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Editor's Note: This issue of PowerTALK News contains our newest feature, the Alternative Power Report, written by Guy Youngs. This monthly feature includes news and analysis about EV and power sources such as batteries and fuel cells.

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Alternative Power Report

By *Guy Youngs*, Forecast & Adoption Lead



*Guy
Youngs*

Battery Electric Power Forecasts

With the exception of 2022 (+7.6%), Battery Electric as a power source is expected to grow between 10% and 17% throughout the forecast period, while ICE growth rates start the period at -2.3% and then grow at less than 1% for 2023 to 2025.

Battery Electric is expected to grow from 12.8% of the market in 2022 to 21.2% by 2027, while during the same period ICEs are expected to decline from 85% of the market to 75%. **PSR**

Can EV Enthusiasm Trigger Global Growth?

Consumer adoption of EVs has gathered momentum this year, spurred by higher global oil prices. The Russia-Ukraine war has made EVs suddenly more appealing to many car buyers, accelerating adoption globally. The higher oil prices are driving EVs closer to cost parity with internal combustion engine (ICE) vehicles. In Bloomberg New Energy Finance's most recent Electric Vehicles Outlook 2022 report, it projected EV sales to hit 20.6 million units by 2025.

On Tesla's most recent earnings call, Elon Musk admitted, "We do not have a demand problem but a production problem." Other car manufacturers such as Ford, for instance, says it can build its F150 Lightning and the Mustang Mach E fast enough to keep up with demand.

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

PSR Analysis: It would take a monumental effort to replace the approximately 1.3 billion ICE cars, but the efforts to do so, the huge investment in battery development and recharging structure means that while EVs may not be able to trigger economic growth on their own, they will definitely limit or partial reverse any negative downturn caused by falling ICE sales. **PSR**

Lithium Spot Prices Climb 900% Since January 2020

Benchmark Mineral Intelligence reports that lithium market prices have grown by almost 900% since 2020. Currently, lithium demand and supply are growing at almost the same rate, but automotive needs continue to increase rapidly, and they continue to compete over a less-than-adequate lithium production pipeline.

However, the US Inflation Reduction Act of 2022 means that North American mineral demand is increasing quickly. So, will the EV battery and mineral market be able to get enough minerals out of the ground and processed for US demand without resulting in huge price increases? Benchmark is reporting that even

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Alternative Power Report

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without the effects of the IRA, lithium demand will exceed supply by 1 million to 1.2 million tons by 2030.

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

PSR Analysis: Automotive manufacturers are rushing to sign up lithium supplies (Tesla has purchased 10,000 acres of land in Nevada, where it plans to mine lithium) but mines take time to reach production, and without massive investment in lithium mining and recycling now, or a shift away from lithium-based batteries, lithium will be a huge supply constraint for the EV market. **PSR**

Cummins Jumps on New Iron Storage Formula

Cummins \$24 million stake in the startup VoltStorage gives them a foot in the door with new iron redox flow technology. There is nothing wrong with lithium-ion energy storage but global demand for energy storage has nowhere to go but up, and so are lithium prices. While lithium is relatively abundant in the ground, but current supply is falling behind demand. At the same time, lithium extraction is messy and has significant environmental impact, causing local opposition to new mines and other facilities which could stall development. Aside from accessing a recyclable supply chain that can avoid conflict issues, flow battery fans note a long list of advantages over lithium-ion technology including lower cost, longer duration, and ease of scalability.

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

PSR Analysis: Cummins has been making investments into EVs (such as the purchase of Brammo in 2017 and Meritor in 2022) for some time and this low cost, long duration, grid scale energy storage battery is part of their plan. This diversifies their portfolio of alternative power systems and helps them in the grid scale storage market. One of the major advantages for flow batteries is that they aren't lithium-based and are therefore not subject to the same massive and sustained price increases that lithium material is seeing. **PSR**

EV Shipping Set To Blow IC Engines Out of the Water

Researchers from the University of California, Berkeley, and Lawrence Berkeley National Laboratory have released a study which examines “the technical outlook, economic feasibility, and environmental impact of battery-electric containerships.” By modelling 5 to 10 GWh electrified containerships, they found that 40% of routes today could be electrified in an economically viable manner, before considering environmental costs.

Using only technology available for purchase today, nearly all ships with routes shorter than 2,000 kilometres are economically advantageous, and ships with routes as long as 3,000km are economically viable.

Source: *PV Magazine* [Read The Article](#)

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The S13 engine is based upon the Scania DC13 engine and will supersede the current 12.4 liter A26 engine platform starting next year.

PSR Analysis: Ships transport more than 10 billion metric tons of cargo each year, including clothing, electronics, and oil, and almost all of these ships run on fossil fuels, so they emit a lot of carbon pollution. Maritime shipping causes about 3% of global greenhouse gas emissions. As the costs of large ICE containerships continue to rise electrified containerships become increasingly cost effective. Electrified containerships are 80% more efficient than their ICE counterparts, and use 30% less energy overall. **PSR**

North America Report

Navistar Introduces S13 Engine Platform

By *Chris Fisher*, Senior Commercial Vehicle Analyst



*Chris
Fisher*

Navistar says it plans to introduce the Navistar 12.7 liter S13 engine platform in the fourth quarter of 2023. The S13 engine is based upon the Scania DC13 engine and will supersede the current 12.4 liter A26 engine platform starting next year. The initial engine installations will be standard on the LT and RH truck platforms and will be introduced to the HV and HX platforms in 2024. The order books are expected to open in October.

