Alternative Power Report

June 17, 2024

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.

China Threatens EU, U.S. with Tariffs Up To 25%

Move Is Retaliation for EU Probe, U.S. Tariffs on EVs

By Guy Youngs, Forecast & Adoption Lead

Trade tensions have continually risen among China, the European Union, and the US in recent years, with much of the drama surrounding imported EVs, so 10 days after the Biden administration introduced a 100% tariff on several categories of Chinese goods, including EVs, China has threatened to retaliate with tariffs on its own vehicle imports.

The EU has also been included in this threat but while it is conducting a probe into China's EV exports, it has placed this probe on a temporary halt pending EU's elections

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

PSR Analysis: With China not having enough car carriers to export all the EVs it is manufacturing, it's very hard to see the EU not following the tariff route, but the real question that arises is whether or not this will lead to a trade war.

China produces so many EVs that it needs to export, it's also hard to see how they can retaliate without widening the areas affected. **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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European Batteries Could Be 60% Less Carbon Intensive Than Chinese

Moving the EV supply chain to Europe would cut the emissions of producing a battery by 37% compared to a China-controlled supply chain, according to new analysis by lobbying group Transport & Environment (T&E). This carbon saving rises to over 60% when renewable electricity is used.

Securing other parts of the battery value chain will be even more challenging given China's dominance and the EU's limited expertise. The report finds Europe has the potential to manufacture 56% of its demand for cathodes – the battery's most valuable components – by 2030, but only two plants have started commercial operations so far.

Source: *CleanTechnica* **Read The Article**

PSR Analysis: While reducing the carbon footprint is worthwhile, the move would have some potentially significant cost implications which would make EVs more expensive and could slow the pace of adoption. **PSR**

Diesel Demand Hits 26-Year Low as EV, Hydrogen Sales Boom

US diesel demand plummeted to its lowest seasonal level in 26 years in Q1 2024. The production of distillate, the petroleum-based fuel that powers trucking, heating, and heavy industry, plunged to 3.67 million barrels per day in March (down from more 4.1 million barrels last year) according to monthly data from the US Energy Information Administration.

Even in diesel-loving Europe, the diesel engine is dying. Volvo, for example, recently built its last-ever diesel vehicle, and companies like Nissan, Hyundai, and Daimler (parent company of Mercedes-Benz and the Freightliner and Rizon truck brands) have also backed away from developing new internal combustion engines.

it's worth noting that commercial EV sales are soaring. Despite all the doom, gloom, and wishful thinking from the pro-oil/anti-EV crowd, the numbers suggest a swift expansion in the commercial EV and ZEV (Zero-Emission Vehicle) markets.

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

PSR Analysis: Recently we have seen news articles about an apparent slowing of the EV market, but this (and other data) suggests that while some manufacturers are slowing their EV plans, EV growth rates are still good and in fact considerably better than ICE growth rates. **PSR**

Discovery May Drive Down Cost of Hydrogen Fuel

RIKEN Center for Sustainable Resource Science (CSRS) researchers in Japan have announced that they may have discovered the secret to being able to produce hydrogen fuel far more cheaply than the currently used methods by using 95% less Iridium.

Iridium is used as a catalyst in the production process of hydrogen, and we would need to allocate over 40 years of Iridium production in order to make the necessary hydrogen. Iridium is one of the rarest elements in Earth's crust, with estimated annual production of only 15,000 pounds in 2023.

Source: *Hydrogen Fuel News* **Read The Article**

PSR Analysis: By replacing most of the Iridium with manganese we may be able to reduce the cost of making hydrogen significantly and enable the wide scale use of hydrogen. This is still at an early stage but shows some promise. However, the lack of infrastructure is still a serious issue. **PSR**

Vermont Is First State To Require Big Oil To Pay for Climate damage

In a truly historic move, Vermont has become the first US state to pass a law that makes major fossil fuel companies financially responsible for climate change damages.

The Climate Superfund Act, is designed to create a new financial mechanism to cover the costs of climate adaptation and mitigation, ensuring that the polluters most responsible for greenhouse gas emissions pay their fair share.

