



2022年度业绩报告

2022 Annual Results



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The contents contained in this document include the Company’s expectations for the future. These forward-looking statements are based on certain assumptions about the Company’s current and future business strategy and future operating environment, both known and unknown, and are subject to uncertainties and factors beyond the Company's control. As a result, actual results may differ materially from these forward-looking statements. These forward-looking statements are provided only as of the date of this document.



Significant growth in operating performance facilitate rapid growth of the world

- Profit before tax of RMB30 billion (+21%), net profit attributable to owners of the listed company of RMB20 billion (+28%), EBITDA of RMB43.6 billion (+24%);
- The production volume of the Company's major mineral products increased significantly. Its main indicators ranked among the leading companies in China and the top 10 globally.



A new batch of significant growth drivers emerged at an accelerated pace New energy and advanced materials businesses emerged as new forces

- The Company remains committed to its global layout strategy and invests in projects in China and its surrounding countries in a timely manner, obtaining a batch of quality resources at comparatively low costs; phase 2 of the Kamao Copper Mine in the DR Congo completed production, commenced production and reached the designated production capacity; construction of phase 3 expansion and smelter advanced beyond expectation; phase 1 of the Julong Copper Mine reached the designated production capacity, and the preparation work of the phase 2 project has been carried out. The research project regarding the caving mining method has advanced smoothly.
- The development of lithium-based new energy and advanced materials accelerated.



The “five-stage life-of-mine project management procedure by in-house capabilities” mining engineering management model was comprehensively promoted and applied

- The self-initiated research development, design, construction and construction management were improved continuously. Large-scale caving mining method, lithium extraction from brine and a batch of projects which aimed for science and technology breakthroughs obtained important progress;
- Informatisation, automation and intellectualisation empowered global operation, comprehensively promoted the safety level and globalised operation and management efficiency.



Deep integration of corporate governance and ESG sustainability concepts The concept of global “common development” is deep-rooted in the hearts of people

- The corporate governance system of the Company is scientific in decision-making, strong in execution and effective in supervision. The new management team has a higher female proportion among the independent Directors and the Supervisors. A more diverse background is highlighted;
- The Company has provided a large number of jobs, contributing to the local economic development of those places (countries) where the Company's projects are located. The Company's image as a large, responsible multinational company has been recognised.



Leading the Chinese mining sector to respond to and take action on climate change

- The Company published “The Action Programme on Climate Change”, which is the first report to incorporate the international TCFD framework among the Chinese metal mining sector. The Company has included the realisation of the targets of “carbon peak” and “carbon neutral” and the new energy and advanced materials business as important components of its development strategy for the next ten years.



Recognition from and influence on the global capital market were further improved

- The Company's A Shares are included in a number of key indices, the Company was favoured by public and private equity funds as well as national sovereign funds. The proportion of shares held by institutional investors increased significantly, and the investor structure was significantly optimised. The Company has received the title of enterprise with excellent information disclosure from the SSE 8 times.

01

**Financial
review**

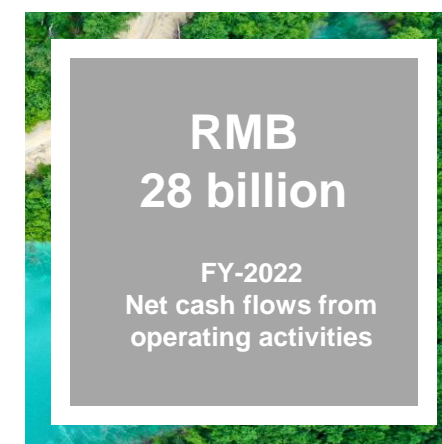


2022 Key financial data and indicators

	2022 Jan to Dec	2021 Jan to Dec	Change (%)
Operating income (RMB billion)	270.3	225.1	+20.00
Profit before tax (RMB billion)	30.0	24.8	+21.00
Net profit attributable to owners of the parents (RMB billion)	20.0	15.7	+28.00
Net profit attributable to owners of the parent after non-recurring profit or loss (RMB billion)	19.5	14.7	+33.00
Net cash flows from operating activities (RMB billion)	28.7	26.1	+10.00
Basic earnings per share (RMB/share)	0.76	0.60	+27.00
ROE (%)	25.29	23.97	Increased by 1.32 percentage points

	As at 31 December 2022	As at 31 December 2021	Change (%)
Total assets (RMB billion)	306.0	208.6	+47.00
Total liabilities (RMB billion)	181.6	115.7	+57.00
Total equity (RMB billion)	124.5	92.9	+34.00
Equity attributable to owners of the parent (RMB billion)	88.9	71.0	+25.00

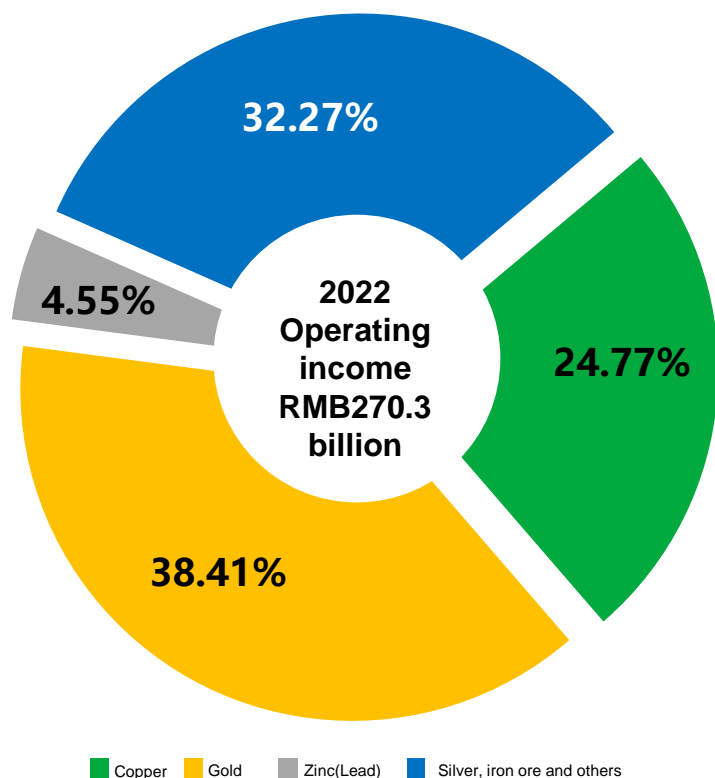
	2022 Jan to Dec	2021 Jan to Dec	Change (%)
EBITDA (RMB billion)	43.6	35.1	+24.00
Current ratio (%)	111.91	93.56	Increased by 18.35 percentage points
Quick ratio (%)	72.42	55.18	Increased by 17.24 percentage points
Debt-to-asset ratio (%)	59.33	55.47	Increased by 3.86 percentage points
Interest coverage ratio	8.46	10.37	-18.42
Cash interest coverage ratio	9.57	13.14	-27.17
EBITDA to interest coverage ratio	11.03	13.53	-18.48



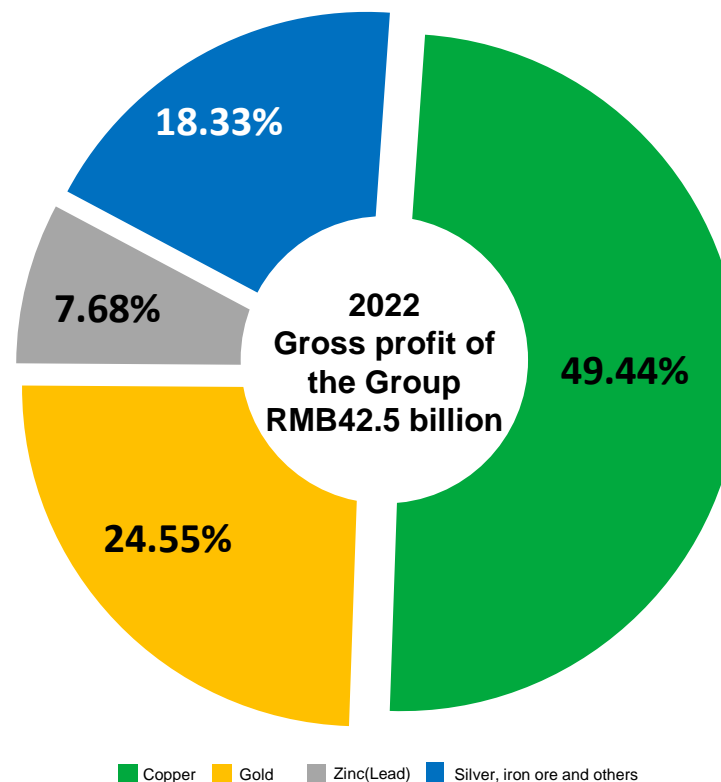
Contribution of major mineral products

- In 2022, sales income from copper, gold, zinc (lead), silver and iron ore businesses represented 24.77%, 38.41%, 4.55% and 32.27% of operating income (after elimination), respectively, and gross profit of these businesses represented 49.44%, 24.55%, 7.68% and 18.33% of the gross profit of the Group, respectively.

Contribution of major mineral products to the operating income



Contribution of major mineral products to the gross profit



Position in the mine-produced copper industry

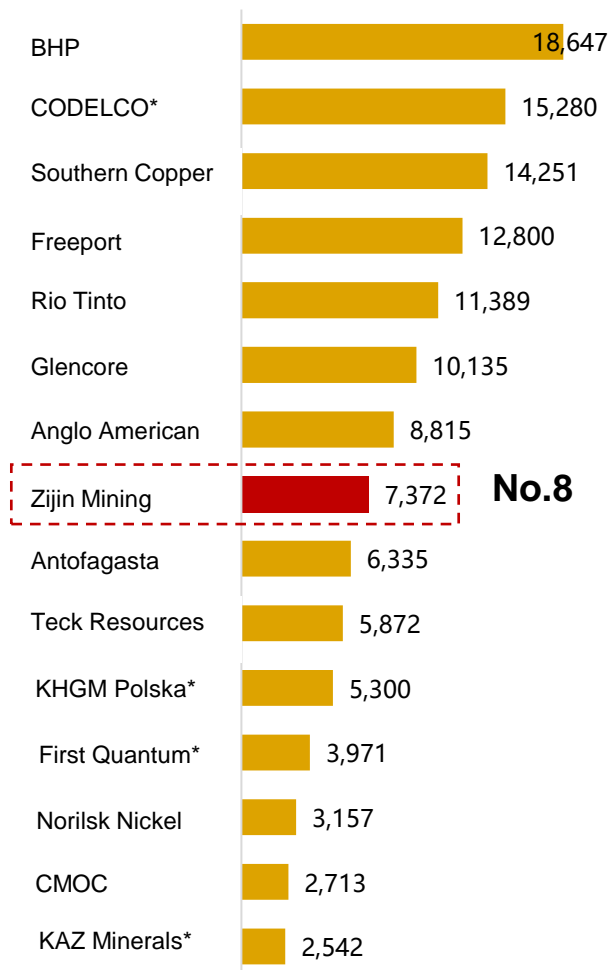


The **6th** largest copper producer in the world

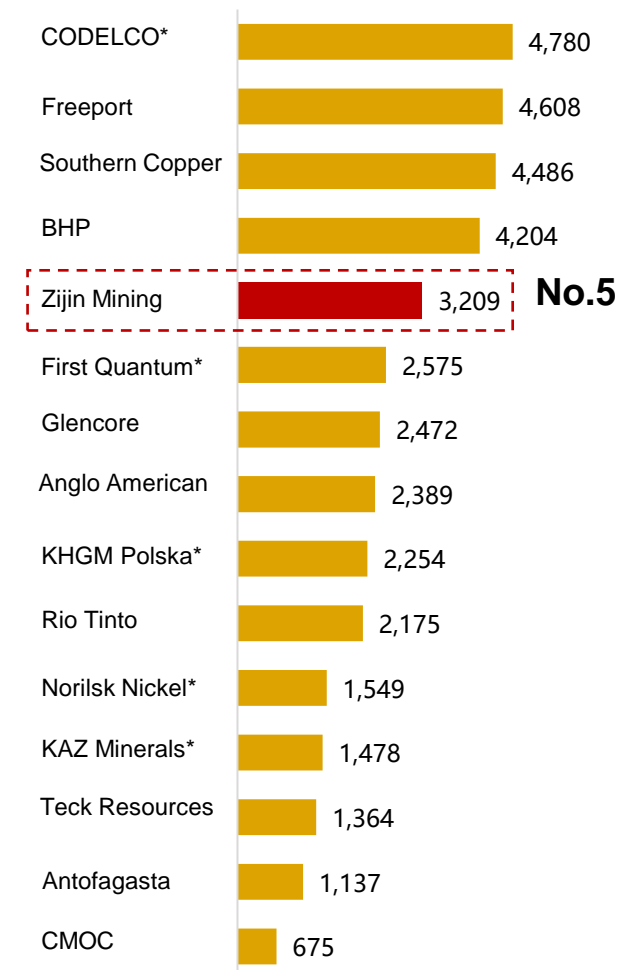
■ As at 31 December 2022, the Company's copper resources reached 73.7186 million tonnes, representing an increase of 17% compared with last year;

■ The production volume of mine-produced copper in China was 1.874 million tonnes, while the Company produced 877 thousand tonnes of mine-produced copper, accounting for 46% of the total domestic production volume.