The S13 engine will be paired with the new International T14 automated manual transmission. The T14 is a 14 speed AMT which is the first transmission offered by the company.

The current A26 engine platform is based upon the MAN D26 engine platform and will be superseded by the S13 engine over the next few years. Navistar will continue to source the Cummins engine lineup for the foreseeable future. According to Navistar, this will be the last engine upgrade for the company as they plan to focus on zero-emission vehicles. Navistar says that half of all its new vehicles sold by 2030 will be zero-emission; it expects to reach 100% of sales in 2040. **Source: International S13**

Outdoor Power Equipment Forecast: 5.3% Growth

By *Michael Aistrup*, Senior Analyst



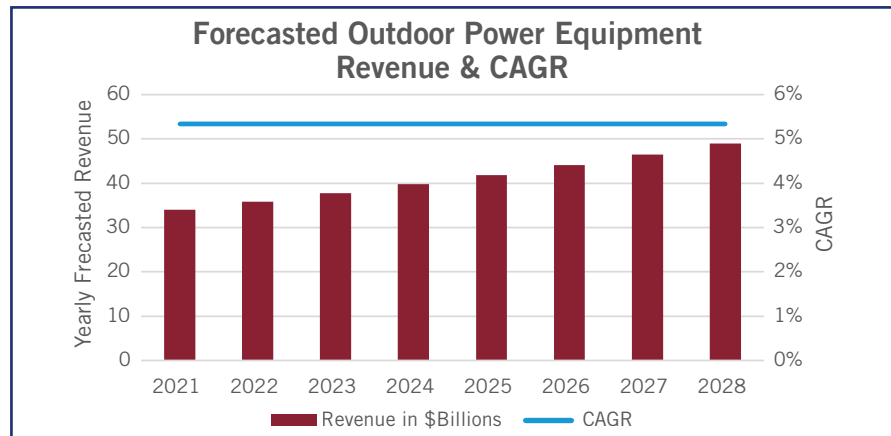
*Michael
Aistrup*

Power Systems Research (PSR) projects the global outdoor power equipment market to grow from \$34.01 billion in 2021 to \$48.91 billion by 2028, a CAGR of 5.34% over the forecast period. The outdoor power equipment market includes consumer and commercial lawn mowers, chain saws, leaf blowers, and other motorized equipment used in the upkeep of lawn and gardens.

Listed below is the forecasted revenue and CAGR for the global outdoor power equipment market:

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North America Report
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GLOBAL REVENUE

North America is expected to dominate the market because of the growth of commercial and residential lawns and parks. The market in North America stood at \$13.7 billion in 2021 and is expected to gain a huge portion of the global market share.

In Europe, continued automation in the lawn mower segment will increase demand for automated residential lawn mowers.

In Asia Pacific, growing population and rapid development of the residential and commercial building are expected to increase the demand for outdoor power equipment.

DEMAND DRIVERS

The market for outdoor power equipment is mature, and its growth is mostly influenced by variables such as population and age distribution, consumer spending, housing and construction, location, and recreational and leisure activities. In addition, technology, price trends, environmental and regulatory challenges, and trade activities all play a part.

Here are some of the leading demand drivers:

- Increasing desire for outdoor power equipment as people seek greater flexibility and portability, especially in battery-powered outdoor power equipment for lawn maintenance and gardening activities.
- Growth of urbanization and home building.
- Increasing disposable income. Homeowners in developed countries are investing more time and money in outdoor and gardening activities.
- Growing demand by homeowners and owners of commercial properties for landscaping services to boost curb appeal and value.
- Expanding infrastructure activities coupled with related demand for landscaping services. A wide range of outdoor power equipment, lawn mowers, hedge trimmers, blowers, and saws, are needed in new landscaping activities.

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North America Report

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PRODUCT SEGMENTATION

Lawn Mowers are the most used outdoor power equipment. The growing demand for lawn mowers is tied to the increasing demand of residential users for lawn and garden care activities and landscaping services. Other major end users of lawn mowers include municipalities and landscaping service providers.

ANALYSIS

The outdoor power equipment market is experiencing a shift toward battery technology and to a lesser extent robotics. The demand for alternative sources of power is gaining market share with many new introductions of equipment. In the US, robotic lawn mowers are slowly gaining market share, while electric lawn mowers are proving to cost-effective and provide the torque for landscaping use.

PSR

DATAPOINT: North America Crawlers

4,100

By *Carol Turner, Senior Analyst, Global Operations*

Crawlers come in one of three versions: Dozers, Loaders, and Excavators. **Crawler Dozers** are heavy, driver-operated machines used for clearing and grading land. Usually, they have continuous treads and a broad hydraulic blade in front.

