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Alternative Power

By *Guy Youngs*, Forecast & Adoption Lead

EV Investment May Be At Risk In Europe



*Guy
Youngs*

The rapid growth of the EV market has led to a huge level of investment in new models, batteries, chargers and other components that have supported this growth. As the EU continues to dither about vehicle emissions (encouraged by the oil lobby and some legacy car makers), all this investment is now being put into question.

On one hand, EV vehicles have been the growth engine for the European Automotive industry (and also for the global automotive market) which has led to billions of Euros in investment, and on the other hand, the oil lobby and some legacy automotive manufacturers are pushing back against emissions legislation.

But if Europe holds its course on EV manufacturing — including all the related / supported components (batteries, power electronics, and critical components) it can rebuild its industrial base and secure growth and jobs.

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

PSR Analysis: The EU is once again proposing to revise its 2030–2035 car CO₂, with the new Commission proposal weakening both the 2030 and 2035 targets, and the auto industry wants to reduce that ambition even more. The real danger here is while legacy automotive manufacturers would “buy” time to sort out their issues, the rest of the world (apart from the USA) is not standing still, and EU automotive manufacturers will find themselves further behind, with even less time to sort out their issues before bankruptcy looms. What this boils down to is that if EU does not embrace the EV revolution, they will lose out and the EU’s auto industry will enter a period of rapid decline / loss. **PSR**

Electrifying Your Fleet Isn’t Just About Going Green

On the face of things, when you read this title, your thoughts move to TCO (Total Cost of Ownership) but actually this article is more about sustainability – sustainability in the sense that the business needs to stay in business in the longer term, and it’s about stability.

Sustainability and Stability are two core ideals for businesses.

According to YMX, a US company which specializes in sustainable, optimized enterprise yard and transportation services and solutions for all sized yards across retail, manufacturing, and distribution sectors, “Electrifying yard operations is often framed as a sustainability initiative. But that framing is incomplete, it is also a risk management strategy.”

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Alternative Power

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Toyota is scraping its plans to launch a next-generation luxury EV, the Lexus LF-ZC electric sedan, which was expected to enter production later this year.

As of March 31, 2026, oil markets have been rattled by conflict involving Iran and severe disruption around the Strait of Hormuz, one of the world's most important oil chokepoints. Oil prices soared and these are not marginal increases. They represent rapid cost repricing across the entire supply chain. And this volatility is a severe risk to businesses

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

PSR Analysis: The electrification of logistics and businesses in general is not just about cost savings. It's about stability and reducing dependency on one of the most volatile inputs in the business model (ie Oil). **PSR**

Toyota Pulls Plug on One of its Most Important EVs

Toyota is scraping its plans to launch a next-generation luxury EV, the Lexus LF-ZC electric sedan, which was expected to enter production later this year with advanced new batteries that would deliver significant range improvements, and a dedicated platform.

The model was planned to use the gigacasting production technique that would split the vehicle body into three parts, front, center, and rear, to cut costs.

On paper, this car would have been brilliant, but like many Toyota promises over the years, it's not going into production. In model terms, Toyota promises much but delivers so little. Toyota is the latest Japanese automaker, following Honda and Nissan, to discontinue development of a major EV project, blaming changing market conditions.

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

PSR Analysis: While Japanese automakers continue to delay the inevitable shift to electric by cancelling projects, Toyota will likely fall even further behind Chinese brands, which own nearly every aspect of its supply chain. **PSR**

New Battery Could Last 16 Years Without Capacity Loss

Researchers from the Institute of Metal Research in China, say they have developed an electrolyte that allows an alkaline all-iron flow battery to run through more than 6,000 cycles without measurable capacity decay. Researchers have equated this to running for approximately 16 years.

At the same time, as Iron is more than 80 times cheaper than lithium as a raw material, large scale storage costs will be cheaper. The use of water based electrolytes also means that the battery is inherently safer than most lithium alternatives

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

PSR Analysis: Flow Batteries are, generally speaking, large and not mobile, so

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Alternative Power

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this new development (if it translates into the commercial world) will only apply to stationary power sources such as industrial power generation. **PSR**

PV Equipped Vehicles May Cover 80% of Electricity Needs

In Germany, the Fraunhofer Institute for Solar Energy Systems ISE (Fraunhofer ISE) has demonstrated that the integration of photovoltaics (PV) into vehicle roofs, hoods and side panels significantly reduces pressure on power grids, reduces charging costs, decreases the need for external charging and provides significant proportions of their energy use.

