2026 Credit Outlook | China's Electrolytic Aluminum Industry: Tight Fundamentals Underpin Prices, Lower Costs Sustain Profitability

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Summary

Limited supply headroom and resilient emerging demand are expected to keep China's electrolytic aluminum industry in a tight supply-demand balance. In China, the domestic electrolytic aluminum capacity has effectively reached the regulatory ceiling, while utilization is near theoretical limits, leaving little room for supply growth. Overseas supply is unlikely to provide meaningful relief in the near term, as high energy costs and power shortages continue to constrain production. Russia remains China's main source of electrolytic aluminum imports, though volumes may be shadowed by geopolitical factors. On demand side, stronger investment in power grids and energy storage, together with continued momentum in new energy vehicles, should offset softer demand from property and photovoltaic. In sum, China's electrolytic aluminum consumption is expected to continue growing, with tight supply-demand balance likely to persist and support sector fundamentals in 2026.

Aluminum prices are likely to remain well-supported, while declining costs should help sustain strong industry margins. In 2025, higher aluminum prices, coupled with lower costs of major inputs such as alumina and electricity, drove a rebound in per-ton profitability for China's electrolytic aluminum producers. In 2026, aluminum prices are expected to remain resilient under the tight supply-demand dynamics. Key inputs including alumina and carbon anodes are unlikely to see meaningful price upside amid oversupply. In addition, a relatively balanced-to-loose power market could keep electricity tariffs stable or mildly lower. As a result, the sector's cost base may continue to ease. The resulting spread between resilient aluminum prices and softer input costs should support industry profitability at elevated levels in 2026.

Continuing deleveraging supports steady improvement in sector credit profiles. Benefiting from sustained strong profitability and cash flow generation, electrolytic aluminum producers continue to deleverage, with debt-servicing and liquidity pressures easing further. Given that the global electrolytic aluminum market is still expected to remain in a tight supply-demand balance in 2026, the sector's credit fundamentals are likely to remain stable to improving over the near to medium term.

This report is translated from the original Chinese publication. For any discrepancies, the Chinese version prevails.

1. Operating Environment of the Industry

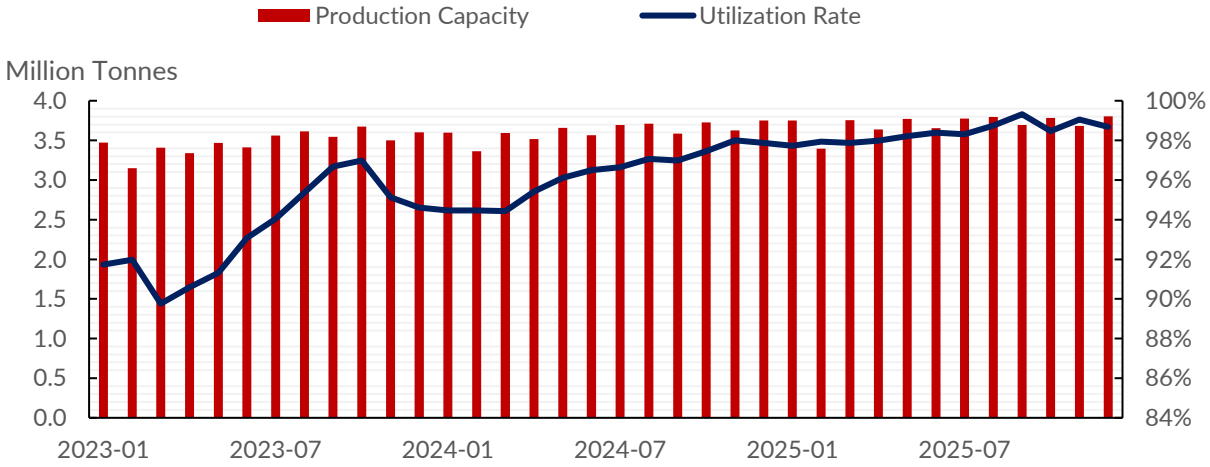
(1) Supply: the domestic primary aluminum capacity has largely reached regulatory ceiling and utilization is nearing saturation, while overseas supply remains constrained in the near term by elevated energy costs and power shortages; imports and recycled aluminum provide supplementation, but marginal growth in electrolytic aluminum supply remains limited

Domestic primary aluminum ingot capacity in China has largely approached the regulatory ceiling and is operating at close to full utilization, indicating limited supply headroom. As of end-2025, China's operating electrolytic aluminum capacity stood at 44.59 million tonnes, only marginally below the compliant capacity ceiling of 45.00 million tonnes. Capacity utilization was close to 100% and had essentially reached saturation. The additional 730,000 tonnes of operating capacity added during the year mainly came from production resumptions and technical upgrade projects in Sichuan, Guangxi, Qinghai and Guizhou, with no new capacity commissioned outside the approved quota.

Looking ahead, domestic electrolytic aluminum supply is expected to remain constrained over the near to medium term. In 2026, only limited incremental output is likely to come from projects such as Huomei Hongjun (霍煤鸿骏) in Inner Mongolia and Tianshan Aluminum (天山铝业) in Xinjiang. Another point worth noting is that, as China's decarbonization agenda advances, the pace of capacity relocation toward regions with abundant clean energy resources has accelerated in recent years. During the 14th Five-Year Plan period (Year 2021-2025), Yunnan's operating electrolytic aluminum capacity increased by 2.85 million tonnes to 6.56 million tonnes, placing the province among the top three nationwide. By 2025, Yunnan accounted for more than 14% of China's electrolytic aluminum capacity, and its share may continue to rise.

However, Yunnan's energy system remains heavily reliant on hydropower and is also subject to outbound electricity transmission mandates under the West-to-East Power Transmission (西电东送) program. As a result, local power generation is subject to weather conditions and cross-provincial power allocation policies. Such instability could directly affect aluminum smelting operations and may pose potential challenges to the stability of China's overall electrolytic aluminum supply.

Chart 1: China's Electrolytic Aluminum Utilization Is Near Theoretical Limits



Source: WIND, CSCI Pengyuan

Chart 2: Limited Room for Production Capacity Expansion in China (in Thousand Tonnes)

Producers	New Capacity	Replacement	2024	2025	2026	2027-2030
Xinfa	550	Yes	200			
Huayun New Materials	420	Yes	170			
Chalco	500	Yes		100		
Huomei Hongjun	350	No			350	
Haiyuan Green Energy	110	No				110
Tianshan Aluminum	240	No			240	
Xiangyu Group	300	No				300
Total	**2,470**		**370**	**100**	**590**	**410**

Note:
Xinfa: Xinfa Group Co., Ltd. / 信发集团有限公司
Huayun New Materials: Inner Mongolia Huayun New Materials Co., Ltd. / 内蒙古华云新材料有限公司
Chalco: Aluminum Corporation of China Limited / 中国铝业股份有限公司
Huomei Hongjun: Inner Mongolia Huomei Hongjun Aluminium & Power Co., Ltd. / 内蒙古霍煤鸿骏铝电有限责任公司
Haiyuan Green Energy: Qinghai Haiyuan Green Energy Aluminium Co., Ltd. / 青海海源绿能铝业有限公司
Tianshan Aluminum: Tianshan Aluminum Group Co., Ltd. / 天山铝业集团股份有限公司
Xiangyu Group: Xiamen Xiangyu Group Corporation / 厦门象屿集团有限公司

Source: Antaike, CSCI Pengyuan

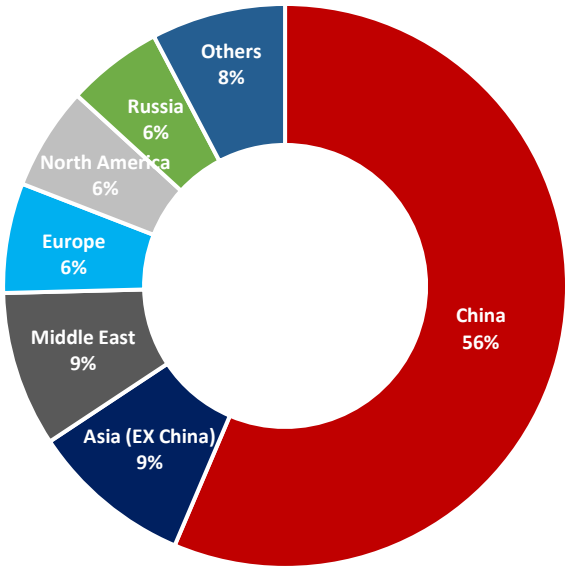
Overseas electrolytic aluminum supply is likely to see only limited marginal growth in the near term, while China's current imports of electrolytic aluminum are mainly sourced from Russia. At present, more than half of global electrolytic aluminum capacity is concentrated in China, with other major producing countries and regions including India, Russia, Europe, the United States, and the Middle East. In recent years, several aluminum producers in Europe and the United States have been forced to shut down or curtail production due to elevated energy costs, tight power supply, and aging equipment. Restarting idled capacity would require substantial capital expenditure on equipment overhauls, with complex technical processes involved, including preheating and recommissioning. Given that these constraints remain in place, previously shuttered capacity in Europe and the United States is unlikely to resume in the near term.