A **Crawler Loader** is a piece of mobile construction equipment used to load materials; it's used primarily in tough, off-road terrain. It's similar to a wheel loader, except it has treads instead of wheels.

A **Crawler Excavator** is a self-propelled crawler mounted on heavy equipment that is designed to dig or move large objects. The main function of a Crawler Excavator is to dig holes or trenches for construction related activities.

4,100 units is the estimate by Power Systems Research of the number of Crawlers to be produced in North America (United States and Mexico) in 2022.

This information comes from industry interviews and from two proprietary databases maintained by Power Systems Research: **EnginLink™**, which provides information on engines, and **OE Link™**, a database of equipment manufacturers.

Exports: Collectively, up to 30% worldwide.

Market Share: With combined plant totals of 52%, Cat leads in production of Crawlers in North America. In second place is Deere with 30.5%, and third is Case, with 11%.

Trends: In 2021, production of Crawlers in North America (US) decreased 4.8%. However, production is expected to gain near 3% in 2022, compared to 2021.

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Datapoint

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The Cannes Yachting Festival is one of the largest in-water shows in the world, and this year it celebrated its 45th birthday.

The carryover decline into 2021 was mostly due to COVID-19 related factors such as plant shutdowns, parts availability and lack of workforce.

The market significantly dropped during the Spring of 2021, caused by low oil prices and a lull in mining and construction projects.

A few years ago, construction spending in the United States was above normal yearly levels, according to a new analysis of federal data released by the Associated General Contractors of America. Construction and mining activities increased resulting in a substantial gain for 2018.

Recent decreases in production are attributed to several trends: public sector construction activity continues to decline while private sector demand for new construction continues to strengthen.

Even though sales dropped considerably in 2020 and 2021, production is expected to gain up to 15% by 2025, primarily influenced by the outlook for construction, driven by infrastructure spending, and mining related activities. **PSR**

Europe Report

By *Natasa Mulahalilovic*, Marine Analyst – Europe

Report from Cannes Yachting Festival 2022



Natasa Mulahalilovic

The **Cannes Yachting Festival** is one of the largest in-water shows in the world, and this year it celebrated its 45th birthday. Founded in 1977, the show normally takes place every September. However, it missed out in 2020 because of Covid-19 restrictions, but it was back in 2021, posting the best performance results ever.

This year, the show was held Sept 6-11, and featured a fleet of about 700 boats, ranging in length from 3 to 50 meters. It included motor and sailing vessels, monohulls and multihulls, inboards, sterndrives and outboards, diesel, petrol, waterjet, hybrid and electric, tenders, RIBs and others displayed in the two main city ports of Le Vieux Port and Port Pierre Canto. This year, more than 56,000 visitors attended the show.

The new Polish Sunreef 80 Eco was the star of the festival. The all-electric, fully autonomous luxury catamaran of 23.87 m in length, 164 m² covered with solar panels, is a unique boat in the industry. This luxury catamaran is equipped with ultra-light batteries with a density of 5.2 kg/kWh. The innovative system is entirely created and produced by the company itself offering the best efficiency in the marine world.

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Europe Report

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The builder also presented its Sunreef 60 and Sunreef 70 catamarans, standard versions equipped with twin Yanmar 75/110 HP and 180/225 HP respectively. Both models are available in eco versions. Talking with the builder's representatives we found out that the demand for the whole range of Sunreef motor and sailing catamarans is so high that it is opening shipyards in Turkey and Dubai.

The **Motor Segments** of motorboats, sports cruisers, luxury yachts and superyachts are doing well, thanks to the pent-up demand for boats and boating in the previous two years. Boat builder's order books are full, with many stretching out to 2025.

The main issue facing manufacturers, and causing production delays, is a lack of materials and components. Other problems include a lack of production space and a lack of skilled workers. Despite these production issues, most builders of motor yachts and superyachts are happy with the current situation. At the same time, they are less optimistic about their post-2023 order books because of financial and political turbulences.

Internationally recognized builders as Azimut-Benetti Group, Ferretti Group, San Lorenzo, Sunseeker, Fairlane, Sirena Yachts, Galeon, De Antonio, Windy, Fjord, Sunreef power and many others displayed their selected yachts in the Vieux Port. Here are some of the most innovative ones that we saw.

The Benetti 30M B.Yond Explorer made of aluminum for long distance voyages was one of the most impressive superyachts. It is "the greenest boat" in its class, using a unique e-mode hybrid propulsion system created by Siemens Energy. The auxiliary propulsion system works with electric engines in parallel with two diesel MAN V12-1400 engines.

San Lorenzo's SP110 is the first cruiser from the builder's "Smart Performance" portfolio and ranks in the top five boats by speed in the world. The hull of the boat is optimized for the hydro jet propulsion. Studies made by the builder show that this type of propulsion has an advantage over a propeller as it is less sensitive to variations in the boat's weight and therefore more versatile.

