ISSUE 26 / 30 JUN 2025

KallanishPower MATERIALS

POWER MATERIALS WEEKLY

SMACKOVER

OIL MAJORS TURN TO LITHIUM IN DIVERSIFICATION PUSH

GOLD HYDROGEN

EVIDENCE, NOT HYPE, SHOULD DRIVE NATURAL H2 ASSESSMENTS: ROYAL SOCIETY

OIL MAJORS TURN TO LITHIUM IN DIVERSIFICATION PUSH 1

EVIDENCE, NOT HYPE, SHOULD DRIVE NATURAL H2 ASSESSMENTS: ROYAL SOCIETY 3

COMPANY SPOTLIGHT: NEOM GREEN HYDROGEN COMPANY (NGHC) 5

FROM THE PRICE DESK 6

KIS: HYDROGEN PRICES 7

EV SALES DATA 8

TRENDING NEWS FROM THE WEEK 9

CHINA BATTERY MATERIALS TRADE FLOW DATA 22

Oil majors turn to lithium in diversification push

By: Giulia Bottaro, UK

Entering the lithium market may not be the most obvious diversification move for oil and gas companies. Yet, several players are looking to extract the coveted battery mineral from spent wells.

Many oil and gas formations hold brines that contain lithium. In the US, the most promising area is the Smackover Formation, a relic of an ancient sea extending between Texas and Florida.

According to the US Geological Survey, this limestone geologic unit may contain between five and 19 million tonnes of lithium. If recoverable, it could dwarf the entire global output, which reached 240,000 t last year.

The mineral can be sourced from the brine through a process called direct lithium extraction (DLE). The brine is first extracted from the ground, then cleaned to remove impurities, and finally refined to isolate the lithium, which is then turned into battery-grade product. The brine, meanwhile, is reinjected into the same area.

The Smackover Formation largely contains legacy fields, currently producing marginal quantities of oil, if any at all. Yet, infrastructure such as oil wells, transport links and pipelines is already there, alongside a significant talent pool and sources of chemical reagents, creating an advantage in setting up a lithium ecosystem.

According to Yale Environment 360, even though the Smackover Formation is well-suited for DLE, its potential impacts have not been closely studied in Arkansas. There are concerns that it may require more water than estimated or pollute the surrounding environment with heavy metals.

One of the most advanced projects is being developed by Smackover Lithium, a 45%-55% joint venture between Norwegian energy group Equinor and Canadian mineral company Standard Lithium. The South West Arkansas (SWA) project, located in Lafayette and Columbia counties, is due to reach a final investment decision this year.

The JV expects to start producing in 2027 and reach commercial operations in 2028, targeting a total capacity of 45,000 t/year, in two phases of 22,500 t/y each. UK-based Koch Technology Solutions is providing its lithium selective sorption technology for the project.

Smackover Lithium is also exploring a prospect in East Texas, which it claims holds North America's highest-ever reported lithium brine grade of 806 milligrams per litre, with a maiden resource study earmarked for 2025. In comparison, SWA has an average lithium brine resource of 437 mg/L.

The development comes at a time of heightened appetite for domestic sources of critical minerals in the US, as currently most of the supply chain for both mining and processing is under Chinese control. Washington is incentivising projects via speedier permits, financial support, and potential tariffs on imports of high-demand metals, such as copper.

Indeed, the government has awarded SWA a $225m grant and placed it on a list to fast-track permitting. Morten Halleraker, senior vice president of new business & investments at Equinor, says that the JV has not yet finalised offtake agreements, but has received "significant interest."

The Norwegian group is not alone. Several of its competitors, such as ExxonMobil, Occidental and, most recently, Chevron, are jumping on the bandwagon.

"They see the lithium extraction is coming down the line as a potential resource for EV development," Brent Elliott, economic geologist at the University of Texas at Austin, tells Kallanish. "They want to make sure they're positioned to take advantage of that, in the case of oil and gas declining in the future."

Rather than partnering with a lithium company, Exxon is developing its own capabilities. The US oil giant has an ambition to produce enough lithium to cover the production of one million EVs a year by 2035, and has already signed two separate offtake MOUs to supply the US operations of South Korean manufacturers LG Chem and SK On.

The group started drilling in Arkansas in 2023 and later set up a pilot plant, which is its first-ever lithium operation. It is not clear when FID may be achieved, although Exxon said last November it would depend on "various factors including the establishment of commercially competitive regulatory frameworks."

Houston-based oil and gas giant Occidental is also developing its own technologies through the TerraLithium arm, but they are not being applied to fossil fuel production. Last year, it joined forces with BHE Renewables to deploy its DLE technology at BHE Renewables' Imperial Valley facility, in California, and process the brine byproduct of geothermal energy generation.

The complex includes 10 geothermal power plants that process 50,000 gallons of lithium-rich brine per minute to produce 345 megawatts of clean energy. If the feasibility project is successful, BHE Renewables will build, own and operate commercial lithium production facilities in the area.

Oil majors turn to lithium in diversification push

Meanwhile, US group Chevron has entered the lithium sector by acquiring properties being explored by specialist companies. Earlier this month, it signed an agreement with TerraVolta Resources and East Texas Natural Resources to snap up 125,000 net acres across Northeast Texas and Southwest Arkansas, part of the Smackover Formation.

The oil and gas producer said it plans to establish "a commercial-scale, domestic lithium business," but has not disclosed further details. However, having full ownership of the land may help Chevron avoid legal trouble around royalties.

Indeed, one of the key hurdles the industry is facing is the lack of regulation around generating revenue from waste streams, as they pose the question of who owns the lithium. The brine is considered a waste material, which normally would be disposed of via waste management companies.

"If you're the landowner and you own the subsurface and the surface, then you don't have to worry about that, which is why I think a lot of these companies are buying now," Elliott adds. "That way, they're positioned to not even have to deal with legalities of the potential royalty issue."

Last month, the Arkansas Oil and Gas Commission approved for the first time a royalty rate for lithium extracted from brine, setting a precedent for companies operating in the state. Smackover Lithium's proposal to pay a 2.5% royalty for lithium extracted in Phase 1 of the SWA project was unanimously approved.

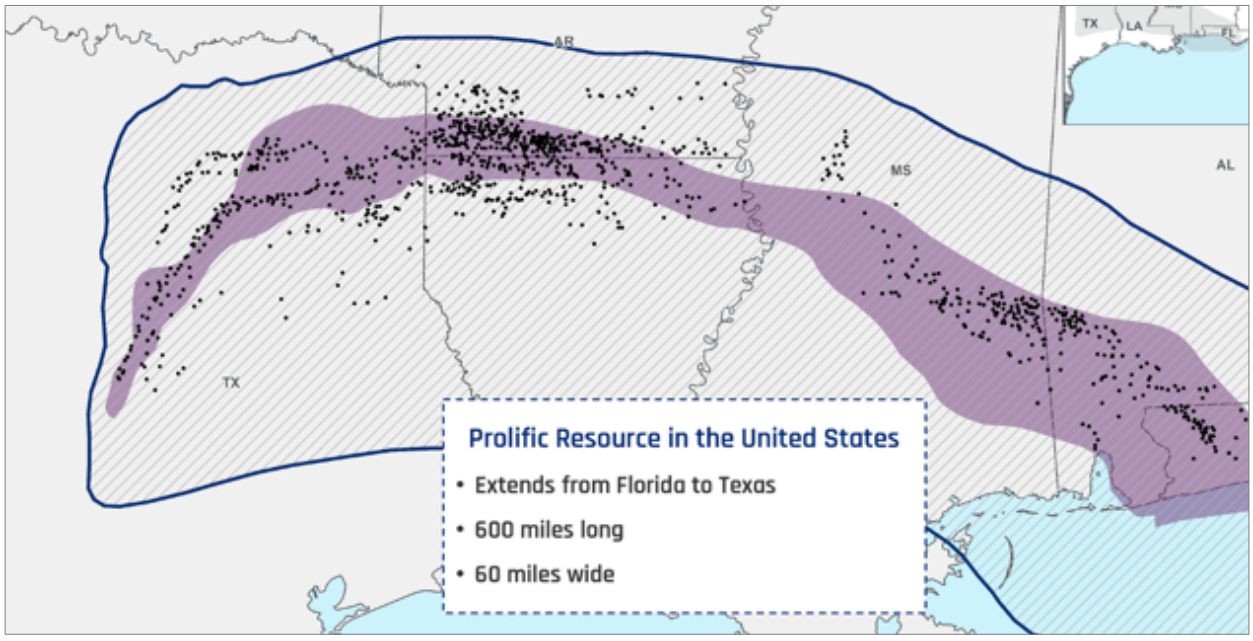
Meanwhile, Texas is working on regulations. Its Senate has proposed to amend the state's Natural Resources Code and Water Code to clarify what constitutes, and who rightfully owns, brine minerals. Earlier this year, the Texas Railroad Commission, which is the state's oil and gas regulator, adopted a new rule to outline requirements for brine projects and wells, but excluded projects harvesting lithium from produced water.

Another issue for lithium developers, whether working with brine or hard rock, is the depressed commodity prices, which have plummeted from $38,500/t to $8,500/t in just two years due to oversupply from China and a slowdown in EV demand. Halleraker admits that "it's hard to ignore the spot prices," which are not impacting the project directly, but are weighing on offtake conversations.

Yet, the potential is there, notes Elliot, and more development is likely to be seen in the next few years.

"As long as they can do it and make money on it, then I can see those businesses continue to develop, especially the big oil and gas players," he concludes. "If they see oil and gas declining in the future, whether it's socially driven or economically driven, establishing a position within the lithium space… is in their best interest."

SMACKOVER FORMATION'S WELLS MAP



SOURCE: ARKANSAS OIL AND GAS COMMISSION

Evidence, not hype, should drive natural H2 assessments: Royal Society

By: Reethu Ravi, UK

In recent years, naturally occurring hydrogen has fuelled – pun intended – much hype and speculation as a potential game changer in the clean energy sector.

Formed through chemical reactions in the Earth's crust, this geological hydrogen, which is also known as white or gold hydrogen, has two main promises: it could be cheaper and have a lower carbon footprint than other hydrogen sources. Add to this claims of a potentially unlimited supply, and, unsurprisingly, many companies are now prospecting for it across the globe.

However, while natural hydrogen could be a "viable low-carbon resource," the claims of an "unlimited, renewable supply are unfounded," with many fundamental questions remaining unanswered, warns a new report from the Royal Society.

It is early days for the investigation into natural hydrogen's commercial viability, argues Barbara Sherwood Lollar, professor of earth sciences at the University of Toronto and the lead author of the report.

"At this point, there's several major parameters that are being researched by scientists all over the world to understand the depth and accessibility, to estimate the volume of hydrogen that may accumulate, and in particular, to understand the purity of hydrogen that may be available in these deposits," the professor explains.

Companies like Gold Hydrogen have found natural hydrogen underground at purity levels of up to 95.8%. One of the leading natural hydrogen explorers in Australia, the firm claims white hydrogen production could cost as little as AUD 1/Kg.

There is currently not enough public data to accurately estimate how much natural hydrogen is stored underground in specific locations. However, scientists have been calculating global hydrogen flux – how much hydrogen is naturally released from the Earth – to understand the amount of natural hydrogen that might be available as a useful resource.

"Published data does not support the likely existence of an endless supply of natural hydrogen transiting from deep mantle sources and accumulating in accessible near surface reservoirs amenable for economic exploitation," the report points out.

Current estimates of how much hydrogen may be generated in the crust are under 1.74 million tonnes/year, much lower than recent model-based estimates, it adds.

In one study released last year, geologists with the US Geological Survey used a stochastic model to estimate that between 1 billion and 10 quadrillion tonnes of natural hydrogen may be stored in the Earth's subsurface.

That said, these estimates are still significant and could be a "game changer," the Royal Society says.

"The calculations in terms of theoretical yield of hydrogen tell us that even if a small amount of this can be harnessed for commercial use, this may be part of our solution to achieve net zero, to achieve a green energy transition, and to address the ever-pressing necessities enforced upon us by climate change," Lollar highlights.

Comparing the current natural hydrogen exploration to the "shale boom," Gold Hydrogen managing director, Neil McDonald, tells Kallanish that "natural hydrogen is another booming energy supply that people hadn't thought about before, but now they're well and truly at the forefront for future exploration and development worldwide."

But here's the main problem: despite the potential and staggering volume estimates, large-scale natural hydrogen extraction is yet to be done. So far, the Bourakébougou village in Mali is the only place in the world where naturally occurring hydrogen is being commercially extracted. Canada-based Hydroma, the project's developer, claims to be producing hydrogen at an estimated cost of $0.5/kg.

As natural hydrogen is yet to be produced and sold in quantity, however, its "true cost" remains to be proven, the report cautions. In essence, natural hydrogen at higher purities and volumes should be able to compete with grey hydrogen for cost and with green hydrogen for emissions. Ultimately, the cost would depend on parameters such as the productivity of the field, the number and depth of the wells in the field, the existing infrastructure, and the proximity to end users.

Explorers like Gold Hydrogen claim that natural hydrogen production has a minimal environmental footprint. "Our footprint is extremely small, as opposed to man-made hydrogen or mining of other energy sources," McDonald says. "If this can all work, it will be a massive world game changer for the whole industry and world to provide natural hydrogen with no emissions from a tiny environmental footprint."

While natural hydrogen poses no more environmental hazards than hydrogen produced from other methods, its extraction will still have different impacts on the environment, the scientific body argues. At the same time, most of the chemical reactions that form hydrogen in the subsurface also produce gases like CO2, methane, helium, and nitrogen. Therefore, to be

Evidence, not hype, should drive natural H2 assessments: Royal Society

considered a “truly low-carbon” energy source, natural hydrogen will require the removal and sequestration of these contaminant greenhouse gases, which will add further challenges and costs to the extraction process.