The researchers found that cars in Central Europe could generate up to 55% of their annual electricity demand and in Southern Europe, the share could rise to 80% (this assumes relatively low annual mileage and large roof surfaces, such as those found on SUVs)

The study found that truck trailers equipped with a roof PV can generate up to 55 kWh per day during summer months. If solar modules are also integrated into the side walls, daily yields could increase to between 90 kWh and 110 kWh, enough to fully power cooling or hydraulic systems.

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

PSR Analysis: We have reported about this technology being used on trucks before, and the Toyota Prius even has (or had) an option of a roof mounted solar panel, so all of this is not news, but this is yet more evidence of the way things will probably move in the future., especially with oil prices so high. **PSR**

DATAPOINT: *North America 2026 ATV Production* **232,100**

By Carol Turner, Senior Analyst, Global Operations

232,100 units is the estimate by Power Systems Research of the number of 4-Wheel ATVs expected to be produced in the US and Mexico during 2026.

A 4-Wheeled ATV is another term for All Terrain Vehicle. It has 4 wheels and is designed to be driven off road. It seats one person, or sometimes two, one in front of the other.

This product 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.

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DataPoint

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In 2025, production of ATVs in North America decreased 12%. But production is expected to gain a nominal 1% in 2026.

Market Share. With 27% of total units produced, Honda leads the production of 4-Wheeled ATVs in North America. In second position is Polaris with 26%; third, Yamaha with 15.5%.

Exports: Mexico: up to 45% worldwide. United States: up to 30% worldwide. Approximately 60% of the ATVs made by Suzuki in Rome, GA, remain in the U.S. while the remainder are sold internationally.

Trends. In 2025, production of ATVs in North America decreased 12%. But production is expected to gain a nominal 1% in 2026. Uncertain economic outlook, rising production costs and the growing popularity of side x side units (utility vehicles) are main reasons for the production decline.

Manufacturers have discontinued less popular models/variants and are concentrating on bestselling units due to saturation in the market. ATVs are used in a variety of activities that include recreation, sport and military related needs.

According to investor relations for Yamaha, Polaris Industries and Arctic Cat, consumer discretionary spending is on the rise. Production is expected to improve as indicated by current economic factors along with the introduction of innovative products and technologies. Look for an additional increase up to 5-10% by 2035, although gas price increases caused by the war in Iran may affect sales.

No units electric/battery powered units were produced until 2026 MY. BRP Mexico has two Outlander electric models it is introducing 2026 MY. **PSR**

Truck Production Report

By *Chris Fisher*, Senior Commercial Vehicle Analyst

ATA's Spear: Strict EV Mandates Could Implode Economy



*Chris
Fisher*

Testifying before a Senate subcommittee on transportation technology recently, American Trucking Associations (ATA) President and CEO Chris Spear lobbed criticism at the California Air Resources Board (CARB), blasting its regulatory framework as economically unworkable and completely detached from operational reality.

"California Air Resources Board does not sit down with our industry," Spear told lawmakers. "They don't care what our industry has to say. Their attitude is: 'You'll figure it out.'"

The trucking industry narrowly avoided being the epicenter of what Spear characterized as an economic collapse when the Trump administration last year spiked the California Truck Emission Standards (CARB's Omnibus rule) and California Truck NOx Emission Standards (CARB's Advanced Clean Trucks

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Truck Production Report

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regulations), respectively. California withdrew its waiver request in January 2025 to implement its Advanced Clean Fleets rule, which would have effectively mandated electric trucks in the state.

Spear cautioned that California's push to rapidly electrify heavy-duty commercial fleets ignored massive deficits in power generation, grid capacity, and raw material supply chains.

Electric semis accounted for just 0.2% of total heavy-duty truck sales last year, and Spear noted that zero-emission tractors cost three-and-a-half times more than modern, clean diesel equipment.

Fleet managers, too, face operational hurdles with current battery-electric setups, which can require six to eight hours of charging to achieve maximum range (generally just more than 200 miles), compared to a 15-minute diesel fill up that can cover 1,200 miles.

Spear stated that if the now-repealed truck rules had remained intact, laws would have forced a mandatory 10% adoption rate by 2030, requiring roughly 3.5 million electric trucks to hit the road over a five year period.

Spear further noted the irony that California relies on an electrical grid already plagued by seasonal rolling blackouts; that the critical minerals needed for vehicle batteries are currently sourced almost exclusively from international adversaries and volatile regions like China and the Democratic Republic of the Congo; and that domestic environmentalists routinely block mining initiatives stateside that take upwards of a decade to permit.