Arcadia's Sherpa XL is an open and very innovative yacht of 23.9 meters, promoting slow and greener yachting. It is equipped with solar panels producing up to 2 kW of energy sufficient to power all on-board energy systems. It is powered by two Volvo Penta IPS 1350 engines. Cranchi launched its 20.8 meters

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Europe Report

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Sailing monohulls and multihulls are more popular than ever. New boat sales have been growing 5% to 10% annually.

flybridge 67 Sessantasette built from hi-tech materials used for the first time in the pleasure boat industry. The new generation boat is powered with two IPS Volvo Penta of 1000 HP engines.

The **Sailing Segments** of monohulls, catamarans and superyachts were presented by the main players in the segment such as Beneteau, Jeanneau, Bavaria, Hanse Yachts, Solaris Yachts, Swan, X-Yachts, Fountaine Pajot, Oyster, Lagoon, Bali, Outremer, Neel, Balance, and many others, in the Port Pierre Canto. We saw about 120 sailing yachts, including 20 world premieres.

Sailing monohulls and multihulls are more popular than ever. New boat sales have been growing 5% to 10% annually. Bali, Lagoon and Fountaine Pajot manufacture hundreds of yachts per year. They are available in different sizes and finalization levels. Eco friendly versions are offered as well, and installation of solar panels is a common feature. Suitable for private or chartered use, they are sold all over the world. Sales numbers are excellent, but production struggles to keep up as some components purchased on the international market often are not available.

The world premieres that we saw included Fountaine Pajot's Aura 51, eco-friendly 15 meters catamaran equipped with a 2000 W solar panels and an electric engine, using a small generator as a backup. The German Y Yachts displayed for the first time its carbon sailing yachts Y7 and Y9. They are 22-meters and 27.4-meters luxury yachts with hydro drives and solar panels on the sunroof.

Mylius Yachts from Italy presented its 23.39 m yacht entirely made of carbon. It is a beautiful, ultra-light and high performance racing sailing boat. It is powered with Yanmar 220 hp engine. Wave from Poland launched its Wave 50 catamaran. It is a hybrid catamaran equipped with two 60 HP Volvo Penta engines and two electric 18.5 kW engines. The builder does not have any production issues since all parts are produced in-house. Slovenian Elan launched its 47 feet performance sailing boat powered with Yanmar 57/80 hp engine. Yearly production is about 60 units. The builder has some concerns about the coming year's demand, especially for boats ranging in size from 10 to 20 meters, considering the financial challenges Europeans are facing.

Windelo is a French family-owned company founded in 2018 with a vision of producing ecologically friendly and fast cruising catamarans. The first boat in the range was the Windelo 50 launched in 2021. This year, the Windelo 54 was launched for the Cannes Yachting Festival. The boat was named European Yacht of the year 2022. The 16.24 meters sailing catamaran is equipped with an electric hybrid drive system having two 20 kW electric engines, a battery bank of 1120 Ah in 48 V and different charging solutions as solar panels up to 4800 W for a complete charge of the batteries, wind turbines of 400 W to charge the battery bank and a hydrogenator that recharges the battery bank in 24 hours when the boat is under sail. Current production capacity is six units per year.

The builder is booked until 2025 completing production of 19 new boats. The goal is to produce 25 units per year. Two new models, Windelo 47 and Windelo 57, are

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Europe Report

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planned to be launched in 2023/2024.

One extraordinary project is a catamaran under construction shown by the French Modx, a brand of OCEAN development. The boat, scheduled to be launched in July 2023, combines features of performance sailing and renewable energy management in a marine environment. The objective is to create a new generation yacht “reaching full autonomy and zero carbon emission.”

The 21.33 meter catamaran combines 250 square meters of inflatable wings propulsion connected to hydrogeneration, 70 square meters of solar panels, a 230 kW.h LFP battery bank, twin electric engines Torqeedo of 40 kW ensuring 2 hours anatomy and two water collectors with 800 L capacity.

This is more than just a highly ecologically performance sailing yacht. It is a modern boat with 185 square meters of space and capacity for eight to 10 passengers. The project won the award from the 2022 competition i-Nov7 for Sustainable and Intelligent mobility.

Today’s yachts offer more open space, closer contact with the sea, and more enjoyable interiors than ever before. Builders use ecofriendly biomaterials and recycled materials for interiors and lighter materials for super structures to decrease fuel consumption.

Builders participate with engine manufacturers in the development of improved performance and sustainable propulsion systems to produce new hybrid and electric propulsion systems. The transition from traditional to “green boating” has started, but more efforts on a large scale must be made before we see real changes. **PSR**

Brazil/South America Report

By Carlos Briganti, Managing Director-South America



*Carlos
Briganti*

Special Report: M&T Expo 2022

The M&T Expo 2022 is one of the most important trade fairs in the construction and mining equipment industry throughout Latin America and this year the show featured more than 600 exhibiting brands in 54,000 square meters. Held in Sao Paulo Aug. 30-Sept. 2, 2022, the event had more than 30,000 visits in four days.

Disagreements between show organizers and exhibitors caused key players in the market to avoid the show. The list of missing exhibitors included Caterpillar, John Deere, Komatsu, JCB, CNH, and Volvo. Chinese companies, as well as Liebherr, took this opportunity to use large spaces at the event, both in area and in product portfolio with respective sales and engineering teams.