Currently, the Royal Society estimates there to be over 20 hydrogen exploration projects and reports of hydrogen discoveries across the world, including in France, Australia, the US, Canada, Brazil, and South Africa. While many locations have the potential for white hydrogen, more research and exploration are required to determine the extent and location of commercially viable fields.

“Thorough evaluation and testing will be needed to ensure genuine hydrogen reserves are accurately identified and not confused with small quantities of hydrogen produced by microbes in near-surface environments,” it adds.

To be commercially viable, the UK-based scientific body says producers must show they can deliver enough hydrogen, at the right purity and from proven reserves.

McDonald believes his company can prove it. “Once we or some other operators can provide what we believe we can and prove it, there will be a very quick world transformation to focus more on natural hydrogen.”

But getting there is a journey fraught with challenges.

For one, the scientific body highlights a lack of supporting legislation and regulatory frameworks as a barrier to exploring for natural hydrogen. In the UK, for instance, there has been no nationwide assessment of natural hydrogen potential, despite promising geological formations in Scotland and Cornwall.

Some countries and regions, such as South Australia, France, and many Canadian provinces, now allow companies to apply for dedicated exploration licenses. However, simplifying permitting and licensing processes will be crucial to accelerate exploration efforts, the report says. Building public trust and engagement to ensure companies can secure a social licence to operate will also be key.

At the same time, because of the industry’s infancy stage, it has received relatively little funding. For the industry to scale, “significantly greater” public and private funding will be needed.

“Co-ordinated research and exploration to discover how much exists underground, where it can be found, and how it can be safely extracted will also be crucial to understanding the role natural hydrogen could play in a low-carbon future,” the report adds.

Ultimately, with further research, investment and supportive policies for exploration and extraction, natural hydrogen could become an important clean energy source, the report concludes.

Yet, professor Lollar reiterates: “This is not a gold rush. As interest grows, we need to make sure evidence stays at the centre of the conversation. We need solid science, good data, and a realistic view of what’s possible to make sure the hype doesn’t run away with itself.”

PUBLISHED HYDROGEN CONCENTRATIONS IN THE CONTINENTAL CRUST (EXPRESSED AS % OF EXSOLVED GAS PHASE)

SOURCE: THE ROYAL SOCIETY

Company Spotlight

NEOM GREEN HYDROGEN COMPANY

NEOM Green Hydrogen Company (NGHC) is an equal joint venture between Saudi Arabia's ACWA Power, the planned city of Neom, and US industrial gases company Air Products. Its main purpose is to build a megacomplex in Saudi Arabia to produce green ammonia destined for export, although it is rumoured that the focus is being shifted to domestic consumers as global off-takers could not be secured. Currently, Air Products holds an exclusive 30-year offtake agreement for the entire output of the facility.

Powered by 4 gigawatts of solar and wind energy, its planned capacity will be 600 tonnes/day of green hydrogen and 1.2 million t/year of green ammonia. Earlier this month, the JV announced that construction was 80% complete and on track to produce first ammonia in 2027. Once fully operational, the plant will support 300 direct jobs.

The complex reached a final investment decision in May 2023, with costs estimated at $8.4 billion, from $5 billion previously. The financing includes $6.1 billion non-recourse loan from 23 local, regional, and international banks and financial institutions.

NGHC is one of the key projects of Saudi Arabia's Vision 2030, an initiative to diversify the kingdom's economy from oil and gas. Located in the northwestern part of the country, it is part of Oxagon, a purpose-built industrial hub on the Red Sea coast near global shipping lanes. The district is part of the wider city of Neom, a special economic zone which includes a 170-kilometre-long residential strip that will be entirely powered by renewables. Neom is supported by a $500 billion investment by Saudi Arabia's sovereign wealth fund, the Public Investment Fund.

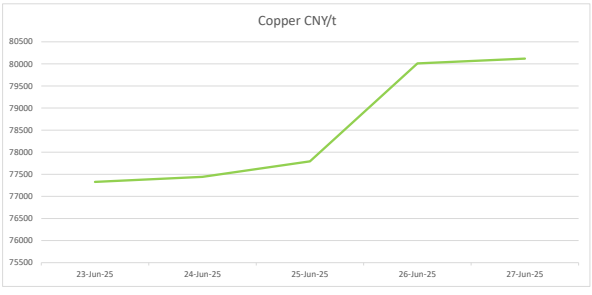
Fast Facts

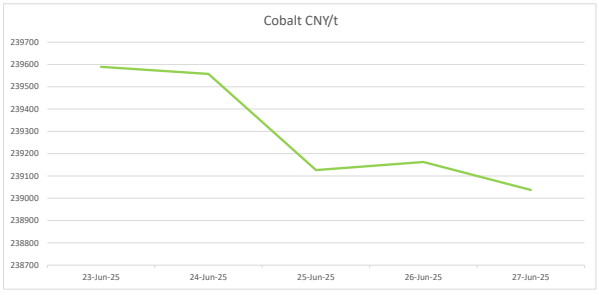
CEO	Wesam Y. Alghamdi
Founded	2021
HQ	Tabuk, Saudi Arabia
Area of business	Green Hydrogen

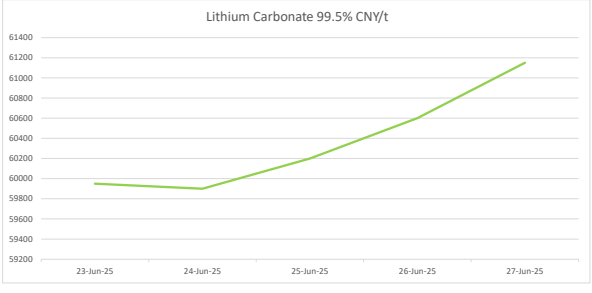
FROM THE PRICE DESK

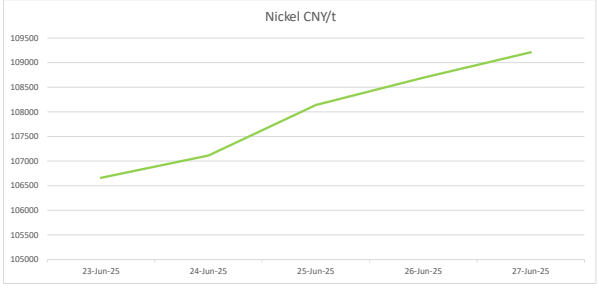
WEEKLY AVERAGE PRICE DISPLAYED | VIEW ALL PRICES ONLINE

Type	Product	w/c 23/06/2025	w/c 16/06/2025		Δ %
Base Metals	Aluminum USD/t	2585.62	2538.97	▲	1.84%
Base Metals	Copper USD/t	10940.92	10614.86	▲	3.07%
Base Metals	Lead USD/t	2031.90	1994.72	▲	1.86%
Base Metals	Nickel USD/t	15040.00	15039.00	▲	0.01%
Base Metals	Tin USD/t	32988.50	32385.80	▲	1.86%
Base Metals	Zinc USD/t	2729.09	2645.44	▲	3.16%
Minor Metals	Cobalt USD/t	33335.00	33335.00	-	0.00%
Minor Metals	Lithium Carbonate 99.5% CNY/t	60360.00	60450.00	▼	-0.15%
Minor Metals	Manganese Ore 32% (20% FE) CNY/dmtu	29.35	29.35	-	0.00%
Minor Metals	Molybdenum USD/kg	63.51	66.26	▼	-4.14%
Power	Brent USD/Bbl	68.13	76.13	▼	-10.51%
Power	Coal USD/t	106.76	106.54	▲	0.21%
Power	Crude Oil USD/Bbl	65.70	74.33	▼	-11.61%
Power	France Electricity Spot Price (EUR/MWh)	64.40	66.90	▼	-3.73%
Power	Germany Electricity Spot Price (EUR/MWh)	66.19	64.89	▲	2.00%
Power	Italy Electricity Spot Price (EUR/MWh)	128.88	121.73	▲	5.88%
Power	Natural Gas USD/MMBtu	3.57	3.91	▼	-8.84%
Power	Spain Electricity Spot Price (EUR/MWh)	94.99	96.51	▼	-1.58%
Power	UK Electricity Spot Price (GBP/MWh)	74.61	82.02	▼	-9.03%
Precious Metals	Gold USD/t.oz	3319.74	3378.63	▼	-1.74%
Precious Metals	Palladium USD/t.oz	1094.90	1039.50	▲	5.33%
Precious Metals	Platinum USD/t.oz	1338.86	1272.30	▲	5.23%
Precious Metals	Silver USD/t.oz	36.16	36.51	▼	-0.98%
Rare Earth	Neodymium CNY/t	549500.00	549500.00	-	0.00%
Rare Earth	Rhodium USD/t.oz	5445.00	5485.00	▼	-0.73%





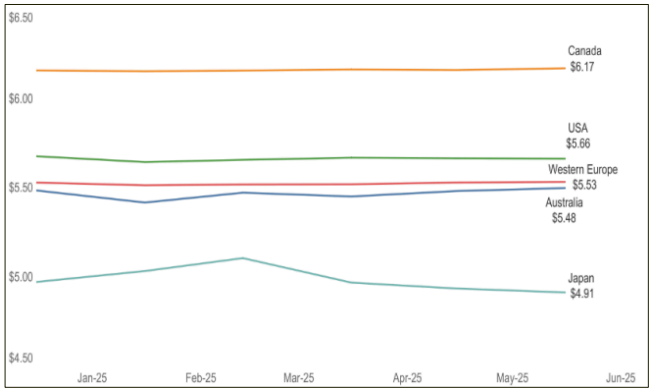




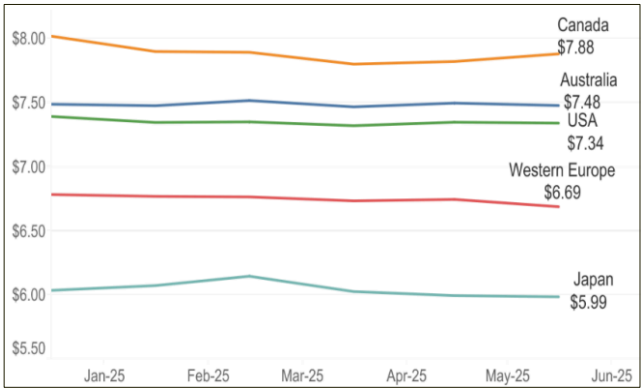
KIS HYDROGEN PRICES

KIS HYDROGEN PRODUCTION INDICES BY TECHNOLOGY AND REGION (US$/KG) | VIEW MORE KIS PRICES & DATA

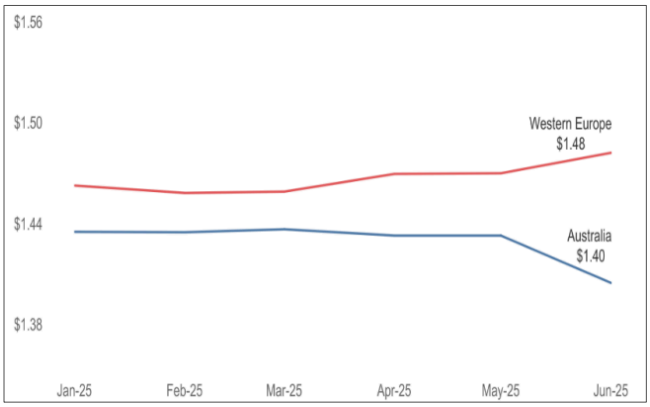
GREEN HYDROGEN: ALKALINE ELECTROLYSIS



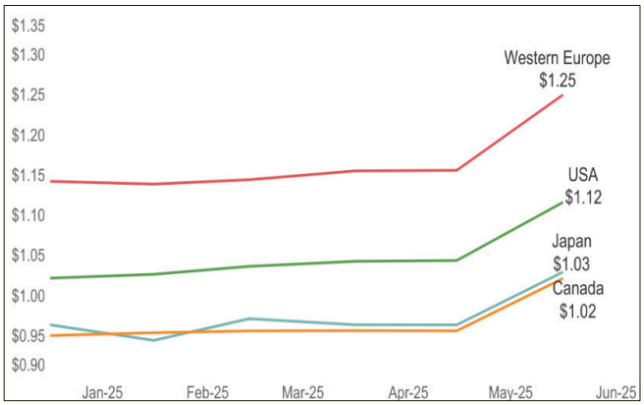
GREEN HYDROGEN: PEM ELECTROLYSIS



BLUE HYDROGEN: SMR WITH CCS



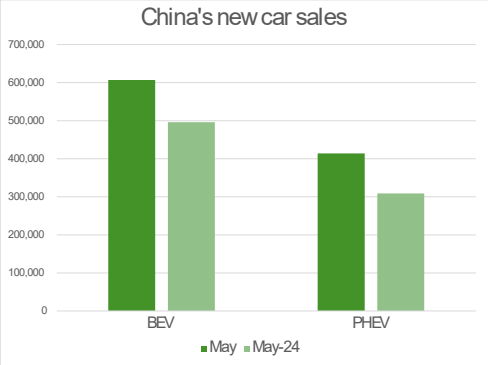
GREY HYDROGEN: SMR WITHOUT CCS



SOURCE: KALLANISH INDEX SERVICES (KIS)

EV SALES

	Battery Electric			Plug-In Hybrid			Hybrid Electric		
	May 25	yoy % Δ	mom % Δ	May 25	yoy % Δ	mom % Δ	May 25	yoy % Δ	mom % Δ
China	607,000	22.40%	8.60%	414,000	34.00%	19.7%	-	-	-
Germany	43,060	44.94%	-5.44%	25,181	79.38%	3.55%	66,990	16.68%	-0.6%
France	19,414	-18.85%	-23.99%	8,180	-19.83%	-14.73%	54,553	115.1%	-64.2%
UK	32,738	25.8%	33.3%	17,898	50.8%	27.2%	20,351	6.8%	22.7%
Italy	7,118	40.8%	7.2%	8,736	94.4%	11.7%	60,619	8.7%	1.0%
Spain	9,168	102.6%	30.9%	12,901	170.0%	40.9%	-	-	-

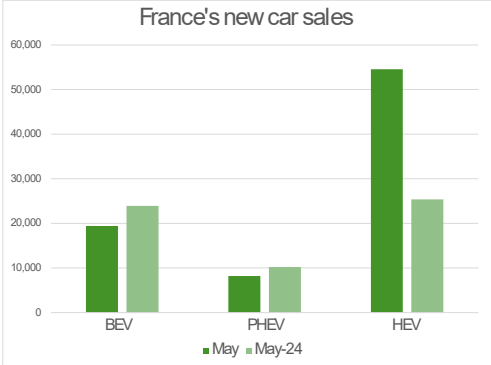


Chinese EV sales remained firm in May, with new BEV retail sales increasing by 22% and PHEVs by 34% on-year. With over 1 million EVs sold, market penetration reached 52.9%. Demand has been supported by some government subsidies including a trade-in scheme for scrapping older ICE or EVs. The BYD-led price war continues to support demand growth at the expense of OEM profitability.