ATA's top executive argued that state regulators often ignore the environmental leaps achieved by modern internal combustion technology.

"Sixty trucks today on the road—brand new diesels—emit what one truck emitted in 1988," Spear said. "That's how far we've come... If they just focused on getting the 2010 or older trucks off the roads in California, they would've exponentially reduced emissions. They could've done that right now without turning on electricity, which they don't have."

Source: *Clean Trucking*

PSR Analysis. The ATA Chairman Spear discussed what many in the industry have known years. The initiative to ultimately transition from the internal combustion engine to zero-emission medium and heavy trucks would not be possible until a number of the barriers have been overcome. Barriers such as charging and grid infrastructure, total cost of ownership and misaligned duty cycles prohibit mass adoption of battery electric trucks. Basically, an implementation timeline without a plan to achieve the milestones is impossible. **PSR**

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Europe Report

German Market Continues To Struggle

By *Emiliano Marzoli*, Manager of European Operations



*Emiliano
Marzoli*

Data released in early June by the VDMA (German Engineering Federation) shows that Germany's domestic machinery orders fell 4% to 5% in real terms year-over-year. High manufacturing costs and rigid bureaucracy continue to weigh down the home market. However, the industry is forecasting a 1% production recovery to \$15.72 billion USD (€13.7 billion) for the latter half of 2026. This mild turnaround is entirely driven by the rollout of the German federal government's "Special Assets" (Sondervermögen) off-budget funds, which are finally trickling down into physical orders for climate protection, infrastructure, and defense machinery.

Sources: VDMA ([Article 1](#), [Article 2](#)) and VDW.

PSR Analysis. For German heavyweights like Wacker Neuson, BMW Group, and Stihl, the message is clear: survival inside Germany requires a shift away from standard commercial lines toward state-funded infrastructure and municipal grid expansion.

To fight off rising Chinese export competition (which jumped 18%), German OEMs are increasingly shifting to a "Local-for-Local" manufacturing footprint, moving up to 20% of their production capability out of Germany into other eastern EU regions (like Poland and Romania) to capture lower labor and operational costs while maintaining an EU-origin label. **PSR**

Belgium's Exmar Pushes Ammonia-Fueled Maritime Transport

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



*Natasa
Mulahalilovic*

The ammonia-fueled gas carrier Antwerpen was officially delivered June 10 and has entered service for Exmar, marking a major milestone in maritime decarbonization. The vessel is the world's first new ship capable of both transporting ammonia as cargo and using it as fuel. It is the first of four sister vessels being built by HD Hyundai, with three scheduled for delivery by the end of 2026 and a fourth in early 2027.

The project took four years to develop and involved close cooperation between Exmar, HD Hyundai, WinGD, Nord Gas Solutions, Lloyd's Register, and regulatory authorities. Together, they helped create the regulatory framework needed to allow ammonia toxic cargo to be used safely as a marine fuel.

The 190-meter-long, 27,000-dwt vessel can carry approximately 46,000 m³ of ammonia. Its dual-fuel engine uses high-pressure ammonia injections with only about 5% pilot fuel at full load, delivering performance comparable to conventional diesel engines.

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Europe Report

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Groupe Beneteau reported strong first-quarter 2026 results, with revenues reaching €169.5 million, up 30.1% compared with €130.3 million in Q1 2025 (+34.5% at constant currency).

Ammonia is considered a promising low-carbon marine fuel because it can be stored and transported more easily than liquid hydrogen while serving as an efficient hydrogen carrier. Exmar and HD Hyundai estimate that ammonia-fueled operation could reduce greenhouse gas emissions by up to 90% compared with conventional vessels.

Exmar expects the operational experience gained from Antwerpen and its sister ships to accelerate the wider adoption of ammonia as a marine fuel across the shipping industry. According to DNV, only a handful of ammonia-capable vessels are currently in operation, but 47 ammonia-fueled ships are on order for delivery by 2030, highlighting growing industry interest in technology. **PSR**

Beneteau Posts Strong Q1 2026 Results

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

Groupe Beneteau reported strong first-quarter 2026 results, with revenues reaching €169.5 million, up 30.1% compared with €130.3 million in Q1 2025 (+34.5% at constant currency). The performance was supported by robust retail demand, successful new model launches, and nearly €20 million of deliveries deferred from late 2025 in the United States.