Meanwhile, shipping through the Strait of Hormuz was disrupted from late February 2026 due to the U.S.-Iran conflict, blocking more than 90% of alumina imports into the Middle East. Against this backdrop of raw material shortages, electrolytic aluminum capacity in the region faces curtailment risk. The Middle East accounts for about 9% of global electrolytic aluminum capacity, most of which is export-oriented. A number of aluminum producers in the region have already materially reduced or suspended production, and further capacity contraction in the Middle East could pose additional disruption to global supply.

Indonesia has become a key growth market for global electrolytic aluminum capacity, supported by abundant bauxite resources and relatively low labor costs. However, power constraints have slowed capacity expansion. The national grid serving Indonesia's industrial parks covers only about 30% of aluminum smelting areas, while restrictions on new overseas coal-fired power projects and Indonesia's energy transition have further constrained power development. As a result, a number of electrolytic aluminum projects have been delayed in recent years. Overall, meaningful additions to effective overseas capacity are likely to remain limited in the near term.

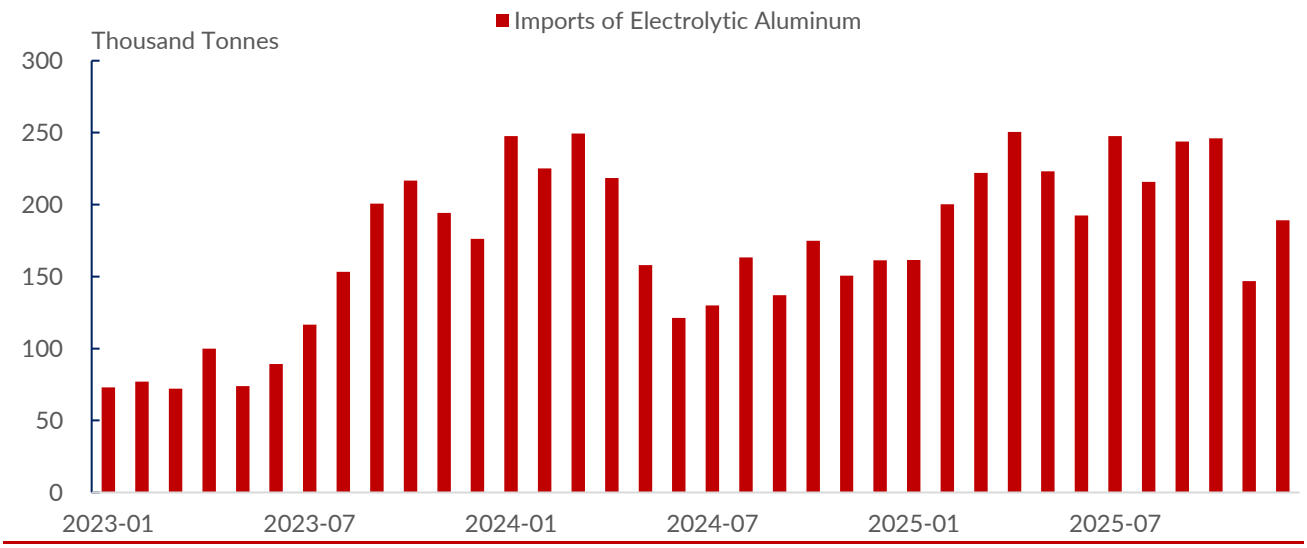
Tight overseas supply conditions are directly reflected in China's import structure. Supply tightness and elevated energy costs have pushed up overseas aluminum prices, with the landed cost of imported aluminum ingot exceeding domestic prices, rendering general trade imports of electrolytic aluminum no longer commercially viable. It is precisely under this breakdown in normal market economics that Russian electrolytic aluminum, redirected to eastern markets because of Western sanctions, has become the core source of China's electrolytic aluminum imports in recent years. In 2025, about 80% of China's electrolytic aluminum imports came from Russia, mainly by long-term supply agreements. However, this import structure is susceptible to various geopolitical factors.

Chart 3: Global Distribution of Electrolytic Aluminum Production Capacity, 2025



Source: CRU, CSCI Pengyuan

Chart 4: Overseas Imports Provide Supplemental Support to China's Supply



Source: WIND, CSCI Pengyuan

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Table 1: Major Electrolytic Aluminum Projects Under Construction in Indonesia and Delays (Thousand Tonnes)

Parent/ Sponsors	Projects	Planned Capacities	Originally Scheduled Start-Up	Actual / Latest Expected Start-Up	Main Reasons for Delay
Huafeng Group + Tsingshan Group	PT HCAI	250	Full ramp-up in 2024	Only 30,000 tonnes is commissioned by October 2024; full ramp-up not yet achieved	Start-up pace slowed by high raw material costs; as of end-November 2025, only around half of the new capacity was in operation
Adaro + Lygend Resources + CITA	Kaltara (KAI) (KIP1)	500	2024	85,000 tonnes commissioned in November 2025	Construction of supporting power facilities took longer than expected
Nanshan Aluminum + Qili Aluminum + Red Stone Aluminum + Xiangyu Group	PT BAI (Bintan)	500	Jul-26	Expected to commence operations by end-2027, with output ramp-up beginning in 2028	Existing captive power in the industrial park can currently supply only the alumina project; future electrolytic aluminum operations will need power support from the local energy company
Xinfa Group + Tsingshan Group	Juwan + Pioneer (IWIP)	250+250	Full ramp-up in Q2 2024	Phased commissioning expected in Q1 2026	Current power supply is only sufficient for Juwan; further expansion requires a self-built power plant
Xinfa Group + Tsingshan Group	Taijing (IMIP)	600	Q4 2024	Q2 2026	Residual power capacity may allow Xinfa Group to commission part of the project, but further capacity expansion will require a self-built power plant
Asahan	Kuala Tanjung	50	2026	Q1 2027	Aging power equipment and facilities at the existing plant, led to insufficient electricity supply
Total	--	**2,400**	--	--	--

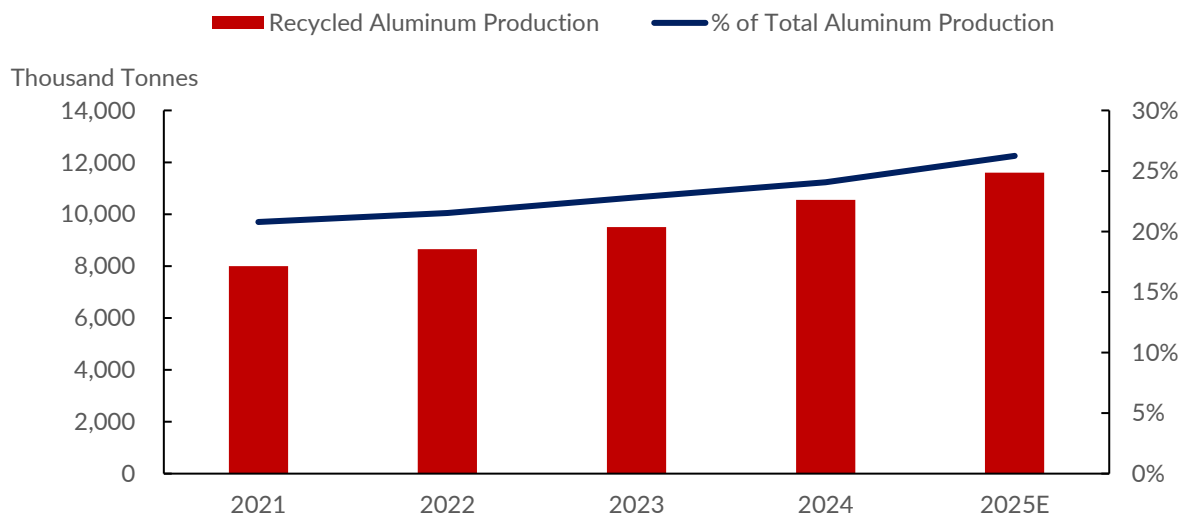
Note: Planned capacity in the table refers to phased future capacity.
Source: CSCI Pengyuan, based on publicly available information and a non-exhaustive compilation.

Recycled aluminum has become an increasingly important source of supply in China's aluminum industry and continues to provide meaningful supplementation on the supply side. As domestic electrolytic aluminum capacity approaches the 45 million-tonne regulatory ceiling, room for further expansion has become extremely limited, and primary aluminum alone can no longer meet steadily growing demand. Against this backdrop, recycled aluminum, as a product of resource recycling, requires little reliance on new mining activity and has become one of the most direct and practical ways to help fill the supply gap. It also offers clear advantages, including low energy consumption—at around 5% of that of primary aluminum—lower carbon emissions, shorter production cycles, and lower costs.