SOURCE: CPCA

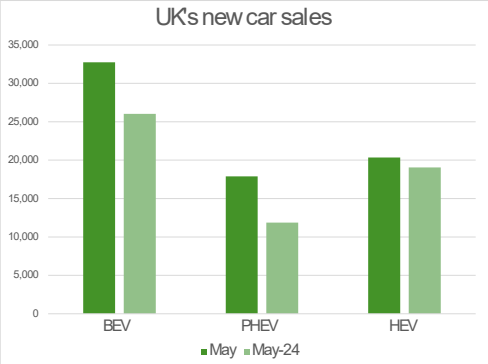
Germany continues leading the European EV market, registering an annual growth of 45% for BEV sales, and 80% for PHEV. Hybrid adoption increased 17% to nearly 67,000 units. Volkswagen had two models leading BEV and PHEV sales, but BYD's advance continues after an 824% y-o-y increase in May. Tesla, which operates an EV plant in the country, saw sales drop 36.2% on-year to 1,210 units.

SOURCE: KBA



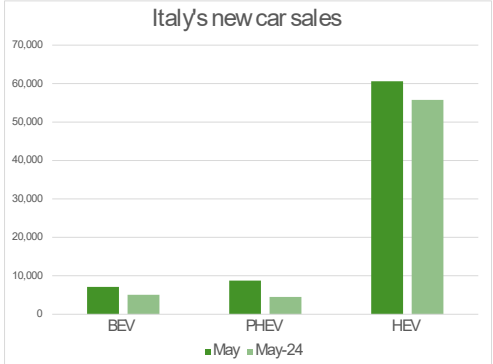
In contrast to other major auto markets in Europe, France saw its BEV and PHEV sales contract roughly 19% on-year in May. Demand for hybrid cars, however, surged 115% to 54,553 units and a market share of 44%. In comparison, BEVs and PHEVs accounted for 15.7% and 6.6%, respectively.

SOURCE: PFA



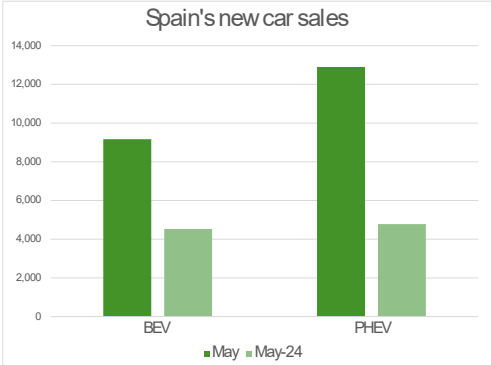
UK EV sales returned to growth in May after contracting in April, as carmakers' discounting boosted demand. New BEV registrations rose 25.8% y-o-y to 32,738 units and a market share of 21.8%. PHEV sales surged 50.8% to 17,898 units and a 11.9% share, while HEV registrations were up 6.8% to 20,451 units. Together, EVs took 47.3% of May car sales.

SOURCE: SMMT



Despite a challenging automotive market, EV adoption keeps increasing, with BEV registrations rising nearly 41% y-o-y. PHEV sales rose by 94% in the period, but HEVs continue to be the undisputed EV of choice in Italy with 55,761 units sold in May. Rome is finalising an incentive package worth €600m to replace 39,000 ICE vehicles.

SOURCE: ANFIA



Spain's new EV sales continue their upward trend, with registrations more than doubling in May to 9,168 BEVs and 12,901 PHEVs. The surge is primarily attributed to measures such as energy saving certificates, which offer discounts on the purchase price. Together, the powertrains accounted for 19.5% of all car sales in May.

SOURCE: AEDIVE, GANVAM

HYDROGEN: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

UK to double clean energy investment by 2035
The UK government launched its long-awaited industrial strategy, pledging to at least double clean energy investment to over £30 billion ($40.1 billion) annually by 2035.

The 10-year strategy focuses on eight key sectors: advanced manufacturing, clean energy, creative industries, defence, digital and technologies, financial services, life sciences, and professional and business services.

Energy secretary Ed Miliband says the government is "doubling down on Britain's clean power strengths" to deliver jobs, energy security, and lower household bills. "The UK's pitch is clear – build it in Britain. Power the world," he points out.

In the accompanying Clean Energy Industries Sector Plan document, the government estimates that the export market for UK manufacturers of blue and green hydrogen equipment could reach up to £2.2 billion by 2030, potentially expanding to up to £9.8 billion by 2050.

To boost the hydrogen sector, the document outlines several measures, though details remain thin. For one, London will commit an additional £700 million to Great British Energy (GBE) to build manufacturing facilities for key clean power technology components, including hydrogen infrastructure.

Through the National Wealth Fund (NWF), the government plans to invest at least £5.8 billion in sectors including low-carbon hydrogen, carbon capture, gigafactories, and green steel, according to the document seen by Kallanish.

At the same time, the government is considering expanding the Clean Industry Bonus (CIB) – a contract for difference scheme currently supporting offshore wind developers – to hydrogen.

The government also plans to confirm the winners of the second Hydrogen Allocation Round (HAR2) by early 2026. Some 27 projects were shortlisted for the scheme early this year.

HAR3 is expected to be launched by next year, followed by HAR4 from 2028. However, only some winners of HAR1 have been awarded the contracts, despite the winners being announced in December 2023.

Clare Jackson, ceo of trade body Hydrogen UK, says the strategies are "welcome, positive steps forward" in enabling the UK to "lead the world in hydrogen."

"The Clean Energy Industries Sector Plan in particular acknowledges hydrogen's economic and export potential, and we look forward to working with the government as it puts these strategies into practice," the executive adds.

Meanwhile, Emma Guthrie, ceo of the Hydrogen Energy Association (HEA), welcomes what she called "the clear recognition of hydrogen as a central pillar in the UK's clean industrial future."

"The commitment to a dedicated hydrogen sector plan…provides the clarity and direction that hydrogen investors, innovators and infrastructure providers urgently need," Guthrie highlights. "The extension of the Clean Industry Bonus to hydrogen is a particularly positive step, signalling that government recognises the role hydrogen can play in decarbonising heavy industry and strengthening energy resilience."

German state raises green H2 subsidies amid funding cuts
The German state of Saxony-Anhalt has announced €87 million ($102m) in new green hydrogen subsidies, targeting the central German mining area.

The state's energy ministry launched two separate funding calls, with funds made available from the European Just Transition Fund (JTF). The first, "Green Hydrogen: Electrolysers" funding pot, has earmarked €58m to support the installation of electrolysers and hydrogen storage facilities at power plants and former open-cast coal mines in the central German region.

It will focus on companies "that want to use green hydrogen in key energy-intensive industries such as the chemical industry," the ministry says in a statement seen by Kallanish. While companies could previously get up to a maximum of €650,000 per megawatt (MW) of capacity for the construction of an electrolyser, this has now been increased to €2m.

The second €29m "Saxony-Anhalt Future Energies/Green Hydrogen" funding call targets facilities producing, storing, transporting, and distributing green hydrogen. Both the construction of new hydrogen pipelines and the repurposing of existing natural gas pipelines are also eligible. The maximum eligible funding under this has been increased from €450,000/MW of capacity to €2m.

"Due primarily to a lack of economic viability, companies are putting projects on hold or cancelling them altogether," comments energy minister Armin Willingmann. "Therefore, we are now stepping up our support options. Our goal is to use EU funds to make the Central German region future-proof as an industrial location."

Companies have until 7 August to submit funding applications.

The announcement comes as the new German government last week slashed hydrogen funding in the draft federal budget, from the previously allocated €3.75 billion to €1.28 billion. Kerstin Andreae, head of the industry association BDEW, said the draft "sends a totally wrong signal" for promoting the ramp-up of hydrogen.

"These drastic cuts in funding for hydrogen projects are damaging industry and the competitiveness of the industrial location," Andreae added.

Currently, Berlin targets 10 gigawatts (GW) of installed electrolyser capacity by 2030.

HYDROGEN: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

Energy Fuels' Australian rare earth JV secures regulatory approval
US uranium producer Energy Fuels has secured final regulatory clearance to develop the Donald rare earth elements (REE) and mineral sand project in Victoria, Australia.

The project is a joint venture between Energy Fuels and Australia-based mineral sands miner Astron Corp. The former has the right to earn up to a 49% interest in the project by investing a total of AUD 183 million ($119m) and issuing $17.5m worth of shares, Kallanish notes.

The Donald project is expected to provide Energy Fuels with a "low-cost and long-term" allied supply of monazite- and xenotime-bearing rare earth elements mineral concentrate (REEC). Monazite and xenotime are both phosphate minerals that are important sources of rare earths.

The company plans to ship the concentrate to the US, where it will be processed into light, medium and heavy rare earth oxides at its flagship White Mesa mill in Utah.

"The work plan approval for the Donald project is significant as it moves us one step closer to creating an important link between the United States and Australia on rare earths and critical minerals," comments Energy Fuels ceo Mark Chalmers.

The approval is the final major regulatory approval required to construct and operate the project before a final investment decision (FID) can be made. The FID could be taken by the end of 2025, the company says, adding it could be "significantly accelerated" with US and/or Australian government support.

Phase 1 of the Donald Project is expected to feed the White Mesa mill with around 7,000-8,000 tonnes/year of REEC, starting as early as 2026. The phase 2 expansion could see REEC production increase to around 13,000-14,000 t/y.

The company says the increased production at Donald would provide the mill with "a consistent and significant source of REE feedstock" for decades to come. The mill has a production capacity of 1,000 t/y of neodymium-praseodymium (NdPr) oxide, which will be expanded to 6,000 t/y.

TES, CPC Finland plan 500-MW Finnish green H2, e-methane plant
Green energy company Tree Energy Solutions (TES) has partnered with Finnish renewables developer CPC Finland to build a 500-megawatt (MW) green hydrogen and e-methane plant in Finland.

Kallanish understands the plant will be developed by a new joint venture between the partners called Luoto Energia. The 20-hectare project will be located at the port of Rauma. It is expected to produce around 60,000 tonnes/year of green hydrogen that could be converted into over 125,000 t/y of e-methane, the Brussels-based company says.

E-methane, produced by combining green hydrogen with biogenic CO_2, qualifies as a renewable fuel of non-biological origin (RNFBO) under EU rules. TES and CPC say they will source the biogenic CO_2 from undisclosed Finnish biogenic "emitters."

The companies plan to liquify and ship the e-methane produced at the plant to both European and international customers. It is expected to "support the decarbonisation of the maritime and industrial sectors where direct electrification is not suitable," TES says.

"Launching this landmark project in Finland is a major milestone in the energy transition, enabling us to deliver e-NG [e-natural gas] to the European market, strengthening its energy independence and accelerating the green transition using existing infrastructure," comments Marco Alverà, TES's co-founder and ceo. "As a drop-in fuel, e-NG can be used to decarbonise sectors such as steel, shipping and heavy transport."

The joint venture has already commenced initial permitting work and will continue with technical planning to enter pre-FEED (front-end engineering design) in 2026. A final investment decision is planned for 2028.

John Cockerill Hydrogen raises €116m to drive global expansion
Belgian electrolyser maker John Cockerill Hydrogen (JCH) has completed a €116 million ($135.7m) capital raise to support its international expansion, Kallanish learns.

Existing investors, including Belgium's sovereign wealth fund SFPIM, Wallonia region's investment arm Wallonie Entreprendre (WE), John Cockerill Group, engineering firm SLB, and Rèly – the joint venture between Technip Energies and John Cockerill – participated in the funding round.

Belgian gas transmission system operator Fluxys joined as a new investor, acquiring an undisclosed stake in JCH. The exact individual investments during the round were also not disclosed.

A subsidiary of the John Cockerill Group, JCH last year raised €230m to accelerate the deployment of its electrolysers. The company currently manufactures pressurised alkaline electrolysers in France, Belgium, and China. It's building a 1-gigawatt (GW) alkaline electrolyser gigafactory in the Baytown area outside of Houston, US, expected to be operational by 2026. In addition, the company has partnered with Indian green hydrogen developer AM Green to set up a 2-GW electrolyser manufacturing plant in Kakinada.