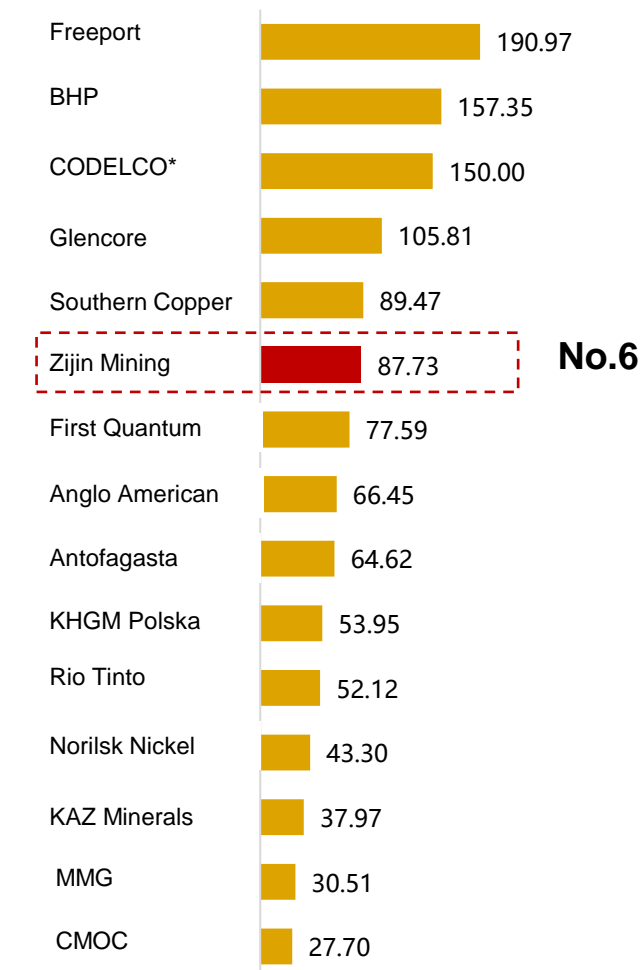
Resources (on equity basis) of the world's major listed copper companies in 2022/10,000 tonnes



Reserves (on equity basis) of the world's major listed copper companies in 2022/ 10,000 tonnes



Mine-produced copper production volumes (consolidated) of the world's major listed copper companies in 2022/10,000 tonnes



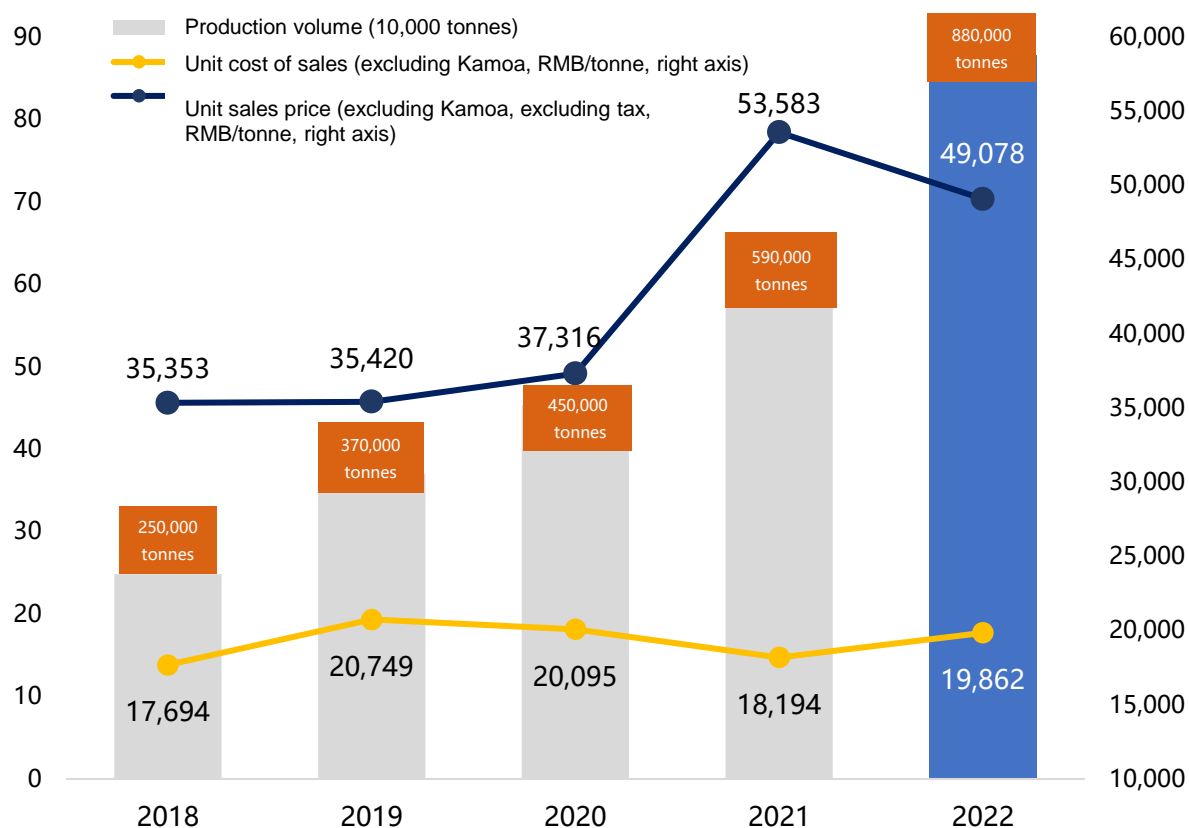
Source of data: annual reports; *data of 2021, data of CODELCO is the estimated production in 2022

Mine-produced copper: production volume and costs



- In 2022, the Company produced 877,000 tonnes of mine-produced copper, representing an increase of 49% compared with the same period last year, contributing to approximately 40% of the global net increase for the year. The increment in 2022 was mainly from Kamo-a-Kakula, Julong Copper, Serbia Zijin Mining and Serbia Zijin Copper;
- In 2022, the unit cost of sales of mine-produced copper (excluding Kamo-a-Kakula) was RMB19,862/tonne, representing an increase of 9% compared with the same period last year. The Company's gross profit margin of mine-produced copper was 59.53%, representing a decrease of 6.52 percentage points compared with the same period last year, mainly due to the decrease in mine-produced copper prices.

Mine-produced copper: production volume, unit cost of sales, unit sales price



Details of mine-produced copper production volume in 2022 (tonne)

Mine	Interest held by the Group	2021	2022	VS 2021	VS 2022
Kamo-a Copper (on equity basis)	45.00%	47,662	150,013	102,351	215%
Julong Copper	50.10%	15,690	114,977	99,287	633%
Serbia Zijin Mining	100%	55,119	111,021	55,902	101%
Serbia Zijin Copper	63%	66,031	92,977	26,946	41%
Kolwezi Copper Mine, the DR Congo	72%	121,072	128,233	7,161	6%
Duobaoshan Copper Industry, Heilongjiang	100%	109,490	110,568	1,078	1%
Zijinshan Copper and Gold Mine, Fujian	100%	85,061	86,012	951	1%
Ashele Copper Mine	51%	45,124	44,136	-988	-2%
Bisha, Eritrea	55%	20,224	17,098	-3,126	-15%
Hunchun Zijin, Jilin	100%	13,338	12,138	-1,200	-9%
Total of other mines		11,086	10,144	-942	-8%
Total		589,897	877,317	287,420	49%

Note: as the interest in Kamo-a under the calculation is adjusted to 45%, the output is therefore increased by 5,732 tonnes, and the output in the 2021 announcement has been adjusted

Position in the mine-produced gold industry

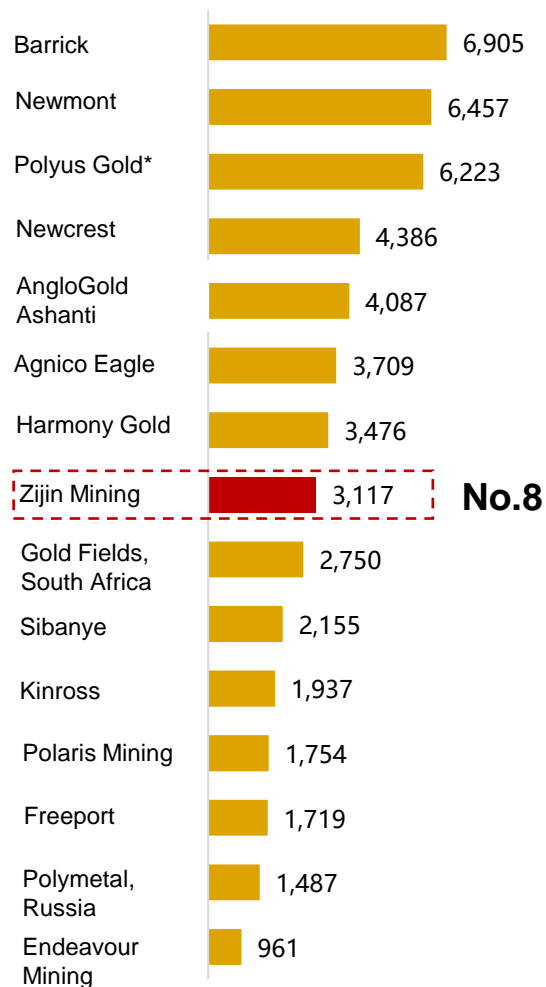


The **9th** largest gold producer in the world

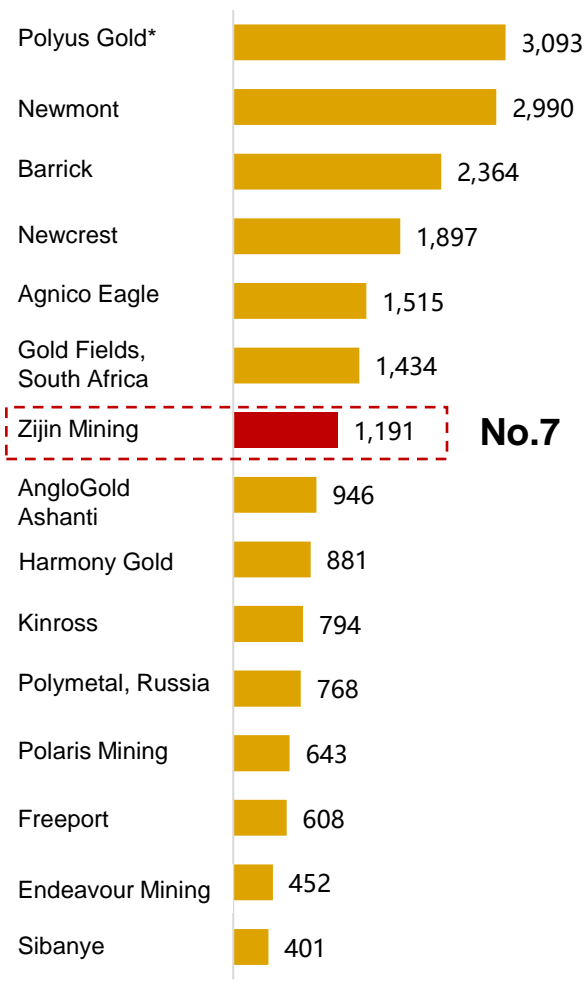
■As at 31 December 2022, the Company owned 3,117 tonnes of gold resources, representing an increase of 31% compared with last year. The Company's gold business entered a fast growth lane.

■The production volume of mine-produced gold in China was 295.4 tonnes, while the Company produced 56.4 tonnes of mine-produced gold, accounting for 19% of the total domestic production volume.

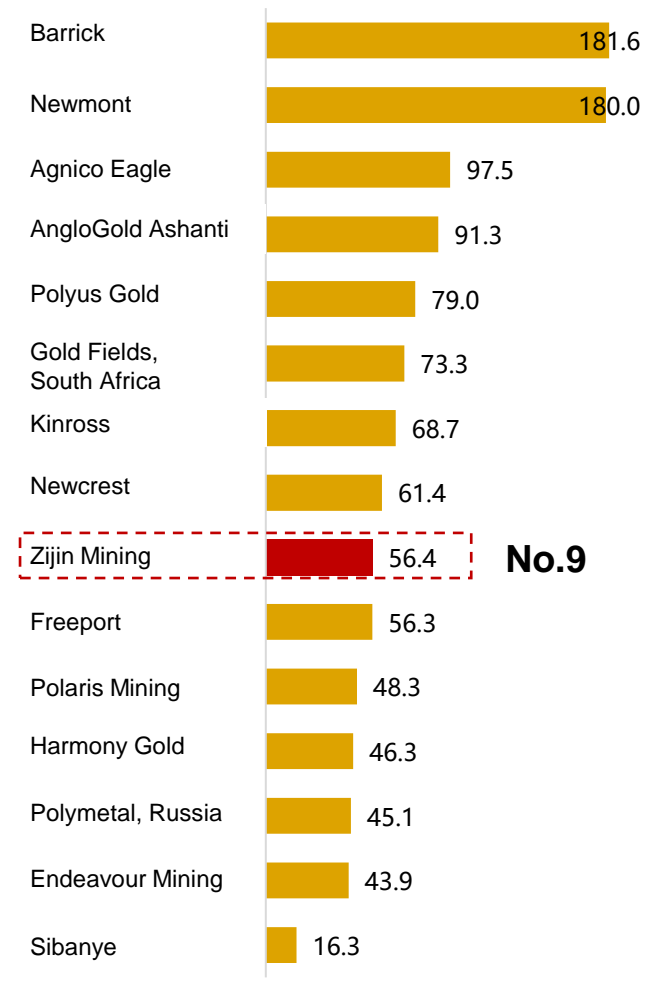
Resources (on equity basis) of the world's major listed gold companies in 2022/tonne



Reserves (on equity basis) of the world's major listed gold companies in 2022/tonne



