

Alternative Power Report

June 16, 2023

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.

New Battery Recycling Center Will Have A Big Impact On Europe Sets The Stage for Future Facilities

By *Guy Youngs*, Forecast & Adoption Lead



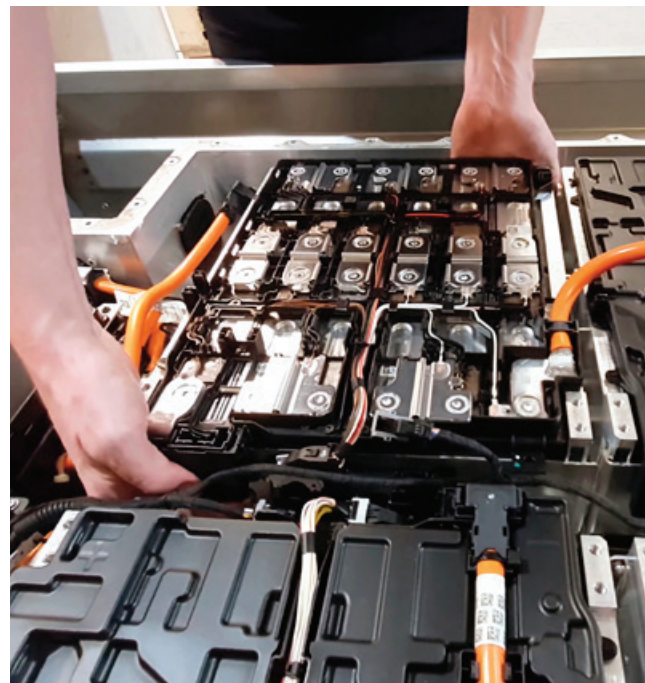
Guy Youngs

Recycling lithium-ion batteries is extremely important, since these batteries contain valuable metals such as cobalt, copper, and lithium that can be recovered and reused. By recycling these metals, we can reduce our reliance on mining and extractive activities that can be expensive.

Li-Cycle (a recycling company) and Glencore (a mining company) have partnered to do something significant in this space. The proposed "Portovesme Hub" would focus on producing essential battery materials like cobalt, lithium, and nickel by recycling used battery content. A letter of intent has been signed to commence the preliminary discussions.

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

PSR Analysis: This facility can't take care of Europe's full battery recycling needs, but the research and development of mass recycling processes sets the stage for future



facilities that will take care of the rest of the needs. So, this announcement is both good for the near-term and the long-term future.

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.

CONTACT US

New power source installations vary across industry segments. Contact PSR for data on your specific application needs.
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Electric Vehicles and The H2 Battle To Be Included in the Family

This article looks at the nomenclature of Electric Vehicle and Zero Emissions vehicles and reminds us the method for generating the electricity it uses is vital to the overall picture. It then discusses the basics of Fuel Cell Vehicles and then compares them to EVs

Source: *Hydrogen Fuel News* [Read The Article](#)

PSR Analysis: This is a fairly basic article but it's a good reminder of the terms and basics.

The EV Battery Supply Chain Explained

This article looks at the problems in the EV battery supply chain and how we reduce them. It focusses on the problem from a US perspective. The transportation sector is the largest emitter of greenhouse gases in the US economy, and about half its emissions come from light-duty vehicles. To avoid the disastrous effects of a 1.5°C increase in global temperatures, we will need to replace the more than 300 million internal combustion engine (ICE) vehicles currently on the road with electric vehicles (EVs).

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

PSR Analysis: This is quite a long article but it provides a lot of information on the background to the supply chain so it's worth a read from that point alone. It addresses several issues such as, What Is The EV Battery Supply Chain? Or What Is The "Upstream" Portion Of The EV Battery Supply Chain? And many others. The article concludes that although the EV battery supply chain faces many challenges, we can address them with investment, improved laws and regulations, and public awareness.

The Energy Revolution In Five Charts

This article distills the energy transition down to five crucial concepts.

1. The energy transition is a technology revolution.
2. The renewables revolution is exponential, not linear.
3. The renewables revolution is led by China.
4. This is the decade of change.
5. By 2030, the debate will be very different.

Each of these charts contains a different story, but they all combine to tell the whole picture.

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

PSR Analysis: The tipping point in the revolution has now arrived, it's now all about how fast industry can respond to this transition/demand. Any company that can't continue the massive CAGR rates seen, seems like that it may be finished. As the article points out, it is extremely hard to catch up, you need to be running at full speed from the very get go like Tesla.

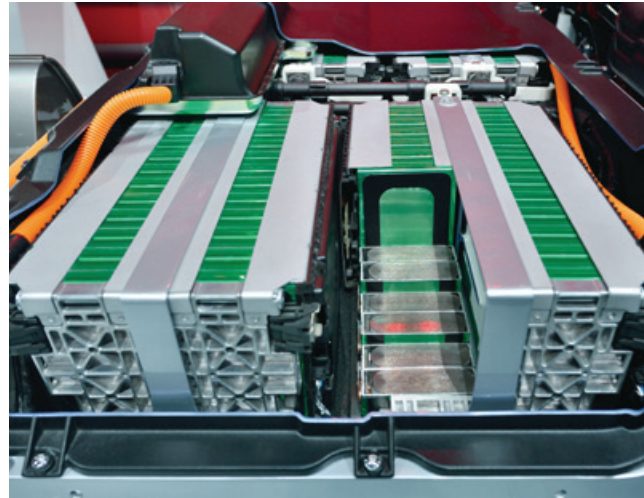
Battery Raw Material Demand — Can The Mining Industry Keep Up?

Rethink Energy recently produced a report that analyzes the surge in battery raw material demand in the near future. Rethink Energy expects that lithium supply will be under strain until 2026, producing price volatility.

Rethink Energy expects that the battery chemistries used in Europe will shift towards LMFP (lithium manganese iron phosphate) through Chinese exports and expatriate manufacturing. China appears to be moving in that direction already. The IRA is encouraging the use of chemistries that can be produced without Chinese companies, so nickel and cobalt demand within the US is expected to rise as is the necessary phosphate or nitric acid production.

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

PSR Analysis: The answer to the question, “Can the mining industry keep up?” is a qualified “yes.” But it may be a bumpy road with supply constraints affecting the commodity price. This is a good article about the expanding options for the supply chain of raw materials.



Near the end of the article, the author notes that as the mining industry expands and diversifies, the battery recycling industry is poised to become a key part of the supply chain as well.

WEF Sees Huge Drop In Oil Demand As Electric Vehicle Sales Rise

The World Economic Forum predicts that the EV revolution will reduce the demand for over 2 million barrels of oil a day by as early as 2025. To highlight the EV impact on oil consumption, the World Economic Forum has created an infographic using data from Bloomberg New Energy Finance that shows how much oil will be saved in 2025 by various types of electric vehicles, assuming existing adoption trends continue.

The article breaks the oil reduction down by categories such as Passenger car, Buses, Commercial vehicles and 2/3 wheelers.

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

PSR Analysis: This is an example of the significant impact the EV revolution is making and helps put this impact into perspective. The 2.5m barrels per day saving is slightly less than the total oil production of Kuwait!

A Final Note

Japan bets on hydrogen – [Click here](#)....**Progress Rail's** electric retrofit – [Click here](#)....**Gotion's** 1,000km LMFP EV battery– [Click here](#)....**Biofuels** vs. solar electricity for urban mobility– [Click here](#)....Cheaper **green hydrogen** technology developed by Japanese manufacturers– [Click here](#). **PSR**



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