At present, China's recycled aluminum industry remains highly concentrated in the segment of "Automotive Casting". Its growth has also been supported by policy tailwinds. In recent years, the Chinese government has consistently included recycled metals among key green and low-carbon industries and introduced a range of supportive policies. These policy measures have directly lowered the cost of capacity expansion and accelerated industry scaling, placing China's recycled aluminum industry on a faster growth gear. Recycled aluminum output is estimated to reach 11.6 million tonnes in 2025, representing more than 25% of total aluminum output and a growth of 57% from the base year of 2020. The aluminum recycling capability has played an important role in easing the capacity bottleneck in electrolytic aluminum for China.

Recycled aluminum capacity expansion continues to accelerate. In 2025, a number of recycled aluminum projects commenced construction or started operation. For example, the first production line of Guizhou Guangyu Aluminum(贵州广裕铝业)'s 200,000-tonne recycled aluminum project was commissioned in August, with full ramp-up expected in 2027; JISCO Dongxing Aluminum's (酒钢东兴铝业)35,000-tonne-per-year recycled aluminum project, with a reserved capacity of 65,000 tonnes, was fully commissioned in September; and the 200,000-tonne recycled aluminum circular utilization project in Chongqing Western Science City (重庆西部科学城)is targeting start-up in early 2026. In addition, Chinalco Qingdao Light Metals Co. Ltd. (中铝青岛轻金属有限公司) plans to build 400,000 tonnes of recycled aluminum capacity over the next five years, which should further support overall capacity growth. According to the Implementation Plan for High-Quality Development of the Aluminum Industry (2025–2027) (《铝产业高质量发展实施方案（2025—2027 年）》)jointly issued by the National Development and Reform Commission and other relevant authorities, China's recycled aluminum output is expected to exceed 15 million tonnes by 2027.

Chart 5: Continued Growth in Recycled Aluminum Output in Recent Years



Note: The share of recycled aluminum in total aluminum output is calculated as recycled aluminum output divided by the sum of recycled aluminum output and primary aluminum output.
Source: China Nonferrous Metals News; compiled by CSCI Pengyuan.

Table 2: Major Policies Supporting the Development of China's Recycled Aluminum Industry in Recent Years

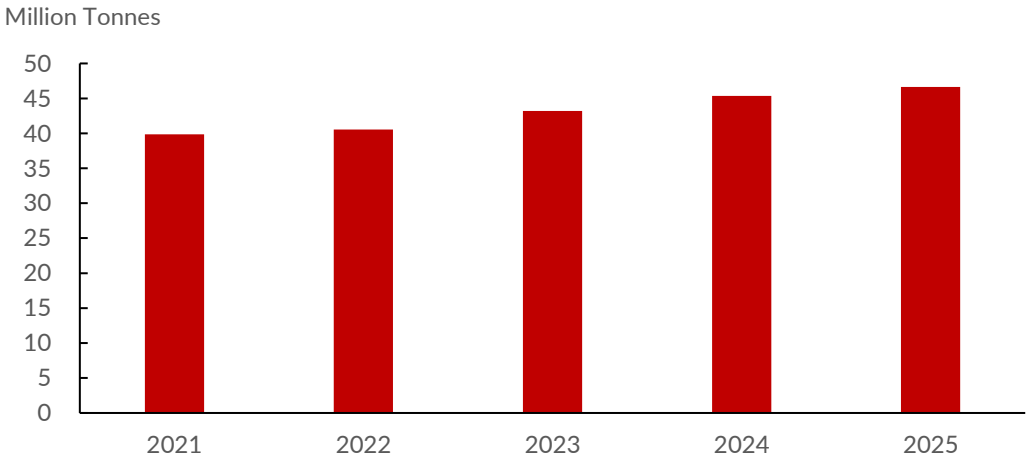
Date	Policy	Issuing Authority	Key Content
Jul-21	14th Five-Year Plan for Circular Economy Development 《"十四五"循环经济发展规划》	NDRC	China's recycled aluminum output is targeted to reach 11.5 million tonnes by 2025
Oct-21	Action Plan for Carbon Peaking Before 2030《2030 年前碳达峰行动方案》	State Council	Promotes carbon peaking in the nonferrous metals industry and calls for faster development of the recycled nonferrous metals sector
Dec-21	14th Five-Year Plan for Raw Materials Industry Development 《"十四五"原材料工业发展规划》	MIIT MOST MNR	Supports leading enterprises in establishing large-scale recycled aluminum recovery bases and industrial clusters, and promotes integrated development across recycling, dismantling, processing, sorting, and distribution of recycled metals
Dec-23	Guiding Catalogue for Industrial Structure Adjustment (2024 Edition) 《产业结构调整指导目录（2024）》	NDRC	Classifies the recycled aluminum industry as an encouraged sector
Dec-23	Standard Conditions for the Copper and Aluminum Scrap Processing and Utilization Industry《废铜铝加工利用行业规范条件》	MIIT	Sets out requirements for site selection, scale, and other operational standards for the recycled aluminum industry, and guides the high-quality development of the scrap copper and aluminum processing, distribution, and utilization sector
Mar-25	Implementation Plan for High-Quality Development of the Aluminum Industry (2025–2027) 《铝产业高质量发展实施方案（2025—2027 年）》	NDRC, MIIT, and other relevant authorities	Targets China's recycled aluminum output at more than 15 million tonnes by 2027

Source: WIND, CSCI Pengyuan

(2) China's electrolytic aluminum consumption is expected to continue growing in 2026, as stronger demand from power grids, energy storage and new energy vehicles offsets softer property demand, though tariff-related risks warrant attention.

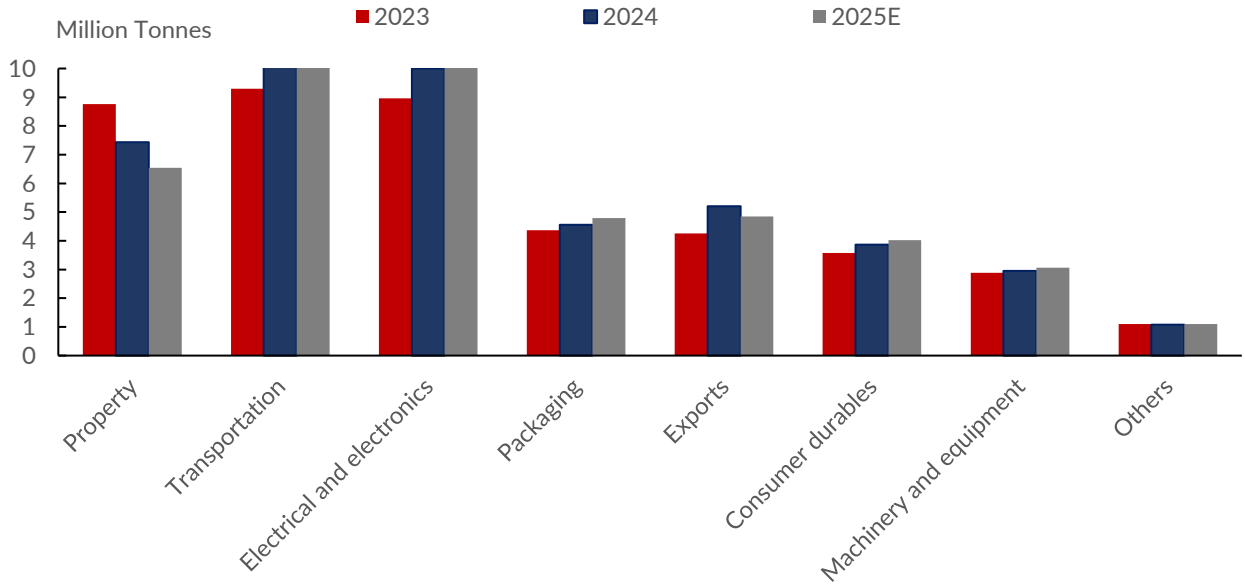
In China, the three main pillars of electrolytic aluminum consumption are transportation, electrical and electronics applications—including photovoltaics, power grids and energy storage—and the property and construction sector. Aluminum demand from the property and construction sector has declined markedly amid the prolonged downturn in the real estate industry, but this has been effectively offset by rapid growth in aluminum demand from the transportation and electrical and electronics sectors in recent years. As a result, China's apparent electrolytic aluminum consumption rose 2.89% year on year to 46.65 million tonnes in 2025, extending its trend of low-speed growth.