The Sailing division generated revenues of €63.7 million, an increase of 18.6% at constant currency, driven by strong sales of monohull and multihull models launched in 2025 and a 22% recovery in sales to charter operators. The Motor division recorded revenues of €96.9 million, up 45.2% at constant currency, benefiting from strong demand in Europe, particularly in the Dayboating segment, and the success of new BENETEAU and PRESTIGE models.

From a regional perspective, Europe remained the Group's largest market with revenues of €84.4 million, up 16%. North and Central America delivered exceptional growth, with revenues rising to €64 million, an increase of more than 110% at constant currency, supported by deferred deliveries and continued market demand. Fleet sales also increased by 22%.

Alongside its financial performance, the Group reinforced its sustainability strategy through the launch of E-LEKTRA MARINE, a joint venture with Fountaine Pajot focused on developing standardized alternative propulsion and onboard energy management solutions for sailing yachts. The initiative, which already brings together seven major sailing brands, aims to achieve an electric propulsion adoption rate of 10% to 15% by 2030.

Despite a slowdown in new orders following the conflict in the Middle East, Beneteau's order book remained solid at the end of April, up nearly 10% at constant currency. As a result, the Group maintained its outlook for significant full-year revenue growth, while continuing its ambitious innovation strategy with plans to launch 24 new boat models during 2026. **PSR**

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South America/Brazil Report

By *Fabio Ferraresi*, Managing Director - South America

AGCO Presents Advances in Alternative Fuels Engines



*Fabio
Ferraresi*

AGCO has presented new AGCO Power engines powered by ethanol and biomethane for agricultural machinery, developed by its South American engineering team. The solutions target tractors in the 200 hp to 300 hp range and were validated in real field operations, including sugarcane and grain crops.

The ethanol engine uses dedicated ignition and injection systems, while the biomethane version is aimed at farms with access to biomass and biogas production. According to AGCO, the technologies can deliver diesel equivalent performance and reduce CO₂ equivalent emissions by up to 90%. Market introduction is expected in 2027 for biomethane and in 2028 for ethanol.

Source: *Revista M&T* with information from AGCO press office.

PSR Analysis. Rising oil prices, diesel supply risks, and the resulting insecurity for farmers strengthen the case for engines powered by locally produced fuels such as ethanol and biomethane. As with other engine manufacturers and OEMs, AGCO is investing to respond to this demand and enable access to lower carbon technologies suited to South America's agricultural fuel base.

The key uncertainty is when these solutions will become commercially competitive against diesel in acquisition cost, operating cost, and fuel availability. Hybrid powertrain support may become relevant to improve efficiency, reduce fuel consumption, and accelerate competitiveness in some agricultural applications, especially for sugar cane producers. **PSR**

Randon Exports Semitrailers to Indonesia

Randon has completed its first export of semitrailers to Indonesia, opening a new market in Southeast Asia. The shipment includes sugar cane specialized models in Rodotrem and Tetratrem configurations for a local sugar and bioethanol producer.

The exported Tetratrem can carry up to 144 metric tons, with a Gross Combined Weight of 211 metric tons. Prototype units are being shipped for customer testing between May and June 2026, with the contracted batch of around 174 products expected to start shipping in July.

Source: *Revista M&T* with information from Randon press office.

PSR Analysis. The export to Indonesia reinforces Randon's internationalization strategy as a road implement manufacturer, following the same structural expansion trend seen in the group's auto parts businesses and Frasle Mobility. By applying Brazilian expertise in high capacity agribusiness logistics to Southeast

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South America Report

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Asia, Randon expands its addressable market, although competitiveness will depend on local adaptation, after sales support, logistics efficiency, and customer validation under Indonesian operating conditions. **PSR**

Chinese CFMoto Starts SA Operations with Four Motorcycles

CFMoto has officially started operations in Brazil with CKD (Completely Knocked Down) production in Manaus, Amazonas, eight dealerships in the South and Southeast regions, and four initial motorcycle models. The line includes the 450 CL-C and 450 CL-C Bobber custom models, both equipped with a 450 cc two cylinder engine producing 41 hp, and the IBEX 450 adventure model, with the same engine family producing 44 hp.

The IBEX 700 uses a 693 cc two cylinder engine with 67.9 hp. Prices start at R\$ 32,990 for the 450 CL-C, R\$ 33,990 for the Bobber, R\$ 35,990 for the IBEX 450, and R\$ 44,990 for the IBEX 700. All models include a three year warranty and fixed price maintenance up to 30,000 km.

