Alternative Power Report

August 19, 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.

EV Battery Recyclers Hit Lithium Recovery Mark

Joint Extraction Approach Used

By Guy Youngs, Forecast & Adoption Lead

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.

Syensqo processed hundreds of liters of cylib's lithium-rich effluent using an advanced extraction method, known for its exceptional lithium selectivity. The final lithium hydroxide product not only meets, but in several parameters exceeds the strict purity standards required by cathode active material manufacturers

Source: *BEST Magazine* **Read The Article**

PSR Analysis: As the EU has mandated lithium recovery rates of 50% by 2027 and 80% by the end of 2031, this process is a significant step toward realizing the dream of a circular supply of lithium and is vital at a time when lithium prices remain high. **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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Fortescue Cancels Flagship Hydrogen Projects

Fortescue's recent decision to abandon two major hydrogen-for-energy projects after reaching a Final Investment Decision (FID) serves as an important signal for policymakers around the world, particularly in the UK, which is still pretending its autumn hydrogen strategy update will be evidence led.

These cancellations, one located in Gladstone, Australia, and another in Arizona, represent more than just isolated setbacks. Hydrogen as an energy source, as opposed to its use as an industrial feedstock, is increasingly failing under scrutiny across the globe

US energy policy under the Trump administration, particularly the removal of certain hydrogen-related subsidies, has led to uncertainty which has in turn quickly revealed the true economics of hydrogen production. With the incentives removed, the project's already tenuous financial viability vanished, prompting Fortescue to write off approximately $150 million in pre-tax losses.

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

PSR Analysis: Many companies (including BP, Shell, ArcelorMittal, Iberdrola, and Woodside) have shelved or significantly scaled back major hydrogen-for-energy projects due to escalating costs and market realities. The challenges of hydrogen infrastructure (including storage, distribution, and demand uncertainty), continue to impede growth, despite the generous subsidies previously made available. It should be noted that many hydrogen projects have collapsed once governmental subsidies have been withdrawn or ended. **PSR**

Tesla Sales in Europe Are in Free-fall and the Pain Is Just Starting

Tesla sales in Europe are continuing to decline rapidly, and it appears the pain is just beginning for the automaker. The numbers for July are coming in from Europe and Tesla registrations are down 41.6% despite EV sales surging across the continent.

The data shows that the free-fall decline in sales that we saw in the first half of 2025 is continuing into the second half, despite Tesla falsely claiming that the issue in the first quarter was the Model Y changeover limiting supply.

In fact, the decline appears to be accelerating in most European markets. Year-to-date (Jan-July), Tesla's sales are down 34.3% throughout Europe. The only exception is in Spain, which is marginally up.

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

PSR Analysis: A few years ago, Tesla was the market leader and even had a majority of EV shares in Europe. The EV market is now doing better than ever in Europe, and the biggest electric automaker is seeing a sharp decline. Something is really wrong at Tesla. With sales down approx. 135,000 units YTD vs last year, Tesla will have to start writing

Magnetic Field Restructures Water to Boost Electrolysis Efficiency

In a paper published in August 2025 in JACS Au (American Chemical Society), Chinese researchers showed that by steering the hydrogen-bond network of interfacial water via a steady magnetic field, they sliced off about 50 millivolts of overpotential for the hydrogen evolution reaction and cranked current density up by 15.4% under industrial alkaline electrolysis conditions.

Water molecules near the electrode reshuffle into more asymmetrical clusters. These lopsided water gangs hand off protons and electrons much faster, slicing the energy penalty for hydrogen evolution.

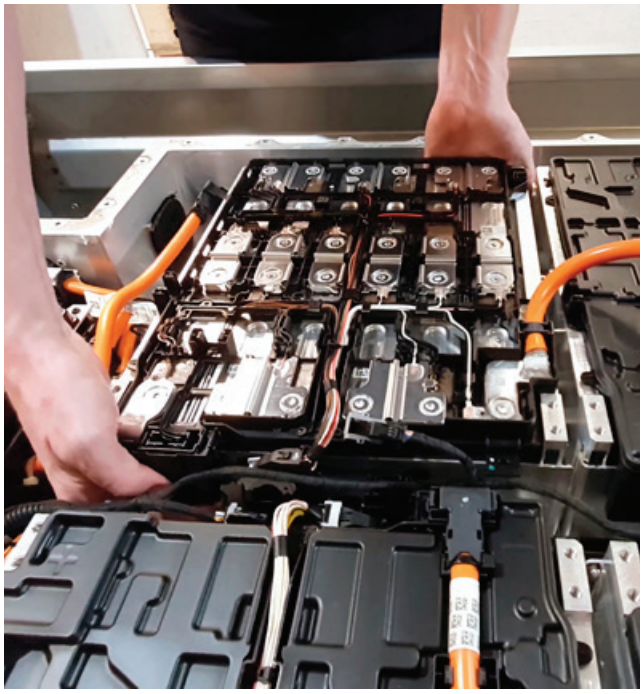
Source: *Hydrogen Fuel News* **Read The Article**