Chart 6: China's Apparent Consumption of Electrolytic Aluminum



Source: Changjiang Nonferrous Metals Network, SMM, Wind, publicly available information; compiled by CSCI Pengyuan

Chart 7: Transportation and Electrical/Electronics are Now Key Pillars of Electrolytic Aluminum Demand

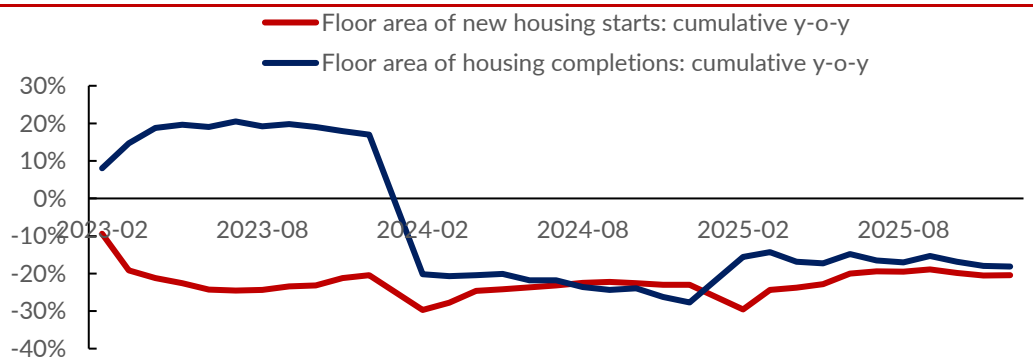


Source: SMM, Public Information, CSCI Pengyuan

i. Traditional sectors

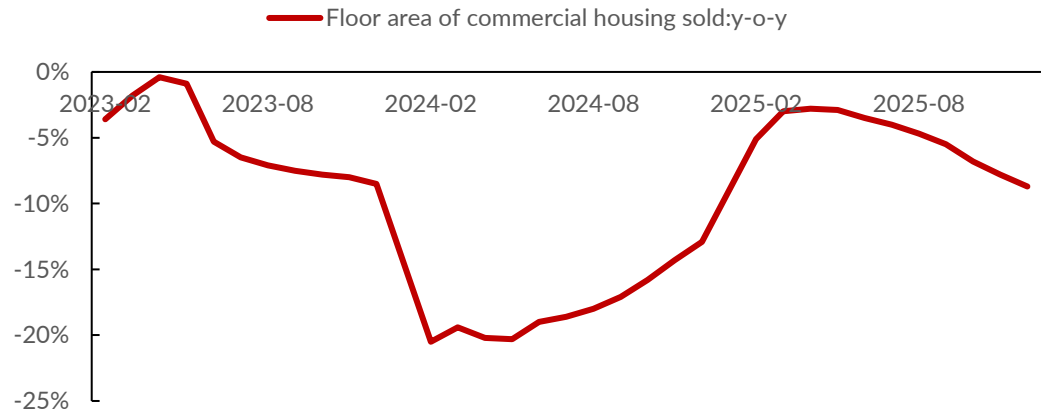
The drag from property and construction demand on aluminum consumption may continue to moderate at the margin. Aluminum alloys are widely used in building structures and interior and exterior design, including window and door frames, curtain walls, roofs, and partitions, with usage typically most intensive during the completion stage of residential projects. China's property market remains in an adjustment cycle. However, following the package of property-support measures outlined at the September 24, 2024 Politburo meeting, local governments have eased restrictive policies and lowered home purchase costs in a "city-by-city" manner, helping stabilize the market. In 2025, declines in floor area completed, new housing starts, and commercial housing sales all narrowed. Given that property-related aluminum demand has already fallen for several consecutive years and the base is now relatively low, further downside may be limited. In addition, the 15th Five-Year Plan places "preventing and resolving real estate risks" among its key tasks, while the publication of Improving and Stabilizing Expectations for the Real Estate Market in Qiushi in early 2025 also sent a supportive signal. New incremental policy support may therefore help further narrow the decline in property investment, suggesting that the property downturn's marginal drag on electrolytic aluminum consumption could ease.

Chart 8: Declines in Housing Starts and Completions Narrowed in 2025



Source: WIND, CSCI Pengyuan

Chart 9: Commercial Housing Sales Remain Weak



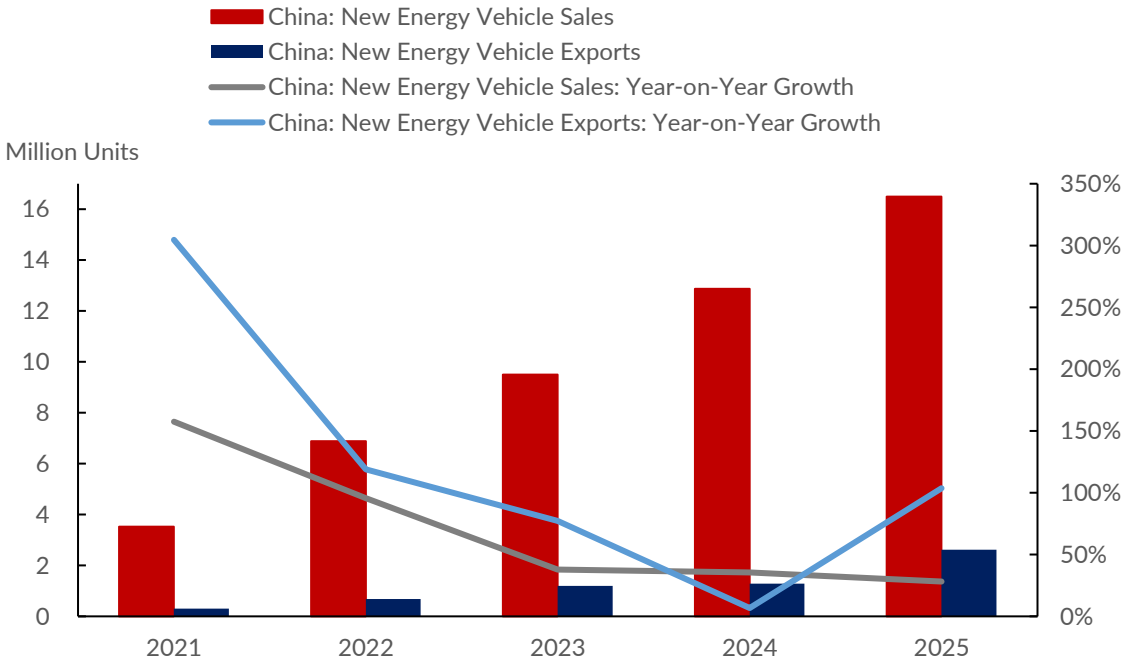
Source: SMM, Public Information, CSCI Pengyuan

ii. Emerging sectors

Strong momentum in new energy vehicles is expected to continue supporting growth in aluminum demand. Aluminum demand from the transportation sector mainly comes from new energy vehicles and rail transit, with new energy vehicles representing the primary source of incremental demand. In 2025, China's new energy vehicle market achieved breakthroughs in both scale and penetration, driven by the continuation of the trade-in and equipment renewal policies, a steady rollout of competitive new models, and continued release of consumer demand. Full-year sales reached 16.44 million units, up 28% year on year, while market penetration rose to 52.7% in December. At the same time, as Chinese automakers shifted their export focus away from the Europe and the United States market, where protectionism being on the rise, toward overseas emerging markets with stronger demand, including the Middle East, Latin America, and Southeast Asia, new energy vehicle exports increased by 103.66% in 2025.

Looking ahead, China's new energy vehicle sector is likely to remain relatively strong in 2026. Domestic purchases will continue to benefit from partial purchase tax incentives and the extension of trade-in subsidies, both of which should help underpin demand. In addition, continued expansion of charging infrastructure and automakers' ongoing investment in smart vehicle technologies are likely to support replacement demand, while demand in overseas emerging markets is also expected to remain solid. As a result, the new energy vehicle industry is likely to maintain strong momentum in 2026.

Chart 10: New Energy Vehicle Sales Remain Strong



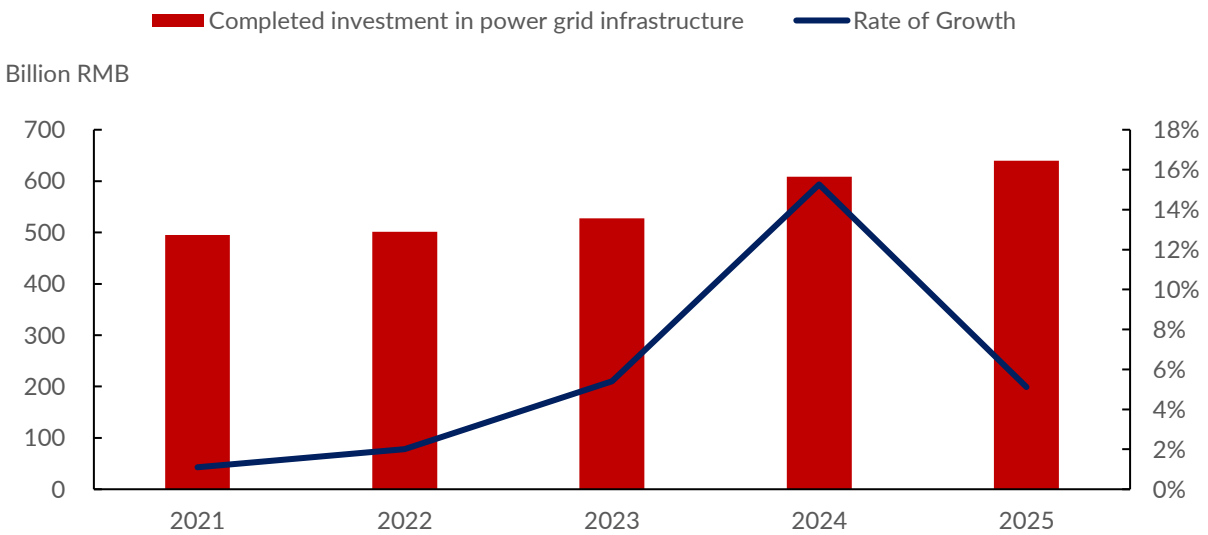
Source: WIND, CSCI Pengyuan

China's energy transition has entered a new phase, with large-scale grid upgrades and energy storage buildout expected to replace photovoltaics as the main driver of aluminum demand growth in the power sector. In recent years, China's electricity consumption has risen steadily, supported by the accelerated rollout of digital infrastructure and new productive forces. For energy security and achieving carbon goals, China has continued to advance its energy transition and expand clean energy sources such as solar, wind, and hydropower. Among them, the photovoltaic sector, traditionally a major aluminum consumer, is now facing systemic bottlenecks in grid integration and energy storage after a period of rapid growth.