Source: Automotive Business

PSR Analysis. CFMoto's entry reinforces the expansion of Chinese motorcycle manufacturers in Brazil through local CKD (Completely Knocked Down) assembly, competitive pricing, and a portfolio positioned in mid displacement custom and adventure segments.

The Manaus operation gives the brand industrial and tax structure alignment with the Brazilian two wheel market, while the initial dealer network indicates a controlled market entry. The main challenge will be building brand trust, parts availability, after sales capacity, and residual value perception against established Japanese and European competitors. **PSR**

Public Funding Program Can't Detain Brazil Truck Market Decline

Brazilian truck registrations fell 17.2% in the first four months of 2026, to 30,700 units, compared with 37,100 units in the same period of 2025. April sales reached 8,800 trucks, almost stable versus March, but still 5.8% below April 2025.

The Move Brazil financing program helped slow the market contraction but was not enough to reverse the decline. Truck production also fell 17.2% from January to April, to 35,400 units, while exports declined 14%, to 7,000 units. ANFAVEA, the main association of Producers, expects support from Move Brazil 2, which will provide US\$ 4.11 billion (R\$ 21.2 billion) for truck, bus, and road implement financing, with terms of up to 120 months and a limit of US\$9.70 million (R\$ 50 million) per beneficiary.

Source: AutoData

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South America Report

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The more important point is that Japan's off-highway sector is beginning to show a practical path for dealing with one of its most serious structural constraints: the shrinking supply of skilled operators.

PSR Analysis. Subsidized financing can soften the truck market downturn, but demand remains constrained by high acquisition costs, credit conditions, and economy uncertainty. Move Brazil 2 may improve short term order intake for OEMs and implement manufacturers, but a sustained recovery will not take place until lower interest rates are in place and clearer economic outlook for operators. **PSR**

Far East: Japan Report

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

Hitachi Moves Toward Remote Construction Deployment



*Akihiro
Komuro*

Hitachi Construction Machinery announced that a joint demonstration test will begin with Fukudome Kaihatsu in Tosa, Kochi Prefecture, using a ZX200A-7 20-ton class hydraulic excavator and a real-time digital twin platform. The test will be conducted in June 2026 at a river dredging project site in the Niyodo River Mochiishi District.

The platform integrates 3D terrain data, camera images, construction machinery, vehicles, and worker location information in real time, and reproduces the worksite in a virtual 3D space. The demonstration will compare remote operation under direct visual observation, remote operation using camera images, and remote operation using the real-time digital twin platform, in order to verify its effect on safety and productivity.

A related example can be seen in agricultural machinery, where NTT, Kubota, and NTT DOCOMO demonstrated communication technologies for the remote operation and monitoring of robotic agricultural machinery in mountainous areas. The demonstration combined mobile and satellite communications with video control technology to support stable remote operation under fluctuating communication conditions.

Sources: *Hitachi Construction Machinery / NTT, Kubota and NTT DOCOMO*

PSR Analysis: The significance of this announcement is not simply that Japanese construction machinery is becoming more digital. The more important point is that Japan's off-highway sector is beginning to show a practical path for dealing with one of its most serious structural constraints: the shrinking supply of skilled operators.

In Japan, the discussion around construction machinery and agricultural machinery often turns quickly to electrification or autonomy. Both are important long-term themes, but they are not necessarily the first areas where the market will see broad practical adoption. On many construction sites, especially in civil engineering, disaster recovery, and regional public works, the immediate

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Japan Report

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problem is not how to replace the diesel engine. It is how to keep work moving when experienced operators are becoming harder to secure, and when safety requirements are rising.

That is why remote construction using digital twin technology deserves attention. Full autonomy remains difficult in construction because the work environment is highly variable. Ground conditions change, surrounding objects move, work procedures differ by site, and judgment often depends on the operator's understanding of the whole worksite. A digital twin platform does not remove the operator from the process. Instead, it gives the operator and site manager a better view of the jobsite and supports better decision-making from a remote location.

This distinction matters. Remote operation and worksite visualization can be introduced as an extension of existing hydraulic excavators and construction workflows. They do not require an immediate shift to a completely new machine architecture. For users, that makes adoption more realistic. For OEMs and suppliers, it means that competitiveness will increasingly depend on how well machines can be integrated into connected worksite systems, not only on conventional measures such as power, durability, fuel efficiency, or hydraulic performance.