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

PSR Analysis: Given the potential costs for Big Oil, we can expect some strong legal challenges to this legislation, but its impact could be far reaching with other states potentially to follow and leading to an acceleration in the switch away from fossil fuels. We can expect this will take some time before we know how this will pan out. **PSR**

CATL Shenxing Battery Could Greatly Increase Charging Speed

CATL just announced it has already improved on the Shenxing LFP battery it introduced last year. According to the company, its latest battery, called Shenxing PLUS, can charge at 4C, add 600 kilometers of range in just 10 minutes using a DC fast charger, and power an electric car for up to 1000 kilometers on a full charge

The development comes with both a blessing and a curse. This new battery from CATL can potentially be a giant leap forward for the EV revolution, but it will cause enormous waves throughout the auto industry, particularly in the US and Europe where governments have slapped higher tariffs on Chinese made electric cars and their components in hopes of protecting domestic manufacturers.

Source: *CleanTechnica* **Read The Article**

PSR Analysis: On the face of it, this sounds fantastic: fast charging, long range and higher energy density. It could be revolutionary, but we have to see it delivered and in action to get past all the marketing speak and global politics. **PSR**

Toyota, Japanese Rivals Promise More Efficient ICE Engines

Japanese automakers have been some of the biggest laggards in the transition to fully electric vehicles. Despite this, Toyota, Mazda, and Subaru are doubling down on ICE engines. In a recent press release, the companies announced their commitment to developing new engines "tailored to electrification and the pursuit of carbon neutrality."

The automakers aim to integrate EV components, including motors, batteries, and other electric drive units, into the new engines, and the new units are expected to be smaller and more compact to fit Toyota's new body styles for its next-gen EVs. Smaller engines enable lower hoods and improved aerodynamics for better performance and fuel efficiency.

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

PSR Analysis: On the face of this, this news sounds somewhere between unusual and insane, and Toyota seems to be giving off very contradictory signals on its future with the EV revolution. But there is some sense in here – engines that are designed from the ground up with electrification in mind (maybe smaller, lighter and simpler than today's engines) could be interesting. But with hindsight you do wonder if this is not something Toyota could have done years ago. **PSR**

Bringing Lithium-Sulfur Batteries Closer To Commercialization

Researchers at the University of South Carolina have successfully transitioned their highly-durable lithium-sulfur battery technology from coin to pouch cells and reported competent energy densities.

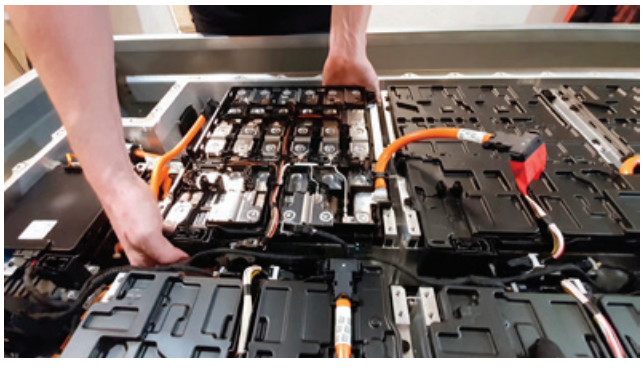
Lithium-sulfur batteries are a promising candidate for high-performance energy storage applications due to their low cost and high theoretical energy density of more than 500 Wh/kg when coupled with lithium metal anodes.

Source: *PV Magazine* **Read The Article**

PSR Analysis: Historically, the main problem with Lithium Sulfur batteries has been the Sulfur cathode, but the University of South Carolina scientists appear to have solved this. Lithium-sulfur batteries are best suited for applications that do not require fast charging, such as heavy-duty trucks, buses, and other means of transport that need long discharge time (or milage) and can be kept overnight at charging stations. **PSR**

A Final Note

China's **first large-scale sodium-ion battery** charges to 90% in 12 minutes – **Click Here**… **Graphene** is giving up its secrets (And EVs will benefit) - **Click Here**… High-efficiency, a**ll-solid-state sodium-air battery** achieves energy efficiency of 86% – **Click Here**… Researchers claim batteries with **iron cathodes** outperform traditional materials – **Click Here**. **PSR**



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