clear dominant battery chemical for EVs. Currently, battery producers use more than 80% of all mined lithium. This could grow to 95% by 2030. Class 1 nickel shortage fears have already led to investment in new mines, especially in south-east Asia. These fears have not stopped the potential increase in demand, via lithium-manganese-cobalt (Li-NMC) batteries.

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

PSR Analysis: High prices have already started a round of new developments for Nickel and Lithium but given that these new facilities can take between 15 to 30 years to fully develop, we appear to be heading for shortages. Recycling can make up some of the shortfall, provided the recycling facilities get the necessary feedstock, but even this is uncertain. **PSR**

New Aluminum-Ion Battery Offers Long Cycle Life

Researchers in China have reported a breakthrough in the development of aluminum-ion batteries. They have created a solid-state electrolyte that facilitates the smooth movement of aluminum ions, significantly improving the battery's performance and longevity.

The environmentally friendly and high-safety aluminum-ion batteries have attracted much interest, but the extensive use of expensive electrolyte, strong moisture sensitivity, and severe corrosion of the Al anode have limited their commercial application.

Source: *Energy Storage Solutions* [Read The Article](#)

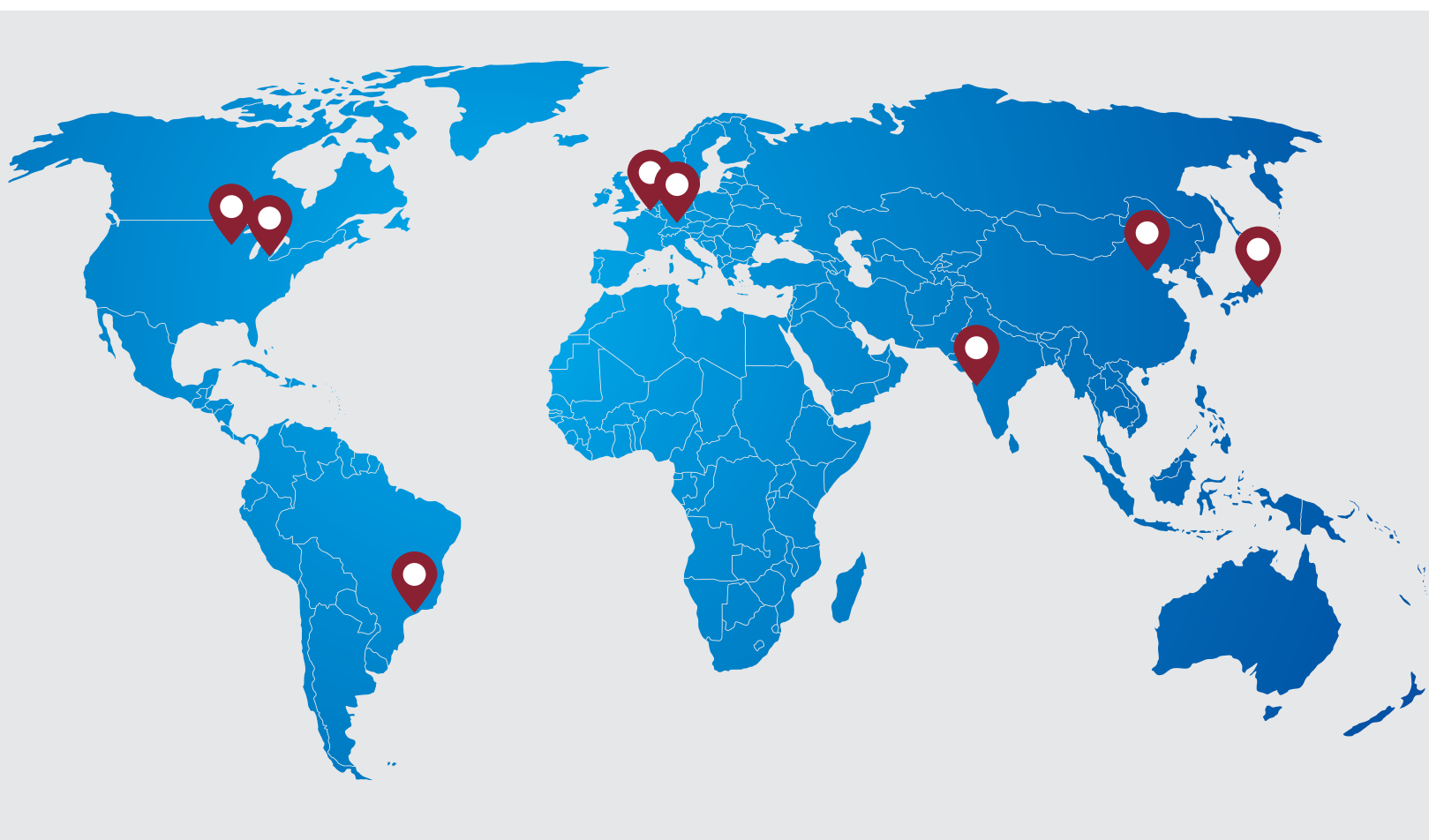
PSR Analysis: By adding a salt to the electrolyte, the researchers have increased conductivity, helped prevent the formation of aluminum crystals that degrade battery



health, improved moisture resistance, and enhanced physical and thermal stability. However, the biggest improvement is an exceptionally long life, lasting 10,000 charge-discharge cycles with an average Coulombic efficiency (Coulombic efficiency is widely used in battery research as a quantifiable indicator for the reversibility of batteries) of more than 99%. **PSR**

A Final Note

A **920% tariff** on anode materials from China would throw the economics of U.S. storage out of whack – [Click Here...](#) **Hydrogen buses** hurt the people they are meant to help – [Click Here...](#) New **LMFP EV battery** passes critical test – [Click Here...](#) Why **Synthetic Graphite** from FortisBC's hydrogen process could transform batteries and steelmaking – [Click Here...](#) **Turmoil in US** could roil global auto industry – [Click Here](#). **PSR**



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