Mine-produced gold production volumes (consolidated) of the world's major listed gold companies in 2022/tonne



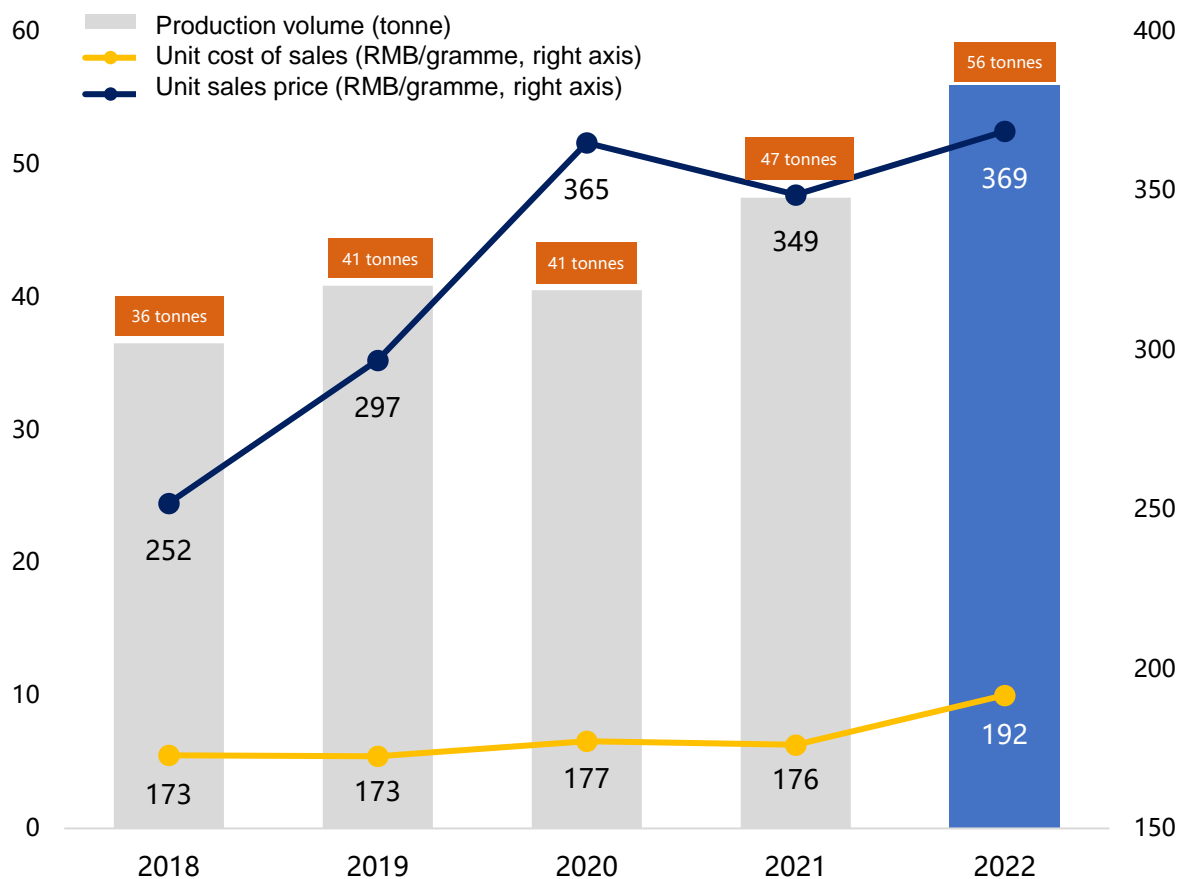
Source of data: annual reports; *data of 2021

Mine-produced gold: production volume and costs



- In 2022, the Company produced 56.4 tonnes of mine-produced gold, representing an increase of 18.8% compared with the same period last year. The increment in 2022 was mainly from Buriticá, Serbia Zijin Mining, Aurora, Norton, Luoyang Kunyu, Shanxi Zijin, etc.;
- In 2022, the unit cost of sales of mine-produced gold was RMB192/gramme, representing an increase of 8.8% compared with the same period last year. The Company's gross profit margin of mine-produced gold was 47.97%, representing a decrease of 1.49 percentage points compared with the same period last year.

Mine-produced gold: production volume, unit cost of sales, unit sales price



Details of mine-produced gold production volume in 2022 (kg)

Mine	Interest held by the Group	2021	2022	VS 2021	VS 2022
Buriticá, Colombia	69.28%	6,106	7,679	1,573	26%
Serbia Zijin Mining	100%	3,138	4,730	1,592	51%
Aurora, Guyana	100%	1,393	2,725	1,332	96%
Norton, Australia	100%	4,374	5,501	1,127	26%
Luoyang Kunyu	70%	1,576	2,696	1,120	71%
Shanxi Zijin	100%	951	2,062	1,111	117%
Serbia Zijin Copper	63%	1,656	2,560	904	55%
Longnan Zijin	84.22%	4,936	5,525	589	12%
Guizhou Zijin	56%	2,401	2,773	372	15%
Duobaoshan Copper Industry, Heilongjiang	100%	2,346	2,609	263	11%
Zeravshan, Tajikistan	70%	6,588	6,456	-132	-2%
Altynken, Kyrgyzstan	60%	4,319	3,831	-488	-11%
Hunchun Zijin, Jilin	100%	2,524	2,219	-305	-12%
Total of other mines		5,151	4,995	-156	-3%
Total		47,459	56,360	8,901	19%

Position in the mine-produced zinc (lead) industry

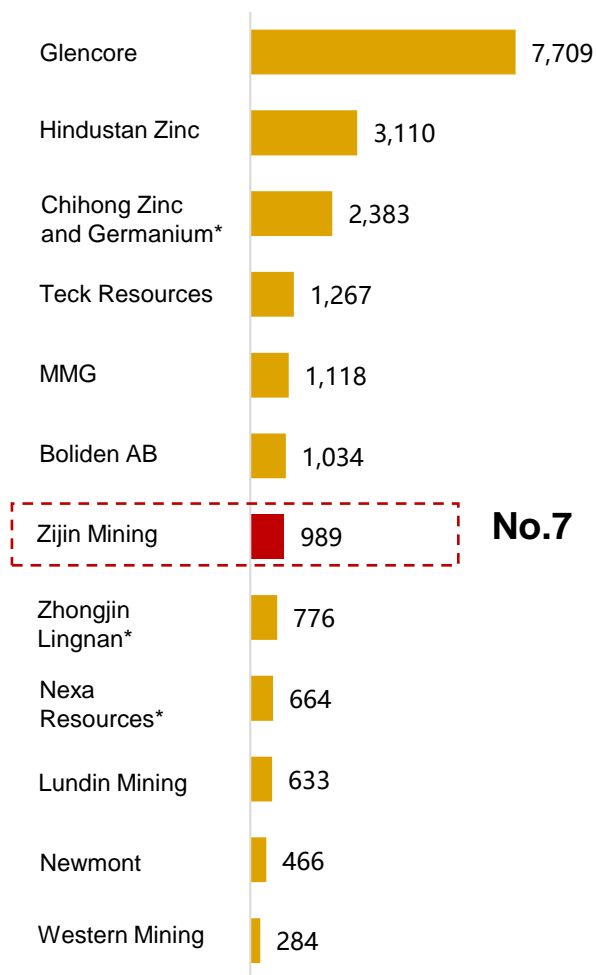


The **4th** largest zinc (lead) producer in the world

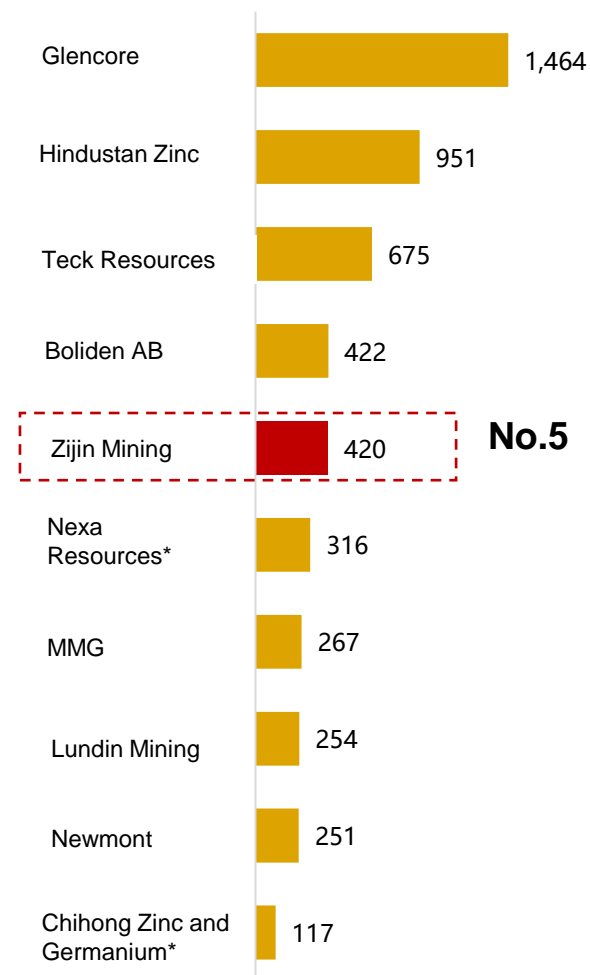
■ As at 31 December 2022, the zinc resources of the Company were 9.886 million tonnes, representing an increase of 3% compared with last year;

■ In 2022, the production volume of mine-produced zinc in China was 3.103 million tonnes, while the Company produced 402 thousand tonnes of mine-produced zinc, accounting for 13% of the total domestic production volume.

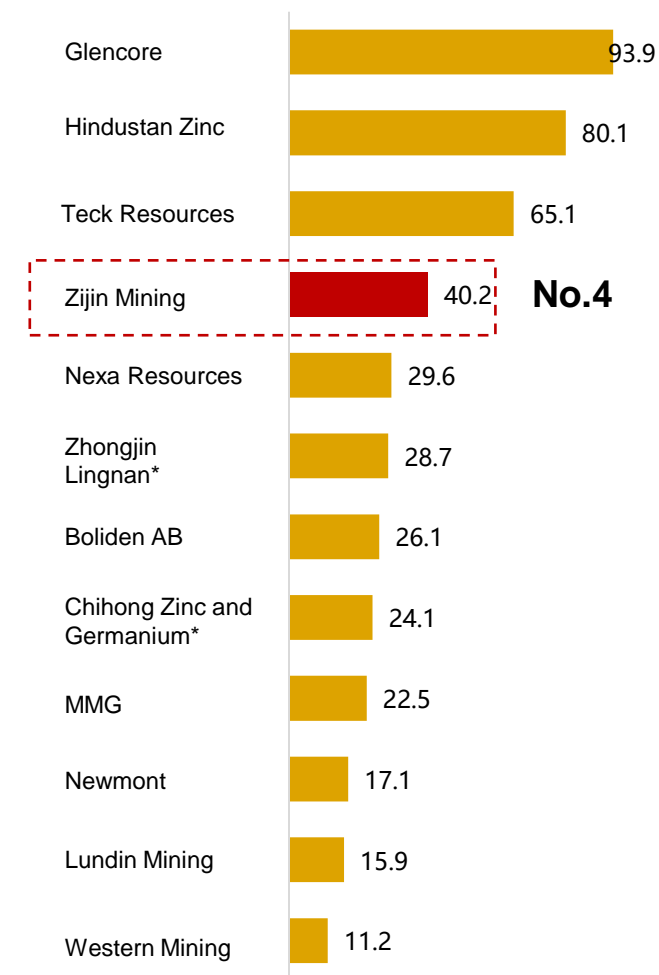
Resources (on equity basis) of the world's major listed zinc companies in 2022/10,000 tonnes



Reserves (on equity basis) of the world's major listed zinc companies in 2022/10,000 tonnes



Mine-produced zinc production volumes (consolidated) of the world's major listed zinc companies in 2022/10,000 tonnes



