Alternative Power Report

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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.

Hitachi Energy Powers Construction Site with Hydrogen Gen-set

Unit could save 200,000 gallons of diesel fuel annually

By Guy Youngs, Forecast & Adoption Lead

Hitachi Energy has successfully deployed its first-ever customer HyFlex hydrogen fuel cell (HFC) generator in Rotterdam, Netherlands, where the generator will replace an equivalent diesel generator producing 500-kilovolt-amperes (kVA). In doing so, the HyFlex-powered construction site could save as much as 200,000 gallons of diesel fuel per year, and reduce the company's carbon-dioxide emissions by about 2,900 tons.

Hitachi plans to have a full zero-emission "ecosystem" on display at the pilot site, with plans to deploy similar low carbon ecosystems in noise-and pollution-sensitive areas like hospitals, critical data centers, disaster relief efforts, or shore-to-ship power applications.

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

PSR Analysis: Most Hydrogen is not readily available except as a byproduct of fossil fuels. So, it might be misleading to call this a clean power source depending on the source of the hydrogen, and the question remains about how readily available is the hydrogen. **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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Trump Threatens Massive Tariffs After China's Rare Earth Curb

President Trump is threatening new tariffs (at 100%), after China introduced new restrictions on exports of rare earths and related technology.

Analysts say the export controls were an attempt to boost China's leverage in trade talks with the United States, but Trump now says he may call off a planned meeting with Chinese leader Xi Jinping later this month.

European firms are expecting more shutdowns and suffering losses as China continues to hold a tight grip on rare earth exports despite a July agreement to fast-track shipments to the bloc, the European Union Chamber of Commerce in China said on Tuesday.

Source: *NPR* **Read The Article**

PSR Analysis: China processes about 90% of the world's rare earths, which are critical inputs in everything from smartphones to advanced fighter jets. China has used its dominance in rare earths to apply pressure to the United States as trade friction intensified this year following Trump's "liberation day" tariffs. **PSR**

Most Carmakers on Track to Meet EU CO_2 Reduction Requirements

European carmakers sold 38% more electric cars in the first seven months of this year, ensuring that all but Mercedes-Benz are on track to comply with the EU's 2025–27 emission targets, new T&E research finds.

The report suggests that the two-year extension of the targets allowed carmakers to take the foot off the gas and will lead to 2 million fewer electric cars being sold between 2025 and 2027.

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

PSR Analysis: Despite the extension of the target from 2025 to 2027, the EU is under pressure from carmakers to weaken their 2030 and 2035 emissions targets. There is a big risk for Europe's car industry if the EU postpones these targets even further as Chinas is unlikely to relax its drive towards electrification and the related innovation. The most likely outcome of any further delay would be to consign the European car industry to being the second tier in the EV market.

Why Electrifying Motorcycles In India Is Important

2W mobility in India represents over 70% of all mobility in India and accounts for 60% of gasoline consumption. Motorcycle sales are twice the scooter sales in India. While scooters are seeing ~20% penetration of EV, motorcycles are at 0.1%. This implies that a very significant portion of 2W mobility remains untouched from electrifications.

The market is vast - The number of motorcycles in India is approximately 250 M and almost all are entirely petrol powered. Every year 20M new motorcycles are sold in India. Petrol's share today is approximately 99.9%.

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

PSR Analysis: The most popular motorbikes in India are in the range of 100-125cc. These are the kind of class that electric motorbikes should be able to compete in; there are a lot of "125cc-equivalent" electric motorbikes around. The cost of purchase and the ease of charging are key drivers in the potential growth of 2W electric machines. **PSR**

Study Says Biofuels Emit More CO2 Than Fossil Fuels They Replace

Biofuel demand continues to grow worldwide despite being responsible for 16% more CO2 emissions globally than the fossil fuels they replace. Using just 3% of the same land for solar would produce the same amount of energy, a new study shows. Here are a few facts from the report by Cerulogy:

- **By 2030** biofuels crops will require land the size of France, which would make it the sixth largest country in terms of arable land use globally.
- **The equivalent of 100 million bottles** of vegetable oil are burned today in cars every day, meaning a fifth of all vegetable oil is never used for food.
- **On average, 3,000 liters** of water are needed to drive 100 km on biofuels.
- **Just 3% of the land** currently used for first-generation biofuels could produce the same amount of energy with solar panels.
- **The same land** could feed 1.3 billion people.
- **Production of** global biofuels emits 16% more CO2 than the fossil fuels they replace due to the indirect impacts of farming and deforestation.