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South America Report

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The M&T Expo 2022 was organized by Messe Muenchen do Brasil, together with its institutional partner, the Brazilian Association of Technology for Construction and Mining (Sobratema). Since 2017, the M&T Expo has been part of the bauma NETWORK, the largest international network of events for the construction and mining equipment industry and is considered the most important trade fair for the industry in Latin America.

The team of analysts from Power Systems Research worked the show for several days, and here are some of the most interesting items that we saw during the event.

XCMG. This company has reached third place in sales worldwide, and in Brazil, it is already in fifth place. This year, the company is producing the Excavator XE80DA and the Mini Excavators XE27U and XE35U in Brazil instead of importing them. Next year, they work for nationalization of Mini-Loaders LW350KV.

XCMG is bringing to Brazil the concept of robust loaders without connectivity and automation, but with a high working performance. Currently imported, it has plans for nationalization of these items.

They are testing an electric truck, currently imported, at Vale, major mining company in Brazil with nine units. This is part of Vale strategy to meet the company's "Zero Carbon Emissions" plan. Vale is investing \$6 billion in this plan in several fronts. The power source of the trucks is photovoltaic.

All XCMG equipment can be financed by the Bank of China with lower interest rates than the Brazilian market.

ROMANELLI. This is the Brazilian manufacturer of compactor rollers and asphalt machines that acquired Muller. At the show, it displayed several road implements and other paving-related machines.

HYUNDAI was not at the event, but we were informed that Hyundai acquired the Distributor BMC as well as the distribution of the Doosan Bobcat Mini Loader in Brazil.

VOLVO did not exhibit at the event, but it was represented by the Dealer TRACBEL. Through the TRACBEL dealer, we were informed of the nationalization of the L150H and L180H loaders. It provides financing at interest rates often more attractive than those frequently found in the Brazilian market.

SANY. This OEM is testing three Off-Road electric trucks at CSN mining and steel.

LIEBHERR. This company presented a high profile at the show. The company is offering products with autonomous cycles and a high degree of connectivity.

FORMEQ RENTAL. This company is offering solutions in lighting towers with photovoltaic panel, replacing the diesel generator. **PSR**

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Sichuan's worst drought in more than a half century spurred the Chinese province to extend industrial power cuts and activate its highest emergency response.

China Report

By *Qin Fen*, Business Development Manager-China

Drought Forces Power Cuts at Sichuan Factories



*Qin
Fen*

Sichuan's worst drought in more than a half century spurred the Chinese province to extend industrial power cuts and activate its highest emergency response, adding to manufacturers' woes as they shut down factories in the region.

Sources: *Bloomberg* [Read The Article](#)
Xinhua News Agency [Read The Article](#)
Shanghai Daily [Read The Article](#)
China.org.cn [Read The Article](#)

PSR Analysis: In the old days of the internal combustion engine, this piece of news tells people what a significant role the ICE plays in backing up the power grid. It still plays a role, except that now it has a great deal more to do with the future of the combustion engine.

Will these power shortages set back China's ambition to promote more EVs nationwide? It's important to note that Sichuan accounted for 29.8% of China's hydro power generation in 2021. This year, we witnessed shutdowns of the river light show on the Bund waterfront. If there are any more severe climate change affects in this province, we may see electric vehicles, be it Nion or Tesla, stalled in cities across the country, waiting to be towed to charging stations by gasoline-powered vehicles, only to find that power there is out, too.

Fortunately, this round of power outages caused by drought lasted less than 30 days. It is a wake-up call for the State Grid, a state-owned grid company to transmit power to most of the country. "One Country, One Grid" used to be the motto of the State Grid. It is not too late for people to focus on power grid resilience and flexibility. After all, the poles and lines are already built there to transmit power from Sichuan to Wuhan and Shanghai. Now, they must upgrade it to go both ways.

So, for those who are pessimistic about the future of EVs, they can point to this power shortage caused by drought, which left EVs and blackouts behind. For people who argue otherwise, the situation represents a new round of investment opportunities. Imagine how much Chinese government might invest to transmit wind, solar or nuclear power anywhere it's needed in case of future power shortages.

The table is set, the bet is on. **PSR**

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China Report

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中国报道

秦奋 - 业务拓展经理

中国高温干旱引多家外媒关注

美国彭博社18日称，四川的热浪正在抑制水力发电，一些工厂正在减产，极端天气可能会减少对能源转型至关重要的多晶硅和锂等材料的供应。《华尔街日报》称，一些分析师担心，中国的高温干旱将影响中部地区及长江流域秋季节水稻和玉米等作物产量。

新闻来源： [环球时报](#) [阅读原文链接](#)

PSR分析： 内燃机往日荣光的时候，像这样的新闻往往会被人们解读为内燃机在电网应急发电中无可辩驳的重要角色；今天这个角色没变，不过现在这个新闻更多的和内燃机的未来有关。

这次电力短缺是否会重挫中国全国范围内推广电动车的雄心？对于不熟悉中国发电和输变电的人士，首先，四川2021年水力发电占全国29.8%，所以这次电力短缺我们看到了武汉长江灯光秀和外滩景观照明关闭。下次，如果更严重的气候变化影响四川，我们可能会看到成百上千万的电动车，不管他们是蔚来还是特斯拉，在全国各大城市集体趴窝，等着让汽油车拖到充电桩，结果发现那儿也停电了。