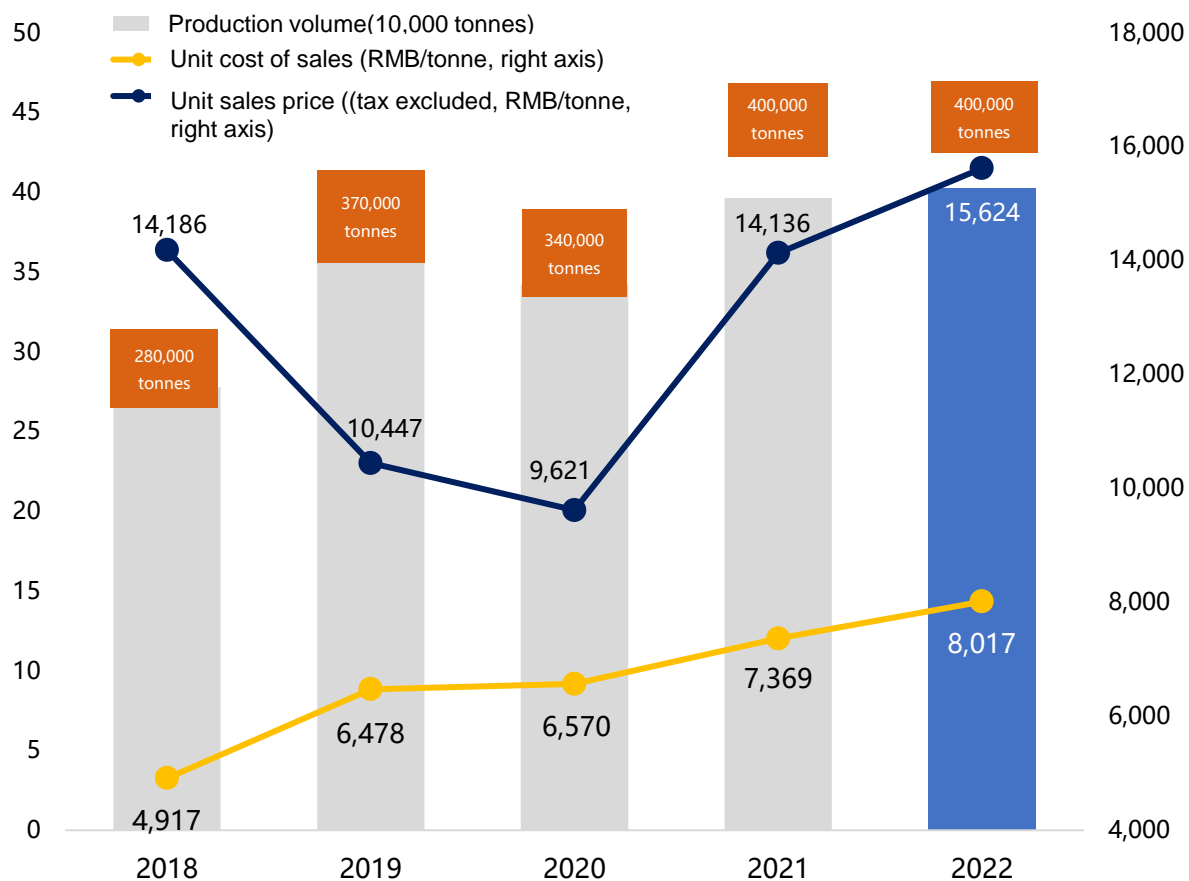
Source of data: annual reports; *data of 2021, data of Zhongjin Lingnan is the production volume of lead and zinc

Mine-produced zinc: production volume and costs



- In 2022, the Company produced 400,000 tonnes of mine-produced zinc and 40,000 tonnes of mine-produced lead. The increment of mine-produced zinc in 2022 was mainly from Longxing in Russia.
- In 2022, the unit cost of sales of mine-produced zinc was RMB8,017/tonne, representing an increase of 8.80% compared with the same period last year. The Company's gross profit margin of mine-produced zinc was 48.69%, representing an increase of 0.82 percentage point compared with the same period last year.

Mine-produced zinc: production volume, unit cost of sales, unit sales price



Details of mine-produced zinc production volume in 2022 (tonne)

Mine	Interest held by the Group	2021	2022	VS 2021	VS 2022
Longxing, Russia	70%	62,183	85,382	23,199	37%
Bisha, Eritrea	55%	129,641	120,529	-9,112	-7%
Urad Rear Banner Zijin	95%	50,432	45,302	-5,130	-10%
Ashele Copper Mine	51%	11,397	9,419	-1,978	-17%
Zijin Zinc	100%	142,084	140,760	-1,324	-1%
Total of other mines		706	929	223	32%
Total		396,443	402,321	5,878	1%

Other minerals and refined products



- In 2022, the Company's silver (including associated) resource and reserves increased significantly, and the production volume of mine-produced silver was in a leading position in China. The Company produced 387 tonnes of mine-produced silver, representing an increase of 25% compared with the same period last year. The increment of mine-produced silver in 2022 was mainly from Julong Copper in Tibet.
- In 2022, the Company produced 3.35 million tonnes of iron ore (including Makeng Mining production on equity basis), representing a decrease of 21.09% compared with the same period last year.

Mine-produced silver: production volume, unit cost of sales, unit sales price

Item	2018	2019	2020	2021	2022
Production volume (tonne)	221	263	299	309	387
Unit cost of sales (RMB/g)	1.73	1.42	1.45	1.57	1.63
Unit sales price (RMB/g)	2.29	2.48	3.17	3.43	3.05

Details of mine-produced silver production volume in 2022

Mine	Interest held by the Group	2021	2022	VS 2021	VS 2022
Julong Copper, Tibet	50.1%	13,981	66,276	52,295	374%
Shanxi Zijin	100.0%	18,571	28,938	10,367	56%
Longxing, Russia	70.0%	21,449	29,218	7,769	36%
Luoyang Kunyu	70.0%	34,537	40,984	6,447	19%
Duobaoshan Copper Industry, Heilongjiang	100.0%	39,101	40,902	1,801	5%
Bisha, Eritrea	55.0%	68,624	49,855	-18,769	-27%
Ashele Copper Mine	51.0%	33,593	29,943	-3,650	-11%
Zijinshan Copper and Gold Mine, Fujian	100.0%	30,990	29,935	-1,055	-3%
Total of other mines		47,960	71,407	23,447	49%
Total		308,806	387,458	78,652	25%

Iron ore: production volume, unit cost of sales, unit sales price

Item	2018	2019	2020	2021	2022
Production volume (including Makeng Mining, 10,000 tonnes)	297	353	387	425	335
Among which: Makeng Mining's production on equity basis	50	75	81	91	88
Unit cost of sales (RMB/tonne, excluding Makeng Mining)	170	192	175	209	214
Unit sales price (RMB/tonne, excluding Makeng Mining)	588	619	624	822	667

Refined products: production volume, costs

	2022				2021			
	Production volume	Unit	Unit cost of sales	Unit	Production volume	Unit	Unit cost of sales	Unit
Refined and processed gold	258,550	Kg	387.40	RMB/g	271,890	Kg	367.55	RMB/g
Refined copper	690,849	t	57,748	RMB/t	621,334	t	58,841	RMB/t
Refined zinc	318,454	t	21,171	RMB/t	322,440	t	19,076	RMB/t

02 | Projects updates



Kamoa Copper Mine



Resources: 43.12 million tonnes of copper@2.54%

- Production volume in 2022: 333 thousand tonnes of copper (on 100% equity basis), among which, Zijin's production on equity basis was 150 thousand tonnes.
- Production plan in 2023: 423 thousand tonnes of copper (on 100% equity basis)

Cash cost in 2022 (C1): USD1.39/ lb.

EBITDA in 2022: USD1.39 billion



Latest update

- The joint technological upgrade and capacity expansion plan for phase 1 and 2 are expected to complete in April 2023. By then, the copper output will reach 450 thousand tonnes per annum, positioning Kamoa-Kakula as the world's fourth largest copper producer
- Phase 3 expansion and copper smelter with a copper anode production capacity of 500 thousand tonnes per annum are expected to complete construction and commence production in October 2024. By then, the production capacity can reach 620 thousand tonnes per annum
- When the project's production capacity increases to 19 million tonnes per annum, it will become the world's second largest copper mining complex, with copper production of 800 thousand tonnes per annum

Julong Copper Mine



Resources: 18.9 million tonnes of copper@0.33%, 131.43 million tonnes of silver @2.51g/t, 1.1571 million tonnes of molybdenum@0.02%

- Production volume in 2022: 115 thousand tonnes of copper, 2,330 tonnes of molybdenum;
- Production plan in 2023: 152 thousand tonnes of copper, 3,940 tonnes of molybdenum

Net profit in 2022: RMB2.35512 billion



Latest update

- It is planned to implement the construction of phase 2 and phase 3 in stages. Among which, the preparation of the technological upgrade and production expansion of phase 2 with 200 thousand tonnes per day is underway. Production capacity of 350 thousand tonnes of mine-produced copper per annum will be generally formed by 2025;
- After the construction of phase 2 and phase 3 is fully completed, the mining and processing volume will be around 200 million tonnes of ore per annum and output of copper will be 600 thousand tonnes per annum

Čukaru Peki Copper and Gold Mine



Resources: Upper Zone: 1.45 million tonnes of copper @2.63%, 76 tonnes of gold @1.37 grammes/tonne

Lower Zone: 18.55 million tonnes of copper @0.76%, 385 tonnes of gold @0.16 gramme/tonne

- Production volume in 2022: 111 thousand tonnes of copper, 4.7 tonnes of gold;
- Production plan in 2023: 120 thousand tonnes of copper, 5.1 tonnes of gold

Net profit in 2022: RMB4.50131 billion

Latest update

- The pre-feasibility study of the design of large-scale caving method development at the Lower Zone has been completed. Preliminary work and licence application are underway.
- Implementing the technological upgrade and expansion project at the Lower Zone and Bor Copper Mine. By 2025, the production capacity of mine-produced copper will reach 300 thousand tonnes per annum in general, which is expected to become the second largest copper producer in Europe.

Bor Copper Mine



Resources: 10.79 million tonnes of copper@0.45%; 380 tonnes of gold @0.16 g/t

- Production volume in 2022: 93 thousand tonnes of copper, 2.6 tonnes of gold;
- Production plan in 2023: 120 thousand tonnes of copper, 2.4 tonnes of gold

Net profit in 2022: RMB1.89151 billion

Latest update

- Technological upgrade and expansion project of the VK Mine was completed and commenced production in December 2022;
- The mining method of the JM Mine changes from the filling method to the caving method, striving to complete construction and commence production by the end of 2025;
- Construction for expansion and technological upgrade of the smelter plant was basically completed by the end of 2022 and production commencement is expected in the first quarter of 2023.

Key gold projects in production

Buriticá Gold Mine



Resources: 322 tonnes of gold @6.61 g/t; 1,124 tonnes of silver @23.12 g/t

Production volume in 2022: 7.7 tonnes of gold; Production plan in 2023: 8.2 tonnes of gold

Net profit in 2022: RMB211.02 million



Latest update

- Technological upgrade with a mining and processing capacity of 4,000 tonnes per day is completed. The project can produce more than 8 tonnes of gold per annum.

Norton



Resources: 366 tonnes of gold @0.90 g/t

Production volume in 2022: 5.5 tonnes of gold
Production plan in 2023: 8.0 tonnes of gold

Net profit in 2022: RMB86.91 million



Latest update

- **Heap leach project of the Binduli Gold Mine:**
 - The 5 million tonnes per annum low-grade gold mine heap leach project completed construction and commenced production in September 2022. After reaching the designated production capacity, the extra gold metal production will be approximately 2.5 tonnes per annum;
- **Refractory gold ore project**
 - The construction of the refractory gold mine project is basically completed, which can further extend the service life of the Paddington Mill.

Shanxi Zijin



Resources: 114 tonnes of gold @1.86 g/t

Production volume in 2022: 2.1 tonnes of gold
Production plan in 2023: 5.45 tonnes of gold



Latest update

- The 6,000 tonnes per day technological upgrade and expansion project of the intellectualised mining and processing will complete construction in the second quarter of 2023, with an additional gold production of 3 to 4 tonnes per annum.

Rosebel Gold Mine



Resources: 217 tonnes of gold @1.11 g/t

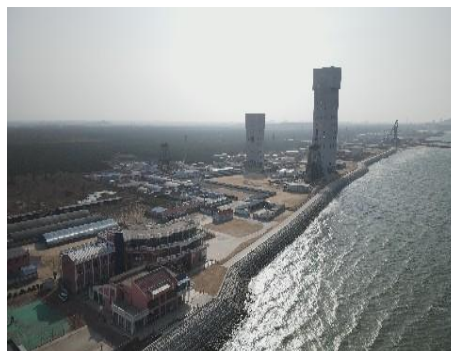
Production volume in 2022: 7.7 tonnes of gold
Production plan in 2023: 6.1 tonnes of gold (from February to December 2023)



Latest update

- One of the largest in-production open-pit gold mines in South America;
- The construction scale of technological upgrade is planned to be 10 million tonnes per annum. The average gold production volume of the project is expected to be 10 tonnes per annum when it completes construction and reaches the designated production capacity.

Haiyu Gold Mine



Resources: 562 tonnes of gold @4.2 g/t

Shareholding proportion:
The Company directly holds 30%, as well as 20% equity interest in Zhaojin Mining. Actual interest held by the Company is 44%



Latest update

- **Construction planning of the Haiyu Gold Mine:**
 - Designated mining and processing scale is 12,000 tonnes per day. After overall production commences, the mine can produce approximately 15 to 20 tonnes of gold per annum after reaching the designated production capacity. The mine is expected to become the largest gold mine in China.
- **Equity investments in Zhaojin Mining**
 - The Company holds 20% equity interest in Zhaojin Mining, making it the second largest shareholder of Zhaojin Mining. In normal production years, Zhaojin Mining can produce approximately 20 tonnes of gold and the Company's gold production volume is approximately 4 tonnes per annum (on equity basis) correspondingly.

Sawaya'erdun Gold Mine



Resources: 60.06 tonnes of gold @2.58 g/t; There are also low-grade marginal economic resources of 59.44 tonnes@1.12 g/t



Latest update

- It is a rare, undeveloped 100-tonne level ultra-large gold mine in China. The planned construction scale of the project is 8,000 tonnes per day. The product of the project is gold-loaded carbon, with an output of approximately 2.76 tonnes of gold per annum after completion of construction and reaching the designated production capacity;
- The process of licence application is speeded up. It is planned to commence construction in the second quarter of 2023 and complete construction and commence production by the end of 2024.