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

PSR Analysis: This is not the first report to suggest that biofuels are not the answer and while some analysts question the report, it is clear that there are better ways to generate energy for vehicles, and it may be that biofuels are a dead end when it comes to energy and de-carbonization. **PSR**

Hydrogen Fuel Cells Power World's First Zero-Emission Cruise Ship

On Sept. 9, 2025, at Fincantieri's Ancona shipyard in Italy, there was a buzz of excitement as the keel for the Viking Libra was laid. It was a milestone moment for the world's first cruise liner powered by hydrogen fuel cells.

Clocking in at roughly 54,300 gross tons, the Viking Libra will host 499 staterooms for nearly a thousand guests. Scheduled to set sail in late 2026, it packs all the bells and whistles you'd expect on a top-tier cruise—except its propulsion system is entirely powered by hydrogen fuel cells, cranking out up to 6MW of clean energy and leaving behind only water vapor.

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

PSR Analysis. For years, cruise ships burned heavy fuel oil, churning out CO2, NOx, SOx, and soot. Tightened rules in Emission Control Areas nudged some operators toward LNG, scrubbers, and hybrid setups. But the Viking Libra takes a leap straight to 100% zero-emission technology, sidestepping all traditional pollutants. Although the ship has yet to sail, Viking and Fincantieri have already ordered more hydrogen-powered ships. **PSR**

Electric Haul Trucks Could Save Fortescue $400 million/Year

Fortescue is marching towards zero emissions as it invests in new, zero-emission mining equipment options across its global operations. And that investment? It's already paying off. One analyst says the company's saving almost $400 million in fuel costs alone each year.

Battery electric vehicles have moved millions of tons of material at Fortescue mines over the last two years alone, and they continue to keep the minerals moving with less impact to the environment.

The company has invested in Liebherr-built electric haul trucks and excavators and hundreds of millions in Chinese equipment from XCMG.

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

PSR Analysis. Hundreds of millions of dollars in lower operating costs yearly equates to a serious competitive advantage over companies that let grass grow under their feet, and Fortescue is not the only company--there are several similar projects in other Australian iron mines. **PSR**

EU Reaffirms 2035 ICE Phase-out Plan

Automakers in Europe have been quietly but persistently lobbying their governments to relax the current EU policy that calls for a phase-out of combustion engine–powered cars and light-duty trucks in 10 years. Bloomberg reported recently that the car companies are claiming the ban on combustion engines is no longer realistic and warning that climate rules risk weakening the region's auto industry and its supplier network.

Policymakers in the EU defend the 2035 target, calling it essential to meeting climate goals. Environmental groups argue industry warnings are exaggerated and point to a steady rise in EV sales and a wave of new European battery projects.

The European Commission met on Sept. 12, to discuss whether a rollback in its internal combustion phase-out plan would be considered, but according to a report from Der Spiegel, the Commission's six-page concept paper for that meeting stated the goal of a complete exit from petrol and diesel technology by 2035 is "achievable."

Ursula von der Leyen is not expected to decide on this until spring 2026, when she presents her next planned review report.

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

PSR Analysis. The debate centers around whether or not exceptions might be introduced for plug-in hybrids and range-extended vehicles. Europe needs to assume that things will be better in 2028 and stay the course; maybe in 2035 there will be concessions for some ICE technologies, but there is nothing like a firm target to keep everyone motivated. If you relax the mandates, both the manufacturer's and the buyer's enthusiasm will drift. **PSR**

A Final Note

Arc's $160M tugboat deal shows how electrifying big boats is the right choice – **Click Here**…**Theion** to develop sulfur crystal batteries - **Click Here**…From hype to shutdown: **Europe's Hydrogen** refueling network shrinks – **Click Here**…**Hydrogen Freight** fizzles as batteries take over global trucking - **Click Here**. **PSR**

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About Power Systems Research

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