

In This Issue

Power Systems Research Webinar Series

Listen To New PSR PowerTALK Podcasts

North America

- Gen-Set Sales

DataPoint: US ATVs

Europe

- 100% Hydrogen Ferry

South America

- Brazil Corolla Exports Planned
- Jacto Plans Facility
- Foton Plans Electric Truck

China

- Beijing Accelerates Battery Plan

Japan

- Komatsu Targets 2050 Co2
Emissions

South Korea

- Doosan Unveils Wheel Loader

Indonesia

- China, South Korea Boost
Investment

India

- Semiconductor Shortage

Russia

- TMH-RR Purchase Stalls
- PSMA Begins Diesel Production
- KAMAZ JV Expands Production

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 [Click Here To Go To Page 1](#)

Power Systems Research Webinar Series

Power Systems Research and HDMA Plan April Webinar

On Wednesday, April 21, 2021, representatives of Power Systems Research and the Heavy Duty Manufacturers Association will present a one-hour webinar discussing important industry trends and forecasts. Details regarding content and registration will be available closer to the event.

The webinar is another in a series of webinar presented by Power Systems Research with industry partners. Most recently, PSR joined with JCB Power Systems to present a free one-hour webinar discussing production forecasts and emissions details for the Construction Industry in Europe and North and South America. **Presentation materials available.**

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North America Report

NA Gen-Set Sales Climb in Q4 2020

By Joe Zirnelt, President and CEO



*Joe
Zirnelt*

SUMMARY: Our **PowerTracker™** dealer and distributor survey of 200 respondents reported that overall gen-set sales continued a positive trend in Q4 2020 up 6.3% from Q3 2020 levels. Sales gains could have been even higher because dealers ran out of inventory. This increase follows a slow start to the year in Q1 2020 where overall dealer reported sales were down 9.8% from Q4 2019 levels followed by successive increases of 4.5% in Q2 2020 and 11.9% in Q3 2020.

[Click Here To Go To Page 1](#)

North America Report
Continued from page 2

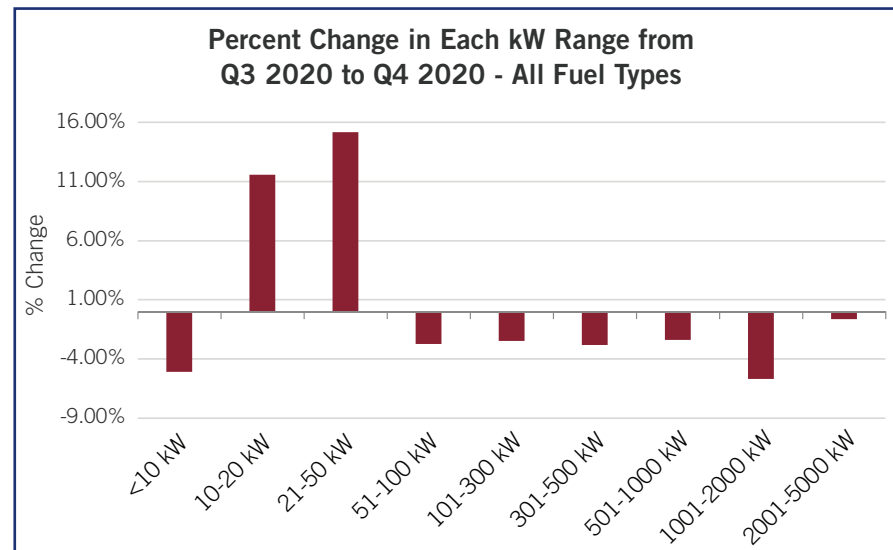


Although sales were up 6.3% for the fourth quarter, the results were unique in that there was a different story depending on the fuel and power range being considered. The quarterly sales increase was anchored by abnormally high increases for gaseous fueled units in the 10-50 kW range and moderate to large decreases in the other power ranges of gaseous fuels as well as diesel fueled sets.

The data comes from the proprietary **PowerTracker™** series of syndicated surveys conducted each quarter by Power Systems Research. A total of 500 interviews are completed each quarter with gen-set dealers and distributors and businesses across North America.

Within gaseous fueled gen-set ranges, the 10-20 kW range had a fourth quarter increase of 13.3% and the 21-50 kW range an increase of 19.8%. Other power ranges within gaseous fueled gen-sets experienced quarterly decreases ranging from -2% to -5% in contrast to Q3 2020 where quarterly sales increases were in the range of 10% to 30%. The demand for gaseous units other than 10-50 kW has subsided from Q3 to Q4 whereas there is still a very strong demand for the residential standby gaseous fueled units in the 10-50 kW range.

Diesel fueled gen-sets experienced sharp quarterly declines across the power ranges ranging from -18% to -16% in the <10 kW and 10-20 kW range respectively and then declines of -7% to -8% in all other power ranges. This follows Q3 2020 where diesel fueled sets generally experienced low single digit increases from Q2 2020 to Q3 2020.



Looking by application, Standbys carried the recovery this quarter with a quarterly increase of 16.4%. Portables had a quarterly decrease of -2% in Q4 2020 after a Q3 2020 increase of 10%. Demand in all other application categories remained relatively flat including Temporary, Peak Shaving, Baseload, and Cogeneration compared to Q3 2020 levels. This highlights the increase in demand for Standby as consumers have started to spend in 2020.