These bottlenecks have in turn driven a policy shift. In 2025, China introduced key measures including a new set of rules on distributed solar management and reforms to market-based on-grid electricity pricing, shifting the earnings model for photovoltaic projects away from the previous framework of relatively stable returns toward greater market-based volatility. As a result, market sentiment has turned more cautious, and the pace of new project investment and construction has slowed. According to forecasts from the China Photovoltaic Industry Association, new solar installations in China could decline by 23.8% to 42.9% in 2026.

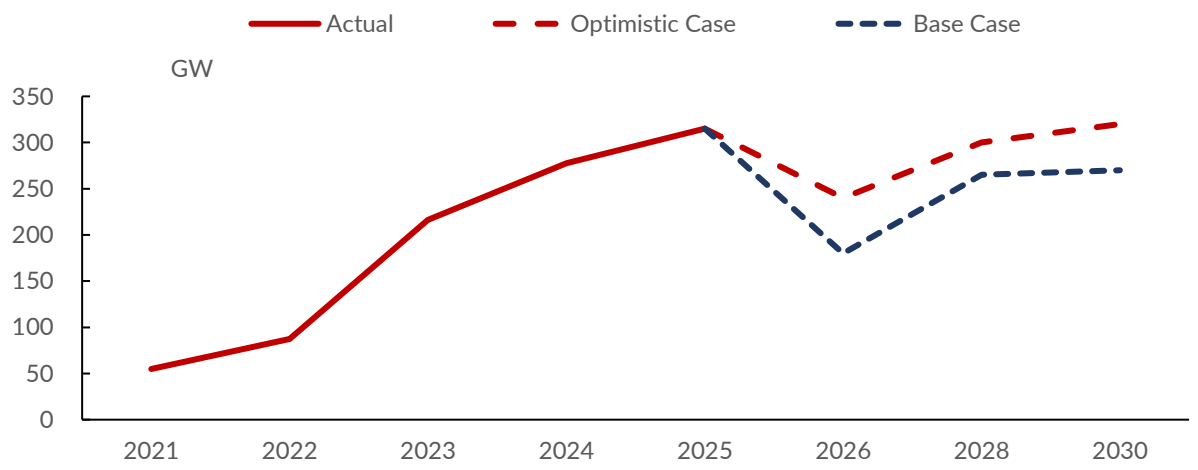
Against this backdrop, China's energy policy focus is shifting from simply expanding clean energy installation capacity to addressing system-level challenges such as grid integration and energy storage, with stronger emphasis on grid upgrades and storage deployment. State Grid's 15th Five-Year Plan explicitly calls for improving grid balancing capabilities and accelerating the development of new energy storage, with planned investment exceeding RMB4 trillion, up about 40% from the 14th Five-Year Plan period. Supported by faster progress in grid upgrades and energy storage construction, as well as broader adoption of aluminum replacing copper in certain applications, these trends are expected to create a strong new source of aluminum demand growth. Ultra-high-voltage transmission lines, distribution grid upgrades, and energy storage facilities all have rigid demand for aluminum materials, which should help offset weakening demand from photovoltaics and support steady growth in aluminum consumption across the broader electrical and electronics sector.

Chart 11: Power Grid Investment Has Continued to Expand in Recent Years



Source: WIND, CSCI Pengyuan

Chart 12: New Photovoltaic Installations are Expected to Decline in 2026



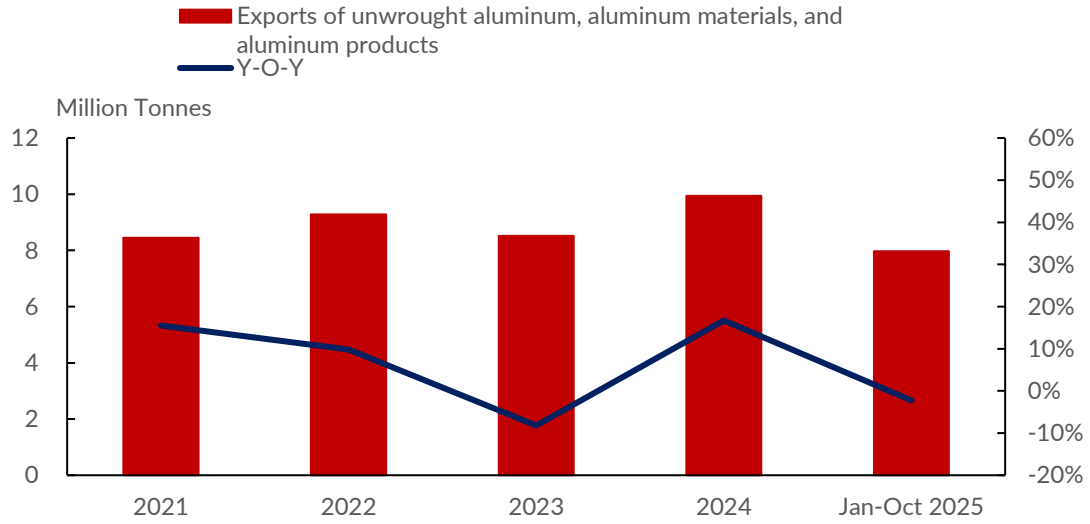
Source: China Photovoltaic Industry Association, CSCI Pengyuan

iii. Export Markets

Changes in tariff policies among major export destinations and the implementation of the EU's carbon border mechanism may create some disruption to China's aluminum exports. China restricts exports of primary industrial products such as electrolytic aluminum, while encouraging exports of higher value-added aluminum materials and aluminum products. Coupled with strong domestic demand for electrolytic aluminum, this means that most of China's electrolytic aluminum is sold domestically, while downstream aluminum materials and products account for the bulk of exports. Affected by high U.S. tariffs and China's removal of export tax rebates on aluminum products, China's exports of unwrought aluminum, aluminum materials, and aluminum products fell 2.23% year on year to 7.9674 million tonnes in the first ten months of 2025. The structure of export markets has also gradually shifted away from the United States toward countries such as Mexico, Vietnam, South Korea, and various Belt and Road countries. The trade war led by the United States continues to reshape global aluminum trade flows, and changes in tariff policies among major export destinations warrant close attention.

On the other hand, China exported around 750,000 tonnes of aluminum products to the European Union in 2025. Beginning in 2026, the EU's Carbon Border Adjustment Mechanism (CBAM) will be fully implemented, requiring importers of aluminum products to purchase CBAM certificates corresponding to the carbon emissions generated during production in order to bridge the gap between the EU carbon price and the carbon price in the country of origin. As of end-2025, the EU carbon price stood at about EUR87 per tonne, while China's carbon market remains at an early stage of development and allowances are still allocated free of charge at present. The implementation of CBAM may therefore place some pressure on export demand from the EU.

Chart 13: China's Exports of Unwrought Aluminum, Aluminum Materials, and Aluminum Products Fluctuate



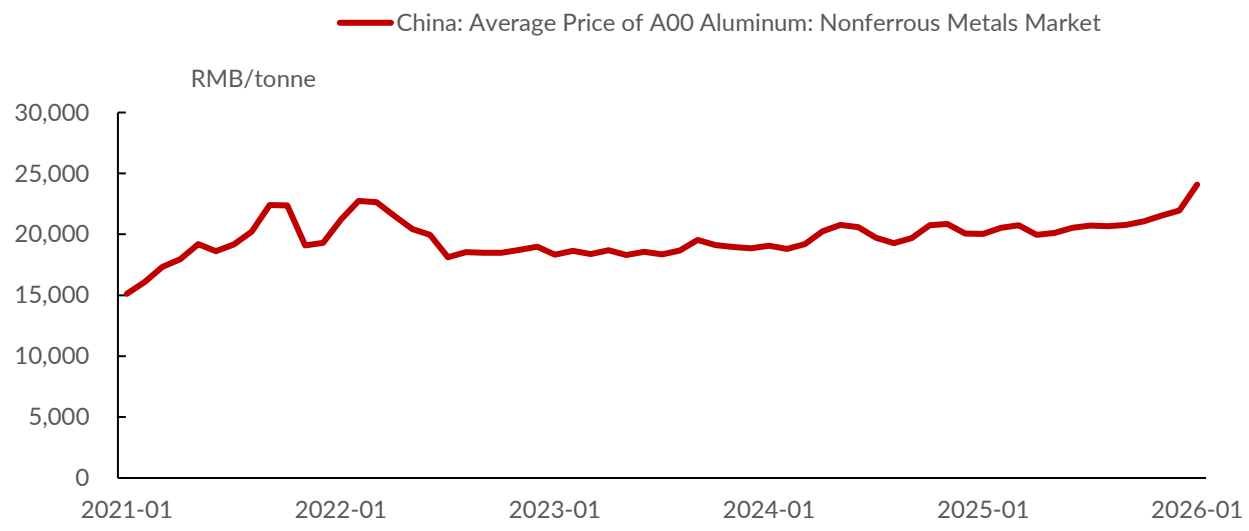
Source: WIND, CSCI Pengyuan

(3) Profitability: Under tight supply-demand conditions, aluminum prices are likely to remain more prone to upside than downside, while prices of key raw materials such as alumina and carbon anodes face limited upward momentum amid oversupply; together with potentially stable-to-lower power costs, this "scissors spread" should help keep profitability in the electrolytic aluminum industry at elevated levels.