幸运的是，这轮干旱导致的电力短缺持续时间没超过30天，但已经足够国家电网警醒。作为国有企业，负责把国内电力输遍全国大部分地区，“全国一张网”曾是这家公司的名言。现在关注电网韧性和弹性还不算太迟，毕竟从四川到武汉甚至上海的电网电杆都已经建成送电了，现在国家电网需要更新改进网络，使之双向都能工作。

有些人对于电动车前途很悲观的话，尽可以认为这轮干旱造成的电力短缺，使得电车趴窝，城市停电限电。但是对于另外一些人，这恰恰代表了新一轮的投资机遇，想一想，为了将来不再出现这种电力短缺，中国政府会投资多少去把风光核这些电输送到任何一个角落。

牌桌已经摆好了，下注吧。PSR

Far East: Japan Report

By *Akihiro Komuro*, Research Analyst, Far East and Southeast Asia

Honda To Discontinue Two-Wheeled Gasoline Vehicles

On Sept. 13, 2022, Honda announced it will eliminate gasoline-powered motorcycles by the mid-2040s. All new vehicles will be EV motorcycles; 3.5 million, or 15% of global sales, are to be EV motorcycles by 2030. Honda has already declared that all its four-wheeled vehicles will be EVs by 2040, but this is

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Far East Report

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Honda has been developing all-solid-state batteries to improve EV performance and plans to launch a pilot production line in Japan's Tochigi Prefecture in the spring of 2024.



Akihiro
Komuro

the first time the company has laid out a concrete strategy for decarbonization on two wheels.

From now on, Honda will pursue electrification exclusively with EVs. First, it will launch at least 10 EV motorcycle models by 2025. Since investment in new vehicle development and production facilities will be a heavy burden, Honda will use a common platform for batteries, motors, and other components for three large motorcycle models to be launched in Japan, the United States, and Europe between 2024 and 2025.

The company has announced plans to use "all solid-state batteries," in motorcycles. These batteries have shorter recharging times and increased driving range. In addition to being flame-retardant and safe, they are expected to be smaller and lighter than lithium-ion batteries. Honda has been developing all-solid-state batteries to improve EV performance and plans to launch a pilot production line in Japan's Tochigi Prefecture in the spring of 2024.

Source: *The Nikkei*

PSR Analysis: On August 24, the Indian government, which has a huge market for motorcycles, announced battery waste regulations aimed at strengthening recycling of used batteries. The impact of this regulation on the motorcycle industry is significant. As international competition intensifies, securing batteries in such a huge market is a matter of life and death for manufacturers. The all-solid-state battery mentioned in the article is still in the research stage, and its use in motorcycles will likely lead to its widespread use. **PSR**

極東 > 日本レポート:

小室 明大 – 極東及び東南アジア リサーチアナリスト

ホンダ、2040年代半ばに二輪ガソリン車廃止

9月13日、ホンダは2040年代半ばに二輪のガソリン車を廃止すると発表した。新車をすべてEVバイクに替える。2030年に世界販売の15%にあたる350万台をEVバイクにする。ホンダはすでに四輪では2040年までにすべての自動車EVにすると言っているが、二輪で脱炭素の具体的な戦略を示したのはこれが初めてだ。今後ホンダはEVのみで電動化を進める。まず2025年までにEVバイクを10モデル以上発売する。新たな車両開発や生産設備への投資が重荷となるため、2024~2025年に日本と米国、欧州で発売する大型バイクの3車種について電池やモーターなどを共通車台（プラットフォーム）にする。電池は充電時間短縮などの利点がある「全固体電池」を二輪にも使う計画を明らかにした。全固体電池は、走行距離を伸ばすためのものだ。難燃性で安全性が高いことに加え、リチウムイオン電池よりも小型・軽量化が期待されている。ホンダはEVの性能向上策として、全固体電池の開発を進めてきた。2024年春に日本の栃木県でパイロット生産ラインを立ち上げる予定だ。

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Far East Report

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出典: 日経 (一部筆者により元記事内容を改編しました)

PSR 分析: 8月24日、二輪の巨大な市場を持つインド政府は使用済み電池のリサイクル強化を目的とした電池廃棄物規制を発表した。この規制が二輪業界に与える影響は大きい。国際競争が激化する中、こうした巨大市場でのバッテリーの確保はメーカーにとって死活問題となる。記事にある全固体電池はまだ研究段階であり、二輪に搭載されれば一気に普及が進むだろう。2024年に生産ラインを起動させる予定ということだが、予定通り進むか注視していきたい。**PSR**

Far East: South Korea Report

By *Akihiro Komuro*, Research Analyst, Far East and Southeast Asia

South Korea Sees First Trade Deficit with China in 28 Years

The economic relationship between China and the ROK has reached a turning point. According to statistics from the ROK, for the first time in 28 years, the ROK has a trade deficit with China. China has been the best customer of the export driven ROK economy, and this is causing concern in the ROK. At the same time, Chinese companies are intensifying their takeover of Korean companies, and in response to the escalation of the U.S.-China conflict, they have begun to pursue a strategy of using Korea as a foothold to capture the U.S. market.