Key lithium projects



	2021	2022	2023E	2024 and long-term planning
Tres Quebradas Salar in Argentina	<p>In October 2021, the Company acquired Neo Lithium Corp. in Canada with a consideration of CAD\$960 million.</p>	<p>In February, the project team took over the project on site.</p> <p>In March, the first phase of 20,000 tonnes per year project officially started construction.</p> <p>In October, Liex S.A produced the first batch of lithium carbonate pilot products.</p> <p>In November, the small pre-concentration pond was completed ahead of schedule, and brine evaporation was officially initiated.</p>	<p>Processing plant civil engineering, equipment installation.</p> <p>Phase 1 of the project, with an output of 20,000 tonnes of battery grade lithium carbonate per annum, is anticipated to complete construction and commence production by the end of 2023</p>	<p>After both phase 1 and phase 2 projects have completed construction and reached the designated production capacity, it is expected that the production capacity of lithium carbonate will reach 40 thousand to 60 thousand tonnes per annum.</p>
Lakkor Tso Salar in Tibet		<p>In April 2022, the Company acquired an asset bundle consisting of four assets held by DunAn Group, including 70% interest in the Lakkor Tso Salt Lake Lithium Mine in Tibet, the consideration of which was RMB4.897 billion.</p> <p>In October, the semi-industrial test of lithium extraction from the brine was officially launched.</p> <p>In October, the first batch of battery-grade lithium hydroxide pilot products was produced.</p>	<p>Phase 1 of the project, with an output of 20,000 tonnes of battery grade lithium hydroxide per annum, is anticipated to complete construction and commence production by the end of 2023.</p> <p>Production plan in 2023: 1,320 tonnes of battery grade LCE.</p>	<p>After both phase 1 and phase 2 projects have completed construction and reached the designated production capacity, it is expected that the production capacity of lithium hydroxide will reach 40 thousand to 50 thousand tonnes per annum.</p>
Xiangyuan Lithium Polymetallic Mine in Hunan		<p>In June 2022, the Company invested RMB1.799 billion to acquire 71.1391% equity interest in Houdao Mining, which holds 100% interest of the Xiangyuan Lithium Polymetallic Mine.</p> <p>In December, the change of the mining permit was completed, and the project development approval reply for the production scale of 300 thousand tonnes per annum was received. Phase 1 of the project, with production scale of 300 thousand tonnes per annum, completed construction and commenced production</p>	<p>Phase 1 of the project, with a production scale of 300 thousand tonnes per annum completed construction and commenced production; Phase 2 of the project, with a production scale of 5 million tonnes per annum, is proactively progressed.</p> <p>Production plan in 2023: 2,000 tonnes of LCE</p>	<p>It is expected that the mine will have a long term production capacity of 40 thousand to 50 thousand tonnes of lithium carbonate per annum.</p>

“two lakes, one mine” accelerated and strive to become the world's advanced and important lithium producer

03

**Long term
planning**



Production guidance and production plan for key mines in 2023



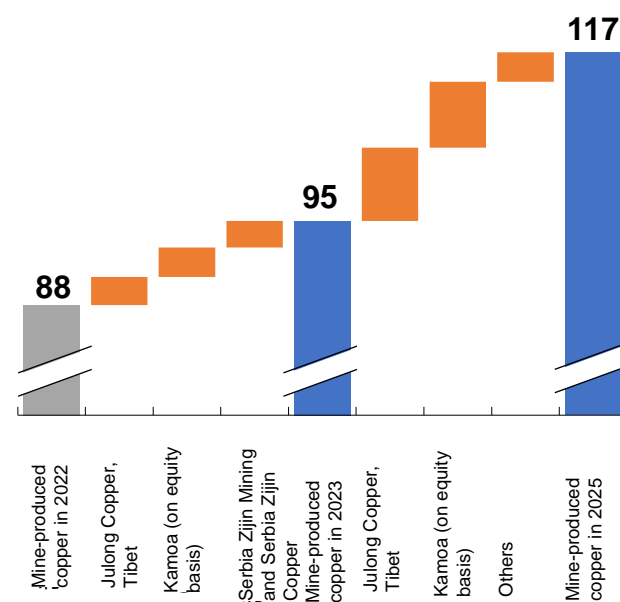
Product	Unit	2022	2023E	2025E
Mine-produced copper	million tonnes	0.88	0.95	1.17
Mine-produced gold	tonne	56	72	90
Mine-produced zinc (lead)	thousand tonnes	440	450	480
Mine-produced silver	tonne	387	390	450
Lithium carbonate	thousand tonnes	-	3	120

Product	Unit	2022	2023E	2025E
Refined copper	thousand tonnes	690	850	1,050
Refined zinc	thousand tonnes	320	310	490
Refined gold as by-product	tonne	26	27	27
Sulphuric acid	million tonnes	3.02	3.20	4.47
Power generated from green energy	MW	148	350	900

In light of the complexity and volatility in market environment, the plan stated herein is for indicative purpose only, which is uncertain and does not constitute any commitment to the realisation of the production volume. The Company may adjust the plan based on changes in actual circumstances. Investors are advised to pay attention to the relevant risks.

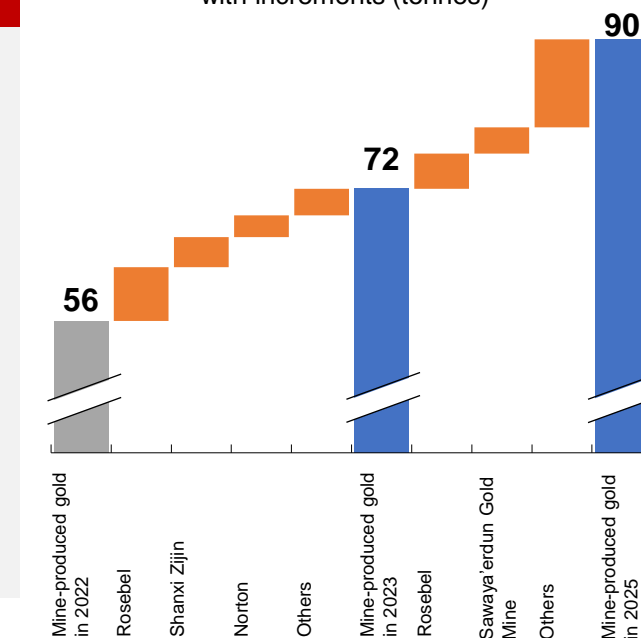
Name	Interest held by the Group (%)	Production guidance for 2023
Julong Copper, Tibet	50.10	15.2
Kaoia Copper Mine	45	42.3 (on 100% equity)
Serbia Zijin Mining	100	12.0
Serbia Zijin Copper	63	12.0
Kolwezi Copper Mine	72	12.6
Duobaoshan Copper Industry	100	10.0
Zijinshan Copper and Gold Mine	100	8.6

Production guidance of mine-produced copper and mines with increments (10,000 tonnes)



Name	Interest held by the Group (%)	Production guidance for 2023
Buriticá Gold Mine	69.28	8.2
Serbia Zijin Mining	100	5.1
Aurora, Guyana	100	3.7
Norton, Australia	100	8.0
Shanxi Zijin	100	5.45
Serbia Zijin Copper	63	2.4
Longnan Zijin	84.22	5.4
Guizhou Zijin	56	3.3
Zeravshan, Tajikistan	70	5.9
Altynken	60	3.7
Rosebel Gold Mine	95	6.1
Zhaojin Mining	20	4 (output on equity basis)

Production guidance of mine-produced gold and mines with increments (tonnes)



04

**Sustainable
development**

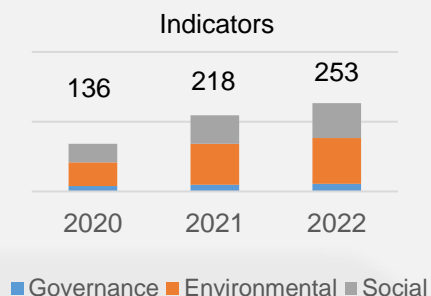


Major work progress of Zijin Mining's ESG work in 2022



Transparency continued to improve

- **Upgraded the sustainability section of the official website**, disclosed detailed ESG policies, philosophy and data in the official website, ESG report is linked to official website
- The number of ESG data indicators disclosed reached 253, an increase of **16.1%** year-on-year
- Enhanced the content on human rights, climate change and mine closure, strengthen **ESG risk analysis** across all sections



Actively promoted low carbon work

- Carried out systematic work such as **carbon footprint verification and construction of carbon neutral experimental base** to address climate change
- **16** mines formulated low carbon transition planning programmes
- Issued **The Action Programme on Climate Change** which is in line with the TCFD framework



The Action Programme on Climate Change of Zijin Mining



Implementation of indicators enhanced

- **100%** of mining companies incorporated ESG work into short-term business planning
- Benchmarked with international outstanding mining enterprises, decomposed and assigned **ESG work tasks** around the target-performance system
- Carried out **ESG reviews** of subsidiaries, integrate ESG indicators into traditional environmental protection and safety inspections, and promote the construction of ESG systems in subsidiaries

Our expectations:

- We are able to put ESG concepts into practice, rather than just a packaging for ourselves;
- ESG business capabilities, quality and standards will improve constantly to help the Company go higher and further.



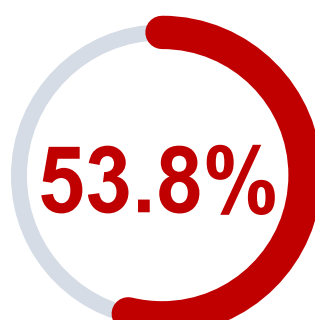
Corporate governance



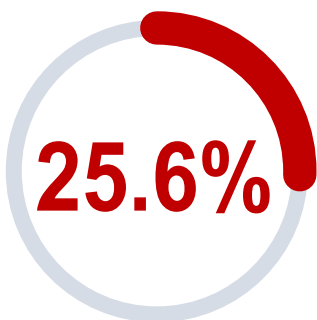
Performance



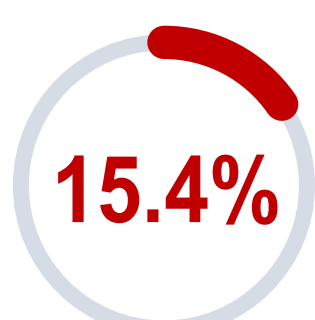
Proportion of ESG indicators in senior management's remuneration appraisal



Proportion of independent directors and non-executive directors



Proportion of ESG-related proposals among the proposals reviewed by the Board of Directors



Proportion of female directors



Clear remuneration appraisal for senior management

- On the basis of incorporating ESG into performance appraisal, the Company has made clear that ESG appraisal factors shall not be lower than **20%** in the remuneration appraisal



Further enhance the governance structure with Zijin characters

- The independence of the board of directors has been further improved:** the proportion of independent directors has increased; the audit and internal control committee, the nomination and remuneration committee are all chaired by independent directors
- The supervisory committee has an executive body to ensure the independence of the internal supervision system:** the Company's supervision and audit office is directly under the supervisory committee, and will send supervisory personnel to station in each project. This will maintain the independence of the internal supervision system, while realising a full coverage of supervision. Independent supervision and effective supervision mechanism are further strengthened.



Further enhance diversity and independence

- 2 new members have joined the **board of directors**, including 1 female, and the number of female directors has increased to **2**, including 1 executive director and 1 independent director, respectively;
- 2 new members have joined the **supervisory committee**, including 1 female.



ESG risk management



Sound ESG risk management system

- With reference to the COSO's Enterprise Risk Management (ERM) framework, the Company has integrated emerging stakeholder concerns in relation to ESG issues into risk management system

ESG risk management mechanism

- **ESG risk management and risk culture**
 - Establish a risk governance structure led by the board of directors
 - Integrate risk awareness into core corporate values, employee performance appraisals and daily behavioural habits
- **Risk strategy and goal**
 - "Comprehensive, focused, dynamic and continuous" as the main route to risk management
- **ESG risk performance**
 - Form an operation mechanism with "information gathering - risk identification - risk assessment - risk ranking and response - reporting and improvement"
- **ESG risk review and revision**
 - Regularly summarise the effectiveness of risk management strategies

Integrate ESG risk considerations into mining investment framework

- Carry out a detailed and comprehensive evaluation of the ESG risks of investment projects, mainly including safety, environmental protection, labour, low carbon, community and compliance

Key ESG risks to focus on

HSE risk

- Health and safety
- Environmental protection
- Climate change

Ethics risk

- Corruption
- Human rights

Cross-countries operation risk

- Geopolitics
- Cultural conflict
- Community relations

Business ethics



Strengthen anti-corruption risk management

- Issue Operational Guidelines on Risk Management, with anti-corruption as one of the **core elements** of risk identification
- Clarify the business ethics management process and form a management mechanism of "prevention + review + improvement + supervision"

Improving the grievance and whistleblowing system

- Newly revised Whistleblowing Management Measures, making the process of receiving reports and processing results more open and transparent
- Evaluate and review the grievance and reporting management work of subsidiaries and enhance their grievance and whistleblowing systems

Work of the supervisory committee is being recognised

- Zijin Mining's supervisory committee was included in the "List of Best Practices for Supervisory Committee for Listed Companies", it is the only mining company to be selected in 2022



Performance

100%

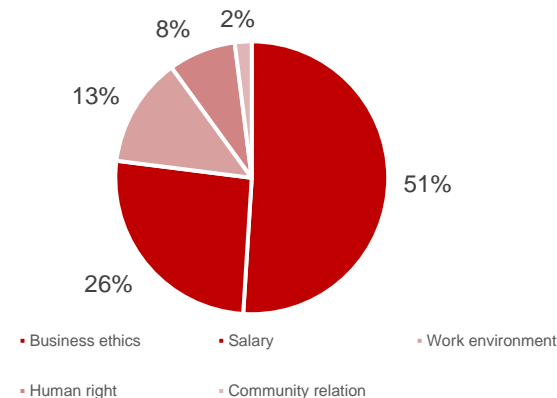
Acknowledgement rate for anti-corruption policies and procedures

100%

Anti-corruption inspection programme completion rate

195 reports processed and completed

Types of grievance and whistleblowing



Human rights



Performance

Detection of human rights violations **0**

Collective bargaining agreement coverage **82.6%**

A total of **1,702** security personnel received human rights trainings

97%

Percentage of security personnel who has received human rights trainings

Roll out human rights risk identification

- Promote the gradual establishment of processes for identifying and managing human rights risks in all projects
- **Major human right risk:** Artisanal and small-scale gold mining (ASM)
- Other human rights risks: use of child labour, slave labour, indigenous people's rights, freedom of association and collective bargaining, workplace harassment and discrimination. Relevant management mechanisms and remedial measures have been established

Formalisation of artisanal mining

- Improve the economic environment of the community: improve the economic and educational environment of the community and implement livelihood alternative projects, strive to eliminate the relevant community context factors that lead to illegal artisanal mining
- Support formalisation of construction: support and participate in the formalisation of the construction of artisanal and small-scale mining carried out by the local governments, help improve the operating conditions of legal operators

Security and human rights management

- Implement security audit projects, include security service providers in the scope of security audits, identify problems and risks, and make continuous improvement
- Cooperate with governmental departments to set up judicial offices at project sites to manage and control human rights-related risks

Formalisation of artisanal mining in Continental Gold

- Continental Gold, a subsidiary of the Company cooperates with government agencies to carry out mining formalisation project
- As at 2022, **11** local formalised artisanal mining companies have been incorporated into the supply chain, creating **260** local jobs, more than half of which are female employees.