"Numerous reports from recognised institutions confirm the potential of pressurised alkaline electrolysers as a proven technology for large-scale, cost-effective production of green hydrogen from low-carbon energy sources, offering a substitute for traditional grey hydrogen produced from fossil fuels," comments John Cockerill ceo François Michel.

The fundraising demonstrates the strength of the company's "strategic plan and reinforces our ambition to remain at the forefront of this growing global sector," the executive adds.

The investment follows reports earlier this month that John Cockerill was seeking to raise €80-100m to "rescue" its hydrogen division. The company was also allegedly considering potential asset sales worth around €10m, Belgian newspaper L'Echo reported. John Cockerill, however, denied the reports at the time.

HYDROGEN: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

Guofu to construct hydrogen refuelling station in Brazil
Chinese hydrogen equipment and solution provider Jiangsu Guofu Hydrogen Energy will construct a hydrogen refuelling station in Brazil, Kallanish learns.

Under a cooperation agreement with the Sorocaba local government, Guofu will build a hydrogen refuelling station in the city's technological park. The containerised design will have a production capacity of 100-200 cubic metres/hour (Nm^3/h), and be compatible with 35 megapascal (MPa) and 70 MPa pressure standards.

The project seeks to provide efficient hydrogen refuelling services for urban logistics and regional fuel cell vehicles within the park. The integrated station will be digitally monitored in real-time.

Guofu says it will also "conduct special research on the continuity of electrolysis system operation, solve the problem of equipment localisation through technical adaptation, provide solid guarantees for the stable operation of hydrogen refuelling stations." Further details, however, were not provided.

"This cooperation is not only an important milestone in Guofu's internationalisation process, but is also expected to inject new impetus into the development of green transportation in Brazil", the company adds.

Guofu has previously announced plans to deploy 1 gigawatt (GW) of electrolyser manufacturing capacity by 2030.

Earlier this month, Guofu's Australian joint venture GFJ H2 signed an MOU with Spring River seeking hydrogen application in the Australian mining sector through a demonstration project. GFJ H2 will provide an off-grid, fully-intelligent AI unmanned operating system that integrates solar power generation, electrolytic hydrogen production, an energy storage system, and fuel cell power generation. This will make full use of abundant local solar and wind energy resources to produce green hydrogen and provide a stable supply of electricity to the mining area.

Equipment from the Chinese manufacturer will also be deployed in India, following a $5 million purchase contract with Advait Energy Transitions. The deal, announced in April, will cover the supply of alkaline electrolyser equipment and core components to support a new green hydrogen production demonstration project. Advait secured government subsidies to build 300 megawatts of electrolysis capacity.

On 24 June, the Sorocaba Technological Park (PTS) said it had received representatives of a Chinese firm planning to invest BRL 2 billion ($359.7 million) in the park. Without disclosing the company name, PTS said the Hong Kong-based company is a global leader in its field with a presence in over 140 countries. It has 13 production bases in China and international units in Malaysia, Indonesia and the UAE. It's unclear whether this announcement is related to Guofu or green hydrogen.

SunHydrogen, University of Texas to pilot solar H2 panels
US company SunHydrogen and the University of Texas at Austin have partnered to launch a proof-of-concept hydrogen system using solar panels.

The pilot will be installed, commissioned, and operated by SunHydrogen, which will deploy its proprietary photoelectrochemical (PEC) hydrogen production technology. The process uses so-called photoelectrosynthetically active heterostructures (PAHs) to enable a solar electrolysis reaction, which the company says is similar to what happens inside a plant cell during photosynthesis.

The PAHs split apart water at the molecular level, obtaining hydrogen and oxygen, which is the only byproduct, according to SunHydrogen. Each of its "solar hydrogen panels" contains billions of PAHs and the company says that the panels can be mass-produced and implemented in localised settings or as high-production farms.

Kallanish understands that the University of Texas will host the first large-scale, multi-panel hydrogen production system at its Hydrogen ProtoHub research facility. The pilot will comprise 16 PEC reactor units, totalling more than 30 square metres of active area, and will operate for six months.

"This pilot takes us from lab validation to system-level testing in real-world conditions," says Syed Mubeen, chief technology officer at SunHydrogen. "Working with [the university] ensures we execute this scale-up with precision, safety, and engineering rigour.

Norwegian trio plans 20-MW green hydrogen plant
Norwegian Hydrogen, Sigma Hydrogen, and Karmsund Group have announced a 20-megawatt (MW) green hydrogen project in Karmsund, Norway, targeting local industry.

A new joint venture between the partners, called Karmsund Hydrogen, will work with Hydepoint to build the plant at Karmsund's Haugalandet facility. The project is expected to produce over 3,000 tonnes/year of green hydrogen, with first production anticipated in 2028.

It will use Hydepoint's offshore hydrogen production technology, which integrates a barge-based system with onshore infrastructure for modular hydrogen production. Hydepoint says its platform can be deployed on both floating and fixed wind farms.

Additionally, Hydepoint and Norwegian Hydrogen are exploring the development of 10-40 MW dockside and near-shore green hydrogen projects as part of a partnership announced last year, Kallanish notes. The partnership ultimately aims to develop large-scale offshore hydrogen production integrated with offshore wind farms.

"We aim to deliver a standardised, modular, and scalable solution that supports decarbonisation where it matters, close to the use," says Hydepoint ceo, Elin Steinsland.

The project partners say they are already in active discussions with industrial and maritime customers for potential offtake. However, no firm commitments seem to have been reached.

HYDROGEN: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

In its second auction, the European Hydrogen Bank dedicated €200 million to hydrogen producers with offtakers in the maritime sector. However, only €96.7m was awarded to three winners, all of which were in Norway. The 18.75-MW Rjukan project, by Norwegian Hydrogen,was among the winners.

Shuangliang secures new alkaline electrolyser contract
China's Shuangliang Eco-Energy Systems says it has secured a CNY 450 million ($62.75 m) contract to supply a green hydrogen production system to a compatriot, Kallanish learns.

Jiangsu Shuangliang New Energy Equipment will deliver the production system to Hongyang New Energy Development Group Jilin, for its project integrating photovoltaic-powered hydrogen storage in the form of ammonia and methanol.

With a production capacity of 72,000 cubic metres/hour (Nm^3/h), the project is planned to produce 36,000 tonnes/year of green hydrogen at Fuhai county, in China's Xinjiang Uygur Autonomous Region. It will feature three alkaline electrolysers with capacities of 5,000 Nm^3/h, 3,000 Nm^3/h and 2,000 Nm^3/h alkaline electrolysers.

Shuangliang claims the electrolysers' production capabilities are at "industry-leading levels." Further details including a delivery timeline were not disclosed.

In January, Shuangliang entered a partnership with Indian renewable energy firm ACME Group to provide green hydrogen production equipment for a major green hydrogen and ammonia project in Oman.

The Chinese manufacturer has launched what it calls the world's largest alkaline hydrogen electrolyser, achieving the highest hydrogen production capacity of 5,000 Nm^3/h in 23 October 2024.

H2 blending needs to be part of the policy approach: Cadent Gas executive
Cadent Gas's chief strategy and regulation officer has reiterated the role of hydrogen blending in the UK's energy mix, despite some industry experts calling it an inefficient use of the fuel.

Speaking at the FT Hydrogen Summit 2025, Tony Ballance suggests that the main point of hydrogen blending is to offer hydrogen producers certainty of demand. "If you're producing a lot of hydrogen and you've got one or two customers for that... At the point at which your production is up here and demand is down here, what are you going to do with that hydrogen? You could store it, but there's the option of being able to blend it into the system," he says. "We might find that we've got blended hydrogen coming across from Europe, we need to allow for that too."

Ballance notes that blending is not the "starting point" for hydrogen's use. Rather, the fuel must be used "sensibly" in sectors that really need it, such as industry and aviation.

"I don't start from the premise that we need to blend [hydrogen] everywhere," he adds. "I don't think it would make sense, but blending needs to be part of the policy approach to ensuring that hydrogen can be a sensible energy vector in the future."

Ballance's comments come on the back of industry observer Michael Liebreich calling blending hydrogen into the gas grid "the absolute stupidest thing you can do." At the same time, recent research has warned of impacts to the integrity and safety of existing gas pipelines when repurposed to run hydrogen.

Cadent, the UK's largest gas distribution network, expects a majority of its gas network to be "hydrogen-ready" by the early 2030s, Kallanish notes. The company is one of the partners planning the East Coast Hydrogen pipeline network, which aims to repurpose and build new gas pipelines to deliver clean hydrogen across the North East, the Humber, Yorkshire and the East Midlands. The project recently secured £96 million ($129.3m) from Ofgem.

Energy measures in UK's industrial strategy a 'game-changer': PwC
PwC has welcomed the UK's newly released Industrial Strategy which will see measures introduced to reduce energy costs for manufacturers, Kallanish learns from a note.

Cara Haffey, manufacturing leader at PwC, says the changes announced are a "game-changer for manufacturers across the country," noting the extremely high energy costs domestic producers face.

Changes include increasing network charging compensation to 90% and the continuation of the indirect compensation scheme, as well as certain exemptions for energy-intensive businesses such as steel.

In the same note, Vicky Parker, energy, utilities and resources leader at PwC, highlights the announcement as timely, given that "energy will continue to be heavily influenced by geopolitical events and an increasingly complex global economic landscape."

"By addressing two of the most pressing challenges – high electricity prices and prolonged grid connection waits – this initiative demonstrates a strong commitment to fostering an environment where businesses can have the support to grow and compete internationally," she notes.

Policymakers will "no doubt be watching ongoing geopolitical events, particularly in relation to oil prices, with the Brent price rising to a five-month high over the weekend, having now stabilised," Parker adds. "If prices were to spike considerably, this would raise questions over the overall policy affordability and reignite the ongoing debate as to how to ensure the UK manages its exposure to ongoing volatility in energy costs," she continues.

Meanwhile, Matt Alabaster, partner at PwC, notes "chronic underinvestment" as the root cause for the country's "stagnating productivity and sluggish wage growth," highlighting a £2 trillion ($2.72 trillion) investment deficit compared to other G7 countries.

"A long-term industrial strategy, backed by business and delivered consistently by government, is a vital first step. But let's be clear: the money won't come from down the back of the UK's sofa. Government capital spending, while welcome, only scratches the surface – its annual increase covers just 67 days of the levels of investment the UK has lost," he concludes.

BATTERY MATERIALS: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

DRC ban extension offers temporary support to cobalt prices
The Democratic Republic of the Congo's decision to extend its cobalt export ban for another three months has led to a price rally, especially for cobalt hydroxide. Yet, the support may be short-lived, Macquarie analysts warn.

According to the team led by the head of commodities strategy, Marcus Garvey, prices have increased by over 50% from 22 February, when the DRC announced the ban. The boom has driven the bank to revise its 2025 price forecast by 27%, to average $17.11/pound.

Last month, the metal, a byproduct of copper and nickel production, was priced at $19.71/lb. Macquarie forecast the price to fall reach around $19/lb in September and $15/lb in December. By June 2026, it should be around $12.25/lb, although averaging $12.72/lb that year. In 2029, cobalt prices would be down to $13/lb.

"We think the ban extension will continue to support prices in the short term but the overhang of excess supply remains… When, inevitably, DRC material starts flowing again, downward pressures should re-emerge on prices," the analysts explain.

The existing export restrictions do not improve the prospects for a fundamental rebalancing, they emphasise, noting that its "supply is relatively price inelastic… So long as the world needs additional copper and nickel units, the cobalt will keep being produced."

Additionally, Garvey says the export ban is yet to change the "continuous oversupply" seen from 2022 to 2024. So far, it has "merely tightened" the market ex-DRC, while keeping stocks of over 50,000 tonnes in the DRC. However, he notes that the impact on the market has been limited by the 2-3-month shipping period from the DRC to China.

Chinese miner CMOC, as well as Indonesia, are pointed as the main contributors to the supply glut in the cobalt market. Macquarie says China has large stocks of the metal, with over 35,000 t bought for stockpiling due to cobalt's strategic importance. However, Chinese stockpiling "appears to have stopped due to higher prices," the analysts add, noting cobalt hydroxide stocks are also reported in South Africa and Malaysia.

Another headwind for higher cobalt prices is potential breakthroughs in battery technologies, which are shifting away from ternary batteries and, therefore, cobalt content. Chemistries such as lithium iron phosphate (LFP) and lithium manganese iron phosphate (LMFP) are "negative trends for cobalt," the analysts highlight. They are now forecast to account for 65% of EV batteries by 2029, compared to 48% in 2024 and a previous forecast of 49% in 2029.

The DRC, which accounts for two-thirds of the global cobalt supply, is considering whether to introduce a quota system increasing control on exports. In September, it will say whether the suspension will be modified or terminated

China, US finalise trade deal
China and the US have signed a trade deal that would mark a truce in tensions between the two countries, Kallanish understands.

US President Donald Trump said on 26 June that the deal was signed earlier in the week at a meeting in London, adding that a "very big one" will be secured with India soon. Commerce Secretary Howard Lutnick said in a separate interview with Bloomberg TV that the deal had been "signed and sealed" on 24 June. Neither of the two officials provided more details.

At a press conference on 27 June, the Chinese commerce ministry said that the US "will cancel a series of restrictive measures taken against China." When asked whether it would speed up the export of rare earths to the US, the ministry said it will "review and approve the export applications of controlled items that meet the conditions in accordance with the law."