A management official at South Korea's Hyundai Motor's joint venture plant in Chongqing, China, said that the passenger car assembly plant is idle and that negotiations are underway to sell it to a Chinese company. Hyundai Motor started operations in Chongqing in 2017, including an assembly plant with an annual production capacity of 300,000 units, but sales slumped due to the rise of Chinese automakers. At one point, the company occupied second place with a market share of nearly 10%, but recently it has fallen below 2% and slumped to 10th place.

In May, Chinese private automobile giant Zhejiang Geely Holding Group announced a 34% investment in Renault Korea Automobile, a Korean group company of French automobile giant Renault. A Geely official explained that the investment was made to use the company as an export base to the US market.

Geely reportedly is considering producing hybrid vehicles at Renault Korea and exporting them to the US through the US-Korea Free Trade Agreement (FTA). It is also a candidate for an EV production base for self-driving cabs for Waymo, a U.S. company that develops self-driving technology and is a subsidiary of Alphabet Inc.

Source: The Nikkei

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Far East Report

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PSR Analysis: If the profits that Korean manufacturers have earned in the Chinese market, especially in the automobile industry, were to shrink, this would be a major blow to the Korean manufacturers. This risk has been pointed out for a long time, and many Korean manufacturers, not only in the automotive industry, have been trying to develop new markets in the Middle East and Southeast Asia. However, the scale of the Chinese market is so large that there is no other market that can replace it. Therefore, they will increasingly seek to make larger profits in the North American market.

While there may be short-term gains to be made through buyouts as China, with its capital strength, acquires Korean companies, if such events occur more frequently, a decline in the presence of Korean manufacturers will be inevitable in the long run. **PSR**

極東 > 韓国レポート:

小室 明大 – 極東及び東南アジア リサーチアナリスト

韓国、対中貿易28年ぶり赤字 「経済依存逆転」の衝撃

中国と韓国の経済関係が転機を迎えている。韓国側の統計によると、輸出主導型の韓国経済の「お得意様」だった中国に対して28年ぶりに貿易赤字となり、韓国では対中依存からの「逆流現象」として驚きが広がる。一方、中国企業は韓国企業の買収攻勢を強めており、米中対立の先鋭化を受けて韓国を米国市場攻略の足場とする戦略が動き始めた。

「乗用車の組み立て工場は休止状態で、中国企業への売却交渉を進めている」。中国内陸部、重慶市にある韓国・現代自動車の合弁工場を訪れると、管理担当者は打ち明けた。現代自は重慶市で2017年に年産30万台の組み立て工場などを稼働したが、中国勢の台頭で販売不振に陥った。一時は10%近いシェアで2位を占めたが、足元は2%を下回り10位以下に低迷する。

中国民営自動車大手の浙江吉利控股集团が5月に発表した仏自動車大手ルノーの韓国グループ会社「ルノー코리아自動車」への34%の出資について、吉利の関係者は「米国市場向けの輸出拠点として活用するための出資だ」と解説している。吉利はルノー코리아でハイブリッド車を生産し、米韓自由貿易協定（FTA）を活用して米国に輸出することを検討しているとされる。米アルファベットの子会社で自動運転技術の開発を手掛ける米ウェイモの自動運転タクシー向けのEV生産拠点の候補にも挙がる。

出典: 日経（一部筆者により元記事内容を改編しました）

PSR 分析: 自動車を筆頭に、韓国メーカーが中国市場で獲得してきた利益が縮小することがあれば、韓国メーカーにとっては大きな打撃となる。このリスクについては昔から指摘されており、自動車に限らず多くの韓国メーカーは中東や東南アジアなど新市場の開拓を試みてきた。だが中国市場の規模はあまりにも大きく、中国を代替し得る他国の市場は無い。よって、北米市場でより大きな利益を上げようとする構図がますます強まっていくだろう。

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Far East Report

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Vinfast has announced plans to export approximately 5,000 EVs to the U.S., Canada, and Europe by the end of 2022.

資本力を持った中国が韓国企業を買収することで、短期的にはバイアウトによって得られる利益があるだろうが、そうした事象が頻発することが起きれば、長期的には韓国メーカーのプレゼンス低下は避けられない。ジレンマは続く。 **PSR**

Southeast Asia: Vietnam Report

By *Akihiro Komuro*, Research Analyst, Far East and Southeast Asia

Vinfast To Export Initial 5,000 EVs To Europe and the U.S.

Vinfast has announced plans to export approximately 5,000 EVs to the U.S., Canada, and Europe by the end of 2022. This is the first time for them to export EVs. The company also plans to start construction of a new EV plant in the U.S. by the end of this year, accelerating its global strategy.

According to the plan, exports to the U.S. and other countries will begin in early November, with delivery to customers starting in December. Vinfast's CEO revealed that the company has orders for approximately 65,000 EVs worldwide.

