Alternative Power Report

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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.

Honda, Nissan Near EV Merger

Move Designed To Meet Industry's Rapid Shift To Electric

By Guy Youngs, Forecast & Adoption Lead

Japanese automakers are taking drastic measures to keep pace with Tesla and Chinese EV leaders like BYD. Honda and Nissan are now closing in on an EV merger to join resources and fend off the incoming competition. The tie-up could likely involve a third auto partner from Japan which reports suggest might be Mitsubishi

Honda and Nissan have been paving the way for an EV partnership for several months now. In March, the Japanese auto giants announced plans to co-develop new software and other EV tech.

Nissan CEO Makoto Uchida said the collaboration is "significant" given the two legacy automakers "face common challenges." Those challenges, Uchida referred to, are Tesla and surging EV makers from China like BYD

Source: *Electrek* **Read The Article**

PSR Analysis: The potential Honda and Nissan EV merger signals the growing pressure on legacy automakers to keep up with Tesla and other global electric vehicle leaders. As the electric vehicle market heats up, we can expect to see other companies (not just in to automotive industry) consider methods of working together ranging from collaborations to full scale mergers. A lot of OEMs are just waking up to 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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Volkswagen May Not Close Factories in Germany

Volkswagen is considering keeping its German plants up and running while reinstating job security agreements until 2030, with the tradeoff being that workers would forgo bonus payments, according to an anonymous source.

Late last year, 100,000 workers walked out at nine Volkswagen factories across Germany, including its EV-only factory, bringing assembly lines to a grinding halt in the battle over the slashed pay, lost jobs, and the automaker's future. The strike came after weeks of collective bargaining negotiations in which Volkswagen didn't back down from its plan to potentially cut thousands of jobs and close factories in Germany – a first in the automaker's 87-year history in the country. Volkswagen is considering closing at least three factories, lay off thousands of workers, and trim pay for those remaining by 10%, all as it fights to stay alive amid stiff competition from China, especially for EVs.

Source: *Electrek* **Read The Article**

PSR Analysis: VW is radically restructuring its business to cut costs, to stay competitive, especially in the face of the new EVs coming from China. The real question surrounding this, is whether these measure will be enough, or are they just the start. **PSR**

European EV Car Market Suffers Collapse to Market Declines

The number of EVs sold across Europe fell by 3% to 3m during 2024, according to the latest data. This has come after the withdrawal of government tax breaks triggered a collapse in sales across Germany. The drop in Europe compared to a 40% surge in China, where 11m EVs were purchased. Sales across North America also rose 9% to 1.8m.

The growth in the US could largely be attributed to consumer subsidies, such as those handed out to buyers under Joe Biden's Inflation Reduction Act and the greater electric car uptake in the UK is a result of the UK's zero-emission vehicle (ZEV) mandate, which required at least 22% of carmakers' sales to be electric in 2024. This has led to sales in the UK being a relative bright spot in Europe with sales rising 20% to more than 400,000 units and leading Britain to overtake Germany as Europe's biggest EV market.

Source: *MSN* **Read The Article**

PSR Analysis: This significant drop has led to calls on the German government to reinstate the subsidies urgently, but nothing is likely to change until after the German election Feb. 23 this year. However, this does suggest a possible future for the US EV market if President Trump makes too many changes to the IRA subsidies. **PSR**

BYD Controversy In Brazil — What Is Going On?

Reports came out in late December that workers building a BYD factory in Brazil were working in "slavery" conditions and were potentially victims of human trafficking. Without a doubt, something horrible was going on. How much BYD knew or didn't know, we don't know, but the company has now terminated its subcontractor, Jinjiang Construction Brazil.

"Brazilian authorities have halted the construction of a factory for Chinese electric vehicle (EV) giant BYD, saying workers lived in conditions comparable to 'slavery'," BBC reported. "More than 160 workers have been rescued in Brazil's northeastern state of Bahia, according to a statement from the Public Labor Prosecutor's Office (MPT).

"They were allegedly put in a 'degrading' environment and had their passports and salaries withheld by a building company."