As part of the trade war between the two countries, China halted almost all exports of rare earths, in a major blow to auto manufacturing in North America and Europe, which faced shortages and warned of major disruptions.

Earlier this month, representatives from both countries met in Geneva and then in London, where they reached a framework agreement. Terms included a 10% baseline "reciprocal" tariff, a 20% fentanyl levy and a 25% pre-existing tariff on Chinese imports.

In exchange, China would resume rare earth and magnet shipments to US buyers.

The parties are yet to release specifics of the agreement. The White House was contacted for comment.

Australia sues China-linked investors in rare earths miner
The Australian government is suing foreign investors in a rare earths company for an alleged breach of the nation's foreign investment laws, Kallanish learns.

Last June, Australia's treasurer, Jim Chalmers, ordered five foreign investors to sell their shares in Western Australian rare earth miner Northern Minerals within three months. The disposal order was issued to the investors, including Indian Ocean International Shipping and Service Company Ltd, in an effort to protect Australia's national interests.

"The disposal order was issued to Indian Ocean to address risk to national security posed by its acquisitions of shares in Northern Minerals, which is an important Australian critical minerals company," Chalmers said in a statement.

The treasury has now launched its first case for alleged breach of foreign investment laws against Indian Ocean and its former associate for "not complying" with Australia's foreign investment law. The government is seeking penalties, declarations and costs from Indian Ocean, Chalmers says, adding that the Federal Court would make court filings available in "due course."

The statement, however, did not name the former associate. Last year's order named Indian Ocean and associated entities, all reportedly linked to China. This includes Yuxiao Fund, a Singapore-registered private investment vehicle, and investors Ximei Liu and Xi Wang.

BATTERY MATERIALS: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

"Foreign investors in Australia are required to follow Australian law," the treasurer points out. "We are doing what is necessary to protect the national interest and the integrity of our foreign investment framework."

Northern Minerals isn't a party to the proceedings, the company said in a separate statement, adding that it was a "matter between the treasurer and Indian Ocean."

The miner is developing the Browns Range heavy rare earths project in northeastern Western Australia. It has a mineral resource estimate of 10.81 million tonnes at 0.76% total rare earth oxides (TREO).

Australia's move comes at a time when Western countries are increasingly pushing for greater control of the rare earths supply chain, which is currently dominated by China. Early this year, Beijing announced export curbs on seven rare earth elements, further escalating trade tensions.

Ronbay, Rock Tech partner in Europe

China's battery giant Ronbay is interested in purchasing lithium hydroxide from German-Canadian cleantech company Rock Tech Lithium, Kallanish understands.

According to an MOU announced by Rock Tech, the companies intend to build a "fully localised" integrated lithium-ion battery materials supply chain in Europe. Under the deal, Ronbay would offtake lithium hydroxide from Rock Tech's Guben converter in Germany. The supplies will feed Ronbay's European cathode active materials (CAM) operations, including its newly acquired plant in Konin, Poland.

The Chinese manufacturer would also offer direct support, including technical resources and potential investment. It will introduce experienced engineering and construction partners to facilitate the construction and ramp-up of the Guben facility, in Brandenburg. The plant is planned to produce 24,000 tonnes/year of battery-grade lithium hydroxide, enough to supply over 500,000 EVs annually.

In return, Rock Tech will also collaborate to support Ronbay's European offtake commitments and customer acquisition efforts in the battery and automotive sectors.

Rock Tech's ceo Mirco Wojnarowicz says Ronbay's interest is a "clear signal of strategic alignment." He believes the partnership will "act as a flywheel, accelerating and amplifying our shared commitment to building a resilient battery value chain in Europe."

For Ronbay, the partnership will accelerate the localisation of raw materials for its European project and further strengthen its presence in the European market. The company has purchased the Konin plant, a project started by Johnson Matthey in 2021, but sold to EV Metals in 2022.

"The basic infrastructures are complete, including factory buildings, laboratory buildings, and auxiliary facilities, with necessary environmental assessment procedures in place," a Rock Tech spokesperson says. "The phase 1 project of the 25,000-tonne mid-and high-nickel ternary materials is progressing steadily. Equipment installation is expected to be completed in 2025, with commercial production set to begin in 2026."

It remains unclear when binding legal agreements could be signed, but the companies explain negotiations will start in "due course" on the basis of mutual support and technology synergy. Further details on joint investments are also to be disclosed.

Copper market tightens, supporting higher prices: GS

The global copper market outside of the US has tightened as US buyers are stockpiling the red metal ahead of potential tariffs, supporting higher prices, according to Goldman Sachs.

Comex and London Metals Exchange prices are presenting "an unusually wide gap," the investment bank notes, after the US over-imported around 400,000 tonnes of copper in the year to date. Its inventory has risen to over 100 days worth of consumption, compared to just 33 days in January.

As a result, the copper market outside of the US has tightened, fuelling concerns of a regional shortage even if the market is currently in surplus, Kallanish learns.

On 26 June, the three-month closing price of copper on the LME was $9,669/t, compared to $5.07/pound on the Comex, equivalent to $11,177/t. GS has upgraded its H2 2025 LME copper price forecast to an average of $9,890/t, up from $9,140/t previously.

Analysts project the copper price to peak for the year at $10,050/t in August due to the tariff-driven reduction in ex-US stocks, and China sentiment and activity remaining relatively resilient, before declining to $9,700/t by December.

"The expected decline reflects our base case (80% probability) of a 25% tariff being put in place on US copper imports by September, but a later-than-expected tariff implementation could keep LME prices higher for longer," they add.

Earlier this year, US President Donald Trump ordered a Section 232 investigation on whether copper imports threaten national security, which is widely expected to result in tariffs being imposed in the coming months.

Evion's graphite JV enters US market

Australian company Evion Group says its graphite joint venture in India has entered the US market, Kallanish learns.

The company says it has secured an agreement for the shipment of 80 tonnes of expandable graphite to be dispatched over the next two months to a new offtake partner in the US. The deal is expected to generate around AUD 400,000 ($260,000) in revenue.

"This shipment signals a broader shift in the global supply landscape, with growing demand from US industries for high-quality, non-Chinese sources of critical minerals like expandable graphite," says Evion's managing director David Round.

BATTERY MATERIALS: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

Evion continues to carry out negotiations with potential buyers in the US, Europe and Asia. Expanded graphite is derived from natural graphite that has undergone chemical, mechanical or thermal exfoliation to create a high degree of carbon layers separation.

Panthera Graphite is a 50-50 JV between Evion and Metachem Manufacturing located in Pune, India. It has delivered its first shipment of 80 t, worth AUD 400,000, to a buyer in Europe.

After beginning production and ramp-up in 2024, it says it has over 500 t of concentrate ready for production in Q2 and Q3 2025, with ambitions to double or triple capacity in the coming years.

South Africa to bring back mineral processing: minister
South Africa says its new critical minerals strategy will ensure it "stays competitive" by bringing back domestic processing, Kallanish reports.

The strategy, which was launched last month and is open for comment until 8 August, is intended to attract investment in the sector, especially in exploration, developing geoscience data, boost innovation, and strengthen partnerships both at home and abroad. It identifies minerals such as manganese, coal and iron ore as highly critical, rare earths as moderately to highly critical, while copper, cobalt, lithium, graphite, and nickel are deemed moderately critical.

The list of critical minerals is due to be reviewed regularly based on a series of factors, including underlying market conditions and substitutability. Phumzile Mgcina, deputy minister of mineral and petroleum resources, said at Indaba London attended by Kallanish that this strategy will "position the country as global leader in the space."

A major challenge faced by South Africa is having to export most raw materials following the closure of several smelters due to an unstable electricity supply. The government plans to collaborate with the private sector to come up with a solution that would attract domestic processing, while collaborating with investors to raise the capital to stabilise the grid.

Even though 85% of the country's electricity comes from coal, a government representative says that "it doesn't mean South Africa wants to pursue coal at all costs" and it is trying to "honour the commitments" made under the Paris Agreement.

China's lithium carbonate imports down 14% y-o-y in May
Chinese imports of lithium carbonate fell to 21,145 tonnes in May, down 14% year-on-year and 25% compared to April, Kallanish reports.

Custom data shows that Chile continued to be the main source of lithium carbonate entering China, with volumes amounting to 13,393 t, accounting for 63% of the total importing volume. This, however, represents a 14% y-o-y decline.

Meanwhile, Argentina was the source for 31.34% of the total lithium carbonate imports, with volumes rising 79% y-o-y.

Based on Chinese customs figures, the imports totalled CNY 1.43 billion ($200 million), suggesting an average lithium carbonate price in the month of CNY 67,574/t ($9,422/t). In comparison, the Guangzhou Futures Exchange's lithium carbonate futures contract for July delivery currently stands at CNY 61,180/t. The contract for delivery in June 2026 closed at CNY 61,240/t.

Meanwhile, China's lithium hydroxide exports dropped 54% y-o-y to 5,586 t. The performance reflects a 55% collapse in demand from South Korean buyers and a 57% decline from Japan. These countries accounted for 60% and 31% of these exports, respectively. On the other hand, demand from the Netherlands rose by 133% y-o-y, ranking third in the top-5 main destinations.

Chinese manufacturers also exported 8,755 t of nickel cobalt manganese (NCM) cathode materials last month. This is 31% higher than in May 2024. South Korea, the biggest buyer, accounted for 53% of total shipments in the month, with deliveries up 30% y-o-y. Other importers include Japan, Poland, Indonesia, and Germany.

Pensana, American Resources, ReElement sign rare earth MOU
Rare earth companies American Resources, ReElement, and Pensana have signed an MOU which includes a proposed offtake agreement.

UK-listed Pensana is developing the Longonjo rare earth project in the Huambo district of Angola, which is estimated to hold 22 million tonnes grading 3.04% of total rare earth oxide (TREO). It is planning to achieve a capacity of 20,000 t/year of mixed rare earth carbonate (MREC) in the first phase, slated for late 2026.

From 2027, capacity will be increased to 40,000 t/y, potentially representing 5% of the world's MREC supply, Kallanish understands.

Under the MOU, the companies would seek to establish a rare earth supply chain outside of Chinese control. Demand for non-Chinese critical mineral sources is on the rise amid a trade war between the US and China, and Beijing's control of rare earth exports.

The proposed offtake would see up to 20,000 t/y of MREC supplied to American Resources over a five-year period, "with pricing to be agreed," the companies said. American Resources holds a stake in ReElement, a US-based company with a rare earth refining facility in Indiana, which reached commercial operations in 2023.

ReElement is developing a separate facility in Indiana to achieve a 1,000 t/y capacity.

The MOU includes integrating ReElement's refining platform, as well as strategic cooperation to explore additional joint opportunities. Details weren't provided.

This month, Pensana signed a similar agreement with Toyota Tsusho for 20,000 t/y of MREC from the Longonjo mine. Pensana also signed a separate MOU for the same amount of offtake with Japanese trading group Hanwa last September.

However, the three MOUs would exceed the project's planned capacity if they all turn into final commitments.

BATTERY MATERIALS: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

Panama keen to regain mining income: First Quantum
First Quantum Minerals says that the Panamanian government wants to solve the Cobre Panama dispute this year as it misses its contribution to the economy.

The Canada-based mining group was forced to shutter its copper mine in 2023, when the country's Supreme Court ruled the contract to operate it was "unconstitutional." First Quantum quickly began arbitration proceedings to fight the decision as well as claim compensation for a 120,000-tonne copper concentrate stockpile that remained stuck in the mine.

Earlier this year, the government allowed the release of the stockpile and First Quantum dropped the legal proceedings. Its ceo, Tristan Pascall, told the London Indaba attended by Kallanish that the government "said clearly" it wants to resolve the issue this year.

According to Pascall, the mine supports around 40,000 jobs, generated five indirect jobs for each direct job in the country, and accounted for 5% of Panama's GDP before closing. "Panama is missing that… Mining can create that," Pascall says.

At the weekend, protesters gathered in the city of Penonomé to request that President José Raúl Mulino start negotiations with First Quantum to reopen the mine, local media reported. Communities have been criticising the government for failing to provide alternative opportunities for people who lost jobs after Cobre Panama closed.

However, the project has also attracted anti-mining protests over concerns of environmental pollution, political clientelism, and lack of profit-sharing.

Cobre Panama, located in Colon province, has the capacity to produce over 300,000 t/y of copper along with gold, silver and molybdenum.

UK's new critical minerals strategy to focus on international partnerships: MP
The UK's new critical minerals strategy, expected to be published soon, will include plans to build "targeted growth partnerships with key allies," says member of parliament (MP) Calvin Bailey.

The MP, who is also a trade envoy to Southern Africa, says these partnerships will include countries across the African continent.

"We want African nations to play a key part in our critical mineral strategy. Many of the critical minerals vital to technologies are present in Africa, and in particular, my area of interest, Southern Africa," he told the London Indaba conference attended by Kallanish.

"We also know that countries holding significant deposits of critical minerals want a greater share of the value from these resources, and the UK will continue to advocate for this," adds Bailey.

The new 10-year strategy will focus on supporting the energy transition and strengthening national security, with the aim of securing supply chains for the long term. According to Bailey, it will "refine" the UK approach to production, both upstream and midstream, while supporting the country's circular economy strategy by promoting critical mineral recycling.

"The strategy will also set out how international partners can benefit from the UK strengths, from the City of London as a global centre for mining, finance and commodities training to our world-leading R&D, academia and expertise," he adds.

The comments come a day after the UK launched its new industrial strategy, which includes a pledge to at least double clean energy investment to over £30 billion ($40.1 billion) annually by 2035.