The agricultural machinery case points to the same issue from another direction. Robot tractors and other automated machines cannot operate safely at scale without stable communications, reliable video transmission, and remote monitoring. In mountainous areas, where communication quality can fluctuate sharply, the machine itself is only one part of the solution. The broader system — communications, software, sensors, video control, and supervision — becomes just as important as the vehicle.

For the Japanese off-highway market, this suggests that “labor-saving” may become a more immediate commercial driver than electrification. Diesel-powered machines are likely to remain in use for many applications, but they will be expected to operate within increasingly digital and remotely managed environments. The future competitive question may therefore shift from “who builds the best machine?” to “whose machine fits best into a safer, more productive, and more remotely managed worksite?”

This is a meaningful direction for Japan. It plays to the country's strengths in machinery, field engineering, telecommunications, and incremental system integration. It also addresses a problem that is already visible in the market: not a shortage of machines, but a shortage of people who can operate them efficiently and safely. **PSR**

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HD Construction Equipment signed a contract to supply 39 DEVELON articulated dump trucks to Rental Group, one of the largest construction equipment rental companies in Northern Europe.

Far East: South Korea Report

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



*Akihiro
Komuro*

Construction Equipment Exports Move into Strategic Markets

HD Construction Equipment signed a contract to supply 39 DEVELON articulated dump trucks to Rental Group, one of the largest construction equipment rental companies in Northern Europe. The contract is worth about EUR 12 million, or around KRW 20 billion. The order includes 13 units of 28-ton models

and 26 units of 41-ton models, which are scheduled to be delivered during the year. The machines will be used in quarries, road construction projects, and large-scale tunneling work in Norway.

The company also secured a KRW 27 billion contract to supply 50 15-ton DEVELON bulldozers to the Polish military. This is the company's first major military procurement order in Europe.

In addition, HD Construction Equipment signed an MOU with the Mykolaiv regional government in Ukraine to cooperate on reconstruction projects. The scope of cooperation includes not only construction equipment supply, but also training, financing, and energy infrastructure recovery.

Sources: *HD Construction Equipment / HD Hyundai / HD Construction Equipment*

PSR Analysis: These announcements should not be read simply as a series of export wins. The more important point is that HD Construction Equipment is expanding into overseas markets where construction machinery is closely linked to infrastructure, defense, mining, and reconstruction.

The ADT order in Norway is a clear example. Articulated dump trucks are not general-purpose machines. They are used in demanding off-highway applications such as quarries, tunnels, soft ground, and rough terrain. Being selected by a major Northern European rental company suggests that Korean construction equipment is being evaluated not only on price, but also on uptime, durability, service support, residual value, and suitability for professional heavy-duty work. This indicates that Korean machines are moving into markets with higher operating requirements, rather than remaining only a lower-cost alternative.

The bulldozer contract with the Polish military should be viewed in the same context. Since the war in Ukraine, Europe has been strengthening both defense capability and infrastructure resilience. Bulldozers and excavators are not combat equipment, but they are essential for military infrastructure, mobility support, and emergency recovery. Construction machinery is therefore becoming more clearly connected to defense and public procurement.

The Ukraine reconstruction MOU has a longer-term significance. In reconstruction markets, selling machines alone is not enough. Suppliers need to support operator

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South Korea Report

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training, maintenance, financing, and local implementation. HD Construction Equipment appears to be positioning itself not just as a machinery supplier, but as a partner in the reconstruction process.

This is a natural direction for Korea's construction equipment industry. The domestic market alone is too limited to support the next stage of growth, so Korean manufacturers need to target overseas markets where their machines can win in specific applications. Northern European rental fleets, Eastern European military and public procurement, and Ukraine reconstruction are all logical targets.

For powertrain and component suppliers, the implications are also important. In high-load applications such as ADTs, bulldozers, and large excavators, electrification will advance in selected areas, but diesel engines, hydraulic systems, transmissions, durability, and service networks will remain central to competitiveness for some time. Korea's recent export moves show that demand for heavy-duty off-highway machinery is likely to remain solid, supported by infrastructure, defense, and reconstruction needs. **PSR**

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Southeast Asia: Thai Report

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

EV Policy Moves from Adoption To Industrial Absorption



*Akihiro
Komuro*

Ten Thai automotive and auto parts associations have warned that EV adoption is putting pressure on domestic production and that the country's automotive industry could face a crisis. According to the industry groups, Thai manufacturers are struggling to compete with low-cost, zero-tariff EV imports from China, while local parts suppliers are seeing orders decline.