 [Click Here To Go To Page 1](#)

North America Report

Continued from page 3

Sales would most likely be higher in the 10-50 kW range for gaseous units, but dealers simply cannot obtain products to meet customer demands due to the long lead times.

This continued trend towards increased spending comes after a slow start to the 2020 year with the onset of the COVID-19 pandemic as well as general uncertainty and security of power supply and weather activity that has created a surge in demand for residential standby units.

In Q4 2020, dealers reported overall that inventories declined by 19.1% from Q3 2020 levels. This is significant as it represents the largest magnitude of change in quarterly inventories we have observed since starting our **PowerTracker™** survey in 1998.

The large quarterly decline in inventories for Q4 2020 follows a Q3 2020 where inventories fell 8.3%. As demand has continued to peak for residential standby units an overwhelming number of dealers reported they cannot maintain supply to meet customer demands.

Sales would most likely be higher in the 10-50 kW range for gaseous units, but dealers simply cannot obtain products to meet customer demands due to the long lead times.

Year-on-Year, inventories were down 26% in Q4 2020. This is from a Year-on-Year change of -7.9% in Q3 2020 representing a total 18.2% shift in one quarter when considering Year-on-Year inventory levels in Q4 2020 relative to Q3 2020. Again, this seems to be due to dealers not being able to replenish needed inventories and not the case that dealers are hesitant towards placing orders for new inventory.

METHODOLOGY: Since 1998, Power Systems Research (PSR) has been continuously maintaining its **PowerTracker™** series of syndicated surveys, conducting at least 500 interviews each quarter among two key respondent groups in North America: gen-set dealers and distributors, and business consumers.

We conduct 200 interviews each quarter among dealers and distributors; the focus of this survey is on recent sales and market observations for the current quarter as well as expectations for the coming quarter.

Our Business Consumer survey consists of 300 interviews per quarter among a wide cross section of businesses to gather their input concerning ownership, usage trends and motivating factors for purchase, including any concerns about the reliability and availability of electric power.

Dealer/Distributor Outlook for Q1 2021

Expectations of quarter-to-quarter sales growth for Q1 2021 varied, depending on the power range and fuel type. Sales for diesel fueled sets are expected to be positive in the low single digits for units above 300 kW and slightly negative for units less than 300 kW.

We interpret this outlook from dealers to indicate that the declines in diesel may have bottomed out and we will start to see some leveling off (<300 kW diesel) and slight recovery (>300 kW diesel) as dealers fulfill commercial and industrial demand that has been withheld due to COVID-19 during 2020 year-to-date.

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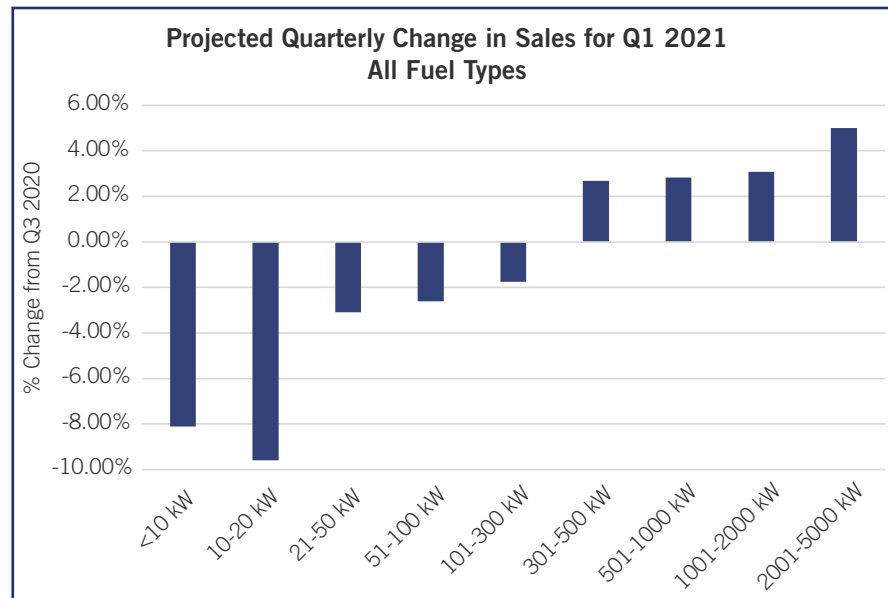
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North America Report

Continued from page 4

Sales expectations for gaseous fueled gen-sets are expected to range from -3% to -10% in the power ranges <50 kW. We see this as not a decrease in demand but rather a situation where current supply cannot meet current demand.

Lack of inventories and long lead times will defer sales of these units to future quarters when product is available. The outlook for gaseous fueled units above 50 kW is positive – ranging from 2% to 4% for Q1 2021 most likely reflecting a situation where there is demand and dealers feel that there will be suitable product available to meet current demand.



When asked, **“Why do you expect sales to change in the upcoming quarter?”** comments from dealers focused on these market observations:

- **Longer lead times for gen-set delivery to dealers:** Over 30% of dealers interviewed this quarter cited long lead times and lack of inventory as a reason that their sales would be affected in the upcoming quarter. The lack of available product is delaying their sales pipeline. This was most specifically targeted with the smaller end of the range for residential and some small commercial standby sets (<50 kW).
- **The waiting is over:** Interestingly in Q3 2020 we did not hear as much as we normally do in an election year of consumers taking a “wait and see” approach in the run-up to the presidential election. In Q4 2020, we did hear (in retrospect) that some dealers are now reporting that their customers are feeling that since the election is over and the pandemic is not so “new” any longer they are now ready to move forward with quotes and purchases.
- **Weather:** As we reported last quarter the weather effects are varied depending on the region of the country. The Q4 reporting period is always varied because some parts of the country see more activity during the winter months and the end of the year whereas other parts of the country see less activity during the winter months as hurricane season has passed.