Source: *Clean Technica* **Read The Article**

PSR Analysis: The conditions the workers were in, met the Brazilian government's definition of "slavery like conditions." What is not clear is who reported this to the government and how much (if anything) BYD knew about this. What is clear is that there is more behind the scenes that has yet to be made public. **PSR**

EV Batteries May Last Up To 40% Longer than Expected

A new study from the SLAC-Stanford Battery Center published Dec. 9, 2024, in Nature Energy suggests that real-world driving habits – like stop-and-go traffic, highway driving, quick city trips, and lots of time spent parked – could make EV batteries last about a third longer than previously thought.

Battery scientists usually test new designs in labs by cycling them at a constant rate of discharge and recharge, speeding up the process to quickly see how long they'll last and how well they perform. However, that method doesn't reflect how EV batteries are used in the real world.

Source: *Electrek* **Read The Article**

PSR Analysis: This analysis shows that time is actually the main issue in battery life, rather than real world driving habits. This should help battery engineers better understand battery use and hopeful design better batteries as a result. **PSR**

Get Ready For EV Batteries From High Tech Pottery Shops

EV batteries have been using the same liquid-electrolyte technology ever since the early 2000s, with some significant tweaks leading to improved performance and lower costs over the years. What is needed now is a change in the approach to bring down costs even more.

Ceramic batteries may be that change. Sometimes called "glass batteries," they replace the flammable liquid electrolyte in conventional lithium-ion EV batteries fully or partly with a stable, more environmentally friendly solid material.

Recent testing in Germany showed that ProLogium's battery has a very high energy density of 321 Wh/kg.

Source: *Clean Technica* **Read The Article**

PSR Analysis: This translates to smaller, lighter battery packs with longer range and improved energy efficiency, and if commercialized, this could be the game changer everyone is looking for. **PSR**

China Offers New Wave of PHEVs with 50kWh Batteries

It is thought that hybrid vehicles are less polluting than diesels but in turn more polluting than Battery powered vehicles. PHEVs with electric ranges of 200–300 km would appeal to non-early adopters, especially in markets where charging infrastructure is not fully developed. Perhaps this is what some Chinese automakers are thinking, with a wave of new-generation PHEVs with battery packs of over 50kWh and electric ranges of about 200 km, and complemented by a 1.5T or 2.0T ICE engine.

Source: *Clean Technica* **Read The Article**

PSR Analysis: While these kinds of vehicles could be particularly useful in developing countries where charging infrastructure is not yet widely available, they also come with other issues. For instance, why have a vehicle with two means of propulsion? And there are concerns with the manufacturing as much of the pollution in a vehicle comes during the construction phase rather than the use phase. Also, the weight of such a vehicle can be a concern. There is also a potential that this type of vehicle encourages users to rely on fossil fuels. **PSR**

Critical EV Battery Materials Face Supply Crunch by 2030

Despite some recent down turns, the global shift to electric vehicles is accelerating, but McKinsey & Company's latest report warns of significant strains on the supply chain for critical battery materials by 2030. EV sales are expected to jump to 28 million annually by the end of the decade. This unprecedented demand will put pressure on the availability of essential materials like lithium, high-purity manganese, and graphite.

While lithium iron phosphate (LFP) batteries reduce reliance on scarcer materials such as cobalt and nickel, they still depend heavily on lithium, manganese, and graphite. This shift offers some relief but does not eliminate the imbalances in the supply chain, highlighting the need for continued focus on securing sustainable sources.

Source: *Electrek* **Read The Article**

PSR Analysis: There have been massive levels of investment into new battery technologies recently, and

there are several new battery technologies scheduled to come on line before the end of the decade, Solid state Batteries and Sodium Air Batteries to name a few. These technologies, together with developments in utility size storage batteries (flow batteries for instance reduce the use of lithium), will impact this concern. In addition, new sources of mineral are being developed, but these can take years to come online. **PSR**

A Final Note

CATL powers a third of the world's EVs and now it's facing a US blacklisting– **Click Here**… **Critical minerals** are a gold rush the west lost sight of- **Click Here**… **EV battery makers** get a $1 billion boost in the EU – but there's a catch– **Click Here**… First **autonomous electric loaders** in North America get to work - **Click Here**. **PSR**

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