China's synthetic graphite exports up 21% y-o-y in May
Chinese exports of synthetic graphite rose to 52,019 tonnes in May, a 21% year-on-year increase, but a 11% decline compared to April, Kallanish reports.

Customs data shows India continued to be the biggest buyer of synthetic graphite from China, with volumes amounting to 9,477 tonnes last month – a rise of 76% y-o-y. Shipments to the country accounted for roughly 18% of total synthetic graphite exports in May.

Exports to Japan increased 42% y-o-y to 7,847 t, while shipments to the Netherlands surged by 2,890% y-o-y, corresponding to 18.2% and 15% of total exports, respectively. The other countries in the top-5 destinations for Chinese synthetic graphite were Thailand with 3,623 t and South Korea with 2,737 t.

Based on Chinese customs data, the exports totalled CNY 461.68 million ($64.31 million), suggesting an average synthetic graphite price in the month of CNY 8,875/t ($1,236/t).

Meanwhile, China's natural graphite flake exporters saw the export volume rise 87% y-o-y to 8,716 t. Indonesia, the No.1 destination, imported 3,479 t, representing an annual hike of 4,539%. The increased demand means the Southeast Asian country accounted for nearly 40% of all natural graphite flakes shipped from China in May. Other significant importers were Germany, South Korea, Japan and Russia.

For spherical graphite, which some say is ideal for use as raw material for anodes, exports totalled 3,372 t in May. This is 24% lower than in the same period last year.

Syrah resumes natural graphite production in Mozambique
Australian integrated anode material company Syrah Resources has started natural graphite production in Mozambique's Cabo Delgado province, Kallanish learns.

The resumption at its Balama graphite operation follows inspection, maintenance and preparatory activities last month. The company says it intends to increase plant utilisation and production volumes to restock finished product inventory and prepare for high-volume shipments.

BATTERY MATERIALS: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

Syrah declared force majeure at the operation last December, following protests that started in September 2024, impeding the company from operating its site. At first, the protests were linked to a small group of farmers with historical farmland resettlement grievances. However, protests continued following Mozambique's election, interrupting the movement of people and supplies, site access and plant operations, although Syrah says the actions have been peaceful. The suspension also came amid weak graphite prices.

"There is significant and growing latent demand for Syrah's natural graphite products, particularly in the ex-China market, due to global supply disruptions, including those from Balama," the company says.

To accelerate product deliveries to customers and bring forward cash receipts, Syrah is planning to initially complete large volume breakbulk shipments to ex-China markets in the September 2025 quarter.

Under the terms of the Balama Mining Agreement, the previous declaration of a force majeure event remains effective, pending resumption of product shipments and further review of the operating environment.

The Balama mine has a production capacity of 350,000 tonnes/year of graphite, with reserves of 16.9 million tonnes in contained graphite. The operation supplies South Korea's battery material producer Posco Future M with 2,000 t of natural graphite fines per month, under an agreement signed in March 2024. It has also supplied Chinese battery company BTR's Indonesia plant.

The operation also provides feedstock to Syrah's downstream operation in Louisiana, US. The Vidalia plant can produce 11,250 t/y of anode active materials. Capacity is planned to be expanded to 45,000 t/y.

Canada on track to approve controversial megaprojects bill

Canada's House of Commons has approved a controversial bill to speed up permitting for nation-building projects, Kallanish reports.

Bill C-5, also known as "One Canadian Economy Act," now needs to be passed by the Senate before being implemented. It is expected to be approved before 27 June, when the Senate rises for the summer.

The legislation is intended to boost the country's economy by removing federal barriers to internal trade and labour mobility, easing the movement of goods and people across provinces. Projects in the national interest, such as critical minerals mines and processing plants, will be streamlined to minimise investor uncertainty and speed up the construction process.

While Prime Minister Mark Carney said that Indigenous partnership is "at the centre of this growth," First Nations groups and environmental advocates argue that the bill overrides requirements for Indigenous consultation, essentially allowing the government to bypass or amend existing laws or regulations.

According to MiningWatch Canada, this gives "Cabinet and individual ministers enormous discretionary powers, without any defined criteria or conditions, and without any democratic process or oversight." The activist group says that some of the megaprojects that will likely be promoted, such as Ontario's remote, undeveloped, mineral-rich area, Ring of Fire, "run directly counter to Canada's climate and biodiversity commitments."

Copper risks near-term short squeeze: BofA

Copper is at risk of a near-term short squeeze, analysts at BofA Global Research say, as feedstock has moved from China and London Metals Exchange warehouses to the US.

Indeed, the market has tightened despite the trade wars and LME inventories are now dominated by Russian tonnages, which is not deemed "desirable" material for Western consumers. Analysts caution that there may be "an an air pocket in demand" this autumn, if the Chinese government dials back stimulus for metals-intensive sectors once trade tension simmers.

The bank revised up its 2025 price forecast to $9,557/tonne, from $8,866/t previously, while the 2026 forecast remained the same at $10,188/t. The price is "underperforming," it argues, due to the continued uncertainty on how the trade disputes will evolve and their impact on global growth.

"We see some partial offsets by a rebound of consumption in Europe into 2026, as the EU economy is set to be bottoming out," BofA analysts comment. "Mine supply is also a constraint, reflected in Chilean production remaining within longer-term averages."

Similarly, the potential restart of First Quantum's shuttered mine Cobre Panama next year could be offset by supply losses at Ivanhoe Mines' Kamoa-Kakula complex in the Democratic Republic of the Congo. The latter has experienced seismic activity which appears to be self-induced, which raises uncertainty around its operating outlook and expansion plans, Kallanish writes.

Many commodities, including copper, may also be affected by how the Israel-Iran conflict impacts energy prices and trade, BofA notes, highlighting that the impact is currently limited.

ELECTRIC VEHICLES: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

UK auto production, exports sink in May
UK automotive production collapsed 32.8% year-on-year in May – the lowest performance for the month since 1949, excluding 2020 due to Covid plant closures.

British factories produced 49,810 cars and commercial vehicles, compared to 74,150 units in May 2024, according to data released by the Society of Motor Manufacturers and Traders (SMMT).

Car production fell 31.5% to 47,723 units, mostly due to ongoing model changeovers, restructuring and the impact of US tariffs. Commercial vehicle manufacturing, meanwhile, shrank 53.6% to 2,087 units. This reflects the closure of one plant, Kallanish notes.

Manufacturers operating in the UK also reported a 27.8% drop in car exports, with shipments to the EU and the US falling by 22.5% and 55.4% respectively. Exports to China and Turkey fell by 11.5% and 51% respectively.

International demand for UK-made vans, buses, coaches, taxis and trucks sank 71.7% in May. The EU remained the sector's biggest customer with a 94.7% share, but volumes were down 72.1%.

Without disclosing whether the declines impacted more electric vehicles or internal combustion models, SMMT says "multiple challenges beset the industry," including fierce competition and geopolitical uncertainty. Yet, the trade body is optimistic that the recent trade deals with the US, EU and India will help the sector, as well as London's industrial and trade strategies.

SMMT ceo Mike Hawes says the production figures show "how tough the environment is" with output down for a fifth consecutive month. "With rapid implementation, particularly on the energy costs constraining our competitiveness, the UK can deliver the jobs, growth and decarbonisation that is desperately needed."

CATL reiterates plans to advance battery recycling
During the London climate action week, CATL and UK non-profit organisation Ellen MacArthur Foundation (EMF) vowed to accelerate a circular battery economy, Kallanish learns.

"New battery production must be decoupled from the use of virgin raw materials," the companies say in a statement released by CATL.

As part of their partnership reached earlier this year, the parties have been working to map out how circular economy principles can be applied across the battery value chain. These are: rethinking systems, redesigning products, rethinking business models and recycling materials. They can guide transformation from mining and manufacturing to mobility and energy systems.

CATL claims to have recycled 128,700 tonnes of used batteries in 2024, leading to 17,100 t of "new" lithium salts returned to the battery production line.

Deploying the directed circulation technology (DRT) and the circulation process through physical disassembly, hydrometallurgy, and other methods, around 93.8% of lithium and 99.6% of nickel, cobalt and manganese can be recovered for battery materials.

CATL vice president and board secretary Jiang Li said at the event in London that in the next 20 years, 50% of all new battery production will rely on secondary material, not primary mining extraction.

The giant battery manufacturer estimates retired power (EV) batteries will reach 3.5 million t by 2030. CATL's wasted battery processing capacity will soon exceed 1m t/y, he adds.

According to CATL's forecast, the global battery recycling market will exceed CNY 1.2 trillion, and the battery value chain will create more than 10 million jobs by 2040.

In an interview with the Financial Times, Li said CATL plans to bring its battery swapping and recycling technology to Europe. He said there is "huge potential" to make batteries cheaper and longer-lasting in the market.

The company is planning to build 1,000 battery swapping stations by year-end in China, and 10,000 stations in three years. "Then we can copy the business model in Europe and other regions," he said, adding the group has already discussed the idea with European carmakers.

It's unclear, however, if carmakers were receptive to the idea. CATL is yet to disclose battery swapping plans in Europe, unlike Chinese EV maker Nio, which already operates 60 such stations in Norway, Germany, Denmark, Sweden and the Netherlands. Nio operates the largest battery swapping network in the world, with over 3,300 stations in China.

In March, CATL and Nio said they plan to accelerate the development of a battery swapping network with unified battery standards.

Hybrid car sales hit monthly record in US
Hybrid electric vehicle (HEV) sales in the US are expected to set a monthly record in June, JD Power estimates, while battery electric vehicles (BEVs) continue to lose market share.

The research firm forecasts hybrids to reach a retail share of 14.1%, up 3.8 percentage points from June 2024. In contrast, BEVs are projected to lose 1.9 percentage points, marking a significant shift from last year, when both technologies were even at 10.3%.

"Hybrids benefit from decades of familiarity, making them an easy purchase by shoppers," comments Tyson Jominy, senior vice president of data and analytics at JD Power. "Dealers also highlight their value, with some models offering fuel savings that are recouped in less than two years."

The offer is also expanding as US buyers can now choose from 39 models across 10 brands, compared with 30 models from six nameplates in 2023, Kallanish reports. Japanese giant Toyota leads with 26 models, while South Korea's Hyundai and Kia offer four each. Mazda and Subaru, also from Japan, recently launched new hybrid models.

ELECTRIC VEHICLES: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

"While all automakers still have opportunities to electrify their lineups, the biggest untapped potential comes from domestic and European automakers," adds Jominy. "Domestics offer only five models combined, including Ford's popular F-150 and Maverick, alongside niche entries like the Chevrolet Corvette E-Ray. European hybrids are currently limited to one trim: Porsche 911 GTS."

New vehicle retail sales across all technologies are estimated to rise by 6.7% to 1 million units, according to a joint forecast from JD Power and GlobalData. This would push H1 sales 7.5% higher to 6.6m, although a breakdown by powertrain has not been disclosed.

Washington is planning to repeal a series of incentives to electrify transport, such as clean vehicle buyer tax credits and financial support for green technologies, enacted by the previous administration.

Xiaomi's YU7 orders hit 289,000 in one hour
Chinese consumer electronics and auto company Xiaomi has recorded 289,000 reservations within an hour of releasing its YU7 all-electric SUV in Beijing on 26 June, Kallanish reports.

It claims to have received 200,000 pre-orders in three minutes. At the time of writing, locked order shows a record of 240,000.

The YU7 standard version starts at a price of CNY 253,500 ($35,366), equipped with a 96.3-kilowatt-hour lithium iron phosphate (LFP) battery, delivering a CLTC range of 835 kilometres. In comparison, Tesla's Model Y – which was China's best-selling SUV in May – starts at CNY 263,500. Despite the higher price, the Model Y rear-wheel drive version only offers a CLTC range of 593 km (CLTC) with a 64-kWh CATL LFP battery.

The launch, which directly undercuts Tesla, was well received by investors. Hong Kong-listed shares of Xiaomi surged as much as 8%, closing 3.60% higher on 27 June at HKD 58.95 ($7.51).

Xiaomi has been a challenging force in the Chinese EV market, already ranking 12th place among the 15 Chinese automakers to sell over 20,000 EVs, and fourth among the so-called "new forces," which exclude legacy carmakers. According to the China Passenger Car Association (CPCA), Xiaomi delivered 28,013 units in May, while Tesla China delivered 38,588 units.

CPCA estimates Tesla holds a 3.8% share of the Chinese NEV retail market, which is 3.1% lower year-on-year. Some market observers say that to avoid losing further market share, the US carmaker will have to reduce its prices in response, end subscription fees for its so-called full-self driving platform, extend a zero-interest loan from five to seven years, and provide more financing incentives to customers.

While the YU7 is Xiaomi's second BEV model, Tesla sells five models in China, where electric vehicle penetration has reached 52.9% in May, largely supported by government subsidies.

Xiaomi's first BEV, the SU7 sedan, was launched in April 2024. Its standard version currently retails at CNY 215,900, offering a 700-km range from a 73.6-kWh LPF battery.

Mullen to accept crypto payments for commercial EVs
US automaker Mullen has announced it is now accepting cryptocurrency, including Bitcoin and the $TRUMP meme coin, for the purchase of commercial electric vehicles.

The crypto can be used for both Mullen and Bollinger brands, Kallanish understands. Mullen says it is looking into accepting additional types of crypto, including "other popular meme and stable coins."

"The increasing acceptance of cryptocurrency as a form of payment expands Mullen's ability to deliver its product to a broader audience at the commercial and consumer levels," says ceo and chairman David Michery.