The associations, which represent more than 1,500 member companies, said in a letter to the government that the industry could face a major shock in 2027, when the current incentive scheme designed to support EV production is scheduled to end. They called on the government to review the EV policy before the incentives expire and to introduce urgent measures to support the industry.

Their proposals include tax reforms to favor EVs produced in Thailand, linking import quotas with domestic production and technology transfer, strengthening local content requirements, promoting the use of Thai-made parts, improving access to raw materials, and tightening rules of origin and technology transfer requirements.

Under Thailand's EV 3.5 scheme, manufacturers are required to produce two EVs locally for every EV imported in 2026, and three EVs locally for every EV imported

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Thai Report

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in 2027. The Thai government has since adjusted the rules so that EVs produced in Thailand for export can also count toward these production requirements, in response to weak domestic demand and the risk of oversupply.

Sources: *Reuters / Automotive Logistics / Thailand Board of Investment*

PSR Analysis: The issue is not simply that EV sales are increasing in Thailand. The more important point is that Thailand's EV policy is moving from the demand-creation stage to a more difficult question: whether that demand can be absorbed into the domestic industrial base.

Thailand's policy was designed to first build the EV market through imports and subsidies and then require manufacturers to localize production. That logic is clear. But if domestic demand remains weak while production obligations increase, manufacturers may end up producing EVs in Thailand without a sufficiently large local market to absorb them. That would raise the risk of oversupply, price competition, and lower plant utilization.

This is why the government's decision to allow exported EVs to count toward production requirements matters. It suggests that Thailand's EV strategy cannot rely on domestic sales alone. The next question is not just how many EVs are sold in Thailand, but where Thai-made EVs can be sold, and how much of that production can be linked to local parts, local capability, and technology transfer.

The pressure on existing suppliers is also more complicated than the familiar point that EVs use fewer parts than ICE vehicles. That is true, and ICE-related suppliers will inevitably face pressure. But the deeper issue is that if the EV market grows mainly through imports, higher sales volumes will not necessarily create more work for Thai suppliers. If batteries, motors, inverters, and electronic components remain largely imported, Thailand's EV market can grow without significantly deepening the local supply chain.

In that sense, 2027 may become less of an incentive-expiry date and more of a sorting point for the Thai EV market. Manufacturers with scale, export channels, distribution networks, financing capacity, and battery sourcing strength will be better positioned. Brands that depend mainly on domestic sales, or cannot absorb the cost of local production, may come under pressure.

This matters for Japanese OEMs and suppliers as well. Thailand has long been the core ASEAN production base for Japanese automakers, but that position will not automatically carry over into the EV era. Japanese companies now need to decide how to reuse the production base they built around ICE vehicles in a market where the competitive rules are being rewritten by batteries, electronics, cost, and speed.

Thailand's case also carries a wider lesson for Southeast Asia. Expanding EV sales and building an EV industry are not the same thing. Thailand's ability to become an ASEAN EV hub will depend less on headline EV sales volume and more on whether EV demand can be converted into domestic production, exports, local sourcing, and technology transfer. **PSR**

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This plan sets a clear path for China's heavy truck market. In simple terms, for every five trucks sold, two will be electric or hydrogen powered. Diesel trucks will be pushed out.

China Report

By *Jack Hao*, Senior Research Manager - China



*Jack
Hao*

China Aims for New Energy Heavy-Duty Truck 40% Market Share

According to a June announcement from the Ministry of Transport, 11 ministries and agencies—including the Ministry of Transport and the National Energy Administration—have developed the Implementation Plan for Promoting Large-Scale Application of New Energy Heavy-Duty Trucks.

The plan states that by 2030 the penetration rate of new energy heavy-duty trucks will reach 40%, with the total stock exceeding 1.6 million units, accounting for approximately 20% of the overall heavy-duty truck fleet. This initiative aims to accelerate the green and low-carbon transformation of the transportation sector.

In regions such as Beijing-Tianjin-Hebei and the Fenwei Plain, the electrification rate for fixed-route short-haul transportation will surpass 80%. Leveraging the expressway network, charging and battery-swapping infrastructure for electric heavy-duty trucks will be developed to create zero-carbon highway freight corridors.

Under the plan, approximately 3,000 charging and battery-swapping stations for heavy-duty trucks will be supported and guided for construction, while hydrogen refueling stations and green fuel dispensing stations will be scientifically deployed in key scenarios. At the same time, the share of new energy heavy-duty trucks in expressway freight volume will reach 18%.