On Sept. 10, 2020, the company began shipping its second EV model in Vietnam, the VF8, a 5-seat SUV of two types that runs up to 420 km on a single full charge. The domestic sales price starts at approximately 1.09 billion VND (6.6 million yen). The company plans to keep prices low and expand sales both domestically and internationally by leasing expensive batteries. In North Carolina, the company is also preparing to start operations at a new EV plant in 2024.

Source: The Nikkei

PSR Analysis: Vinfast, which I have featured here frequently, has been very aggressive in their marketing and their growth rate has been impressive. Soon after releasing a gasoline-powered scooter, they announced a four-wheeled design. Soon after releasing these gasoline-powered vehicles, they realized that EVs were going to become a global trend, and they quickly changed course and announced that they would stop manufacturing gasoline-powered vehicles and developed EVs.

The company is also making steady progress in developing the U.S. and European markets with very speedy decisions. Such actions are not possible for a conventional mega-maker. As a latecomer to the market, the company's light footwork has been well received, and it is gradually gaining media exposure. Their designs are sophisticated, without the impression of being made in Southeast Asia, as was the case in the past. It will be very interesting to see how their products fare in the US and European markets. **PSR**

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Southeast Asia Report

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東南アジア > ベトナムレポート:

小室 明大 – 極東及び東南アジア リサーチアナリスト

ビンファスト、EVを初輸出へ 欧米に5000台

ビンファストは2022年末までに米国、カナダ、欧州向けに約5000台のEVを輸出する計画を明らかにした。ベトナム企業で海外にEVを輸出するのは初めて。米国でのEV新工場も年内に着工する方針で、グローバル戦略を加速する。

計画では11月初旬に米国向けなどの輸出を始め、12月から顧客に引き渡す。ビンファストのCEOは世界で約6万5000台のEVの受注があると明らかにした。

同社は9月10日にベトナム国内でEVとして2車種目となる「VF8」の引き渡しを始めた。5人乗りSUVの2タイプで、1回のフル充電で最大約420キロメートル走る。国内販売価格は約10億9000万ドン（約660万円）から。高価な電池をリース方式とすることで、価格を抑え国内外で拡販をめざす。2021年12月から始まったベトナム国内でEV販売の1～7月の販売台数は約2200台。米国東部のノースカロライナ州でも2024年にEVの新工場を稼働させる方向で準備を進めている。

出典: 日経 (一部筆者により元記事内容を改編しました)

PSR 分析: 度々ここで取り上げているVinfastだが、彼らのアクションは非常に速く、その成長速度には目を見張るものがある。EVスクーターを発売してすぐ、4輪のデザインを発表。ガソリン車をリリースしてすぐ、EVが世界的潮流になっていくことを認識するとすぐに方針を転換してガソリン車の製造をやめることを発表し、EVを開発した。米国や欧州市場の開拓も非常にスピード感あふれる決定で、着実に歩みを進めている。こうしたアクションは従来のメガメーカーにはできないものだ。後発の新興メーカーであるが故のフットワークの軽さが行かされており、メディアへの露出も徐々に増えてきている。過去にあったような東南アジア製の野暮ったさのような印象は無く、デザインも洗練されている。米国や欧州の市場で彼らの製品がどのような評価を得るか、非常に興味深い。 **PSR**

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India Report

By *Aditya Kondejkar*, Research Analyst – South Asia Operations.

Festive Demand Expected To Boost Auto Industry

Adequate rainfall across the country along with the start of the long festive season will keep the demand for automobiles positive and help keep the momentum going in this segment. Additionally, normal monsoons in most parts of the country resulting in a decent agricultural harvest kept demand positive. So, automakers are focusing on building up inventory in anticipation of higher demand.

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India Report

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Aditya
Kondejkar

Source: *Economic Times* [Read The Article](#)

PSR Analysis. The Indian economy is poised to shrug off the modest tapering of growth in Q1 2022, and aggregate demand is firm and set to expand as the festival season sets in. Hatchback cars and affordable, non-electric motorcycles and scooters are set to register bumper sales in the coming months as India gets ready to celebrate its first 'normal' festive season after a gap of two years. Above-normal rains, positive consumer sentiment and a generally optimistic mood are also expected to boost sales of these entry-level vehicles.

While carmakers line up new products for launch during the season, banks are working on offers and incentives to attract customers as they see a surge in demand for retail loans.

"We expect the festive season this year to be the best in terms of passenger vehicle sales on the back of new launches and improved production activity," says Vinkesh Gulati, President, Federation of Automobile Dealers Associations (FADA). The industry has been rolling out over 3 lakh units on an average in the past 4-5 months which is helping in retails."

Source: *Motor News Today* [Read The Article](#) **PSR**

Russia Report

By *Maxim Sakov*, Market Consultant, Russia Operations

Editor's Note: *Power Systems Research has paused all research and business development activities in Russia. We have maintained a presence in Russia since 2013 to bring important updates to our clients about the powered equipment markets within Russia. We are monitoring the current situation on a daily basis and hope to again establish this presence when the conflict with Ukraine is resolved. Please contact us at info@powersys.com if you have questions regarding business conditions in Russia. Thank you.* **PSR**

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