Currently, a few car dealerships in the US accept crypto payments, according to online platform NOWPayments. Most of them sell luxury brands such as Lamborghini and BMW. Italian luxury carmaker Ferrari enabled crypto payments in the US in 2023, extending the option to European buyers in 2024.

Tesla accepted Bitcoin until 2021, when it stopped it citing environmental concerns related to mining the crypto. The Texas-headquartered group only accepts the meme coin Dogecoin, which ceo Elon Musk has endorsed publicly.

BYD taps voestalpine as steel supplier for new Hungary plant
Chinese EV giant BYD says it has agreed to procure steel from Austrian steelmaker voestalpine for its new car factory in Hungary, Kallanish reports.

Signed by BYD executive vice president Stella Li, alongside voestalpine chief executive Herbert Eibensteiner in Vienna, the agreement covers sheet steel, and makes voestalpine one of the first confirmed supply partners for the Szeged facility.

The company was chosen by BYD because of its geographical proximity to the factory in Hungary, and the high quality and excellent reputation of Austrian steel, the Chinese company claims. The undisclosed agreement marks a significant step in BYD's localisation policy, as the brand continues to expand its operations across Europe.

"BYD will be on sale in 29 European countries by the end of 2025, and its sales network will comprise more than 1,000 retail stores. In addition, BYD recently committed to a new European headquarters in Budapest, along with its first bespoke European R&D centre, also in Hungary," the carmaker adds. "Our company continues to meet with hundreds of potential suppliers in key markets as it ramps up preparations for the start of European production."

Li emphasises BYD's strategy has been clear: "We have come to Europe to stay in Europe – and to produce here." The company's commitment to the European market is "strong and, as we're showing here, it goes far beyond pure car sales," she adds.

"We're applying a long-term vision here, with the goal of being seen by consumers, within the next five years, as a European manufacturer. I'm delighted that we will be working with voestalpine, a company that has a long history of innovation and a commitment to decarbonisation and sustainable CO2 reduction."

ELECTRIC VEHICLES: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

The steelmaker claims to be an "important partner" for the global auto industry, and the initial order for flat steel for car bodies and outer panels is just the beginning of a partnership with BYD.

The passenger car factory in Szeged will have capacity to produce 200,000 vehicles/year. Operations are set to start by year-end, expanding the company's production network in Europe, which started in 2017 with the Komáron plant, also in Hungary. That facility produces electric buses and other products.

Eve claims first 46-series mass production in China

Chinese battery manufacturer Eve Energy has claimed to be the first in China to achieve mass production of 46-series cylindrical batteries, Kallanish learns.

At its 24th anniversary celebration earlier last week, the company said its 4695 cells will be featured on BMW's iX3 all-electric SUV, which will be launched by year-end. As of May, it had installed its large cylindrical cells, including the 4695 type, in over 60,000 vehicles.

To date, Eve holds more than 2,700 cylindrical battery technology patents and 79 international certifications. The company says its 46-series cells have three major characteristics: standardisation, zero expansion and high strength.

"While achieving efficient production, they can flexibly adapt to the needs of various scenarios; they are resistant to high temperature and high pressure and have excellent safety performance," the company adds.

It says the cells' energy density can be improved by more than 15% using new generation silicon-based anode, compared to traditional graphite-based anode materials.

Additionally, Eve says it's on track to achieve a production breakthrough and launch the first generation of its all-solid-state battery, with an energy density of 350 watt-hour/kilogram and 800 watt-hour/litre in 2026. A second generation will follow in 2028 with an energy density of over 1,000 Wh/L.

Its all-solid-state soft-pack batteries can work in a wide temperature range of -20°C to 60°C and operate stably under a pressure of 20 megapascals. In terms of cycle performance, they can achieve more than 2,000 cycles at 1C charge and discharge at 45℃.

Also at the event, Eve and its partners, including Huayou Cobalt, GEM, Conch Venture-Haichuang Recycling, BASF, SF Holdings-Kerry Chemicals, Jinjing New Energy, Camel Group, and Shenzhen Jiecheng, jointly launched a global lithium battery recycling network platform. Yet details weren't provided in a press release.

Samsung SDI said in March that it's the first South Korean battery manufacturer to start supplying 46-series batteries for overseas customers. The series covers four sizes: 4680, 4695, 46100 and 46120.

Japanese battery maker Panasonic claims to have pioneered a mass production method for 4680 cells, first designed for Tesla.

German battery market weakens over drop in EV demand: ZVEI

The German battery market has experienced a setback in 2024, with both production and trade declining, primarily driven by the slower EV rollout, says the German Electrical and Digital Manufacturers' Association (ZVEI).

The country's battery market volume fell 16% in 2024 to €20.5 billion ($23.8 billion), mostly due to a decline in the lithium-ion battery segment. Total battery production last year was €7.3 billion, down 5% year-on-year.

ZVEI data also shows that exports fell by 3% to €7.9 billion, while imports dropped 15% to €21.2 billion.

Within the lithium battery segment, production fell 7% on-year to €3.6 billion in 2024; exports declined 9% to €5.2 billion; and imports dropped 15% to €18.3 billion, Kallanish notes.

The association has called for more "decisive political action" to help address the decline.

"Without batteries, the transition from fossil fuels remains an illusion," says Christian Rosenkranz, chairman of ZVEI. "To prevent Germany from further losing ground as a battery location, decisive political action is needed now: competitive energy costs, accelerated approval procedures, a noticeable reduction in bureaucracy, and reliable, targeted funding programs, especially in battery research."

In Germany, sales of battery electric cars fell by 38.6% last year compared to 2023, according to data from Europe's automotive association ACEA. This was largely due to the withdrawal of government subsidies at the end of 2023.

Nissan's car exports to North America down 42% in May

Japanese carmaker Nissan reported Friday a 42% slump in its vehicle exports to North America in May, when 10,644 cars were shipped from Japan, Kallanish reports.

North America is the biggest market for Nissan, accounting for 49% of its total exports. Yet, Japan-made vehicles face a 25% import tariff in the US, as Tokyo has failed to strike a deal with Washington.

In addition to the tariffs' impact in the US, Nissan's exports have also dropped considerably in Europe to 1,998 units. This is 67.4% lower than in May 2024. Yet, exports to other markets rose 38.7% to 8,892 units.

The troubled carmaker does not provide a breakdown by powertrain for the exports, sales and production data it releases on a monthly basis. This makes it harder to pinpoint whether the decline is tied to its internal combustion engines or electric vehicles.

Overall, Nissan's global sales, which include passenger and commercial vehicles, dropped 6% to 256,159 units.

Meanwhile, global production declined 16.5% to 229,645 units. Output in the UK was down 38.3% y-o-y. Production in the US and China dropped 23.6% each.

ELECTRIC VEHICLES: NEWS FROM THE WEEK

READ MORE NEWS ONLINE

Separately, Nissan launched “the most advanced form” of its e-POWER hybrid technology in Europe. The third-generation combustion system uses the fuel to produce electricity, which in turn power the wheels offering an “EV-like drive.”

The tech will be debuted on the Nissan Qashqai, built in the UK, from September in Europe. The rollout across Africa and Oceania will follow “in the months ahead,” while the North American market will see the technology debut on the Rogue next year.

Geely to take 26.4% stake in Renault’s Brazilian subsidiary

Chinese automaker Geely is taking a 26.4% stake in Renault’s Brazilian subsidiary, Kallanish learns.

The pair first agreed in February to expand their partnership to produce and sell their models in the South American country, with Geely becoming a minority shareholder in Renault do Brasil. The Chinese carmaker and its parent company, Geely Holding, have agreed to invest a combined €625 million ($716m), taking respective stakes of 21.2% and 5.1%.

Renault now owns 73.5%, while the remaining 0.03% belongs to an undisclosed “independent third party,” Geely says in a Hong Kong Exchange filing. The joint was valued at €1.7 billion by the end of 2024.

In 2024, sales rose by 12% year-on-year to BRL 16 billion ($2.9 billion), while the company swung to a BRL 281m net loss from net income of BRL 612 the prior year.

Under the partnership, Geely will gain access to Renault’s production, sales and services resources in Brazil, and Renault will expand capacity at its factories in the Ayrton Senna complex in São José dos Pinhais, Paraná, to manufacture Geely's models. Renault do Brasil will become a distributor of Geely zero- and low-emission vehicles.

The two companies previously said they could cover as much as 44% of automotive sales in South America. Geely exported 7,623 NEVs overseas in May, representing 3.81% of the total 200,000 Chinese exported NEVs, according to data from the China Passenger Car Association.

The news comes days after Renault Group announced the departure of chief executive Luca de Meo.

Tesla launches AV taxi service in Texas

US EV maker Tesla on 22 June (Sunday) launched its much-anticipated driverless taxi service in Austin, Texas.

Around 10-20 Model Y vehicles have been made available to a geo-fenced area of the city from 6 am to midnight, based on favourable weather conditions. Customers will pay a $4.20 flat fee, though Tesla says on its website that “pricing is subject to change.”

Initially, an employee will continue sitting on the passenger seat to observe operations, which will also be monitored remotely. Sunday’s riders were influencers and investors selected by Tesla and the service remains invite-only.

The robotaxi debut has attracted controversy over safety concerns, Kallanish notes. Advocacy group the Dawn Project claims that a full-self-driving Tesla ran over a child mannequin in eight consecutive tests during a demonstration event.

This month, a group of Texas lawmakers requested to move the launch to 1 September, when autonomous vehicle companies will need to get approval from the Texas Department of Motor Vehicles before operating on public streets without a human driver. Currently, there is no nationwide safety performance standard for driverless vehicles, and regulation in Texas remains relatively loose to attract industry players into the state.

AVs are a crucial part of Tesla’s long-term strategy amid ambitions to become an AI company. If the company proves that the camera-based supervised FSD system is reliable and safe, it “could leap frog other robotaxi services solely on price and scale – since Teslas on the road could effectively be ‘turned on’ and operate as robotaxis themselves,” says RBC Capital Markets’ analyst Tom Narayan.

“Most current alternatives do not make money. This is mostly because of an expensive array of sensors and hardware (including radars and lidars), as well as map based software architecture,” Narayan adds. “Tesla’s approach is more machine learning orientated. The idea is that the car should be able to make decisions on its own like a human driver would. Only time will tell if this will work, however.”

BYD delivers fifth Ro-Ro 'XI’AN' in China

Leading Chinese automaker BYD has delivered its 5th car carrier roll-on/roll-off (Ro-Ro) vessel in Yizheng, Jiangsu province, Kallanish learns.

The ship, known as “BYD XI’AN,” adopts the liquefied natural gas (LNG) dual-fuel clean power technology, the company says. It has a total length of 219.9 metres, a beam of 37.7 m, and operates at a service speed of 19 knots. It has 16 decks and 9,200 standard loading spaces. The capacity is equivalent to 20 football fields of cars. According to BYD, the 5th car carrier will deliver cars for overseas markets, joining the previous four Ro-Ro vessels to reduce logistics costs and transportation cycles.

BYD says its Ro-Ro ships have delivered over 25,000 new energy vehicles (NEVs) globally in Q1 2025.

XI’AN is the sister vessel of “BYD SHENZHEN,” the fourth NEV carrier delivered on 22 April in Jiangsu province. Both have the same length, beam, service speed, number of decks and loading spaces. “BYD SHENZHEN” carried over 7,000 BYD NEVs to Brazil on 27 April.

On 10 January 2024, BYD delivered its first Ro-Ro “EXPLORER NO1” at Yantai port in the Shandong province. It is 199.9 m long, has 7,000 standard parking spaces, and uses LNG dual-fuel power technology.

BYD says it aims to build “an independent and controllable international logistics channel, and create a ‘maritime bridge’ for the deep integration of China's new energy vehicle industry with the global market." In May, BYD exported 84,068 NEVs overseas, representing 42.03% of the total 200,000 Chinese exported NEVs, according to data from the China Passenger Car Association (CPCA).