Source: MOT

PSR Analysis: This plan sets a clear path for China's heavy truck market. In simple terms, for every five trucks sold, two will be electric or hydrogen powered. Diesel trucks will be pushed out. The biggest growth will come from long-distance highway freight, the hardest area for new energy trucks to crack so far. The plan removes obstacles with hard targets: 30,000 km of zero-carbon corridors and around 3,000 charging and battery-swapping stations.

Truck makers will split into winners and losers fast. Giants like FAW, Dongfeng, and NHTC must go fully electric within four years, or lose 30%–40% of their market. New business models are now officially supported: truck-battery separation, battery leasing, and joint ventures between truck makers, logistics firms, and energy companies.

The real competition is no longer about who builds the best truck, it's about who controls the full chain of vehicles, cargo, and charging. The supporting services market is where the real money is. Charging stations are the surest bet—demand fees for centralized facilities are waived until 2030.

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China Report

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Repair shops will boom because truck makers must now open their technology, ending the after-sales monopoly. Insurance must cover all new energy trucks, with premiums priced for safety performance, pushing makers to build safer vehicles. Battery recycling and asset management will become major industry on their own.

Exports are the most underestimated opportunity. With 1.6 million trucks running at home, Chinese new energy heavy trucks will become 15%–20% cheaper. Combined with unified standards and a complete "truck-road-energy-cloud" system, China can now export full packages—not just trucks, but the entire solution—to Southeast Asia, the Middle East, Latin America, and beyond. This is the same playbook that made Chinese electric cars dominate globally.

In short, the government is using its full power to force a diesel-to-new-energy switch in four years. Demand is no longer the question—the real challenge is whether battery production, the power grid, and skilled workers can grow fast enough to keep up. **PSR**

India Report

By Aditya Kondejkar, Research Analyst – South Asia Operations

Biofuels Lead Next Phase of India Auto Fuel Transition



*Aditya
Kondejkar*

India's automotive industry is undergoing a significant fuel transition. While electric vehicles (EVs) remain a key pillar of decarbonization, biofuels—particularly ethanol and isobutanol—are emerging as critical tools for reducing oil imports, lowering emissions, and supporting domestic agriculture.

India has already achieved its E20 ethanol blending target ahead of schedule and is now preparing for higher blends such as E22, E25, E27, and E30. Recent policy measures, including the excise duty exemptions on higher ethanol blends and the expansion of ethanol retail infrastructure, indicate that the government intends to further increase ethanol consumption in the coming decade.

For vehicle manufacturers, ethanol offers opportunities and challenges. It improves energy security and lowers greenhouse gas emissions, but its lower energy density compared to petrol can affect fuel economy. As a result, OEMs are redesigning engines, fuel systems, and calibration strategies to support higher ethanol concentrations. Several manufacturers have already showcased flex-fuel vehicles capable of running on E85 or even E100, signaling the industry's readiness for the next phase of ethanol adoption.

While ethanol is targeted at gasoline-powered vehicles, isobutanol is gaining attention as a potential blending component for diesel. Compared with ethanol, isobutanol offers higher energy density, better water tolerance, and improved compatibility with existing diesel infrastructure. Policymakers have recently indicated that an isobutanol-diesel blending framework could be introduced,

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India Power

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India's fuel transition is increasingly becoming a multi-technology story rather than an EV-only narrative. Ethanol is likely to become the primary decarbonization tool for petrol vehicles, while isobutanol could play a similar role in diesel applications.

creating a new decarbonization pathway for commercial vehicles, tractors, and off-highway equipment.

The significance of isobutanol lies in its potential to address segments where electrification remains challenging. Long-haul trucks, construction equipment, and agricultural machinery continue to rely heavily on diesel, and widespread electrification in these segments is likely to take longer due to cost and infrastructure constraints. Isobutanol could therefore serve as a practical transitional fuel while preserving existing engine and distribution networks.

Source: *Business Standard*

PSR Analysis. India's fuel transition is increasingly becoming a multi-technology story rather than an EV-only narrative. Ethanol is likely to become the primary decarbonization tool for petrol vehicles, while isobutanol could play a similar role in diesel applications. Over the next decade, the biggest beneficiaries are likely to be flex-fuel vehicle manufacturers, biofuel producers, and fuel-system suppliers. For the automotive industry, the most realistic pathway appears to be a combination of electrification, ethanol, and advanced biofuels—each serving different vehicle segments and use cases. **PSR**

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