PSR Analysis: Saving a few tens of millivolts might sound small, but when you scale it up to an industrial scale it translates to serious energy savings. For green hydrogen producers, that could mean lower operating costs, ramped-up throughput, and a sharper edge in the market, all of which can encourage hydrogen production and make it cheaper and hence more readily available for those industries and vehicles that could use it. **PSR**

BP Drops 26 GW Green Hydrogen Plan in Australia

BP first bought a 40.5% operating stake in the Australian Renewable Energy Hub project in 2022, and its share in the joint venture grew to 63.57% in recent years. The project would include the installation of up to 26 GW of solar and wind generation, much of which would have been used to produce green hydrogen and ammonia.

British energy major BP has informed its partners that it intends to exit the $55 billion (USD 36.14 billion) green energy hub planned for Western Australia's Pilbara region.



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

PSR Analysis: BP's decision (which reflects BP's recent strategy reset) comes after energy and mining giant Fortescue formally announced it has abandoned plans for a green hydrogen project in Queensland and is another blow to hydrogen in Australia. **PSR**

Emerald Tech Boosts Sodium-ion Energy Density

Despite decades of refinement, today's lithium-ion batteries have almost reached their cost floor and remain prohibitively expensive for many large-scale applications. Safety concerns, volatile commodity markets, and an opaque, overseas supply chain also continue to dog the industry further complicating mass deployment.

Emerald Battery Labs recognizes the answer lies in a simple, abundant element: sodium. These batteries promise up to 50% savings on raw materials compared with the cheapest lithium-ion systems, thanks to feedstocks such as soda ash that are plentiful in North America and Europe.

Until now, energy-density and the cell price gap has limited sodium-ion's appeal. Emerald Battery Labs claims that its technology promises to boost sodium-ion energy density to levels that satisfy the rigorous performance requirements in

a wide range of applications. This could drive battery costs below $30 per kilowatt-hour – half the price of entry-level Chinese LFP lithium-ion cells

Source: *BEST Magazine* **Read The Article**

PSR Analysis: Significant improvements in energy density and large scale cost savings suggest that sodium-ion batteries may be the replacement for lithium batteries and drive electrification forwards. The big question is how practical this is and how can it be commercialized – watch this space. **PSR**

Toyota, BMW, and Hyundai Push Hydrogen Fuel Cell Vehicles

The race to zero emissions is heating up, and automakers are starting to pick sides—especially when it comes to hydrogen fuel cell vehicles. While some big names like Stellantis and Renault are cooling on hydrogen and going all-in on battery electric vehicles (BEVs), others like Toyota, BMW, and Hyundai are pressing forward, especially for heavy-duty and commercial uses.

BEVs are dominating headlines for a reason. They run on electricity stored in large batteries, don't emit anything from the tailpipe, and the charging infrastructure is finally catching up, especially in Europe and North America. With that kind of momentum, it's no wonder automakers like Renault and Stellantis are putting more chips on the battery side of the table.

But not everyone's convinced that batteries can handle everything. That's where hydrogen steps in—particularly for vehicles that cover long distances, operate around the clock, or need to refuel quickly. This diverging strategy is having ripple effects across the globe. With Renault and Stellantis stepping away from hydrogen, some are worried that Europe's already slow-to-grow refueling network could take a hit.

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

PSR Analysis: With the hydrogen strategy diverging, this will make the process of gaining economies of scale, much more difficult and without that the problems of hydrogen will not go away. Hydrogen production costs and massive, multi-billion dollar investments needed in infrastructure are issues that need to be resolved. **PSR**

California Program Can Significantly Reduce EV Tractor Cost

California often leads the way in the US EV revolution, and one unique program is helping Off-Road vehicles electrify. The California Off-Road Equipment Voucher Incentive Project (CORE) is a multi-million-dollar voucher incentive program intended to make currently commercialized, zero-emission, Off-Road equipment more accessible to users through point-of-sale subsidization. This state program sets a unique precedent; there are no scrappage requirements

One example of the vehicles eligible for this is the Monarch Tractor MK-V, the world's first 100% electric, driver-optional, and smart tractor that can cut 67% off the retail price, putting the cost of the tractor on par with that of a similarly sized diesel unit.

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

PSR Analysis: This article is based around an interview with the co-founder of Monarch Tractor, however it's a good example of how governments can encourage EV adoption, especially in the Off Road markets. **PSR**

A Final Note

Europe's $750 billion energy pledge to Trump is pure political theater – **Click Here**… EU Needs €6.4bn Investment in Ports and Vessels to Boost Offshore Hydrogen Production - **Click Here**… **Dark Factories** — Chinese automakers living Tesla's dream – **Click Here**… **Copper** doping boosts manganese cathode stability in sodium-ion batteries - **Click Here** **PSR**

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