Under tight supply-demand conditions, aluminum prices are likely to remain more prone to upside than downside. Aluminum prices rose markedly overall in 2025. Looking ahead to 2026, supply is expected to remain tight, while strong demand from industries such as new energy vehicles, power grids, and energy storage should continue to provide support, leaving aluminum prices leaning towards the upside. That said, under China's tight domestic supply-demand balance, aluminum prices may remain sensitive to sentiment-driven volatility stemming from external supply disruptions. Since late February 2026, shipping disruptions in the Strait of Hormuz have led several Middle Eastern aluminum producers to significantly reduce or suspend production, driving a rapid rise in aluminum prices thereafter. In our view, however, although the Middle East accounts for about 9% of global electrolytic aluminum capacity, its exports are mainly directed to Europe. China's electrolytic aluminum market remains primarily domestically-oriented, with low external market dependency, while policy restrictions on electrolytic aluminum exports also remain in place. As a result, the supply-demand impact of the conflict in the Middle East on China's electrolytic aluminum market is likely to be limited, with the main effects are on Europe.

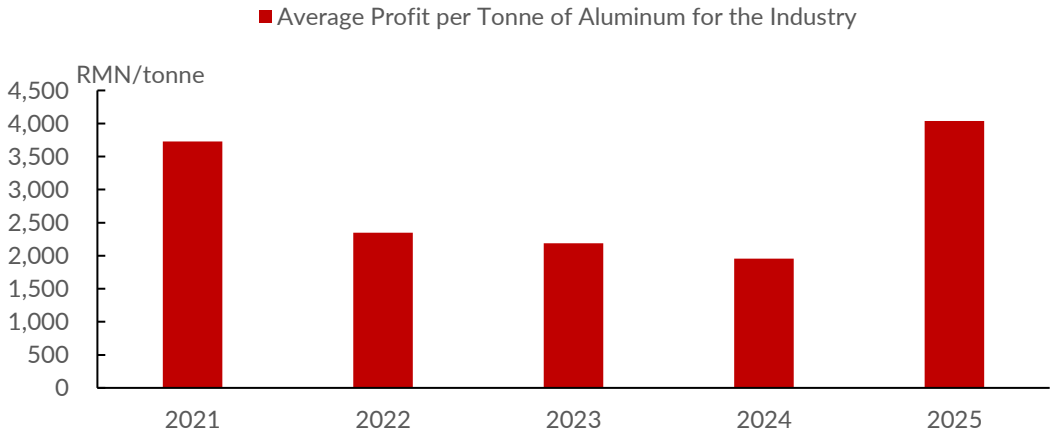
Alumina, electricity, and carbon anodes account for the bulk of electrolytic aluminum production costs. On average, producing one tonne of electrolytic aluminum requires 1.93x-1.98x tonnes of alumina, 0.45x-0.50x tonnes of carbon anodes, and around 13,500 kWh of electricity. Alumina and electricity each typically represent about 30%-40% of total costs, while carbon anodes account for about 15%. As a result, these three inputs together make up more than 80% of total production costs.

Chart 14: Aluminum Prices Moved Higher Overall in 2025



Source: WIND, CSCI Pengyuan

Chart 15: Profitability in China's Electrolytic Aluminum Industry Rebounded to High Levels in 2025

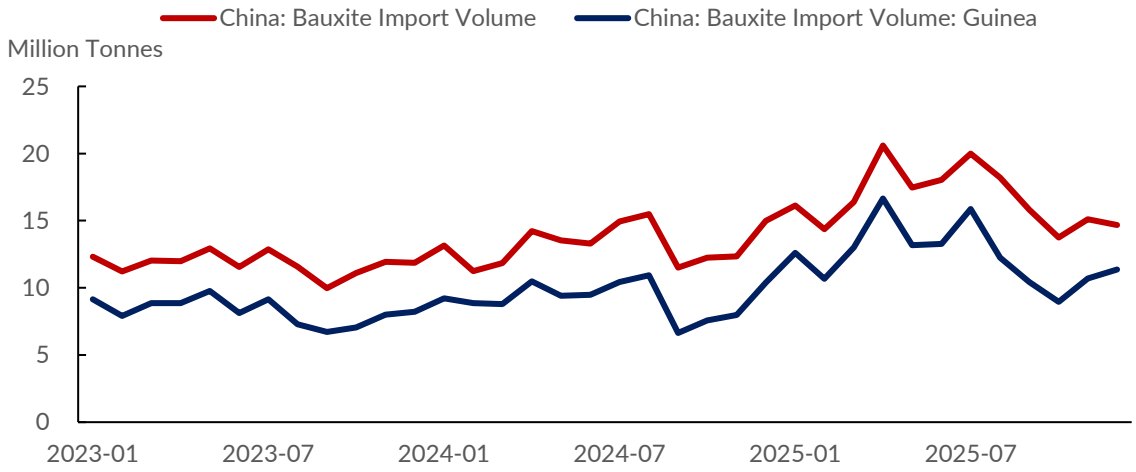


Source: Source: Baiinfo; compiled by CSCI Pengyuan.

Alumina: Oversupply is likely to persist, keeping prices under pressure. Unlike electrolytic aluminum, China does not impose a capacity ceiling on alumina. Supported by previous strong profitability, alumina producers have continued to expand capacity rapidly, with total capacity reaching 114.62 million tonnes by end-2025. By comparison, based on China's regulatory ceiling for electrolytic aluminum capacity, only about 86.40 million tonnes of alumina capacity would be needed to meet demand, implying a sizable oversupply. And, industry operating rates have generally remained below 85% in recent years, further highlighting the supply-demand imbalance. In addition, according to third-party survey data, China's alumina industry is expected to add more than 10 million tonnes of new capacity in 2026, which would further intensify oversupply pressures.

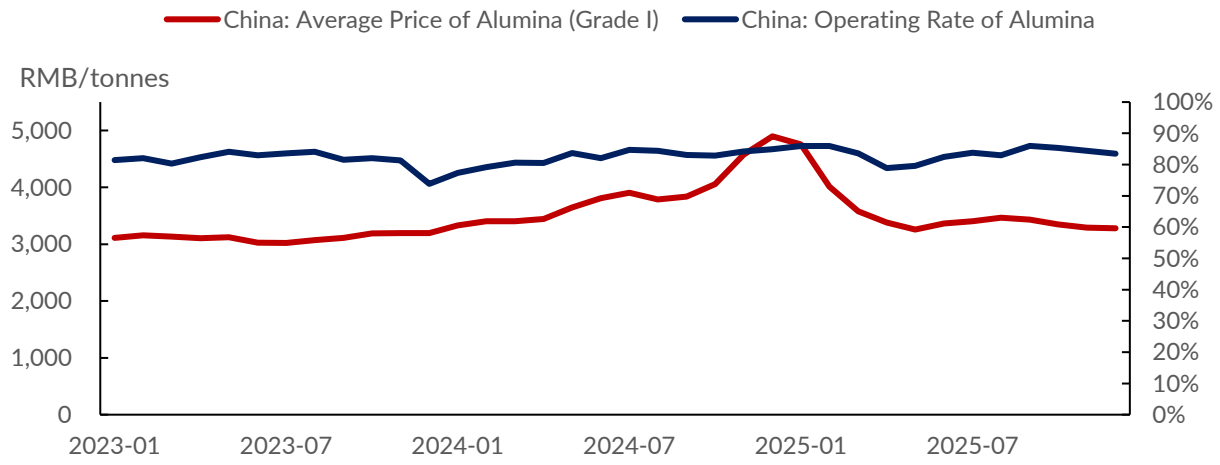
One point to watch is China's high dependence on bauxite imports. External dependency is currently above 70%, and more than 70% of overseas supply comes from Guinea, as bilateral cooperation continuing to deepen. In 2025, China imported 148 million tonnes of bauxite from Guinea, up 35.45% year on year. This means that the raw material cost and supply stability of China's alumina production remain highly dependent on mining output and shipment conditions in Guinea. On pricing, as disruptions related to Guinea's rainy season eased and alumina prices reverted to fundamentals shaped by oversupply, alumina prices retreated from previous highs in 2025. Looking ahead, prices may remain under pressure if oversupply persists, although short-term disruptions to overseas bauxite supply could trigger market volatility.

Chart 16: Aluminum Prices Moved Higher Overall in 2025



Source: WIND, CSCI Pengyuan

Chart 17: Profitability in China's Electrolytic Aluminum Industry Rebounded to High Levels in 2025



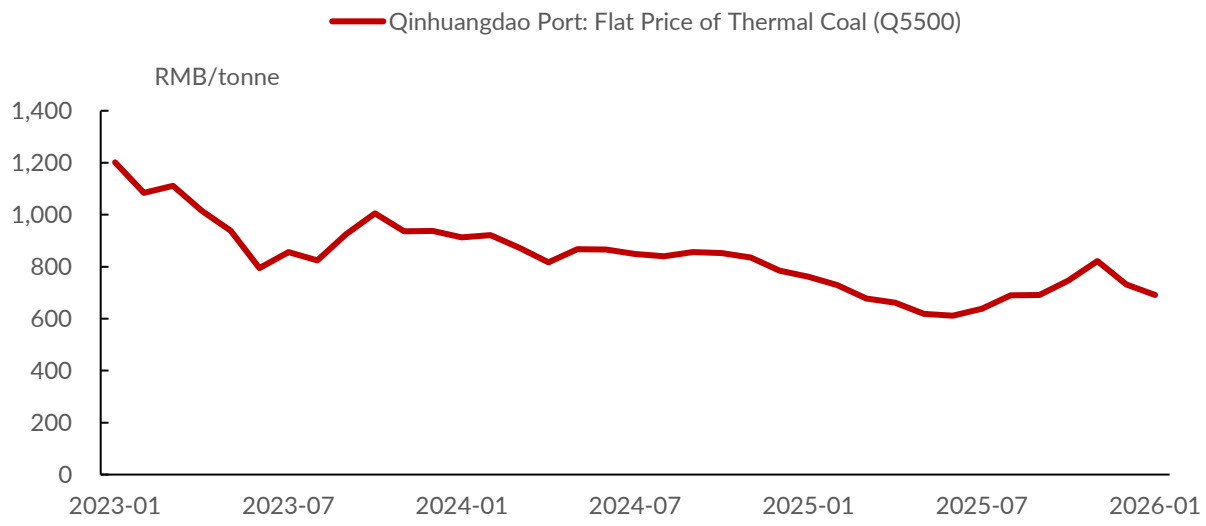
Source: Source: Baiinfo; compiled by CSCI Pengyuan

Energy costs: A relatively loose power supply-demand balance is likely to persist, keeping electricity costs stable to slightly lower. Power costs for electrolytic aluminum producers mainly consist of captive power tariffs and grid power tariffs, which

are driven by a variety of factors. For captive power, which accounted for about 57% of power usage by China's electrolytic aluminum producers in 2024, costs are mainly driven by coal prices. In recent years, the benchmark coal price in China has generally trended downward. Looking ahead to 2026, demand from coal-intensive industries is expected to remain relatively soft, while the limited elasticity of coal supply is also likely to persist, suggesting that coal prices may remain broadly stable.

For grid power tariffs, major power generators have lowered on-grid tariffs in recent years, while in January-February 2026 the year-on-year decline in proxy purchase electricity prices by grid operators widened notably from the same period in 2025. China's relatively loose power supply-demand balance is expected to continue in 2026. Together with downward pressure on electricity prices from the full market-based integration of new energy, this may keep grid power tariffs under pressure. Overall, electricity costs for the electrolytic aluminum industry are likely to remain stable with a mild downward bias.

Chart 18: The Benchmark Thermal Coal Price Has Moderated in Recent Years



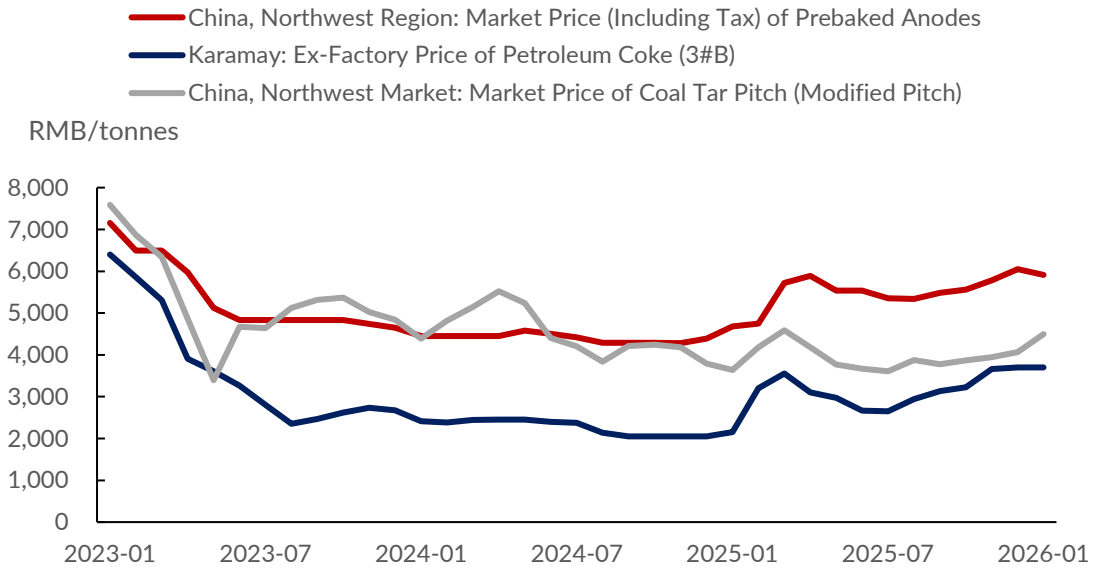
Source: WIND, CSCI Pengyuan

Carbon anodes: Industry-wide oversupply and weakening support from core input costs are likely to limit upside in prices. Carbon anode prices are closely linked to those of key raw materials, particularly petroleum coke and coal tar pitch, with petroleum coke accounting for the bulk of costs. In 2025, petroleum coke prices fluctuated upward, driven by frequent refinery maintenance and a surge in demand from lithium battery anode materials, while coal tar pitch prices rose overall, mainly due to tight upstream coal tar supply. Together, these factors pushed up carbon anode production costs. Downstream demand from the electrolytic aluminum sector remained strong, supporting an overall increase in carbon anode prices.

That said, downstream demand for carbon anodes remains highly concentrated in the electrolytic aluminum industry. By end-2025, domestic carbon anode capacity had expanded to 32.50 million tonnes, while only about 20.47 million tonnes would be needed to meet demand based on China's regulatory ceiling for electrolytic aluminum capacity, implying a sizable oversupply. Given that several million tonnes of new carbon anode capacity are still expected to come on line in 2026, the

industry's oversupply is likely to persist. In addition, supply of petroleum coke, the key raw material, may gradually loosen as refineries return from maintenance, weakening cost support. As a result, carbon anode prices are expected to enter a phase of fluctuation or mild decline overall. One factor to watch, however, is that the escalation of the geopolitical conflicts in the Middle East since late February 2026 has pushed up oil prices, which could raise petroleum coke costs and create periodic upward pressure on carbon anode prices.

Chart 19: Carbon Anode Prices Moved Higher Volatilely in 2025

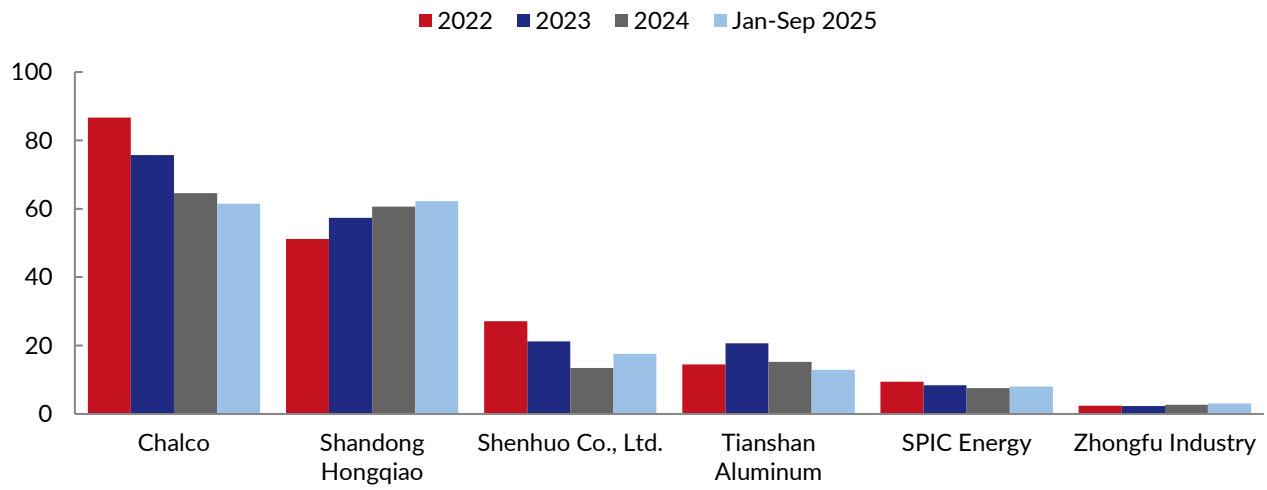


Source: WIND, CSCI Pengyuan

2. Analysis of Sample Companies

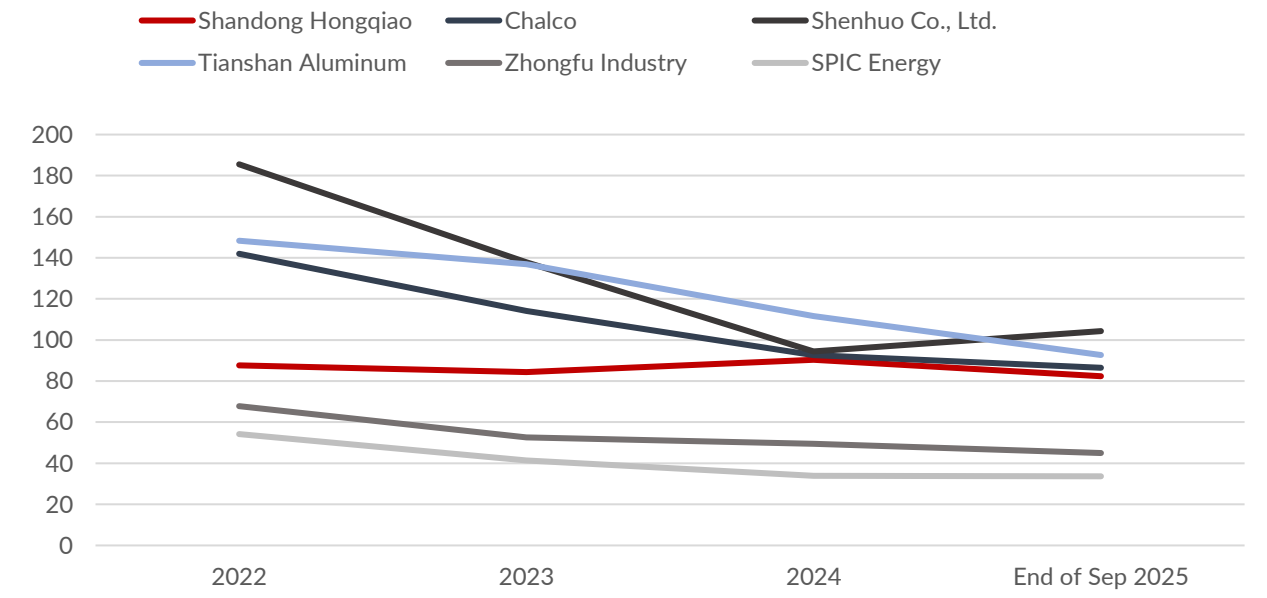
Against the backdrop of firm aluminum prices and lower costs, profitability in the electrolytic aluminum industry has remained elevated, and the sector's deleveraging trend has continued. On the liability side, supported by strong industry conditions, electrolytic aluminum producers have continued to accumulate cash. By end-September 2025, cash and cash-equivalent assets of the sample companies had increased notably, allowing the industry to maintain its proactive deleveraging trend. Interest-bearing debt declined across most sample companies, while the average debt-to-asset ratio of the sample group stood at 41.15% as of end-September 2025, down 2.95 percentage points year on year.

Chart 20: Interest-Bearing Debt of Major Listed Aluminum Producers / Bond Issuers (RMB bn)



Source: WIND, CSCI Pengyuan

Chart 21: Debt-to-Equity Ratios of Major Listed Aluminum Producers / Bond Issuers (%)

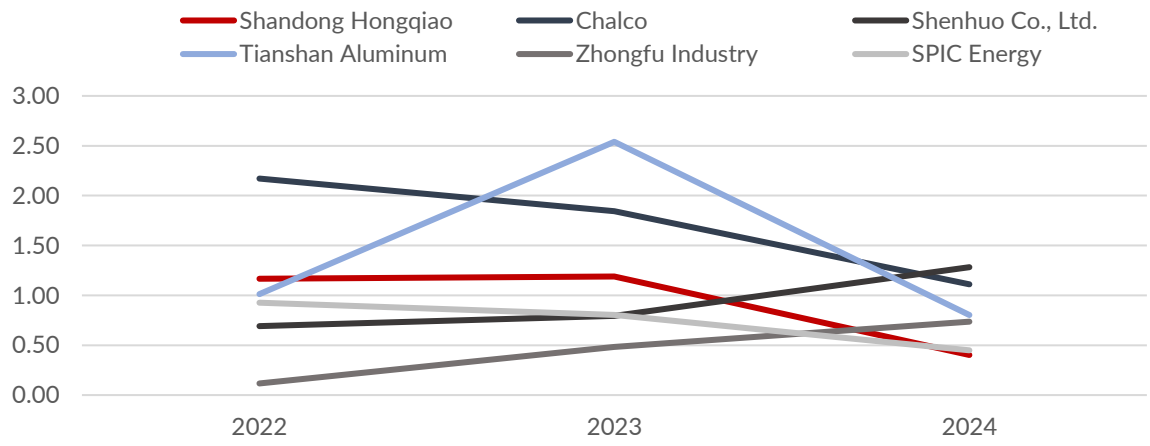


Source: WIND, CSCI Pengyuan

Debt-servicing and liquidity pressures in the electrolytic aluminum industry have eased, supporting improving credit profiles. Strong profit accumulation has enabled the sample companies to continue reducing net debt, while average EBITDA rose by more than 35% in 2024. As a result, net debt to EBITDA for most sample companies fell to a three-year low, with even the highest ratio remaining below 1.3x, indicating manageable debt-servicing pressure across the sector. Liquidity conditions still vary among companies, but the average cash-to-short-term-debt ratio improved further. Some sample companies had only short-term debt, yet still maintained relatively healthy cash coverage, suggesting manageable refinancing pressure and solid financial flexibility.

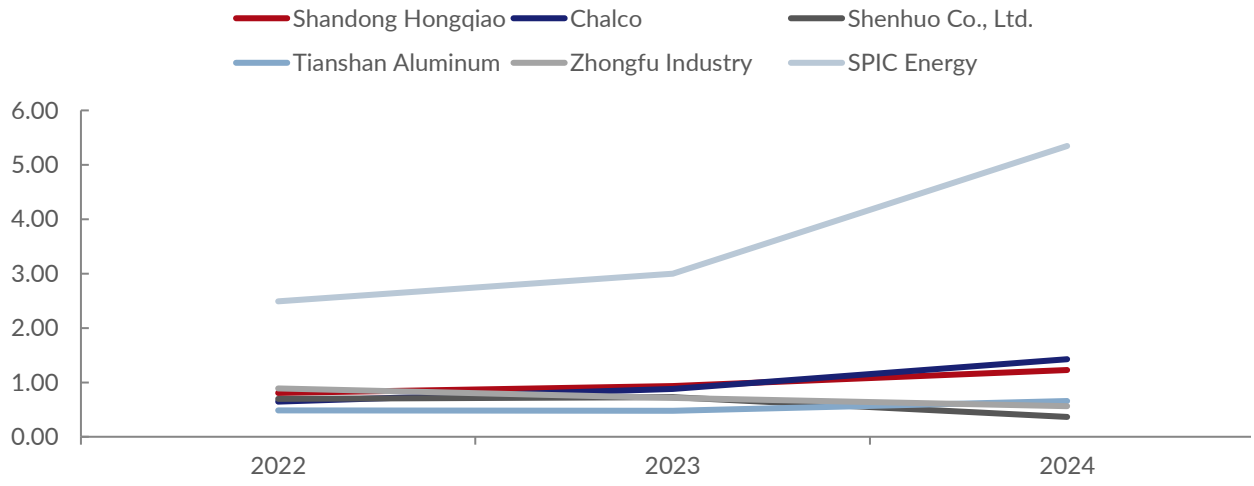
Looking ahead, the global electrolytic aluminum market is expected to remain in tight supply-demand balance in 2026, with aluminum prices still more prone to upside than downside and the industry cost base likely to decline further. Against this backdrop, profitability is likely to remain elevated, supporting stable-to-improving credit conditions in the sector.

Chart 22: Net Debt to EBITDA of Major Listed Aluminum Producers / Bond Issuers



Source: WIND, CSCI Pengyuan

Chart 23: Cash to Short-Term Debt Ratios of Major Listed Aluminum Producers / Bond Issuers



Source: WIND, CSCI Pengyuan

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