CHINA BATTERY MATERIALS TRADE FLOW

EXPORTS FROM CHINA

Commodity	Product Name	May-25	Mom Δ %	Yoy Δ %	YTD Yoy Δ %
Cobalt	Unwrought cobalt	2,987	-27%	433%	233%
Lithium	Lithium hydroxide	5,586	32%	-54%	-60%
	Lithium carbonate	288	-61%	36%	36%
Nickel	Nickel sulphate	754	33%	-59%	-73%
	Unwrought nickel	13,690	-14%	26%	133%
Precursor	NCM precursor	6,187	25%	-54%	-56%
	NCA precursor	-	-	-100%	-96%
Cathode	NCM cathode	8,775	-3%	31%	32%
	LFP cathode	942	-18%	429%	752%
	NCA cathode	246	-17%	31%	0%
Anode	Graphite flake	8,716	-3%	87%	100%
	Spherical graphite	3,372	-39%	-24%	75%
	Synthetic graphite	52,019	-11%	21%	-7%

SOURCE: GTT, KALLANISH

IMPORTS FROM CHINA

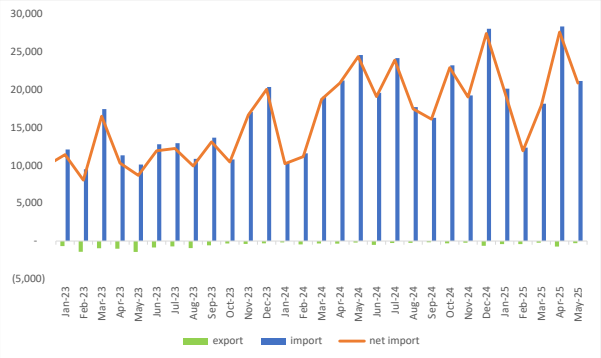
Commodity	Product Name	May-25	Mom Δ %	Yoy Δ %	YTD Yoy Δ %
Cobalt	Cobalt concentrate	-	-	-	-100%
	Cobalt intermediates	49,487	-7%	-6%	-7%
	Unwrought cobalt	651	-22%	189%	178%
Lithium	Lithium hydroxide	842	-34%	220%	124%
	Lithium carbonate	21,145	-25%	-14%	15%
Nickel	Nickel concentrate	3,927,186	35%	-15%	-8%
	Nickel sulphate	18,264	-44%	-31%	2%
	Nickel matte	32,070	38%	35%	42%
	Unwrought nickel	15,203	16%	144%	144%
Precursor	NCM precursor	150	257%	97%	-69%
Cathode	NMC cathode	3,900	-25%	-45%	-33%
	LFP cathode	17	113%	1600%	38%
	NCA cathode	1,431	45%	-4%	-27%
Anode	Graphite flake	4,854	-16%	242,600%	21%
	Synthetic graphite	1,251	11%	52%	62%

SOURCE: GTT, KALLANISH

BATTERY MATERIALS TRADE FLOW ANALYSIS

SOURCE: GTT, KALLANISH

LITHIUM CARBONATE NET IMPORT



TOP 5 COUNTRIES

Imports	May-25	MoM	YoY	YTD	YoY
Chile	13,393	-34%	-34%	66,563	-3%
Argentina	6,626	-3%	79%	29,208	80%
Bolivia	600	n/a	n/a	700	n/a
South Korea	496	-59%	58%	3,407	243%
Malaysia	18	n/a	n/a	18	n/a

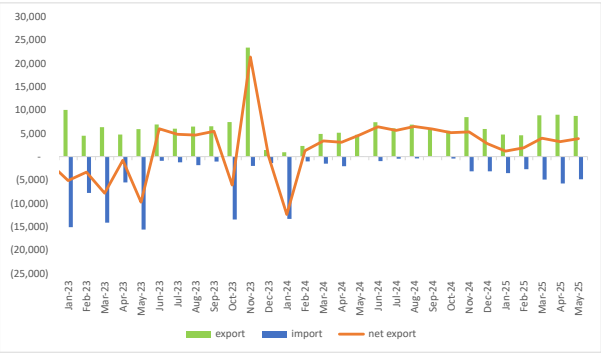
Exports	May-25	MoM	YoY	YTD	YoY
Japan	175	-56%	41%	913	31%
India	50	1,567%	67%	99	-6%
Taiwan	30	25%	275%	83	34%
Russia	12	n/a	300%	138	39%
South Korea	8	-81%	-74%	141	-48%

LITHIUM HYDROXIDE NET EXPORT

Imports	May-25	MoM	YoY	YTD	YoY
China	648	3,500%	n/a	1,876	10,935%
Australia	194	-75%	-17%	3,228	54%

Exports	May-25	MoM	YoY	YTD	YoY
South Korea	3,389	66%	-55%	12,668	-65%
Japan	1,741	-1%	-57%	7,371	-52%
Netherlands	140	133%	133%	280	143%
Germany	100	0%	n/a	200	19,900%
Singapore	58	n/a	4%	156	-18%

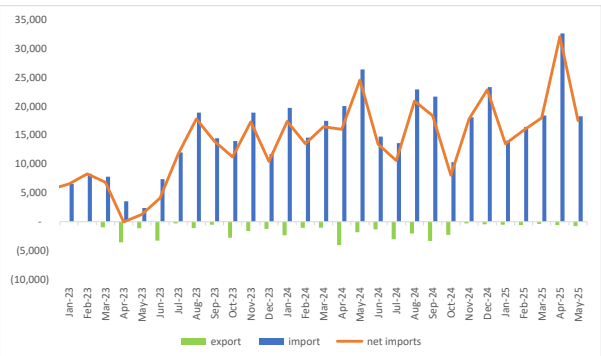
GRAPHITE FLAKE NET EXPORT



Imports	May-25	MoM	YoY	YTD	YoY
Tanzania	3,186	-43%	n/a	17,311	n/a
Madagascar	1,638	2,630%	n/a	4,266	-40%
Canada	21	2,000%	n/a	25	n/a
Germany	8	n/a	700%	8	-11%
United Kingdom	1	n/a	n/a	1	-50%

Exports	May-25	MoM	YoY	YTD	YoY
Indonesia	3,479	-8%	4,539%	10,769	4,296%
Germany	1,402	15%	18%	4,217	24%
South Korea	1,067	-18%	16%	6,070	47%
Japan	661	-35%	-49%	5,646	52%
Russia	379	74%	386%	1,041	242%

NICKEL SULPHATE NET IMPORT



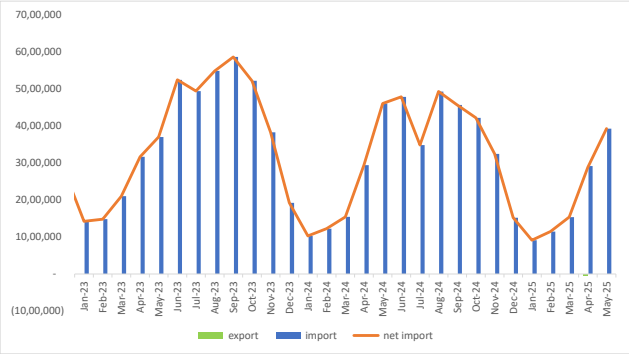
Imports	May-25	MoM	YoY	YTD	YoY
Indonesia	11,760	-54%	-47%	76,410	1%
Finland	4,290	19%	330%	14,467	21%
South Korea	1,738	-50%	-27%	7,587	-8%
Cyprus	335	n/a	n/a	714	n/a
Australia	119	n/a	n/a	253	-81%

Exports	May-25	MoM	YoY	YTD	YoY
Japan	640	45%	-62%	2,160	-59%
South Korea	80	0%	33%	340	-93%
Viet-Nam	24	380%	n/a	118	808%
Hong Kong	7	-30%	-50%	41	-16%
Thailand	3	0%	n/a	9	-10%

BATTERY MATERIALS TRADE FLOW ANALYSIS

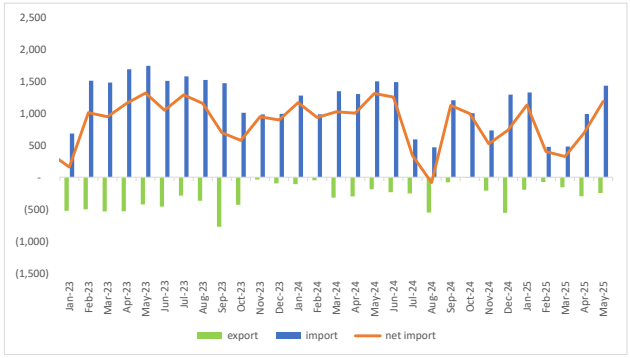
SOURCE: GTT, KALLANISH

NICKEL CONCENTRATE NET IMPORT



Imports	May-25	MoM	YoY	YTD	YoY
Philippines	3,605,787	45%	-17%	8,691,320	-9%
New Caledonia	131,882	-33%	-11%	535,834	-33%
Guatemala	69,780	74%	n/a	290,822	308%
Côte d'Ivoire	62,000	-37%	49%	474,117	-13%
Russia	32,091	1%	259%	134,159	36%

NCA CATHODE NET EXPORT



Exports	May-25	MoM	YoY	YTD	YoY
Taiwan	226	-20%	21%	927	15%
Malaysia	20	33%	n/a	36	-77%

NCM PRECURSOR NET EXPORT

Exports	May-25	MoM	YoY	YTD	YoY
South Korea	5,111	15%	-62%	25,615	-60%
Poland	480	860%	n/a	545	111%
Morocco	437	224%	n/a	657	n/a
Indonesia	150	-53%	n/a	1,085	n/a
Japan	5	n/a	n/a	10	233%

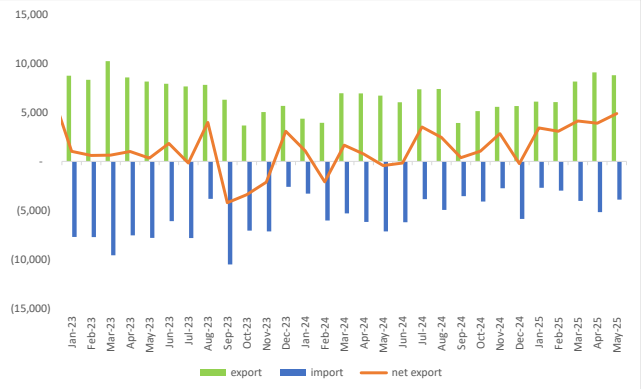
NCA PRECURSOR NET EXPORT

Exports	May-25	MoM	YoY	YTD	YoY
Japan	n/a	-100%	-100%	20,400	721%
South Korea	n/a	-100%	n/a	137	1,145%

BATTERY MATERIALS TRADE FLOW ANALYSIS

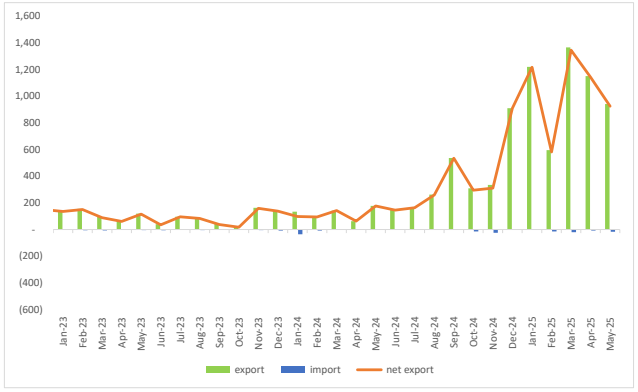
SOURCE: GTT, KALLANISH

NCM CATHODE NET EXPORT



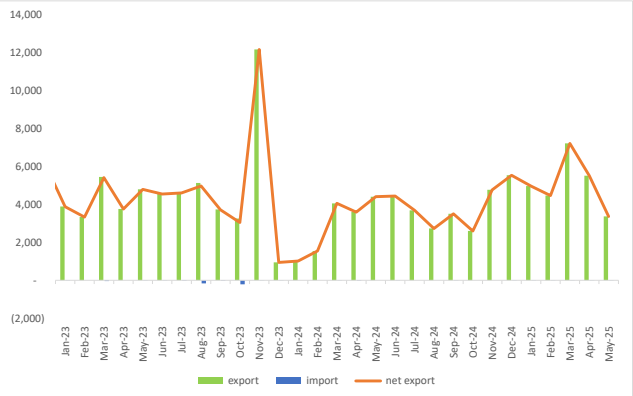
Exports	May-25	MoM	YoY	YTD	YoY
South Korea	4,621	-2%	30%	20,948	17%
Japan	1,108	9%	14%	4,777	20%
Poland	1,021	-34%	-4%	4,895	46%
Indonesia	855	-23%	87%	4,003	255%
Germany	425	412%	8,400%	610	1,319%

LFP CATHODE NET EXPORT



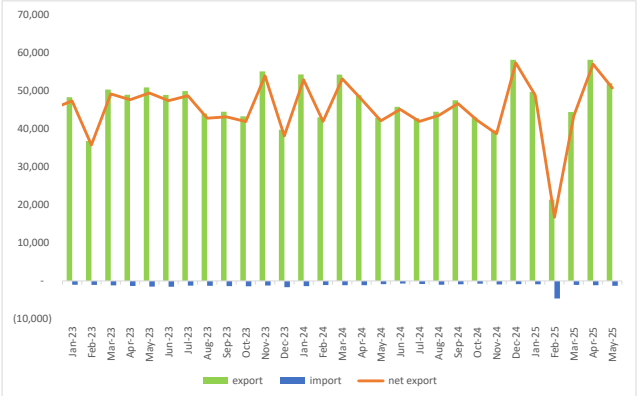
Exports	May-25	MoM	YoY	YTD	YoY
Vietnam	517	-47%	n/a	3,424	n/a
Taiwan	320	408%	2,567%	789	2,092%
Poland	52	n/a	n/a	182	n/a
United States	26	271%	1,200%	175	3,400%
South Korea	25	-70%	-65%	281	-15%

SPHERICAL GRAPHITE NET EXPORT



Exports	May-25	MoM	YoY	YTD	YoY
South Korea	2,044	-33%	-18%	9,280	31%
Indonesia	782	-41%	n/a	8,450	n/a
Japan	545	-6%	-47%	3,700	-17%
Canada	1	n/a	n/a	5	n/a

SYNTHETIC GRAPHITE NET EXPORT



Exports	May-25	MoM	YoY	YTD	YoY
India	9,477	2%	76%	35,868	40%
Japan	7,847	59%	42%	28,024	-3%
Netherlands	5,382	-27%	2,890%	16,721	-7%
Thailand	3,263	14%	10%	9,871	16%
South Korea	2,737	-10%	-36%	15,283	-9%

CONTACT US

If you found this issue of Kallanish Power Materials interesting please let us know, we would love to hear from you.

Kallanish - UK
London
t: +44 20 3885 7100

Kallanish - China
Shanghai
t: +86 15021416087

Kallanish - Singapore
t: +65 9766 81757

Kallanish - USA
t: +1 412 569 8134

Kallanish - Germany
t: +49 304280 2034

Kallanish - Bulgaria
t: +44 203 885 7285

General Enquires:
www.kallanish.com
info@kallanish.com

Contact the Editor:
Gabriela Farhangi
gabriela.farhangi@kallanish.com

Social Media: