New progress of China's magnesium industry and market

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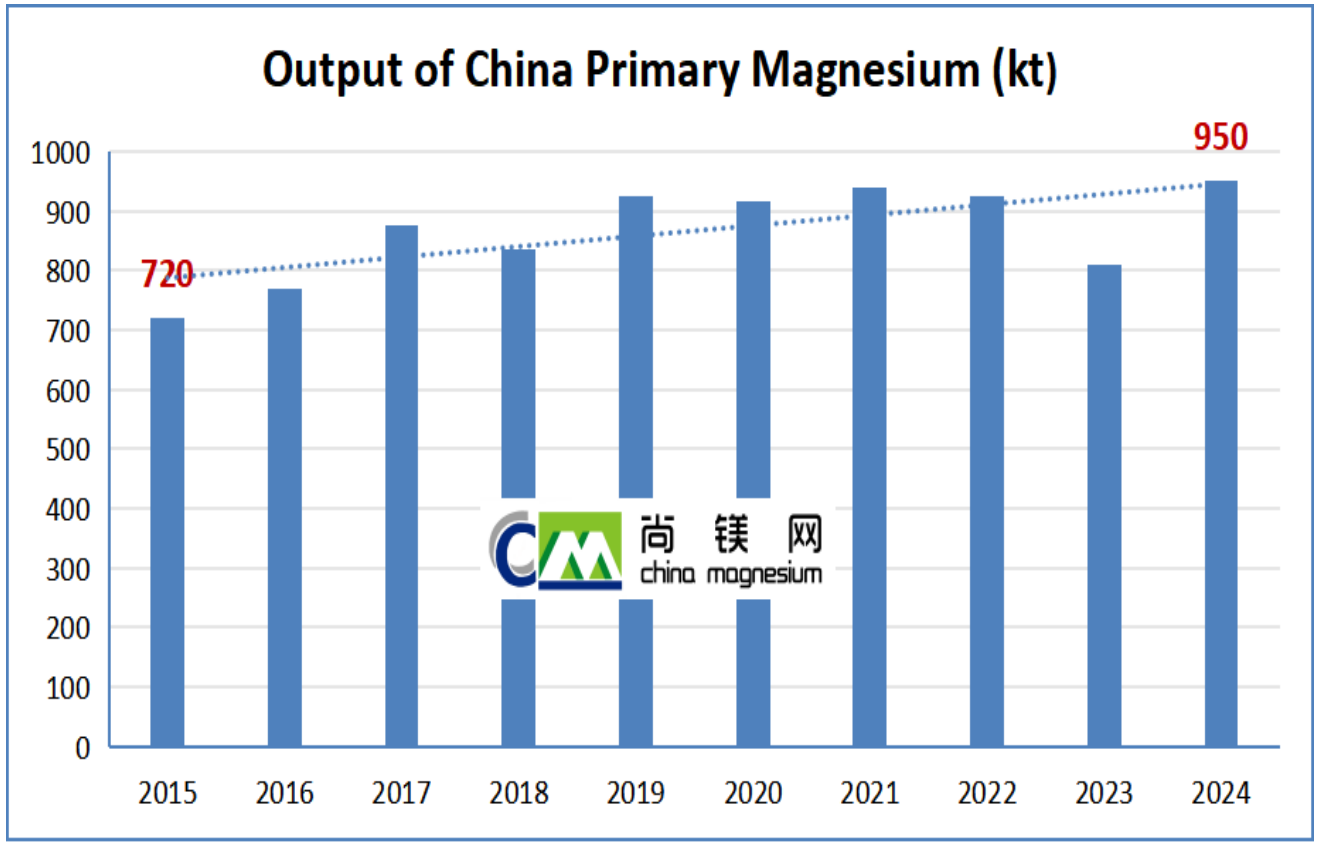
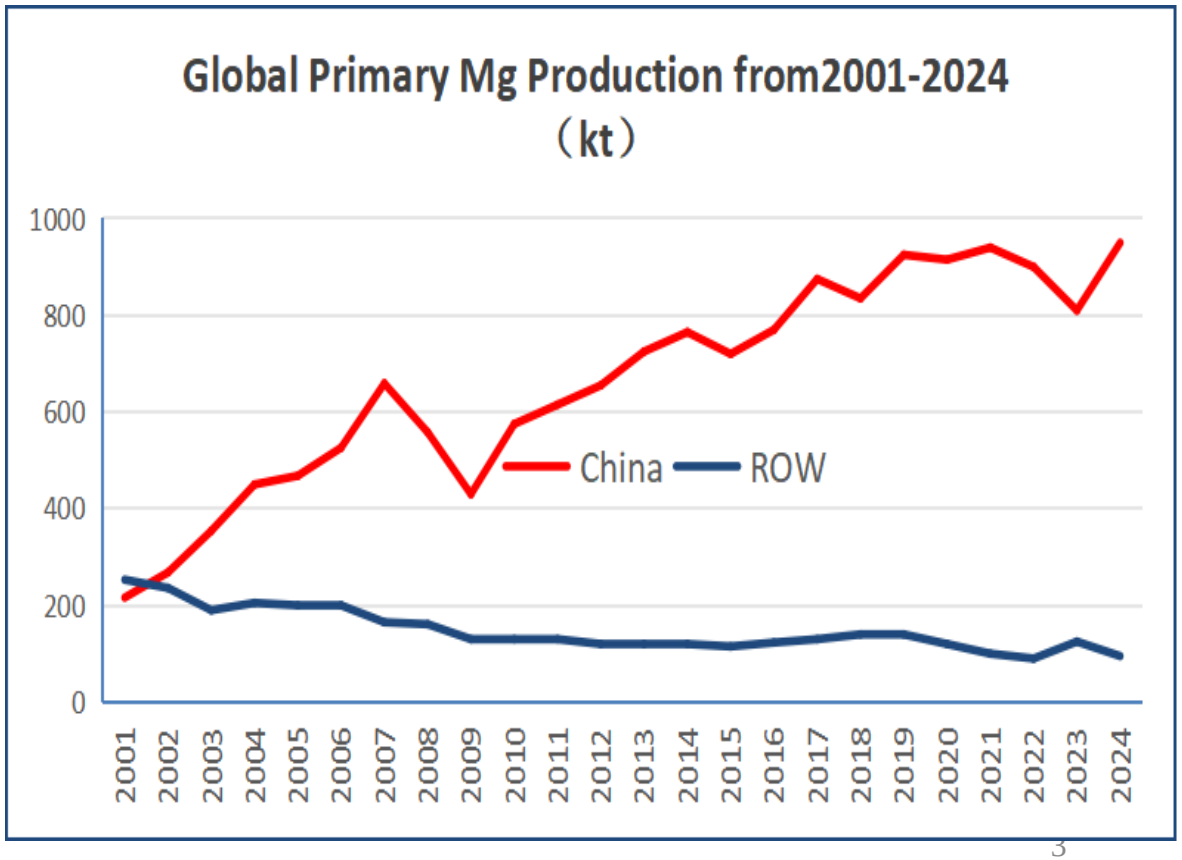
China's Share in the Global Magnesium Market Continues to Rise

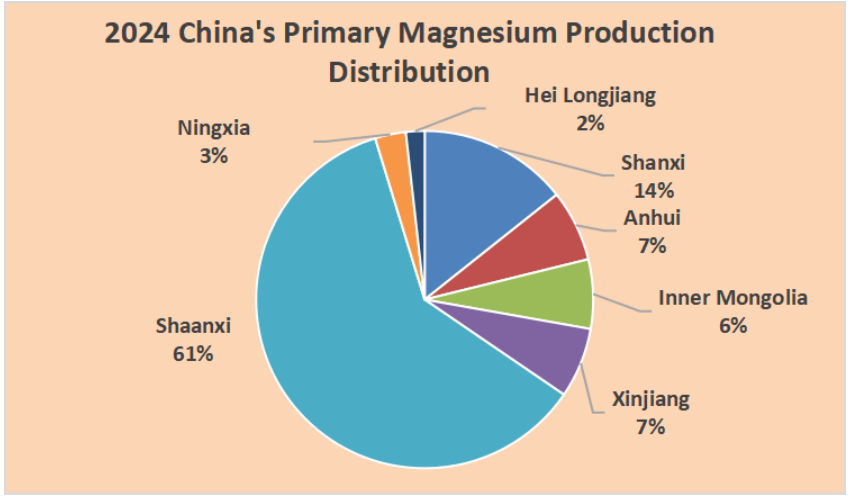
- In 2024, primary magnesium grew by 17.2% as for output, a new historical high. It mainly attributed to the re-start of operation in the plants, Fugu, Yulin after the completion of semi coke furnace renovation, along with a small number of green projects into operation in other regions.
- In 2024, almost all producers of sponge titanium, rolled out of 250kt of output, started or built full process electrolytic magnesium lines for their on-site consumption. Given these, primary magnesium production exceeded 1.2 million tons.
- Global production, estimated, closed at 1.045 million tons in 2024, up 11.7%, with China accounting for 91%.





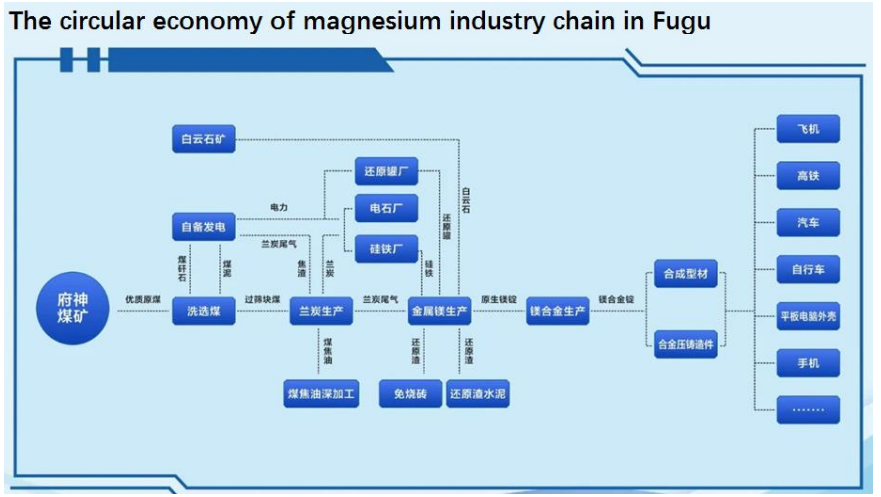
China Magnesium Output: Yulin (Shaanxi) Resumes Production

■In 2024, capacity exceeded 1.4 million tons, mainly distributed in 7 provinces in central and western China.
■In 2024, output in Shaanxi was about 580kt, accounting for 61% of national, up 23.4% y-on-y. Smelters in Shaanxi were mainly concentrated in Fugu and Shenmu.
■Affected by the dual control policy of local energy consumption from Sep. 16, to early Oct. 2021, along with the rectification of 23 plants in Fugu during the period of 2022-2023, production in Yulin temporarily suspended, resulting in price spurt and fluctuation.
■In 2023 and 2024, the environmental rectification of semi coke furnace concluded successively. By 2024, capacity in Yulin rapidly recovered, with operating rate over 90%.
■The investment in ongoing and planned projects, in other regions of China, diversifies the distribution of capacity and output.



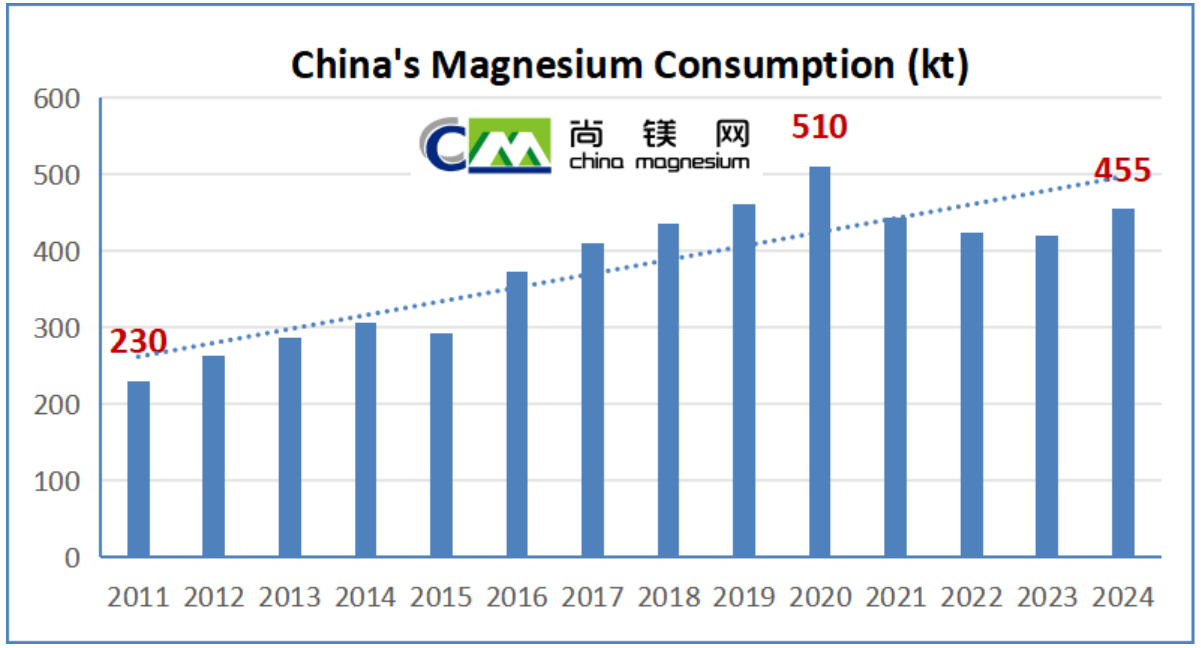
Source: SunlightMg

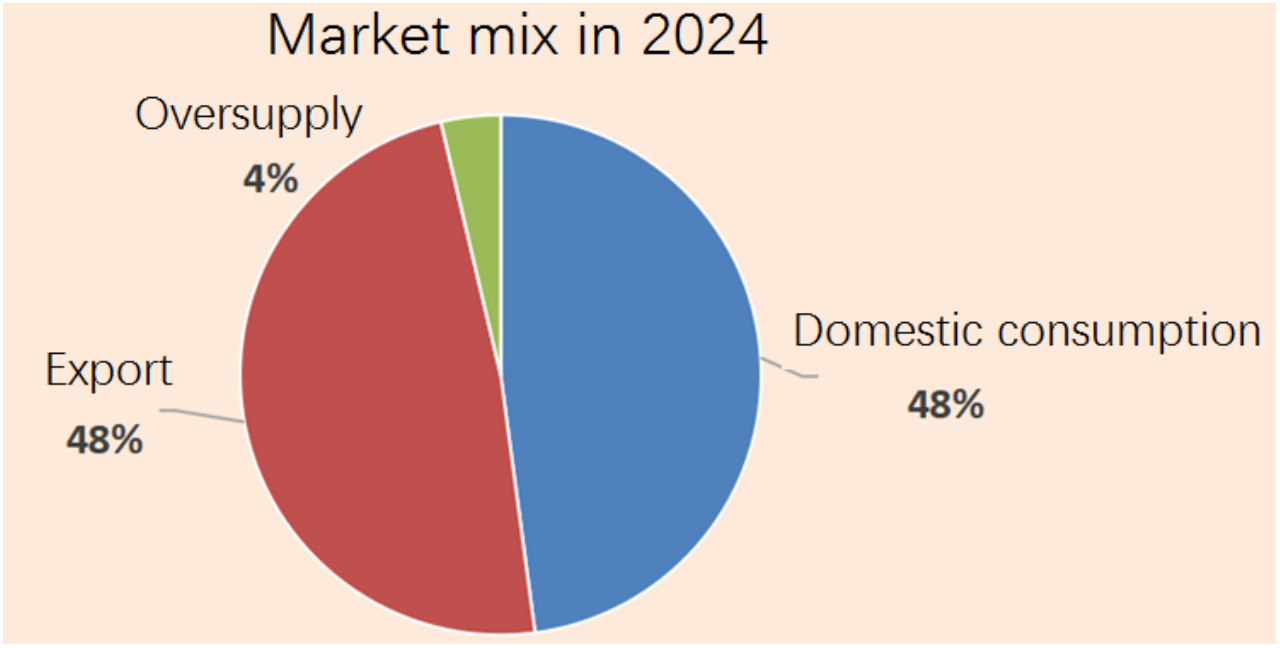
Magnesium industry establishes a closed-loop system spanning semi coke, waste heat power generation, ferrosilicon, smelting, alloying and slag utilization within a radius of 100 km in western Fugu.



China's Magnesium Consumption Resumes Growth in 2024

- The consumption of magnesium in 2024 was about 455kt, up 8.3%. The procurement from sponge titanium segment shrank, however, other fields rebounded by 10.1%.
- The past 10 years saw domestic consumption doubled, with a CAGR of 4.1%, more than output, and mainly driven by domestic growth.
- 48% of output was exported, however, 48% consumed domestically, against only 25% in 2005.
- Consumption accounted for approximately 44% of global, against 20% in 2005.

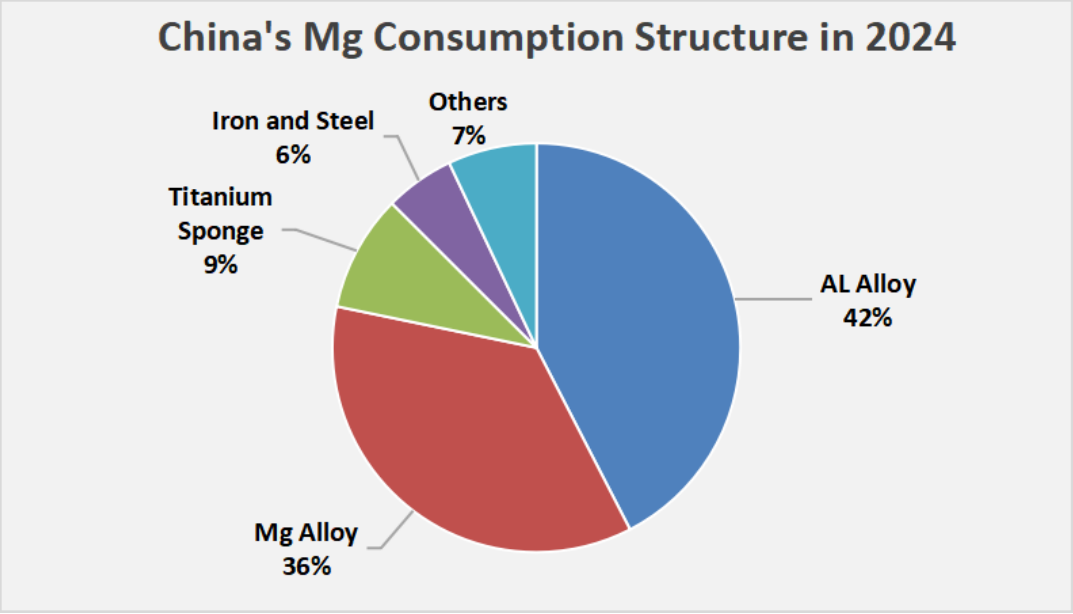


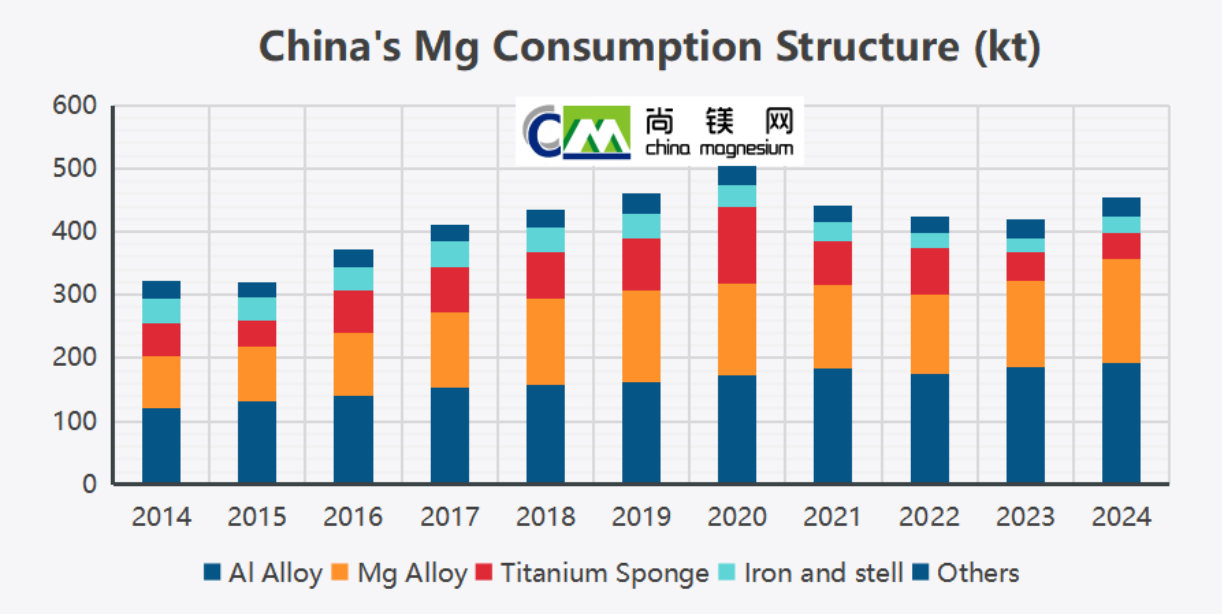


Note: exclusive of reclyed magnesium

China Primary Magnesium Consumption Structure in 2024

- The aluminum industry is the largest market for primary magnesium in China. Thanks to the rush to export aluminum Semi products before the cancellation of export tax rebates, the magnesium consumption in aluminum industry reached approximately 193kt in 2024, up 4.3%, however, its peak comes near along with aluminum production.
- In 2024, the output of sponge titanium grew by 18%, but titanium plants already put into operation their own full process, resulting in the growth of on-site primary magnesium output. Year 2024 saw sponge titanium factories outsource approximately 42kt of magnesium, down 6.7%.





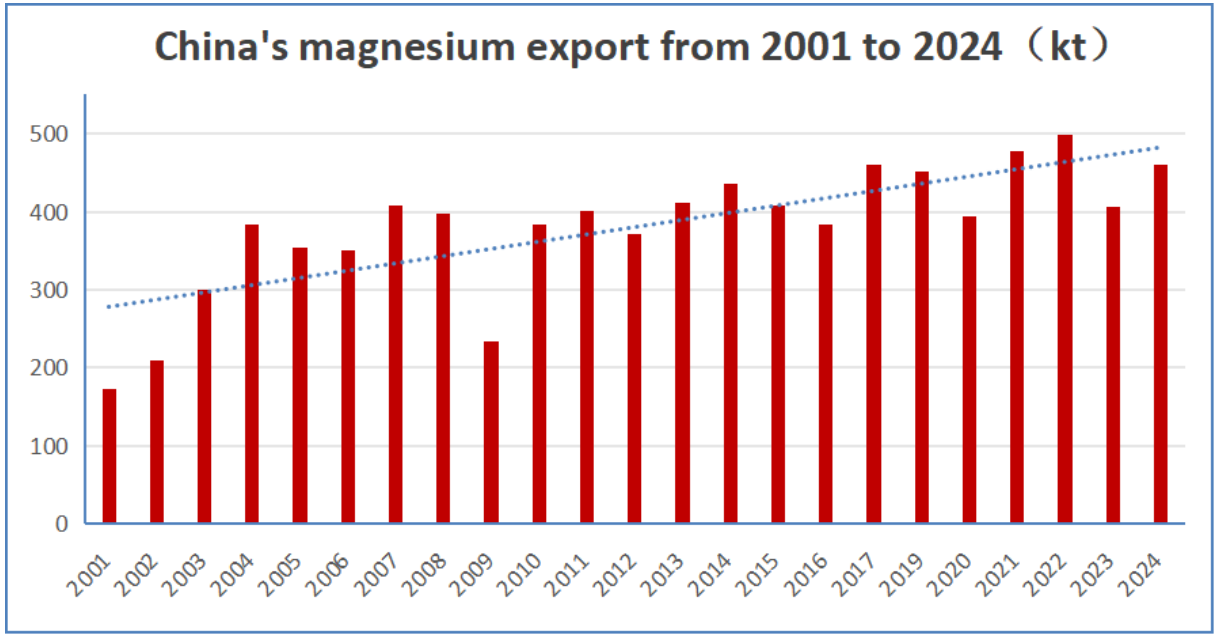
China's magnesium industry is integral to the global market, just as the world relies on China for stable magnesium supply

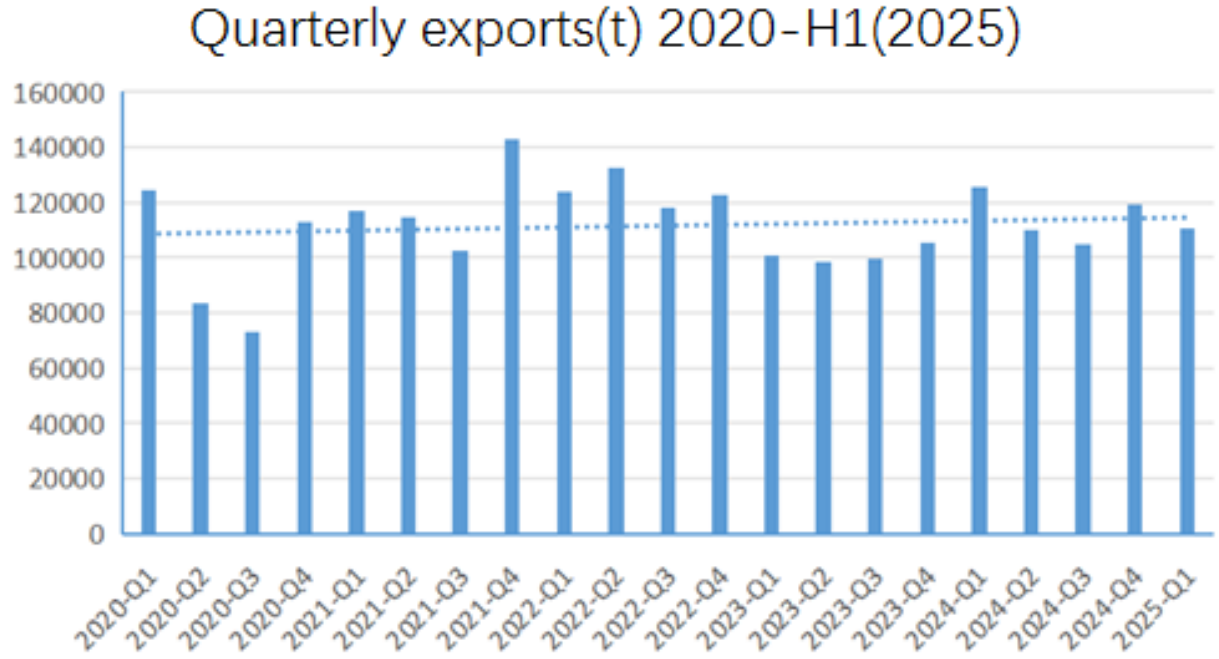
■In 2024, exports totaled 460kt, in various products, up 13.62%, valued at 1.29 billion US dollars, down 7.13%. Q1(2025) saw 110.8kt of export, down 11.7%, valued at 263 million US dollars, down 31.7%. Of them, ingots went down by 13.04%, alloy down by 11.4%, and powder down by 21.6%.

■From 2001 to 2024, export totaled 9.16 million tons, valued at 25.7 billion US dollars.

■Magnesium industry, in China, must adhere to both domestic demand and exports, and maintain the hard-won export channel.

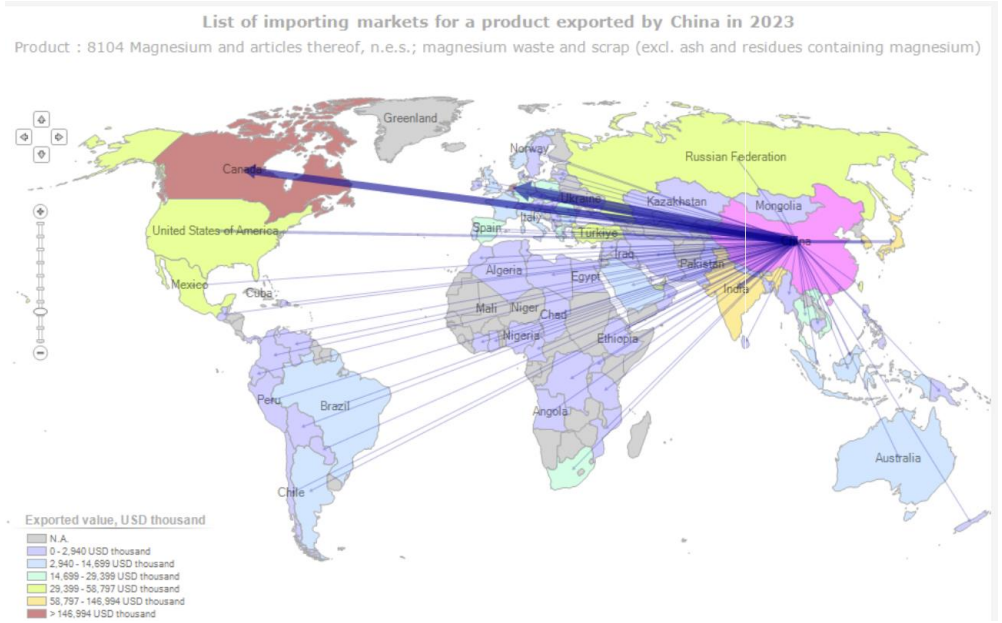
■The global layout of resources and minerals, for global industrial chain, is necessary and reasonable, and stabilizing the supply chain benefits all participants.





Key Export Markets for Chinese Magnesium Products in 2024

- The Netherlands, Canada, India, South Korea, and Japan remained the top five destinations, sub-totaling 265kt and 57.7% of total, indicating intensive distribution with many destinations.
- By economic zones/groups, the EU, North America, and Japan and South Korea were the three major markets, accounting for two-thirds of total exports.
- Significant changes in the distribution of destinations, in 2024, reflected and followed the latest trends in global trade pattern, industrial chain, supply chain, and geopolitical conflict.



Ranks in 2024 (t)

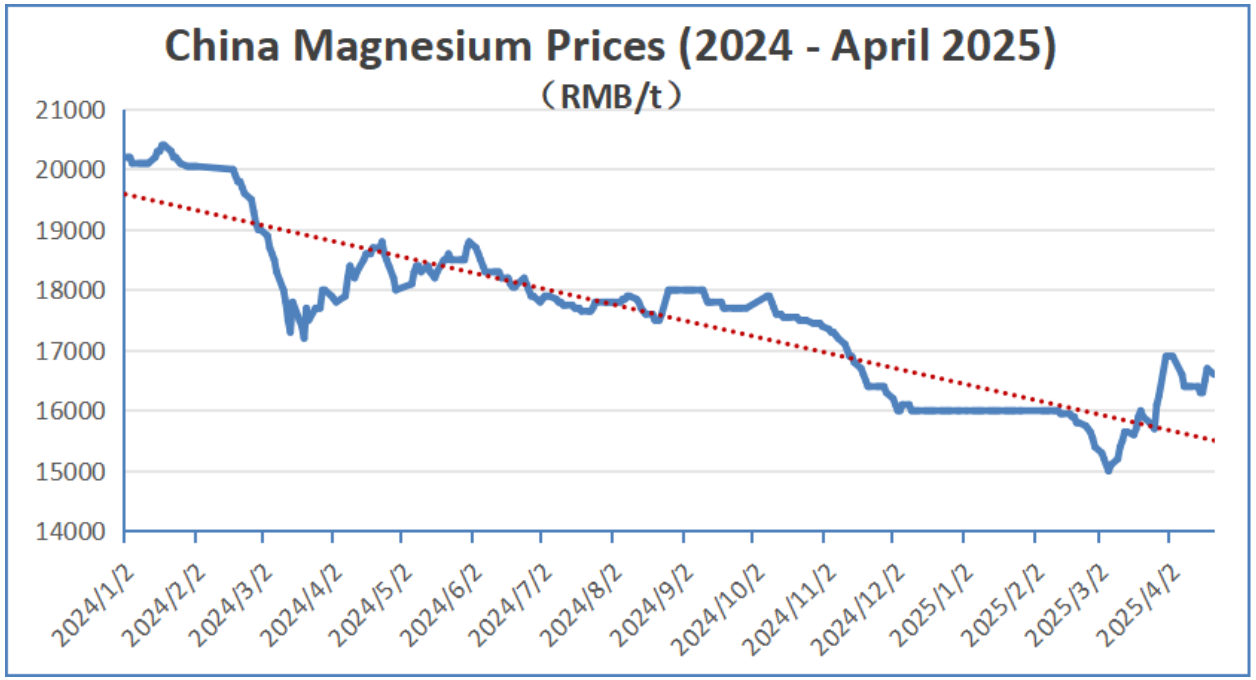
	Destination	Export
	Total	459812
1	the Netherlands	102717
2	Canada	65761
3	India	38427
4	Republic of Korea	30368
5	Japan	28037
6	Türkiye	20616
7	The United Arab Emirates	15908
8	America	13215
9	Mexico	10567
10	Taiwan Province, China	10234
11	Germany	9516
12	Bahrain	7589
13	Poland	7538
14	South Africa	7022
15	Romania	6823
16	Thailand	6743
17	Vietnam	5988
18	Spain	5175
19	Greece	5006
20	Saudi Arabia	4946

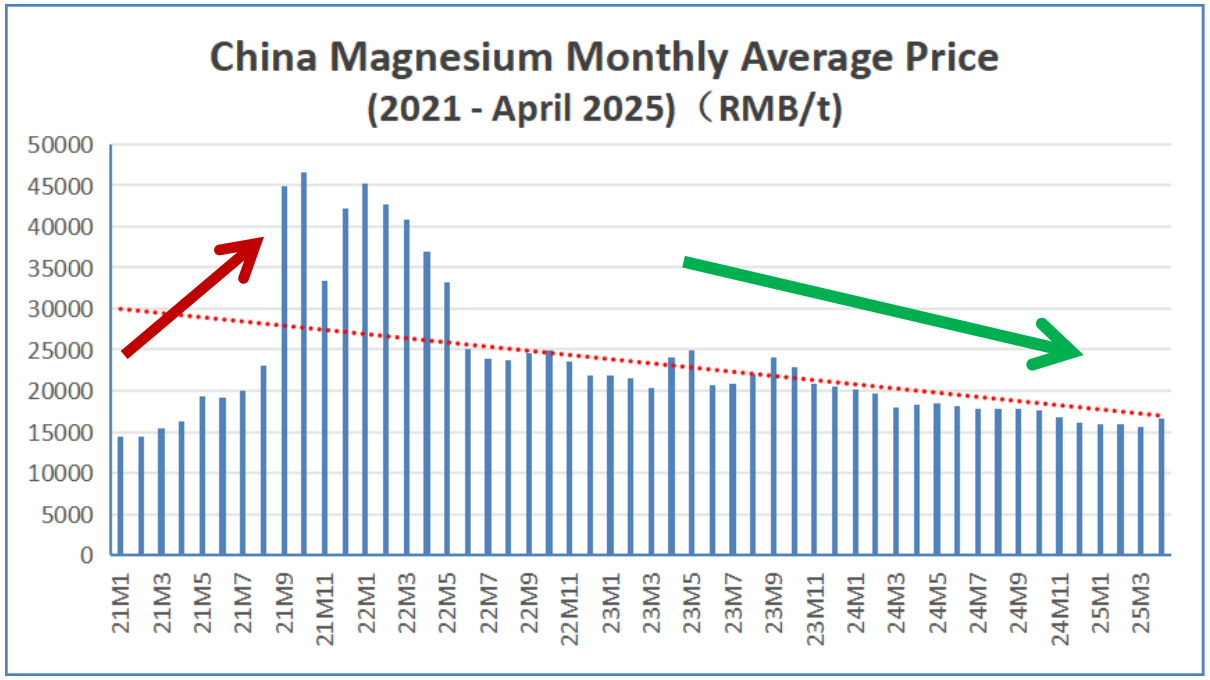
Source：GACC

Oversupply, in 2024, dragged price down

■Since Nov. 2023, operational capacity has recovered, but demand declined together, pushed price down throughout 2024--from 20,200 yuan/t at early 2024 to 16,000 yuan/t by late. After 2025 Spring Festival, it tumbled below the support line of 16,000 yuan/t, and even to 15,000 yuan/t. The early Mar. saw 15,000 yuan/t, the lowest point in the past four years.

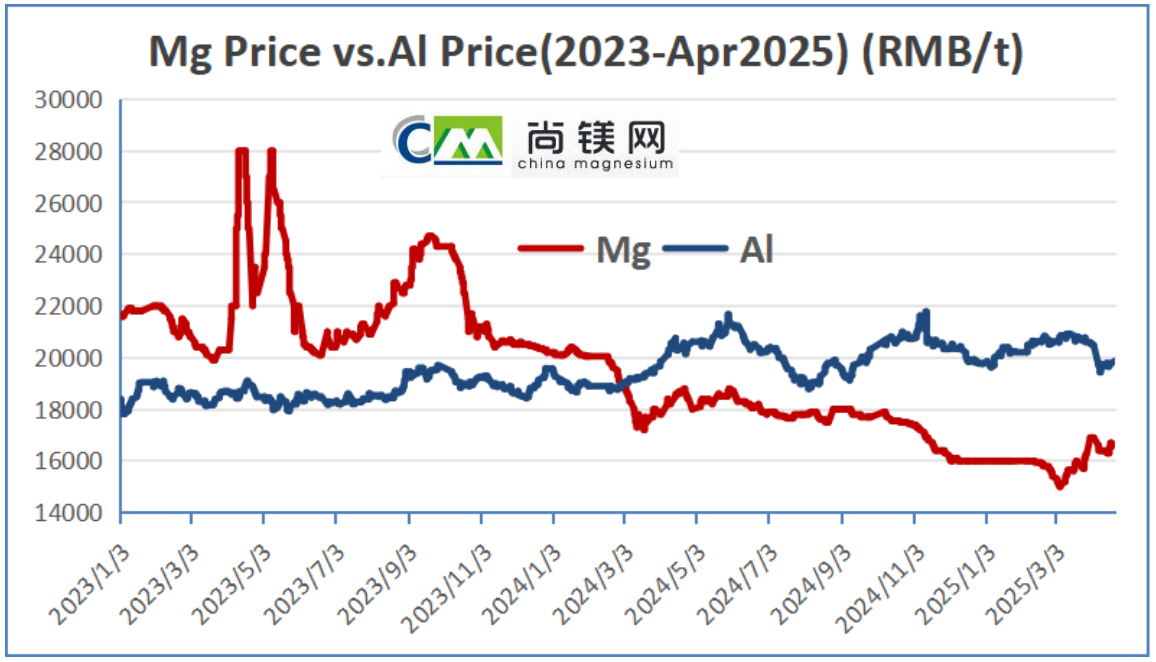
■Price, in 2024, averaged at 17,994 yuan/t, down 18%, and net down by 20.8%. Over the first three and a half months in 2025, further ended at 15,796 yuan/t, down 12.2%.

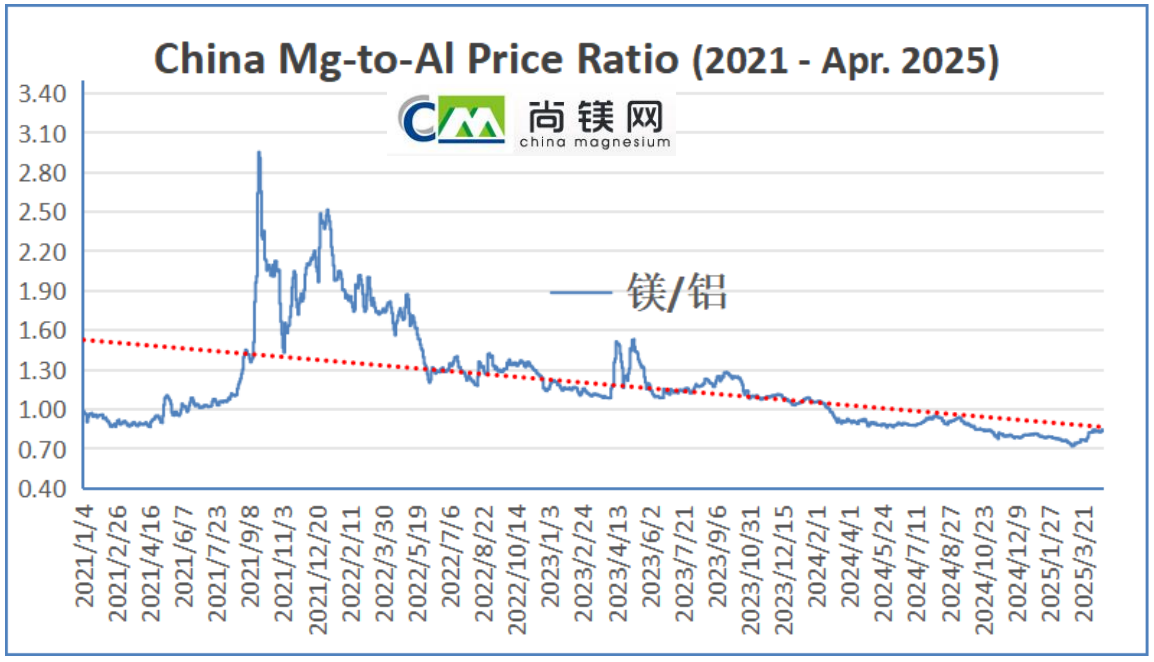




Further drop in price, much lower than that of aluminum, highlights the cost-effectiveness of magnesium

- From Mar.2024 on, magnesium ran lower than aluminum in price, and the trend between them went completely opposite. With gap gradually widening, the ratio of magnesium to aluminum declined. In early Mar.2025, magnesium hit 5800 yuan lower than aluminum, with the lowest ratio of 0.72, as seen in Feb. 2007.
- Now, the price of magnesium falls below the average cost line, oversold and slight deviation from value result in operating losses. As more production cuts and shutdowns begin, there will be a reasonable equilibrium point. Also, the cost-effectiveness of magnesium, now, will empower its application.





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- New progress and positive factors in China's Magnesium
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New progress and positive factors

- Smelting progress in environmental protection and energy-saving
- National policies to drive high-quality development
- Local policies to fuel the construction of industry clusters
- More investment projects in planning stage
- Significant progress in M & A and group integration
- More alloy processing projects and investment
- More investment and achievements in alloy R & D
- More innovative application of magnesium alloys

Smelting progress in environmental protection and energy-saving

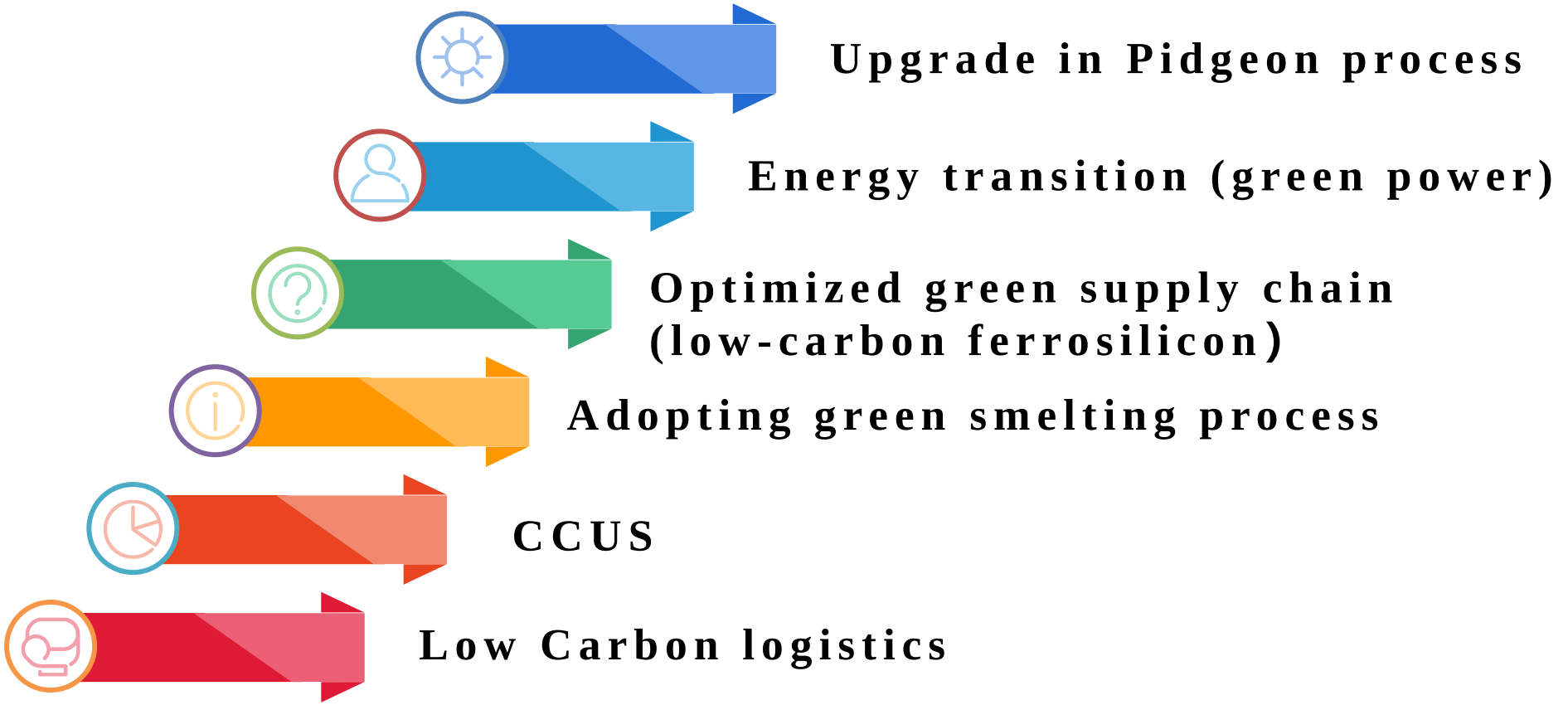
- In 2024, output in Fugu reached a historic high, highlighting the achievements of industrial reform launched three years ago.
  - In terms of safety, the industry invested over 1.5 billion yuan to upgrade intelligent safety control systems, reducing the risk of major accidents by 90% and enhancing capacity utilization from 68% to 95%.
  - In terms of environmental protection, the entire industry invested over 4.5 billion yuan in upgrading and transforming standards, resulting in a 40% growth in emission reduction efficiency.
  - In terms of energy conservation, the energy consumption per ton of magnesium went lower by nearly 20% compared to three years ago, and high-quality capacity of 200kt/a was unlocked in 2024.

- In 2025, Fugu government will focus on supporting equipment updates, process innovations, and digital empowerment in semi coke-magnesium industry: 7 semi coke enterprises through environmental protection and energy-saving renovations; 35 primary magnesium lines upgraded to automation; 500kt of slag comprehensive utilization project by Tianlong Magnesium, 5 alloy deep processing and 4 ferrosilicon projects, and 200kt of striving Mg-based new material benchmark project by Yulin Magnesium.

- **As follow three major directions in Fugu:**
  - In terms of high-end development, plan a Mg-alloy deep processing park, covering high-purity magnesium, alloy, alloy processing, and component production, which will increase the added value by 3-5 times.
  - In terms of greening, tackle the comprehensive utilization of slag, develop slag carbon fixation, Ca-Mg silicon composite fertilizer, and concrete additives; promote the comprehensive utilization of solid waste in ditch filling and land reclamation, and strive to achieve a comprehensive utilization rate of 70% for magnesium slag by 2025.
  - In terms of digitization, introduce AI control systems and IoT monitoring platforms to create lights-out factory and promote kiln technology to move towards the Industry 4.0 era.

Relevant plans and actions, on energy conservation and carbon reduction, receive attention

Mg-smelting industry is facing huge challenges in reducing carbon emissions while saving energy.
We urgently need to develop a roadmap for emissions reduction and must start taking action now!



Relevant plans and actions, on energy conservation and carbon reduction, receive attention

Baowu Magnesium Formulates the Carbon Emission Reduction Action Plan (2024–2026)

2024 Carbon Reduction Performance

■Wutai Yunhai reduced its carbon emissions from 21.41 kg （2023）to 21.01 kg CO_2eq/kg ,achieving a 2% reduction.

■Chaohu Yunhai reduced its carbon emissions from 12.10 kg （2023）to 11.86 kg CO_2eq/kg , achieving a 2% reduction .

Combined performance of both companies: Carbon emissions decreased from 15.80 kg CO_2eq/kg (2023 baseline) to 15.50 kg CO_2eq/kg , achieving a 2% reduction per ton .

Carbon Reduction Action Plan

- **Reduce Upstream Raw Material Emissions**.Establish a green supplier qualification system to minimize the carbon footprint of key inputs, particularly FeSi and primary aluminum , which have significant emissions impact.
- **Enhance Magnesium Scrap Recycling.** Improve the recycling system to increase scrap utilization rates:
  - Wutai Yunhai : Increase scrap content from 15% (2023) to 16% (2024) .
  - Chaohu Yunhai : Increase scrap content from 54% (2023) to 55% (2024) .
- Transition to Clean Energy
- Deploy distributed solar PV systems on factory rooftops.
- Secure green power supply agreements with local grid operators.

Baowu Magnesium Releases Medium-to-Long-Term Carbon Reduction Targets for Magnesium Products

By 2030:

- Primary magnesium CO_2 emissionsto drop to 13t CO_2/ t Mg (Crude Mg)
- Magnesium product emissions to reach 3t CO_2/ t Mg Alloy product

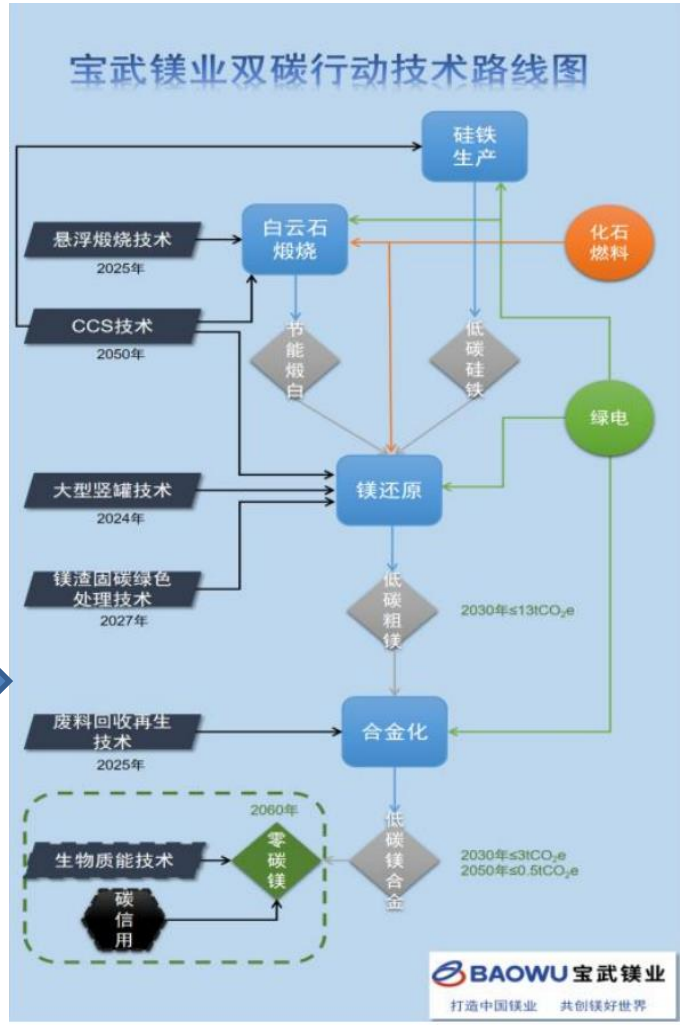
By 2050:

- Magnesium product emissions further reduced to 0.5 t CO_2/t Mg alloy product

By 2060:

- Achievement of zero-carbon Magnesium alloys

Baowu Magnesium's Carbon Reduction Roadmap



Baowu Magnesium has set a benchmark for the magnesium industry. Meanwhile, leading magnesium smelters in other regions have also established emission reduction targets in compliance with government and supply chain requirements, and have begun implementing decarbonization measures.

National policies to drive high-quality development

The past two years saw many relevant national policies unlocked and related to magnesium industry, conducive to creating favorable industrial environment, promoting industry transformation and upgrading, guiding and supporting stable growth and high-quality development, cultivating and strengthening emerging industries, laying out and constructing future industries, and cultivating and developing new quality productive forces

■ ***Work Plan for Stable Growth of Nonferrous Metals Industry***

- Standardize announcement management and cultivate key smelters.
- Develop Mg-alloy building formwork, promote integrated die-casting molded car body, and Mg-alloy wheels.
- Actively act green and stable suppliers of global non-ferrous metal products, implement stable foreign trade policies and measures, encourage the export of deep processed Mg material, and enhance the added value of exported products.

■ ***Guiding Catalogue for Industrial Structure Adjustment (2024 Edition)*** **released by NDRC**

- Listed in encouraged catalogue are Mg-alloys application in the auto industry
- Restricting the use of SF6 in Mg-alloy production.

■ ***Guiding Catalogue for the First Application Demonstration of Key New Materials (2024 Edition)*** Inclusive of large thin-walled and complex alloy precision casting, lightweight and fired mold; high-performance Mg-alloy complex profile, and high-performance flame-retardant Mg-alloy material.

Local policies to fuel the construction of industry clusters in the past two years

Cities that are planning and building magnesium clusters include:

- ✓ Yulin and Tongchuan, Shaanxi;
- ✓ Hebi, Henan;
- ✓ Hefei and Chizhou, Anhui;
- ✓ Yuncheng and Xinzhou, Shanxi;
- ✓ Hami, Xinjiang;
- ✓ Pingliang, Gansu;
- ✓ Jinhua City, Zhejiang;
- ✓ Chongqing

Significant progress in M & A and group integration

Several powerful large enterprises enter the magnesium industry, achieving significant results in promoting the upgrade of primary magnesium manufacturing towards "being high-end, intelligent, green, and efficient". They make positive progress in developing new models of industrial integration, groupization, and industrial chain, setting an example for high-quality development, bringing significant changes to global magnesium industry, and inputting greater confidence to global market。

BAOWU 宝武镁业

- Develop a complete industry chain, including dolomite mining, primary magnesium smelting, alloy smelting, alloy processing, and alloy recovery.
- Operate four primary magnesium and alloy production bases in Chaohu, Qingyang, Wutai, and Huizhou, with a capacity of over 500kt/a after reaching full capacity.
- Possess six Mg-alloy automotive die-casting production bases, with over 200 die-casting units and nearly 1000 machining centers, and
- Expand the application of magnesium alloys in downstream terminal fields while developing primary magnesium and alloys and ensuring stable raw material supply for downstream customers.

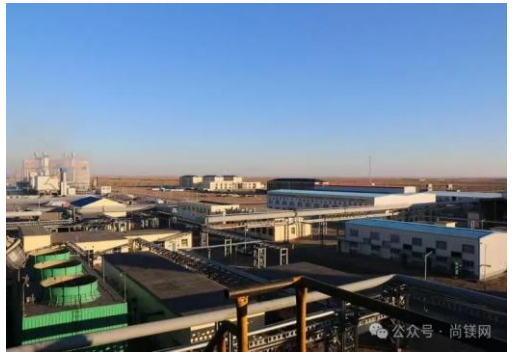
Baowu Magnesium establishes its latest positioning as a comprehensive solution provider, with the vision of being a world-class enterprise in steel and light metal industry.

Significant progress in M & A and group integration

WZ Group achieves the full layout of magnesium industry chain through acquisition

物产中大 WZ GROUP | 物产中大柒鑫 WUCHAN ZHONGDA QIXIN ALLOY MATERIAL

- In Sep 2023, WZ Group acquired Qixin Alloy Materials, the second largest producer of primary magnesium and the largest supplier of magnesium ingots. Qixin has three magnesium smelters in Ningxia, Inner Mongolia, and Xinjiang, with a total primary magnesium capacity of 70kt.
- In Jan. 2025, WZ Group took over Shunfu Precision Technology, and by then, lay out upstream resource end and middle-to-downstream product end, providing solid foundation for coming industry clusters and complete ecological loop.



China Minmetals acquired Qinghai Salt Lake Industry

- Feb. 2025 saw China Salt Lake Industry Group unveiled. China Minmetals also becomes the actual controller of Qinghai Salt Lake Magnesium. The Group will accelerate the construction of a world-class salt lake base.
- The Group will have a capacity of 10 million tons/a of potassium fertilizer, 200kt/a of lithium salt, and over 30kt/a of magnesium and Mg-based materials by 2030.
- Comprehensively enhancing green magnesium industry is a key support for the sustainable development. It is necessary to construct a pilot base for high-end magnesium and Mg-based materials.
- Trimmag, a subsidiary of the Group, operates Mg-Al alloy die-casting businesses in Xining, Qinghai and Hanshan, Anhui. The company plays a core role in the construction of Minmetals Mg-based new material chain.

Significant progress in M & A and group integration

Of Chinese companies listed into the Fortune Global 500 in 2024, 12 already laid out in magnesium industry：

Baowu, Foxconn, Minmetals, CITIC Group, FAW, AVIC, WZ Group, China North Industries Group, Shaanxi Coal Group, Chinalco, Yanchang Petroleum, and Haier Smart Home (Exclusive of magnesium end-user brands).

More large enterprises are on the way

Shaanxi Nonferrous Metals Group, JISCO, Yulin Energy Group, Shandong Xinfa Group, Xinjiang Joinworld…

- China's primary magnesium capacity stands at about 1.4 million tons, and by 2025, it can exceed 1.7 million tons.
- Green smelting projects are being planned in Xinjiang, Henan, Gansu, Inner Mongolia, Shanxi, and Chongqing, and some completes various approval and filing procedures. If the market follows suit, a capacity of over 2 million tons will be formed in the next few years.
- The growth rate of capacity overruns that of consumption, but it can greatly improve the supply of magnesium and prepare sufficient capacity for the explosive growth of applications.

Innovative R&D and Application Cases

More projects, in year 2023-2025, for deep processing of Mg alloys, will present, related to unwrought alloy processing and die-casting. Since year 2024, semi-solid processing has become a new investment hotspot.

- **17 major unwrought alloy projects**
- **23 main die-casting/semi-solid alloy projects**

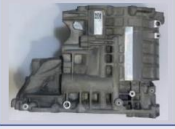
Investments relate to：

- The extension of primary magnesium producers downstream;
- Green and brown processing for aluminum die-casting enterprises;
- Integrated aluminum companies into magnesium industry, and
- OEM companies investing in the segment of magnesium components.

Innovative R&D and Application Cases

The first mass production of Mg-alloy casing for new EV electric drive system

The complete set of Mg-alloy housing for Immotors L7 model weighs 14.2kg, over 7kg lighter than aluminum alloy counterpart. This case is the first in new EV electric drive system, and also one of the largest Mg-alloy components currently being mass-produced and applied in automotive field globally, creating a new application scenario.

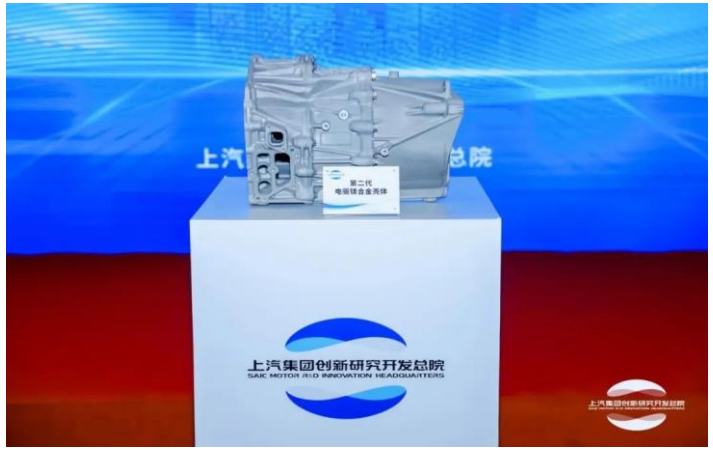
零件名称	变速器壳体	电机壳体	端盖	盖板
图片				
尺寸大小 mm*mm*mm	407x102x286	497x296x286	383x89x272	294x23x213
材料	AZ91D	AZ91D	AZ91D	AZ91D
重量(Kg)	3.2	8.13	2.42	0.45

SAIC and SinyuanZM Won 2024 IMA excellent award for Mg-alloy automotive casting

Innovative R&D and Application Cases

■ Second-generation Mg-alloy electric drive housing

In Nov. 2024, SAIC Innovation Research and Development Institute officially released the Mg-alloy housing of second-generation electric drive assembly and electric drive three-in-one assembly equipped with. This product is the first electric drive Mg-alloy casing worldwide, mass-produced and based on semi-solid process. Adopting Mg-alloy with grade AZ91D, it weighs 13.7kg.



■ Baowu Magnesium and Inovance Automotive unlocked Mg-alloy lightweight electric drive housing

It passed customer's bench test, verified for targeted model.

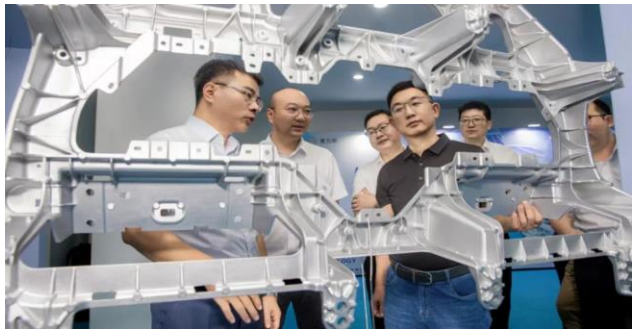
■ By 2024, China, estimated, rolled out over 10 million EVs, and, by 2030, reach 20 million. Currently, Al-alloy motor housing weighs, on the average, 20kg, and Mg-alloy counterpart can reduce weight by one-third, significantly enhancing motor power density, and, theoretically, reducing costs by 40%. The next few years will see Mg-alloy casings become the mainstream choice for auto companies, garnering a market size of around 200kt.

Innovative R&D and Application Cases

Seres Motors has achieved a magnesium usage of 20kg per vehicle. In the future, Seres plan to kick off 100kg plus Mg-alloy parts.

Seres Unveils World's First Ultra-Large One-Piece Die-Cast Magnesium Alloy Rear Body Structure and BIW Prototype.

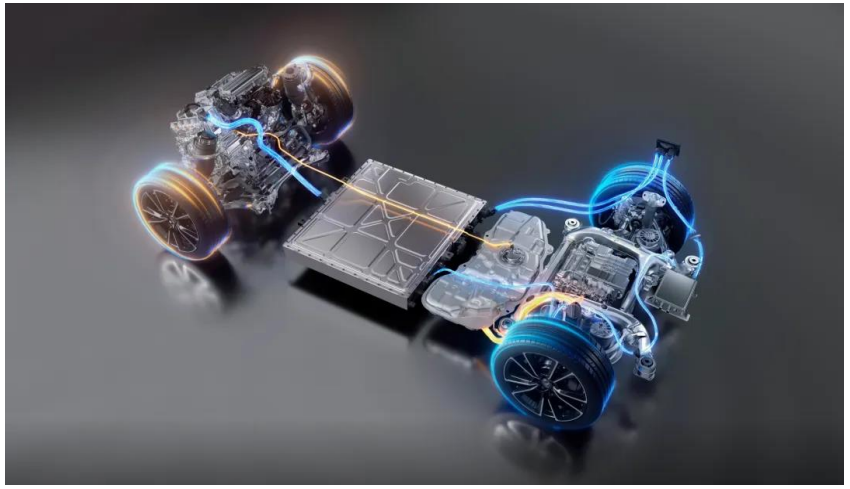
Compared to aluminum components, the new structure achieves:21.8% weight reduction;10% overall performance enhancement;15% reduction in LCA carbon emissions;;2x improvement in electromagnetic shielding; 25x higher vibration damping efficiency



Innovative R&D and Application Cases

VOYAH develops ultra light and efficient Mg-alloy EICs for new EVs

- Highly integrated Mg-alloy 800V electric drive control system and Mg-alloy frame battery pack, ultimate lightweight and ultra-high efficient, adopts innovatively heat-resistant Mg-alloy material as the basis for electric drive, integrating the design of motor, controller, and reducer.
- Two new Mg-alloy grades go through multiple verifications and, then, will equip VOYAH and Dongfeng models for mass production after bench and vehicle validation.



Baosteel Metal's award-winning project, development of high strength, toughness, flame retardant Mg-alloy profile and industrial application of battery tray。

Baosteel Metal, with Mg-alloy melting, casting, and extrusion as its core capabilities, focuses on developing alloy extrusion, and regards lightweight Mg-alloy as its key R & D direction. In response to potential and incremental application, Baosteel Metal aims to explore Mg extrusions..

Innovative R&D and Application Cases

- **Mg-alloy parts in XPeng split-body car 'land carrier'**

Electric drive, electronic control, and dashboard bracket components, in Land Carrier X3, are rolled out of high-performance magnesium alloy, which not only improves performance but also further reduces weight, and, thereby, enlarge the range of Land Carrier X3

- **Baowu Magnesium signs strategic cooperation with Nanjing Estun Automation and releases new Mg-alloy robot**

- Booming humanoid robot market, globally, orients leading company, in this segment, to magnesium alloy as an important casing component. Relevant Mg-alloy enterprises start trial orders and, then, will mass produce them. This will be a new field for Mg alloy with prospects !

Innovative R&D and Application Cases

Soluble Mg-alloy bridge plugs for oil and gas well

Manufacturer: Chongqing Yuhua New Material

Soluble bridge plugs, of lower price, automatically dissolve under the action of backflow fluid. Compared to cast iron and aluminum, magnesium is more environmentally friendly. Into North American and Middle Eastern markets, this product serves many world-renowned oil companies, along with PetroChina, Sinopec, and their subsidiaries.

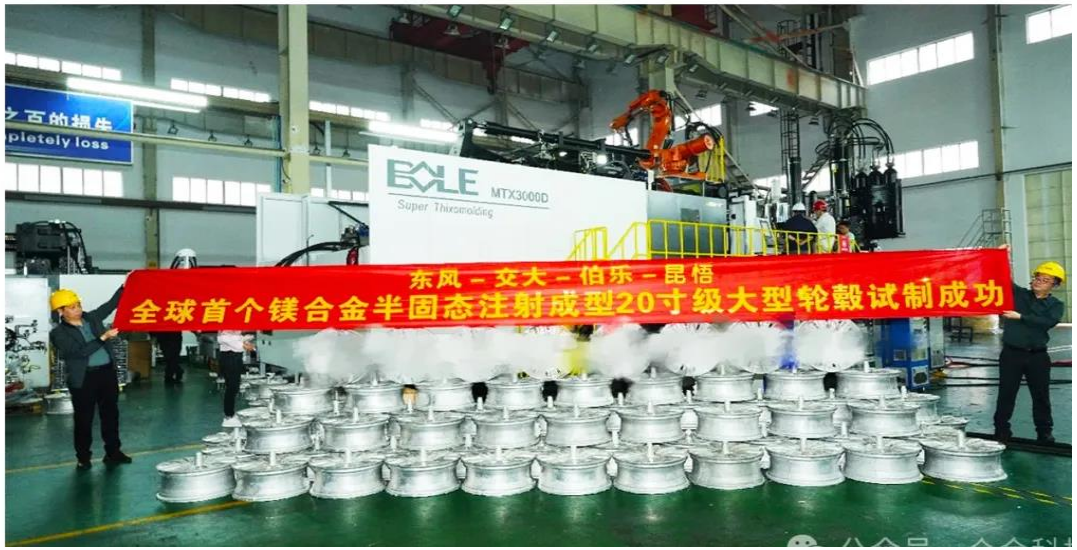
Innovative R&D and Application Cases

- Significant progress has been made in the development of magnesium alloy automotive wheels, indicating promising market prospects
- Reducing the weight of unsprung components such as wheels has a particularly significant effect on the lightweighting of EV. Decreasing the inertial mass of unsprung components can notably improve a vehicle's range, handling, and safety.

The 16-inch Mg wheel manufactured via semi-solid processing weighs 7 kg, achieving a 30% weight reduction

Magnesium wheels will unlock more possibilities.

CCMG + Baowu + Dicastal + Haitian



The 20-inch large-scale Mg wheel via semi-solid processing, weighing 16kg+

Dongfeng Motor + Shanghai Jiao Tong University + BoLe

Honor laptop, Mg-alloy body

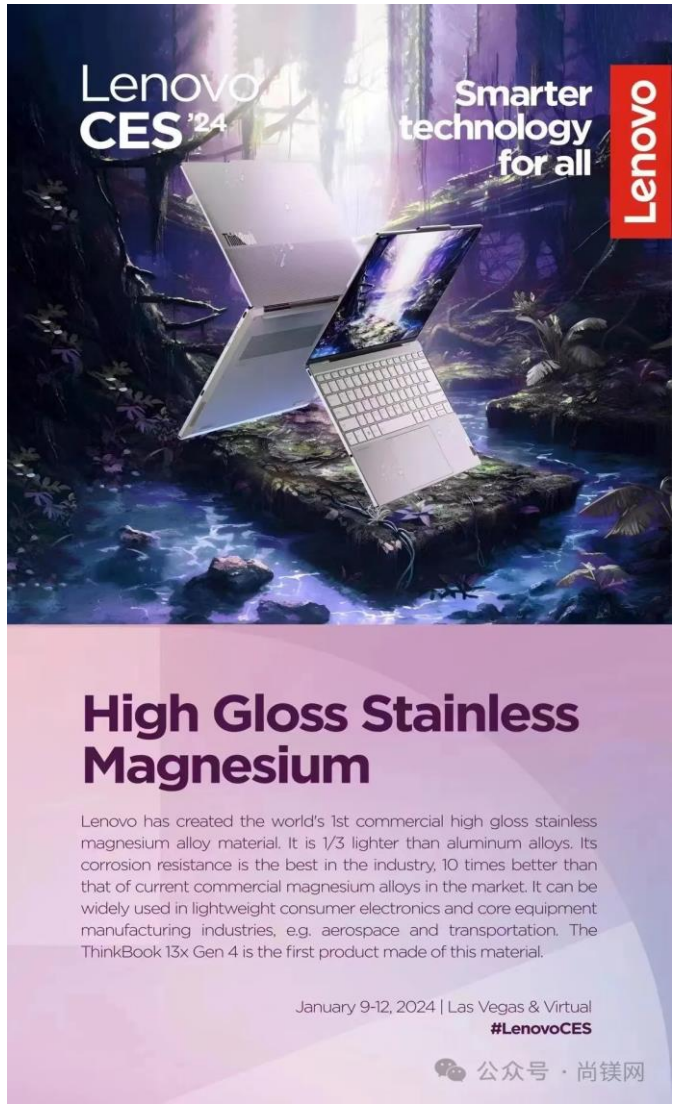
- In Jul. 2024, Honor officially released the Honor MagicBook Art14 laptop, the world's thinnest AIPC (All in One PC) with a weight of up to 1kg and a thickness of up to 1cm. Known as Honor Little Magnesium Notebook, MagicBook Art14 achieves a perfect balance between lightness and strength.

Innovative R&D and Application Cases

High brightness stainless magnesium project, jointly completed by SJTU and Lenovo Group, won 2024 IMA Excellent Award for unwrought Mg-alloy product.

With Lenovo and upstream and downstream partners in the industry chain, SJTU developed the first high gloss stainless Mg-alloy laptop, ThinkBook X 2024 AI, using stainless magnesium, and with commercial mass production underway.

With BYD, SJTV kicked off new generation of stainless Mg alloy motor housing, with weight cut by 30% against traditional Al-alloy counterpart.



Innovative R&D and Application Cases

■Electric scooter, rolled out of Mg alloy by Innuovo

Zhiyu Z10 (N3473) Mg-alloy electric scooter , for its outstanding ergonomic design and stylish appearance, won 2025 German iF Design Award.

■ **Phylion Battery`s new lithium battery widens the application of magnesium alloy**

By utilizing FireAID fire prevention device and Mg-alloy casing, battery pack can withstand extreme conditions without starting an open flame, elevating the safety of lithium batteries to a new level.

New national standard for E-bike, officially released and effective soon, will favor Mg-alloy opportunity !

- National standard Technical Specification of Safety for E-Bike, mandatory, will be effective as of Sep. 1, 2025.
- The standard facilitates the application of Mg-alloy materials, as it stipulates that for E-bike weighing ≤ 55kg, the sub-total mass of plastic components used should not exceed 5.5% of total mass.
- The new national standard, coupled with lower magnesium price, will inevitably stimulate Mg-alloy applications in E-bike. In an ideal scenario, there may be hundreds of thousands of tons of magnesium alloy used annually in this segment. Now the entire industry chain is working hard to follow up on this and has partially made corresponding preparations.
- In 2024, China kicked off over 65 millions of two wheeled E-bikes, accounting for 80% of global total.

Mg alloy is the best material for electric tools, with its market expected once again

■ **Mg-ally saw, lithium powered**

Professional grade chain saw, kicked off by YAT, uses Mg-alloy material as the front and rear brackets of motor, maximizing light weighting

Standard on Mg-alloy die-casting parts for portable tools, officially released in Dec. 2023 and effective in Jul. 2024

Contents

- Review of China's Magnesium Industry and Market
- New progress and positive factors in China's Magnesium
- Idustrial Chain Collaboration to Expand the Large-Scale Application of Magnesium

New opportunity should be actively seized to widen large-scale application in a timely manner

Unlike steel and aluminum, which have reached or are approaching peak performance, magnesium's advantages are becoming increasingly prominent, with its consumption still in a growth phase. Multiple favorable conditions and supporting factors are driving its market expansion.

- Since year 2024, magnesium price, has dipped compared to aluminum, and Mg-Al ratio has dropped below 0.83. The cost-effectiveness advantage will be held in the long term.
- With more innovative achievements of magnesium and alloys, magnesium materials will usher in new opportunities for wide applications.
- The advantages of resource, supply, technology, and cluster, in China, are extremely obvious. Magnesium industry will have greater development space in the new era.
- Magnesium provides crucial support for low-carbon economic development, offering downstream industries a reliable and dependable solution.

Output of major aluminum products in China in 2024 (kt) - Imaginable market space for magnesium alloys

kt	Sheet/plate	Foil	Extrusion	Wire	Powder	forging	Unwrought	Casting
Output	**14750**	5400	23300	5100	180	270	**49000**	**7800**
Change	**9.3%**	5.9%	-0.4%	12.1%	20%	8.0%	**3%**	**-1.9%**

Source: CNFA and China Foundry Association (aluminum castings data for 2023)

Magnesium is the only metallic raw material that China can fully self-supply while also holding the highest global market share. Yet paradoxically, China remains the world's largest net importer of mineral resources.

- The global trade of metals and mineral products is essential and reasonable. The security and stability of industrial and supply chains benefit both the world and China.
- Trade wars are not in anyone's interest, and there is no need to overreact to supply chain decoupling or industrial chain disruptions.
- The global magnesium industry chain must eliminate disruptions and maintain confidence in cooperation.

Commodities	Export	Import	Trade surplus
Iron ores	29.4	1322.0	-1292.6
Iron and Steel	707.5	319.5	388.0
Articles of iron or steel	998.7	90.9	907.8
Manganese ores	0.7	44.0	-43.3
Manganese and articles	7.2	0.8	6.4
Copper and articles	140.1	725.8	-585.7
Copper ores	0.0	674.0	-674.0
Aluminium and articles	395.5	150.3	245.2
Bauxite	0.1	105.3	-105.2
Alumina	10.6	7.6	3.0
Lead and articles	1.1	4.7	-3.6
Lead ores	0.0	20.2	-20.2
Zinc and articles	2.0	14.7	-12.7
Zinc ores	0.0	43.9	-43.9
Magnesium and articles	12.9	0.1	12.8
Tin and articles	6.0	8.1	-2.1
Tin ores	0.2	16.7	-16.5
Nickel and articles	28.4	106.2	-77.8
Nickel ores	0.0	26.7	-26.7
Conalt and articles	2.7	32.0	-29.3
Cobalt ores	0.0	0.0	0.0
Tungsten ores	0.0	1.4	-1.4
Tungsten and articles	2.8	0.6	2.2
Titanium ores	0.8	15.2	-14.4
Titanium and articles	7.2	10.0	-2.8
Molybdenum ores	5.6	12.1	-6.5
Molybdenum and articles	4.1	0.4	3.7
Lithium carbonates	0.6	27.3	-26.7
Rare earth metals	3.9	13.9	-10.0
Total	2368.1	3794.5	-1426.3

Import/export and surplus of major mineral products in China in 2024
(Unit: USD 100 million)

Commodities	Trade surplus
Aluminium	142.9
Magnesium	**12.8**
Tungsten	0.8
Molybdenum	-2.8
Rare earth metals	-10.0
Titanium	-17.2
Tin	-18.6
Lead	-23.8
Lithium carbonates	-26.7
Cobalt	-29.3
Manganese	-42.1
Zinc	-55.6
Nickel	-104.5
Iron and Steel	-123.5
Copper	-1259.7
Total	**-1426.3**

The magnesium industry has attracted increasing attention and participation, Sunlight Metal's magnesium business and SMM merged to supply better service

The China Magnesium Forum 2025, co-hosted by Sunlight Metal and SMM, attracted over 1,000 participants.

2024 Chongqing Magnesium Alloy Conference also attracted over 1,000 participants.

SMM Consulting Services-Magnesium Industry Chain

Challenges and Opportunities

Industry Level

1	2	3	4
Industry Policy Development	Industrial Technology Innovation	Energy Structure Changes	Market Competition
Low Carbon? Import & Export Policy?	*Electrolytic or Pidgeon Process?*	*4 Tons Coal Produce 1 Ton Mg*	*80%+Mg Production from China*

Enterprise Level

1	2	3	4
Capacity Production	Production Cost by Region	Future Strategy	Downstream Application

Determine the future development pattern of magnesium in Europe by analyzing the current market situation of China's magnesium industry chain

SMM Mg Solutions

Upstream-ore

- Future development trend of magnesium **smelting technology**;
- Raw material **reserves** of different magnesium smelting methods;
- **Cost** of mining dolomite;
- Fundamental analysis of other auxiliary materials market**: coal, ferrosilicon, etc.**

Upstream-Smelter

- Global Mg Market **Supply and Demand** Analysis (~2035E);
- Future trends and influencing factors of magnesium **prices**;
- **Competition** in China's magnesium market;
- Mg Production **Cost** Curve;
- **Target company** information includes production costs, **expansion plan**, etc;

Midstream-Processing

- Main **research directions** of magnesium alloys in China;
- Key magnesium alloy analysis: **rare earth magnesium alloy**, **heat treatment-free alloy**;
- Development trend of magnesium alloy production technology: **semi-solid casting;**
- Development direction of **wrought alloys;**

Downstream

- **New energy vehicles; (15kg+Mg/vehicles)**
- Electric bicycles;
- 3C products;
- **Industrial robots;**
- **Magnesium hydrogen storage materials;**
- Others: medical (bone screws, heart stents); aerospace;

Note: Hot topic in China

Conclusion

- Output and supply, in China, is stabilizing. Starting from 2024, primary magnesium capacity gradually grows, meeting global industrial chain for next five years.
- Central government repeatedly emphasizes the importance of maintaining stable supply chains. This is beneficial globally. China's magnesium industry cannot do without the world, and the world needs Chinese magnesium. All customers should maintain confidence as for supply and develop new applications.
- Lower price further highlights the cost-effectiveness of magnesium, and alloy applications find new opportunity, ushering in large-scale markets. The acceleration of R & D on magnesium alloys, with more investment, is also brewing new markets for the future.
- Some positive factors, on stage, will promote the sustainable development. China`s magnesium industry will provide low-cost, low-carbon, and green products to the market in the near future.
- We should strengthen global cooperation, establish global sustainability standard and certification system, and upgrade magnesium industry towards high quality and sustainability.

Thank you
for your attention!

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