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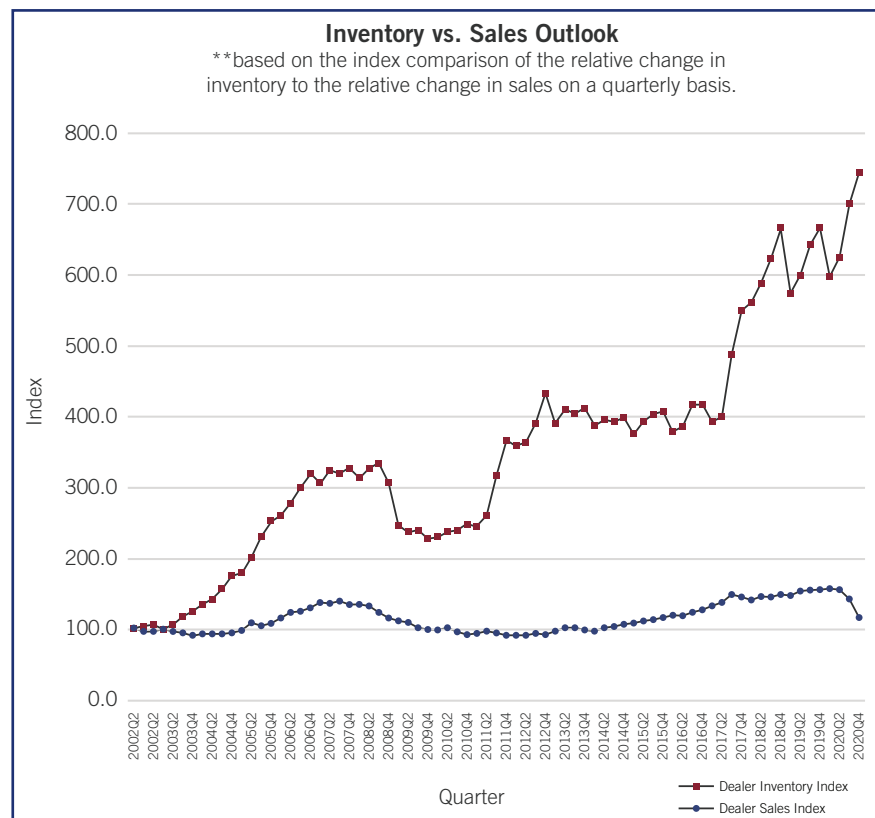
[Click Here To Go To Page 1](#)


North America Report
Continued from page 5



When asked, **“What changes have you recently noticed among particular customer groups or product categories within your market?”** there were several comments that emerged as common themes. Many of these are comments that have carried from quarter to quarter, but this is a sample of some key observations:

- **Strong demand from residential consumers:** Significant increase in demand from residential for standby generators due to COVID-19 and general security of energy supply concerns.
- **Weak supply and availability of gen-set products:** This is a repeat from last quarter but even more pronounced in Q4 2020 as inventories declined overall by 8.3% in Q3 2020 and 19.1% in Q4 2020. There is a severe shortage for gaseous fueled gen-sets <50 kW. In many cases there is a short-term demand that may result in a lost sale if they cannot guarantee shipment within a certain timeframe.
- **The age range has widened for those interested in home standby:** This has generally been an older demographic but there were a few comments this quarter that indicated a wider age range of interested customers including a definite younger end of the demographic too.
- **Consumers are willing to spend:** This relates back to the shortage of supply. We typically see several comments from dealers about customers shopping around and bargaining on price; in this quarter there were no comments relating to price sensitivity. If the product is available, the customers are willing to spend. **PSR**



 [Click Here To Go To Page 1](#)



DATAPOINT: US ATVs

301,000

By Carol Turner, Senior Analyst, Global Operations

301,000 units is the estimate by Power Systems Research of the number of ATVs to be produced in Mexico and the U.S. in 2021.

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.

Market Share: With 28% of total units produced, Polaris Industries leads in production four-wheeled ATVs in North America. In second and third positions are Honda and Yamaha Motor with 22% and 19%, respectively.

Exports: Up to 45% of Mexico's ATV production is exported worldwide. That compares to about 30% of the US production that is exported.

Trends: Production of ATVs decreased 18% in 2020 from the 337,700 units produced in 2019. Even though production is expected to increase in 2021 by about 9% over the 2020 production of 275,700 units, it will still trail 2019 production by more than 36,000 units.


The decrease in 2020 was caused by COVID-19, excess inventories, uncertain economic conditions and the growing popularity of side x side units (UTVs). Manufacturers have discontinued less popular models and continue to shift production to UTVs.

The outlook for ATV sales is positive. According to investor relations representatives at Polaris, Yamaha and Arctic Cat, consumer discretionary spending is on the increase and gasoline prices are favorable.

Production is expected to increase by as much as 10% by 2025, driven by positive economic factors, pent-up demand caused by COVID, and the introduction of innovative products and technologies, including a shift to electric vehicles. **PSR**

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Europe Report

By *Natasa Mulahalilovic*, Marine Pleasure Boat Analyst Europe - Europe

100% Green Hydrogen Powered Ferry Planned by 2027



*Natasa
Mulahalilovic*

The European Union's private and public sectors are working hard on developing projects that could accelerate the transition from the fossil fuel powered to the zero-emission shipping.

One of the leading joint efforts is the project created by Danish ferry operator DFDS, Swiss-Sweden giant ABB, Danish fuel cell manufacturer Ballard Power Systems Europe, the global leader in zero-emission e-mobility Hexagon Purus, wind power generator Orsted, Lloyds Register and Danish Ship Finance.

The project is designed to build a 100% green hydrogen powered ferry by 2027.

The revolutionary vessel named "Europa Seaways" will be the world's largest and most powerful ferry. It will be capable of carrying 1,800 passengers, and either 380 cars or 120 trucks.

The ferry will link Danish and Norwegian capitals, Copenhagen and Oslo via Fredrikshavn. The sea distance between capitals is 483 kilometers. The ferry is planned to be self-efficient for 48-hour roundtrip.

The ship will be powered by a 23-megawatt hydrogen fuel cell replacing a conventional diesel propulsion system and auxiliaries.

Consider the scope of the project: Existing hydrogen fuel cells generate an output of 1 to 5 megawatts. Hydrogen will be produced in an offshore wind-powered plant located near Copenhagen and will be stored onboard the ship in composite tanks. The planned fuel tank capacity is 44 tons.

The new installation will be complex and heavy, but according to project developers, the ship's weight will be the same as if it were fitted with conventional diesel engines and power systems.

The project is exceptionally challenging and requires a private business partnership but also needs a public financial support. DFDS and partners have applied for €8 million support to the European Union Innovation Fund.

The EU Innovation Fund is one the world's largest for innovative low-carbon technologies offering €10 billion to be spent on the most successful projects by 2030.

Once operational, the ferry is expected to save approximately 64,000 tons of CO2 emissions per year. The zero CO2 ferry will also serve as an inspiration for decarbonization of other commercial vessel types.

[↑ Click Here To Go To Page 1](#)

Europe Report

Continued from page 8

The International Maritime Organization (IMO) set a goal to reduce the carbon emissions from shipping by at least 40% by 2030, and 70% by 2050, compared with 2008 levels.

The European Commission's Sustainable and Smart Mobility Strategy set a goal to see the first zero-emission ship in operation by 2035. If the project Europa Seaways develops accordingly to current plans, the Commission's goal will be achieved much earlier.

The shipping Industry is by far the most efficient mode of transportation carrying 80% of the world's trade volume, according to the UNCTAD (United Nations Conference on Trade and Development). There are more than 90,000 ships operating on international seas, and the European Union counts 23,000 ships in its fleet and controls about 40% of the world's tonnage.

According to the third IMO GHG Study in 2014, the shipping industry has emitted about 1 billion tons of CO2 and greenhouse gases per year between 2007 and 2012. This represents about 3% of annual global emissions. With existing growth rates, the shipping industry will be responsible for 10% of a global carbon dioxide and greenhouse gas emissions by 2050.

The International Maritime Organization (IMO) set a goal to reduce the carbon emissions from shipping by at least 40% by 2030, and 70% by 2050, compared with 2008 levels. **PSR**

Sources: Volvo Penta Press Releases, IBI News, Boating, Trade Only Today

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Brazil/South America Report

By *Fabio Ferraresi*, Director Business Development South America



Fabio Ferraresi

Corolla Cross Produced in Brazil To Be Exported to 22 Countries

The new medium Toyota SUV produced in Indaiatuba-SP started production in March. Sales in Brazil were expected to start by March 25, but exports have already started. Currently, the Corolla sedan is exported to only five countries, but the new SUV will be sent to 22 countries across Latin America. However, exporting overseas seems unlikely due to logistics cost restrictions.

Source: *Automotive Business* [Read The Article](#)

PSR Analysis: The indexes of vehicles per capita in Latin America are still behind other regions and developed countries which provides an opportunity to grow sales. The SUV continues to grow in popularity in this region and the combination

[↑ Click Here To Go To Page 1](#)

South America Report

Continued from page 9

Jacto has been growing in importance with specialized products for high caliber agriculture in Brazil with sprayers, harvesters, and seeders.

seems to be the right bet for a production hub in Brazil, leveraging on the higher volumes to assure competitiveness and a wining cycle for the new product.

Jacto Announces New Plant in Brazil

Jacto announced that a new 96,000 m² plant will be built by 2023 by Jacto in Pompeia-SP – Brazil, the same location most of the operations of Jacto are already located. Fernando Gonçalves Neto, Jacto President, says the new and modern facility will sustain forecasted growth for several years.

Source: *M&T Magazine* [Read The Article](#)

PSR Analysis: Jacto has been growing in importance with specialized products for high caliber agriculture in Brazil with sprayers, harvesters, and seeders. They have been launching new agricultural products with remarkable success and the growth outlook is positive.

Foton Announces Electric Truck and start at 17 – 24 Ton in Brazil

After adding 28 Ford dealers in Brazil that brings its total to 38 dealers in Brazil, the Chinese giant prepares new lineup to compete heavily, with an EV – with dates to be announced at second half of 2021 and Trucks at 17ton – 24ton range for 2022, the best sellers in Brazil. In addition to the EV and Diesel Trucks, Foton will evaluate the potential for a CNG Trucks for launch after the EV, but it has shorter term potential for higher volumes.

Source: *O Estado de São Paulo* [Read The Article](#)

PSR Analysis: Currently, Foton produces an LCV under a manufacturing agreement with GEFCO and imports Medium Trucks for sale in Brazil. These Trucks should be nationalized by 2025. The new line of Heavy Trucks meets P8 requirements for 2023 and may be nationalized by 2025 as well. So far, the volumes are very small, but we see an important growth forecast exceeding the overall market. **PSR**

China Report

By *Qin Fen*, PSR Business Development Manager-China.

Beijing Accelerates “Fuel for Battery” Policy

The Beijing Municipal Commission of Transport in February issued an action plan describing how to switch out IC-powered light commercial vehicles in urban areas.

The city government will subsidize fleet companies switching out 20 gasoline or diesel powered vehicles to battery-powered cargo vehicles one time before Aug. 31, 2021. The government will issue city passes to fleet companies on more

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China Report

Continued from page 10

According to the China Statistical Yearbook 2020, the light commercial vehicle (below 4.5 tones) population nationwide is around 20 million units, among which Beijing metro area represents about 390,000 units



Qin Fen

favorable terms than ICE powered cargo vehicles.

There will be a government transportation center to monitor every battery-powered vehicle on operating range, GPS, etc., in case someone embezzles government subsidy.

Source: *Trucks 360* [Read The Article](#) | *Beijing Municipal Commission of Transport* [Read The Article](#)

PSR Analysis: According to the *China Statistical Yearbook 2020*, the light commercial vehicle (below 4.5 tons) population nationwide is around 20 million units, among which Beijing metro area represents about 390,000 units. This is the big picture we need to bear in mind when we are looking at the municipal government's policy.

Beijing, as the capital of the country, always leads other cities in emission upgrades. Considering that other cities like Hangzhou, Shanghai and Shenzhen are also implementing similar local measures, this likely will soon become a national policy.

A key takeaway of the plan is that the city is encouraging any fleet running over 20 LCVs to switch to battery-powered LCVs before 8.31.2021. The ultimate goal is to phase out 390,000 light commercial vehicles currently running in the metro area. A bigger goal is to set up an example for the rest of the country by starting to phase out the 20 million LCVs currently running in the country.

This policy, compared to the "10 cities, 1000 buses" policy of 11 years ago, has a much bigger impact on the ICE industry. If it comes true, all the major components suppliers will need to face the challenge. What will they do if the LCV market volume shrinks in the years to come? We are not going to wake up and see LCVs run on battery all over the city, but we will see them more and more on streets and stores. Much like the climate, it changes in a slow, yet monumental way. **PSR**

中国报道

秦奋 - 业务拓展经理

北京“油换电”进程再加速 通行证发放细则落地

2021年2月20日，北京市交通委员会印发了《关于为北京市新能源轻型货车运营激励企业提供优先城区通行的实施方案》的通知。方案指出，对积极参与北京市新能源轻型货车运营激励方案且满足发放条件的企业优先发放城区货运通行证。首次办理时，按更换新能源车辆和证件发放数量1:1的标准予以核发。

新闻来源: [中国卡车信息网](#) [阅读原文链接](#) [北京市交通委员会](#) [阅读原文链接](#)

PSR分析: 从眼前。

对于，能以拯救这些公司吗？

我觉得不够。也只是可能会救了你。 **PSR**

[↑ Click Here To Go To Page 1](#)

Of the CO2 emitted from the time construction equipment is manufactured and sold to the time it is used and disposed of by customers, 90% is generated when construction equipment is in operation at construction sites.

Far East: Japan Report

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

Komatsu Targets CO2 Zero Emissions by 2050



*Akihiro
Komuro*

Komatsu is aiming to reduce its CO2 emissions to virtually zero by 2050. The goal is to reduce CO2 emissions to zero not only from its own production of construction equipment, but also from the use of construction equipment by its customers. The company aims to achieve this goal by promoting the electrification of construction equipment, improving fuel efficiency, and encouraging customers to use their construction equipment more efficiently, etc.

The company will respond to the fact that ESG (Environmental, Social and Corporate Governance) investors are emphasizing the reduction of emissions, including those of customers.

The company had previously set a goal of halving its CO2 emissions by 2030 compared to 2010 levels. The company plans to reduce 10-15% by electrification and automation of construction machinery, and 20-25% by improving fuel efficiency of products and reducing emissions at factories. While retaining the current plan, a new target will be set for 2050.

Source: *The Nikkei* (The original article was partially revised by the author.)

PSR Analysis: The wave of zero-emissions will extend to the construction equipment segment as well. Although this goal is a difficult one that cannot be achieved overnight, the impact of Komatsu, the industry leader, setting such a goal will spread to other construction equipment manufacturers.

Of the CO2 emitted from the time construction equipment is manufactured and sold to the time it is used and disposed of by customers, 90% is generated when construction equipment is in operation at construction sites.

As mentioned in the article, in order to reduce CO2 emissions to zero in all phases, the company will start by reviewing the way equipment is manufactured and will promote the electrification and automation of equipment. The company is expected to mass-produce the world's first 20-ton class electric motor powered by lithium-ion batteries by 2022 and will also start developing a 40-ton class excavator and a dump truck powered by hydrogen.

The year 2050 is not far off. Technologically speaking, it will take a lot of innovation in the next few years to achieve this goal.

This is similar to JFK's moon speech, and it should be interpreted as indicating that the time for discussing the possibility of realization has passed, and that construction equipment manufacturers should take CO2 reduction seriously as a realistic issue. **PSR**

[↑ Click Here To Go To Page 1](#)

Far East Report

Continued from page 12



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

コマツ、2050年に顧客の建機を含めCO2排出ゼロ目標に

コマツは2050年に二酸化炭素 (CO2) 排出量の実質ゼロを目指す。建設機械の製造時など自社で出す分だけでなく、販売先の顧客が使用時に出す分までを含めてゼロにする。建機の電動化や燃費改善を進めるほか、顧客の建機の効率運用を後押しするなどして達成を目指す。ESG (環境・社会・企業統治) 投資家が顧客企業の排出分も含めた削減を重視しているのに対応する。

同社はこれまで2030年にCO2排出量を2010年比で半減させる目標を掲げていた。建機の電動化や自動化で10~15%、製品の燃費改善や工場での排出削減で20~25%を削減する計画だ。現行計画を残しつつ、新たに2050年までの目標を設定する。

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: ゼロエミッションの波は建機セグメントにも及ぶ。この目標は一朝一夕には達成できない難しいものだが、業界リーダーであるコマツがこのような目標設定をした影響は他の建機メーカーにも波及していくだろう。

建機を生産・販売してから顧客が使用・廃棄するまでに排出されるCO2のうち、9割は工事現場での建機稼働時に発生する。これらを全てゼロにするためには、記事にもある通り、工場での機器製造の在り方を見直すことから始まり、機器の電動化・自動化を推進していくことになる。2022年には世界初となるリチウムイオン電池で動く20トンクラスの電動機を量産する見通しとのことだ。40トンクラスのショベルも開発に着手するほか、水素で動くダンプトラックも開発する。

これは今後建機が進化すべき方向を示したものである。2050年は遠い未来ではない。技術的にはこの目標を達成するためには向こう数年の間にいくつものイノベーションが必要であることは言うまでもない。これは言わばJFKのムーン・スピーチであり、実現の可能性を論ずるタイミングはすでに去り、現実的な課題として、建機メーカーがCO2削減に真剣に取り組むべきである、と示したと解釈すべきだ。 **PSR**

Far East: South Korea Report

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

Doosan Infracore Unveils Wheel Loader with “Transparent Bucket”

Doosan Infracore announced in March that it had introduced the industry’s first wheel loader with a “transparent bucket” function.

The transparent bucket is a system that allows the wheel loader driver to see

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Far East Report

Continued from page 13

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even blind spots in front of the bucket through the monitor in the cockpit. The innovative system records images in front of the wheel loader with cameras installed at the top and bottom and shows the combined images in real time using a curved projection method.

The front of the wheel loader has been considered a major safety issue due to blind spots. With the transparent bucket function, however, the driver can easily check the blind spot in front of the bucket with a monitor to prevent safety accidents.

Another advantage is that it can significantly improve work efficiency by enabling a forward perspective through the monitor during loading/unloading work or carrying of soil and sand.

“As construction safety standards have been significantly reinforced, the advanced safety system has become the key equipment option. We plan to continue developing functions that can protect the safety of drivers and nearby workers and lead the creation of accident-free construction sites,” a Doosan Infracore official said.

Source: Doosan Infracore Official Website (The original article was partially revised by the author.)

PSR Analysis: This is a good example of how digital technology can dramatically improve safety and work efficiency. Blind spots in equipment are a cause of accidents, and if blind spots can be reduced, this in itself can contribute to safety. In addition, the increased visibility will help close the gap between novice and experienced drivers in terms of operability.

Doosan Infracore has applied for patents for this technology in Korea, North America, Europe, and China. The time will soon come when around-view monitor (AVM) systems that can monitor the surroundings and rear warning systems that use ultrasonic sensors will be standard equipment on future construction machinery. **PSR**

極東 > 韓国レポート:

斗山インフラコア、「透明バケット」のホイールローダーを 発表

3月1日、斗山インフラコアは業界初の「透明バケット」機能を備えたホイールローダーを発表した。

透明バケットは、ホイールローダーのドライバーがコックピットのモニターを通してバケットの前の死角さえも見る事ができるシステムだ。革新的なシステムは、上下にカメラを設置したホイールローダーの前で画像を記録し、湾曲した投影法を使用して、結合された画像をリアルタイムで表示する。ホイールローダーの前部は、死角のために主要な安全上の問題と見なされてきた。しかし、透明バケット機能により、ドライバーは安全事故を防ぐために、モニターでバケット前の死角を簡単に確認できるようになる。もう一つの利点は、作業の積み下ろ

[↑ Click Here To Go To Page 1](#)

Far East Report

Continued from page 14



しや土砂の運搬中にモニターを通して前方を見ることができると、作業効率が大幅に向上することだ。

「建設安全基準が大幅に強化されたため、高度な安全システムが主要な機器オプションになりました。斗山インフラコアの関係者は、ドライバーや近隣の労働者の安全を守り、事故のない建設現場の建設をリードできる機能の開発を継続する予定です」と述べている。

出典: 斗山インフラコア公式サイト (一部筆者により元記事内容を改編しました)

PSR 分析: デジタル技術が安全性と作業効率を飛躍的に高めることができる好例だ。機器の死角が事故の原因になっていることは言うまでもなく、死角を減らすことができればそれ自体が安全性に貢献できる。また、視認性が高まることで、操作性において初心者とベテランとの差を縮めることができる。斗山はこの技術を韓国、北米、欧州、中国で特許を申請している。周囲を監視できるアラウンドビューモニター (AVM) システムや超音波センサーを使用した後方警報システムが今後の建機に標準装備される時代はまもなく来るだろう。 **PSR**

SouthEast Asia: Indonesia Report

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

China and South Korea Increase Investment in Indonesia

China and South Korea are increasing their investments in Indonesia. According to BKPM (Indonesia's Investment Coordination Agency), China (including Hong Kong) accounted for \$8.4 billion in foreign direct investment (FDI) in 2020, up 11% from the previous year, and South Korea accounted for \$1.8 billion, up 64%.

Japan, which has been the driving force behind investment to date, has seen a clear decline of 40% to \$2.6 billion. Singapore ranked first in FDI in 2020 with \$9.8 billion, followed by China and Japan in second and third place, then the European Union in fourth place, and South Korea in fifth place.

In Singapore, there are many cases of countries bypassing Indonesia, and it is strongly believed that China is practically in first place. In the October-December 2020 quarter, South Korea surpassed Japan for the first time in the same quarter.

China is increasing its investment in mining and refining. South Korea is investing in the automotive sector, and Hyundai Motor Company is planning to start operations at its automobile plant in Bekasi, West Java.

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Southeast Asia Report

Continued from page 15

One of the pillars of future investment by Chinese and Korean companies will be EV batteries, which the Indonesian government aims to produce domestically by 2024.

One of the pillars of future investment by Chinese and Korean companies will be EV batteries, which the Indonesian government aims to produce domestically by 2024. Leveraging its strength as the world's largest producer of nickel, the main material used in EV batteries, Indonesia plans to make the country a major production base for EV batteries and is calling for foreign investment. The Indonesian government is negotiating with China's CATL and South Korea's LG Chem to attract investment. China is also strengthening its ties with Indonesia in terms of trade and aid and has recently supplied most of the country's domestic supply of vaccines for COVID-19.

Source: *The Nikkei* (The original article was partially revised by the author.)

PSR Analysis: I wrote about Indonesia's resource strategy in the February 2021 issue of *PowerTALK News™*, and this report also shows that Indonesia is becoming more aggressive in attracting investment.

In addition to COVID-19, Southeast Asia is currently in turmoil in many other ways. In Thailand, anti-government demonstrations are gaining momentum. In Myanmar, there has been a coup d'état, and Toyota and Suzuki, which have operations in the region, have suspended or postponed operations at their plants; in 2020, the GDP of most countries except Vietnam fell, and governments are reviewing their strategies to rebuild their economies. In many cases, the economy is based on investments from foreign manufacturing companies, so maintaining political stability and security is very important.


Indonesia has a large population and a large domestic market. Not only that, but it is also a geographical hub connecting the Middle East and Africa with East Asia, making it a country with potential not only for China but also for many foreign companies. The way in which Indonesia deepens its economic ties with China and other neighboring countries in the future will be extremely important not only for automakers and other manufacturers, but also for international security, and it is necessary to keep a close watch on this **PSR**

東南アジア > インドネシアレポート:

小室 明大 – 極東及び東南アジア リサーチアナリスト

対インドネシア投資、中韓が台頭 日本は退潮鮮明

中国と韓国がインドネシアへの投資を増やしている。インドネシア投資調整庁によると、2020年の海外直接投資 (FDI) は中国 (香港含む) が前年比で11%増の84億ドル (約8820億円)、韓国は同64%増の18億ドルだった。これまで投資をけん引してきた日本は40%減の26億ドルと退潮傾向が鮮明だ。20年のFDIはシンガポールが98億ドルで1位、中国と日本が2位、3位と続き、次いで欧州連合 (EU) が4位、韓国が5位だった。シンガポールは第三国が同国を經由してインドネシアに迂回投資する事例が多く、実質的には中国が1位との見方が強い。20年10月~12月期は韓国が同年四半期で初めて日本を上回った。中国は採掘や精錬などへの投資を伸ばしている。韓国は自動車分野で投資を進めており、現代自

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Southeast Asia Report

Continued from page 16

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自動車も西ジャワ州ブカシ県で自動車工場を稼働させる計画だ。

今後の中韓勢の投資の柱の一つになるのが、インドネシア政府が24年の国産化をめざす電気自動車 (EV) 電池だ。同国は主要材料のニッケルの世界最大の産出国である強みを武器に、EV電池の一大生産拠点にする方針で、外国勢に投資を呼びかけている。インドネシア政府は中国のCATLや韓国のLG化学などと投資誘致に向けた交渉を進めている。

中国は貿易や援助でもインドネシアとの結びつきを強めているうえ、最近では新型コロナのワクチンも同国の国内流通分の大半を供給している。

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: 前号のPowerTALK News™でもインドネシアの資源戦略について述べたが、この報道もまたインドネシアが投資誘致に積極的になっている様子が伺える。

現在東南アジアはCOVID-19以外にも様々な意味で揺れている。タイでは反政府デモが活発化している。ミャンマーではクーデターが発生し、現地に進出しているトヨタやスズキは工場の稼働を停止したり延期したりしている。ベトナムを除くほとんどの国の2020年のGDPは激しく落ち込み、経済の立て直しに向けて各国の政府は戦略を見直している。多くの場合、外資系製造業からの投資を経済の基盤にしているため、政治の安定性と治安の維持はとても重要だ。

インドネシアは人口も多く、国内市場は大きい。それだけではなく、中東やアフリカと東アジアとを繋ぐ地理的な要衝でもあるため、中国にとってだけでなく、多くの外資系企業にとってもポテンシャルを感じる国だ。今後インドネシアが中国をはじめ近隣国と経済的な結びつきをどのように深めていくかは、自動車メーカーをはじめとする製造業各社にとってだけでなく、国際安全保障上でも極めて重要で、注視していく必要がある。**PSR**

India Report

By Aditya Kondejkar, Research Analyst – South Asia Operations.




Aditya
Kondejkar

Semiconductor Shortage Restricts Growth of India Auto Industry

As the industry is coming out from the COVID impact, its growth is hurt by a shortage of semiconductors. Many OEMs have revised the production plans downward due to this shortage. We anticipate the shortage of semiconductors will exist for the next 4-5 months. Though it will hamper monthly production, it will have only a moderate impact on the total year's production. But

If the chip shortage lasts, production cuts could reduce the inventory of vehicles for sale in India and overseas markets.

 [Click Here To Go To Page 1](#)

Southeast Asia Report

Continued from page 17

The issue started in the Q2 2020. Due to COVID-19, auto OEMs worldwide drastically reduced their production and component orders. Concurrently, chipmakers were improving the supply chain, which had been disrupted by COVID-19. They witnessed a spurt in orders from electronics companies for items such as phones, laptops, gaming console makers and witnessed a spike in sales volume during the pandemic caused by changing work and school patterns.

"The shortage is largely the result of substantial swings in demand due to the pandemic," and indeed, if one looks at the (trend), it's clear that not only was the recovery very quick, but the sale of auto chips climbed to even higher levels in Q4 than they were at the beginning of the year.

*A drop in semiconductors leads to delays in the supply of vehicles in the market for some companies." - **The Semiconductor Industry Association (SIA)***

According to Ford, these shortages were caused by the fact that the wafer foundries had not increased the CAPEX over the previous several years ON improving the plant capacities to meet the booming demand. As a result, chip manufacturing requires a lead time of at least 26 weeks.

Considering the overall condition, we believe the semiconductor shortage is here to stay and will have a considerable impact till Q3 2021. **PSR**

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Russia Report

By Maxim Sakov, Market Consultant, Russia

Norway May Block Acquisition of Bergen Engines Plant



Maxim Sakov

The Department of National Security of Norway may block the purchase of engine OEM Bergen Engines belonging to Rolls-Royce by Russian Transmashholding. According to Justice Minister of Norway Monica Melan, the acquisition may be a threat to national security. The deal is estimated at €150 million. According to the minister, it's necessary to suspend a deal to collect information for making a final decision.

Bergen Engines was founded in 1946. Since then, the company delivered more than 7,000 engines, 5,000 of them still operating. Current personnel number is 900 people.

The technologies from the plant were going to be used in power generation for applications including shipbuilding. However, engine supplies could be restricted because of the sanctions. **Read The Article**

PSR Analysis: Here we see a re-run of a 12-year-old story, when Russian Sberbank attempted to purchase the Opel company from General Motors. At that

[↑ Click Here To Go To Page 1](#)

Russia Report

Continued from page 18

The joint venture of KAMAZ and ZF Friedrichshafen AG is going to establish mass production of 12-speed automated gearboxes Traxon for trucks, buses and special machines with 44-80 ton capacity.

time (in 2009) the attempt failed, and GM cancelled the deal. What approach will win now – disposition of a loss-making asset, or unwillingness to share technologies – it's uncertain at the moment.

Production of Diesel Engines Started in Kaluga

PSMA Rus plant, located in Kaluga, Russia, has made first testing sample of new DV6 motor.

First engine was produced in February. Engine production in the plant was set according to obligations for product localization, written in the contract with Russian government.

Turbocharged DV6-EL engines have 1,6-liter volume. They will be set to LCV models, produced on Kaluga's plant.

PSMA plant in Kaluga makes Peugeot, Citroen, Mitsubishi cars for Russian market. The production started in 2010. [Read The Article](#)

PSR Analysis: If the project succeeds, it will be smallest mass produced diesel engine in Russia. Whereas EU countries are trying to cut off diesel powertrain production, Russia invites it into the country

KAMAZ JV Will invest in Mass Production of Equipment

The joint venture of KAMAZ and ZF Friedrichshafen AG is going to establish mass production of 12-speed automated gearboxes Traxon for trucks, buses and special machines with 44-80 ton capacity. At the moment, the JV is offering mechanical transmissions only. According to the plan, the production of gearboxes will be localized on 24%, power steering, by 10%, suspensions, by 40%. New products will be supplied to KAMAZ trucks, as well as to other OEMs – MAZ-MAN, Ural, Isuzu, etc.

The total budget of the new project will be US\$ 15 million (1.1 billion Rubles). About half of it will be provided by the Industry Development fund as a privileged loan.

The privileged loan will be provided by the fund on 1-3% interest rates for up to seven years. [Read The Article](#)

PSR Analysis: There is a long history of co-operation between KAMAZ and German ZF. Now, with the State support, they are going to offer to the market brand new equipment, which was not available on domestic trucks before. **PSR**

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