Zijin Mining's Action Programme on Climate Change



TCFD

Governance

- The **board of directors** is responsible for climate strategy
- Establish the dual carbon leadership working group

Strategies

- Identify physical risk and transition risk
- Develop three major strategies

Risk management

- Formulate countermeasures for each risk

Performance target

- 2029 Carbon peak, 2059 Carbon neutral

Facing the world

Providing the materials that improve standards of living in a low carbon future, help the world to achieve the 2 degree target

We will establish an entire industry chain covering the upstream key minerals and downstream advanced materials, proving the world with quality new energy metals and material for its transition into low carbon.

Strengthen industries

Establish clean and low carbon industry chain economy, so that more people can benefit from Zijin

We will team up with our partners to embrace the development opportunities of green economy, strengthen technological cooperation and breakthrough, to level up the whole value chain to transition into low carbon economy.

Improve ourselves

Path of green, high quality and sustainable development, reduce industrial development footprint in the whole process

We will use a more transparent and responsible way to enhance our management ability to address climate change, implement competitive measures to save energy and reduce carbon, to reduce carbon footprint for our products.

Action Programme on Climate Change

- First TCFD in the Chinese non-ferrous metal industry
- Zijin's low-carbon strategic planning and emission reduction goals and programmes



Physical risks

8 major risks

IPCC scenarios

Low carbon scenario (SSP1-2.6)	High carbon scenario (SSP5-8.5)
Result in temperature rise <1.8°C	Result in temperature rise 4.4°C

- Risk level and countermeasures
- Extreme heat
 - River flooding
 - Extreme precipitation and flooding
 - Water stress and drought
 - Extreme cold
 - Typhoon
 - Landslides
 - Mountain fires

Transition risks and opportunities

6 major risks 2 major opportunities

IEA scenarios

Low carbon scenario (SDS)	High carbon scenario (STEPS)
Result in temperature rise <1.7°C	Result in temperature rise 2.7-3.3°C

- Risk level and countermeasures
- Emission reduction policy pressure
 - Fossil fuel supply
 - R&D and investment in low-carbon transition technologies
 - Use renewable energy
 - Carbon price
 - Electricity price
 - Increase demand for low-carbon products and services

Zijin Mining's Action Programme on Climate Change



TCFD

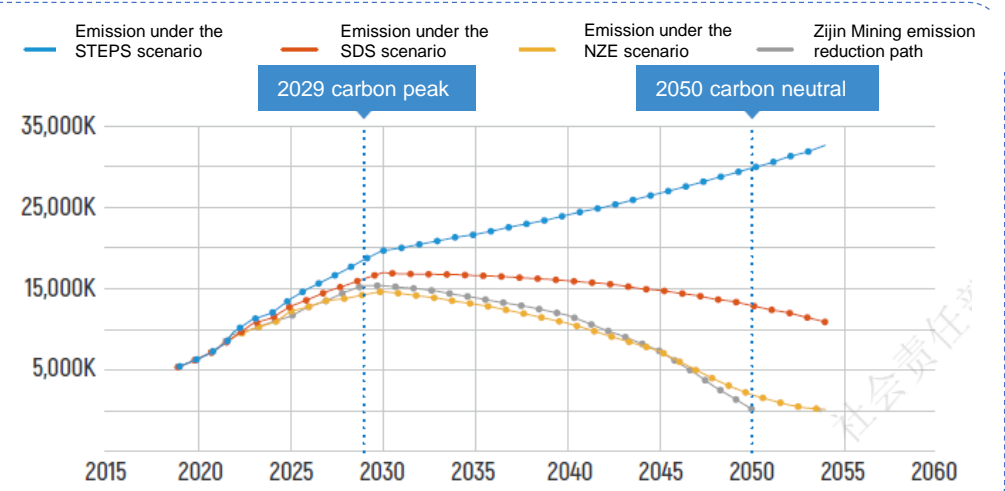
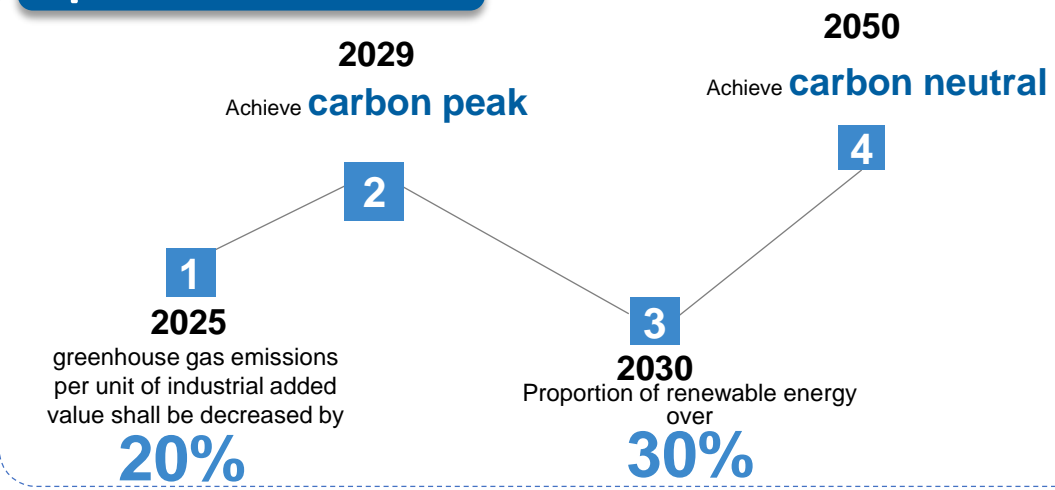
Governance

Strategies

Risk management

Performance target

Our targets



Our Transformation Path



Performance and measures for climate change



TCFD

Governance

Strategies

Risk management

Performance target

Energy saving and carbon reduction transition

Application of energy saving technologies

- Mine:** Promote technological transformation such as "more crushing and less grinding" to reduce carbon emissions per unit of ore processing
- Smelter:** Carry out low-temperature waste heat recovery and utilisation projects for power generation, steam drying of furnace materials, etc.

Clean fuel alternative

- Continue to promote electrification substitution on transportation vehicles and steam boilers
- Fujian's first ammonia-to-hydrogen and hydrogenation integrated demonstration station project, delivered the first ammonia-hydrogen and hydrogen filling integrated demonstration station in China

Clean energy alternative

- The installed capacity of clean power reached **167.48 MW** (on equity basis), generating **257 million kWh** of electricity and reducing emissions by **146,800 tonnes of CO₂** equivalent
- Total clean energy use accounted for **32.5%** of total electricity consumption

Carbon negative

- Ecological carbon sink: planting approximately **1.21 million** new trees in 2022, equivalent to offsetting approximately **21.8 thousand tonnes** of CO₂ per year in the future
- Carbon capture: exploring the best carbon capture, utilisation and storage (CCUS) for future phased deployment

Clear and transparent data

GHGs total emission **7.78** million tonnes CO₂e

Carbon emission density reduced by **13.4%**

GHG emission (tCO₂e/ RMB10,000)

Year	Direct GHGs emissions (SCOPE 1)	Indirect GHGs emissions (SCOPE 2)	Total GHGs emissions	Industrial added value carbon emissions (RMB10,000)
2020	2.54	6.11	8.65	1.85
2021	2.79	4.47	7.26	1.79
2022	3.12	4.66	7.78	1.55

The proportion of fossil fuels has dropped to **51.7%**

Renewable energy accounted for total electricity consumption **32.5%**

Energy consumption

Year	Total energy consumption (GWh)	Energy consumption density (MWh/RMB10,000 industrial added value)
2020	14,271.21	4.32
2021	15,236.89	3.75
2022	18,294.54	3.25

Type of electricity use

Type	Percentage
Grey energy	67.50%
Hydro-power	31.31%
Solar power	0.53%
Other renewable energy	0.66%

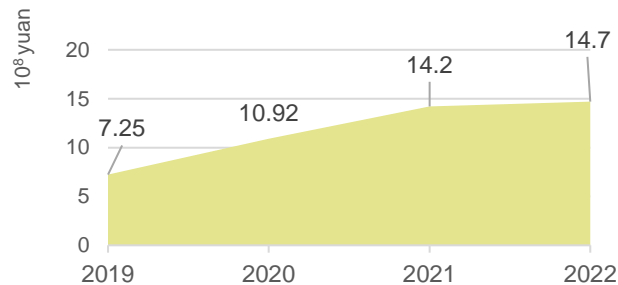
Ecological protection



Performance



Investment in environmental protection
RMB **1.47** billion ↑**3.3%**



ISO 14001 certification coverage **97.5%**
↑10 percentage point



ISO14001 certification coverage

- Follow the principle of “follow blueprint to the end, the job should be continued even one left”
- According with the working mode of “development along with recovery together”



Biodiversity conservation

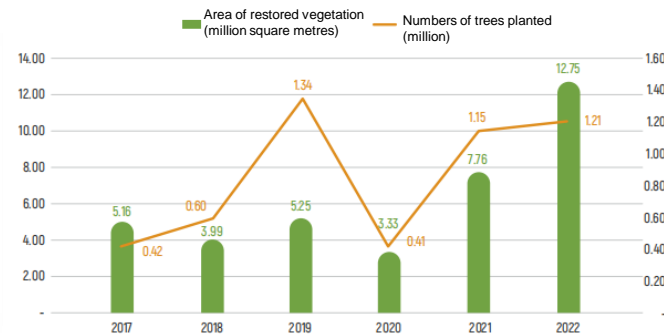
- Subsidiaries have carried out biodiversity surveys
- Implemented biodiversity compensation projects: Completed the construction of 1.78 million square metres of ecological compensation forests in the northern and southern mountain areas of Lhasa, Tibet
- **66%** of the mines have implemented biodiversity conservation scheme

Added **3** green factories at provincial level

Restore vegetation **12.75** million square metres, planted **1.21** million trees



Restoration of vegetation



Mine closure

- Currently only the Deerni Copper Mine in Qinghai has entered into mine closure stage:
 - More than **RMB150 million** has been invested in ecological restoration. Through cooperation with scientific research institutes, more than **200 hectares** of area have completed ecological restoration
 - The “Artificial Vegetation Restoration Project at High and Cold Areas” won the second prize of the Green Mine Science and Technology Major Project Award
 - In 2022, **RMB800,000** was invested to restore residents’ livelihood after mine closure

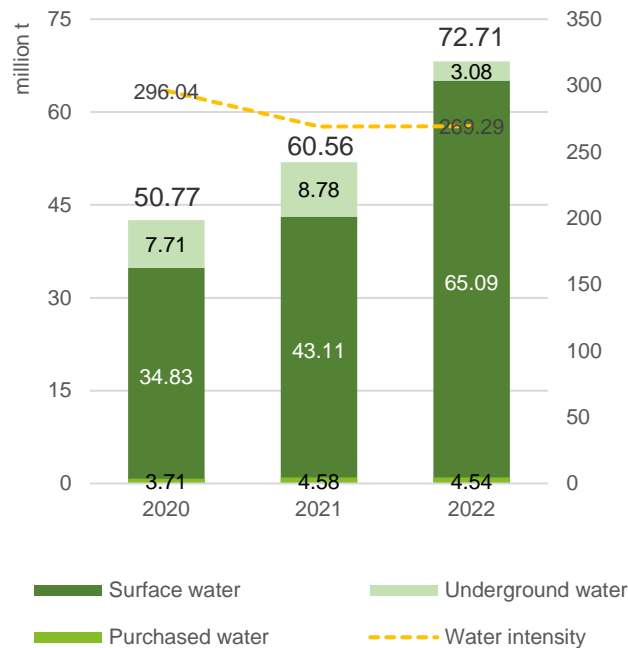
Water resource management



Performance

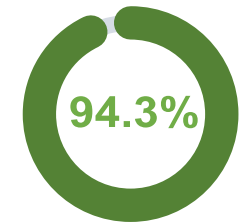


Total Water Intake: **72.71** million tonnes, a decrease of water intensity of **9.12%** from 2020



Adopt whole life-cycle management of water recycle to deal with water stress issue in mines

- **Areas with high precipitation:** Focus on flood control facilities to prevent the risk of pollutant spillage and dam failure cause by heavy rain
- **Areas with a scarcity of water:** Strengthen water recycling, save fresh water intake, mitigate the local water consumption stress
- **Extreme weather:** All flood protection works are designed and constructed up to a higher standard that can withstand once-in-a-century disaster, with emergency plans in place



Water Recycle Rate



Emission management



Performance



Online monitoring coverage of smelting water and exhaust gas emission



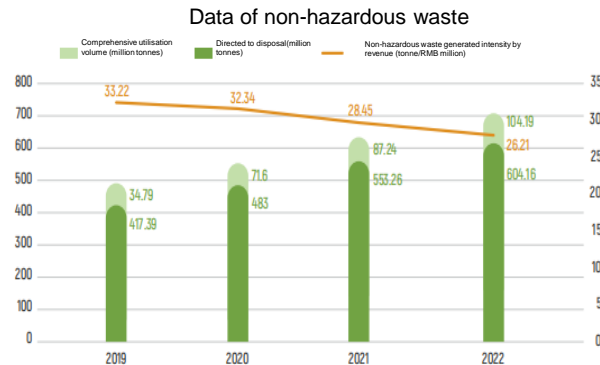
Rate of water discharge and exhaust gas emission that is up to standard

NO_x emission intensity reduced by 34% compared with 2020

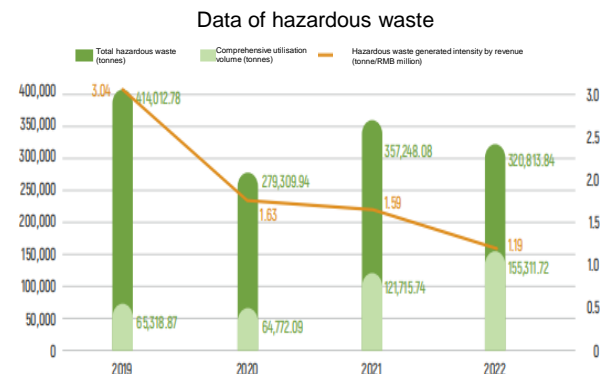
SO₂ emission intensity reduced by 41% compared with 2020

* Note: We have experienced a significant decrease in emissions intensity due to the shutdown of a smelter for renovation during the reporting period, and expect some rebound in emissions intensity when the smelter resumes production in the next reporting period

Non-hazardous waste generated intensity by revenue reduced by 7.9%



Comprehensive utilisation rate of hazardous waste increased by 42.1%



Comprehensive close loop monitoring

- Establish **100%** smelting water and exhaust gas emission online monitoring system, **which are monitored by a third party**, and the date is shared with the regulators in real time
- Rate of water discharge and exhaust gas emission up to standard **100%**
- Set up biological monitoring points in the downstream of the mining area to monitor the water quality



Treatment and utilisation of waste to turn them into resources

- Tailings and waste rock:** underground refilling, selling to external institutions for treatment
- Refining slag:** carry out element analysis on the refining slag in order to raise the utilisation rate of refining slag
- Hazardous waste:** optimise the original production techniques and equipment, reduce the generation of hazardous waste, carry out comprehensive utilisation of hazardous waste
- Carry out Bayannur Zijin tailings gas denitrification and desulphurisation transformation project, Heilongjiang Zijin Copper comprehensive resource recovery and other environmental protection projects

Employee management

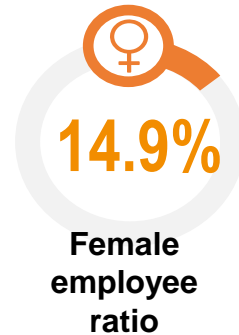
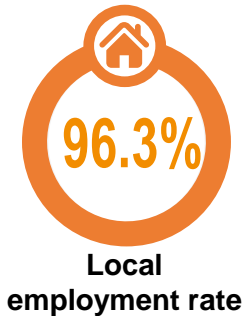
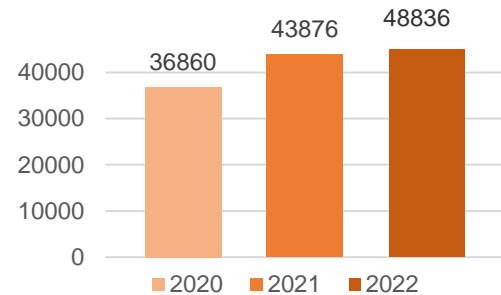


Performance

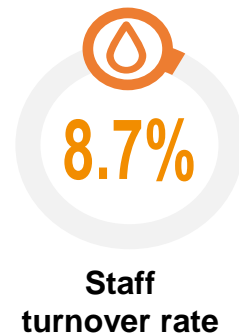
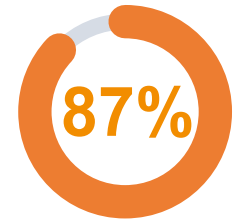


- **Number of employees**
Total number of employees reached

48,836



- **Corporate identity and employee satisfaction**



Raise the attractiveness to talents

- Provide more employment opportunities, number of employees keep increasing
- Promote local employment and staff nurture, overseas subsidiaries formulate annual employment plan for local personnel in management positions
- Carry out corporate identity and satisfaction surveys covering all employees



Promote employee development

- Develop the **online learning platform for Zijin's job qualifications**, introduce different kinds of high-quality educational resources from world-class colleges and consulting institutions for online training and learning for employees
- Encourage and provide subsidies to employees for continuing education and attending examinations to obtain qualification certificates of various kind
- Provide employment and vocational skill trainings for the surrounding communities to improve the employability of community residents

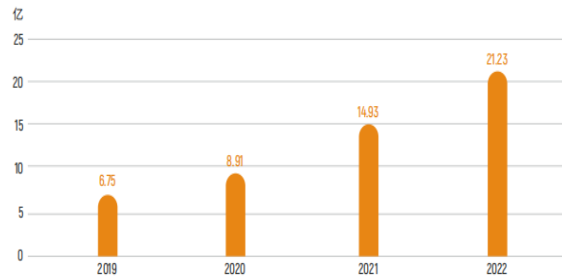
Occupational health and safety



Performance



Investment in production safety
RMB 2.123 billion



Average safety training
of staff at work positions

30.7 hours

Total recordable incident
rate per million hours
worked (TRIR)

0.64 ↓ 5.9%

Lost time injury rate per
million hours worked (LTIR)

0.29 ↓ 3.3%

95%

ISO 45001 certification rate



Conduct review on safety management system

- Engage third-party organisations to conduct compliance evaluations and inspections on subsidiaries, and review the adequacy, suitability and effectiveness of their OHS management system



Strengthen security risk management

- Whole-life management and control:** prevention at the source, strengthen risk control in the design phase of the operational projects
- Management and control on unsafe behaviours:** enhance employees' safety awareness, habits and skills
- Risk modification management:** optimise risk list at different levels as well as management and control measures in a timely manner
- Integrated management of contractors:** actively explore the modes of self-operation of mine construction and general contractor, raise the stability of contractors and ensure the continuity of training



Use technologies to strengthen safety

- Promote the development of **“Intellectual mines”**, apply **unmanned mining system, 5G unmanned mining trucks** and other technologies to reduce the occupational risks of staff and contractors



Community



Performance



Promote community development

Direct economic contribution

RMB **285.4** billion

➢ Paid tax of RMB **12.8** billion

➢ Paid salaries of RMB **9.1** billion

Contributed RMB **455** million
↑ **7.31%** into communities

Transparent community development

Resolved **196** community grievances

Convened **778** community meetings

Received **more than 10,000** visitors from the communities

Promote revitalisation projects globally with Zijin characteristic to enhance self-reliance and sustainability of the community

Complement the Chinese and Western strengths on community management

Chinese strengths

- Efficient execution ability
- Actual investment in welfare

Western advantages

- Thorough project planning
- Comprehensive project promotion

Combination of “bring in” and “go out”

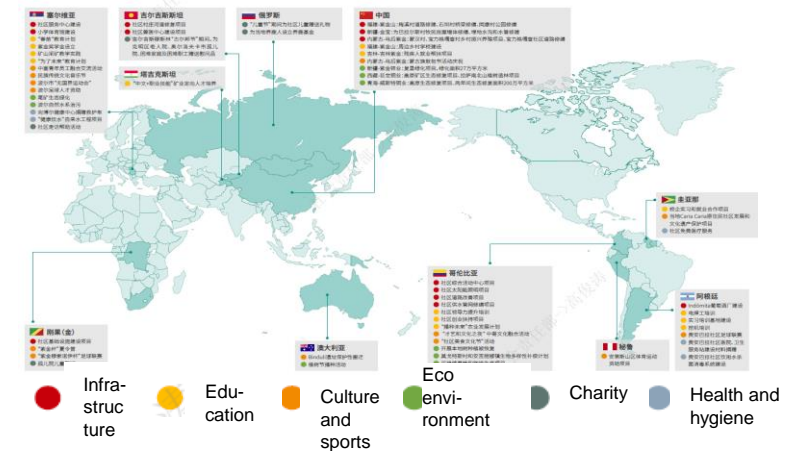
Open communication

- Hold community open days, invite stakeholders to visit

Go to the frontline

- General managers go to the frontline of the communities to conduct community communication

Actively promote community cultural integration in 6 major areas on 5 continents



Responsible supply chain



Strengthen supplier qualification assessment and review

- **Supplier qualification assessment:**
 - Scores are given to suppliers according to three aspects: **environmental protection, social responsibilities, corporate governance**
 - Include the requirement of complying with Supplier Code of Conduct in the standard procurement contract with suppliers
- **Supplier qualification review:** Request rectification or terminate cooperation with suppliers that have potentially significant negative social or environmental impacts



Support local industry development

- Implement local procurement policy, prioritise procurement of materials with regional advantage to support the development of local enterprises through local procurement
- Support local industries which have local characteristics and advantageous traditions to enhance the competitiveness of local industries



Strengthen responsible supply chain management

- Build a responsible supply chain system with wider coverage according to OECD and LME standards
- **Upstream enterprises of refineries:** Reject ASM products, support mines to discharge social responsibilities
- **Downstream enterprises of refineries:** Provide responsible management and due diligence information

Performance



ESG screening conducted on a total of

1,547 new suppliers

ESG reviews conducted on **2,327** suppliers

Terminate cooperation with 3 suppliers which have actual significant potential ESG negative impact

Local procurement in host countries:

65.2%

4 refineries will meet the LME and OECD requirements for responsible supply chain development in 2023

ESG awards and ratings in 2022

Company

- Hong Kong Quality Assurance Agency: Pioneering Organisation in ESG Disclosure
- Hong Kong EDigest: Outstanding ESG Enterprise
- Bloomberg Businessweek: ESG Leading Enterprise Award, Leading Social Initiative Awards
- Sina Finance: Sustainability Award of the Year, ESG Leading Project Award – Best Social Responsibilities
- China Securities Journal: Golden Bull Social Responsibility Award for the Year
- Xinhua Credit: Golden Orchid Cup ESG Excellent Case Award
- LinkedIn: Attractive Employers for Graduates Worldwide
- China Human Resources Sirius Rating: Best Employer Branding Award
- Forbes China Sustainable Development Industrial Enterprises Top 50

Subsidiaries

Company	Awards
Zeravshan	Environmental Protection Excellence Award
Serbia Zijin Copper	Outstanding Economic Contribution of the District
	Miša Anastasijević Award
Serbia Zijin Mining	Outstanding economic contribution of the District
Altynken	Outstanding Environmental Protection Enterprise Award
	Worker Protection and Occupational Health Award
Continental Gold	Sustainability Award
Norton	Outstanding Contribution Unit
Liex	Safety Development Coordination Award
	Outstanding Social Responsibility Enterprise
Julong Copper, Tibet	Pioneer Unit for Employment and Entrepreneurship
West Copper	Green Mine Science and Technology Award

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ESG ratings

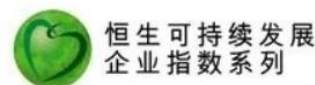
S&P Dow Jones Indices

A Division of S&P Global

Raised from 37 to **54**, ranked in the top **12%** of the global metal and mining industry



Climate change: D → B Ranked in top **11%**
Water management: C → B in the mining industry



Keeping grade **A-**, included in Hang Seng (China A) Corporate Sustainability Index for **4 consecutive years**



Raised from **CCC** to **B**

Other ratings:

CCXGF	AA- (Top1%)	Syntao Green Finance	A- (Top6%)
Quantdata	AAA (Top1%)	Wolters	B+ (Top18%)
Wind	A (Top7%)	FTSE Russell	2.7 (Top50%)

05

**Industry
outlook**



Overview of the metal industry in 2022



In 2022, global non-ferrous metals experienced a high price volatility. In the first half of the year, owing to multiple factors such as the Russo-Ukrainian conflict, energy crisis and supply disruptions in South America, prices of metals such as gold, copper and zinc continued to rise. Among which, copper and zinc prices reached record highs. However, since the middle of the second quarter, the Federal Reserve of the United States (the “Federal Reserve”) began a process of radical interest rate hikes, and the global economy experienced a broad-based slowdown. As a result, the expectation of commodity demand weakened significantly. Global financial asset and commodity prices faced a broad-based decline. Among the major mineral products of the Company, gold price and copper price have retreated as much as over 20% and 30%, respectively. Prices of the Company’s major mineral products fell after the surge during the year.

■ For global non-ferrous miners, there were many operational challenges in 2022. The global energy crisis stepped into a new phase, the global economy fell into a quagmire of “stagflation”, leading to significant increase in the operating costs of mining enterprises. International transport capacity became tight, supply chain interruptions occurred from time to time, mining enterprises faced larger challenges in logistics, production and sales. Resource nationalism continued to rise, tensions between superpowers extended extensively into the metal mining industry, and the merger and acquisition and competition of high-quality and key minerals intensified. All of these have put forward higher-level and more comprehensive requirements on mining enterprises.

Type		Unit	Price at the end of 2022	Compared with the beginning of the year	Average price in 2022	Changes compared with the same period last year
Gold	Spot price in London	USD/ounce	1,812	-0.4%	1,800	0.1%
	Spot price in China	RMB/g	410	9.8%	392	4.7%
Silver	Spot price in London	USD/ounce	24	3.7%	22	-13.5%
	Spot price in China	RMB/kg	5,300	10.7%	4,648	-11.1%
Copper	Spot price in London	USD/tonne	8,365	-14.1%	8,805	-5.5%
	Spot price in China	RMB/tonne	66,160	-5.5%	67,503	-1.7%
Zinc	Spot price in London	USD/tonne	3,003	-16.3%	3,475	15.6%
	Spot price in China	RMB/tonne	23,960	-0.7%	25,131	11.9%
Lead	Spot price in London	USD/tonne	2,337	-0.1%	2,148	-2.4%
	Spot price in China	RMB/tonne	15,800	2.9%	15,336	-0.2%

Copper price reached record high USD 10,700 /tonne	Global copper concentrate production volume +3.4%
Global refined copper demand +3.1%	Proportion of demand from the new energy sector 10%

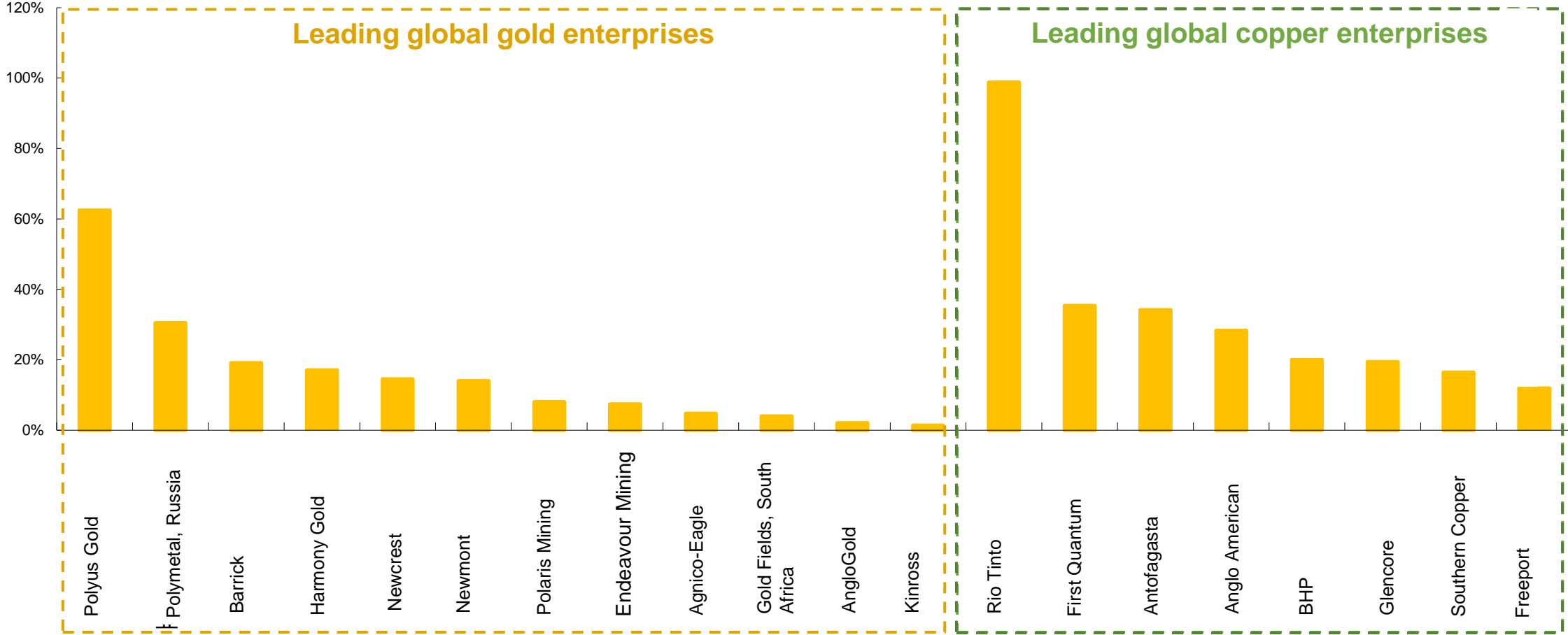
Global gold production volume +2%	China’s raw gold material production +13%
Global gold demand +18%	Global central banks gold purchase volume +152%

Zinc price reached record high USD 4,896 /tonne	Global mine-produced zinc supply -2.5%
Global refined zinc supply -4.1%	Global refined zinc demand -3.3%

Obvious increase in the costs of gold and copper enterprises in 2022



Increase in costs of global gold and copper enterprises in 2022 compared with the same period last year



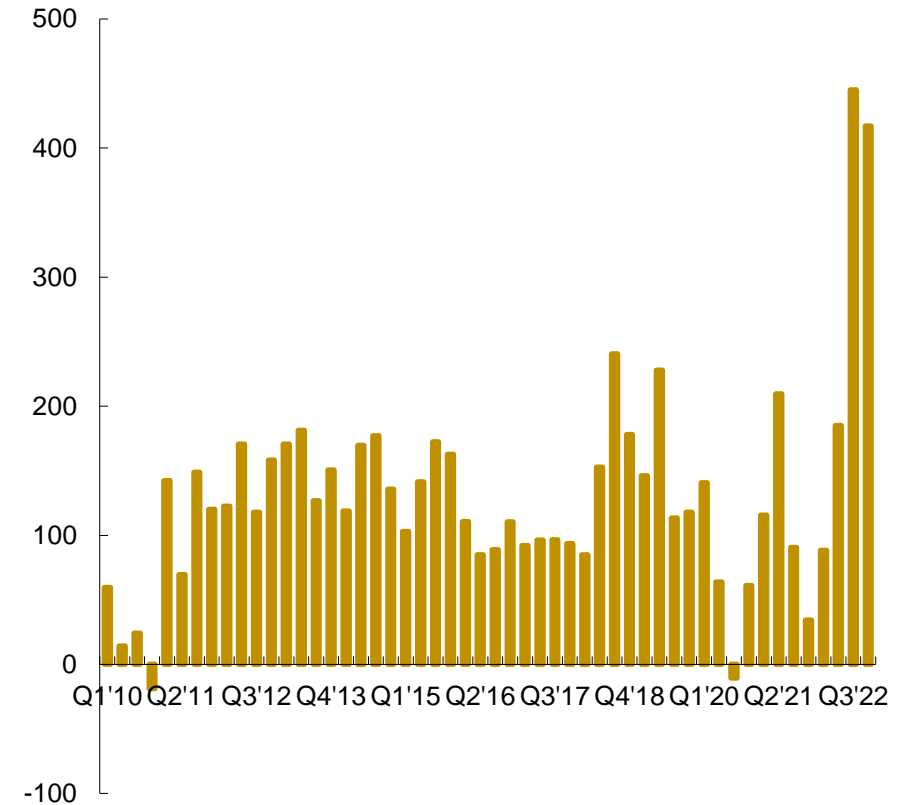
Source: : announcements of the companies



■ **In the medium to long term, as the world is facing the unprecedented change in a century, the value of gold investment is becoming increasingly prominent.** First, the international monetary system is undergoing profound changes, with a sharp increase in gold purchase demand from central banks. In 2022, the net purchase of gold reserves by global central banks amounted to 1,136 tonnes, being the highest level ever recorded. Under the trend of “de-dollarisation” and multi-polarisation of currencies, there is a relatively larger room for global central banks to increase their gold reserves. Second, with global stagflation looming and geopolitical risks emerging, gold investment is favourable. The world has basically bid farewell to the era of low inflation, low growth and high inflation are becoming the new characteristics of the era. Gold is undoubtedly the most attractive investment product in the “stagflationary” environment.

■ **There is an increasing probability that the European and US economies will fall into recession, and the gold price pivot is expected to move upwards in 2023.** Under the influence of the aggressive rate hikes by the Federal Reserve, consumer spending in the United States has slowed down and the banking system is in turmoil, indicating that the US economy is difficult to withstand an excessively high interest rate environment for a long time. In 2023, there is a higher probability that the Federal Reserve will stop rate hikes or even initiate rate cuts. Real interest rate in the United States is expected to face downward pressure, which will benefit gold price performance.

Net purchases of gold reserves by global central banks (tonne, quarterly)



Source: World Gold Council

Outlook: Zijin Mining may become the gold enterprise with the most growth potential in the world



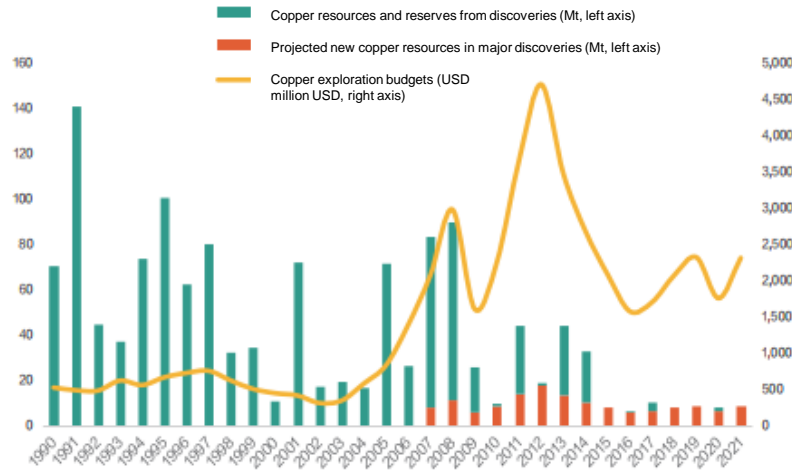
2021-2025 production volume and plan of the major global gold enterprises (unit: tonne)

	2021	2022	Comparison	2023E	Comparison	2025
Newmont	185.69	185.25	-0.2%	177-196	1%	184-202
Barrick	138.01	128.80	-6.7%	131-143	6%	134-143
Agnico-Eagle	109.45	97.51	-10.9%	104-114	12%	123-134
AngloGold Ashanti	76.89	85.29	10.9%	76-81	-8%	NA
Polyus Gold	82.89	77.55	-6.4%	87-90	14%	NA
Gold Fields, South Africa	68.65	70.54	2.8%	70-72	1%	87-88
Kinross	64.31	68.44	6.4%	65	-5%	62
Newmont	65.10	60.84	-6.5%	65-75	15%	NA
Harmony Gold	47.76	46.07	-3.5%	44-47	-1%	NA
Zijin Mining (consolidation)	47.76	56.36	18.0%	72	28%	90
Freeport (on equity basis)	34.96	45.85	31.1%	NA		NA
Freeport (consolidation)	42.95	56.33	31.2%	53	-6%	50
Polymetal, Russia	44.23	45.10	2.0%	53	18%	NA
Endeavour Mining (on equity basis)	42.58	38.99	-8.4%	NA		NA
Endeavour Mining (consolidation)	47.77	43.86	-8.2%	40-44	-4%	>50
Polaris Mining (on equity basis)	39.83	37.85	-5.0%	NA		NA
Polaris Mining (consolidation)	49.93	48.31	-3.2%	49-52	5%	NA
Shandong Gold (on equity basis)	23.00	37.51	63.1%	NA		NA
Shandong Gold (consolidation)	24.78	40.41	63.1%	NA		80
Sibanye	33.37	19.30	-42.2%	23.5-24.5	24%	NA

Source: announcements of the companies

Notes: 1. Certain enterprises do not disclose production plan on equity basis; 2. The plan of certain enterprises does not include gold production of their joint ventures; 3. The gold production of Shandong Gold are estimated figures.

The number of copper mines discoveries in the world and copper exploration budgets since 1990

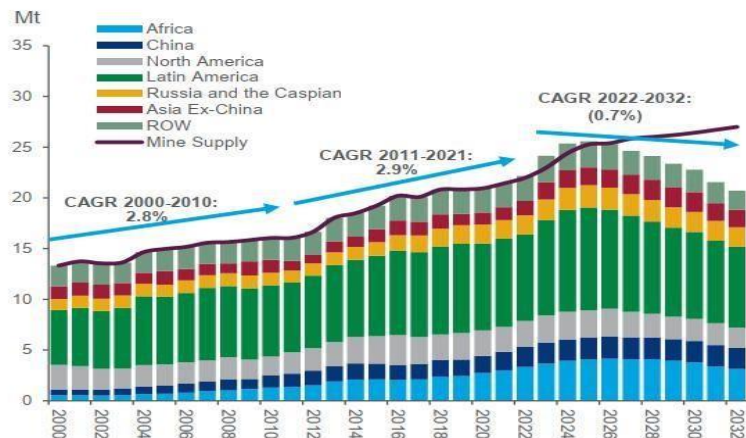


Source: Standard and Poor's

■ **In the medium to long-term, energy transition will reshape the copper supply and demand structure, and the copper price pivot will continue to rise.** New energy has become an important demand engine for copper. In 2022, the demand from the new energy sector (electric vehicles + new energy generation) has accounted for 10% of the total copper demand, and it is expected to increase to 20% by 2030. S&P analysis forecasts that global copper demand will double to 50 million tonnes by 2035, but there will be a significant shortfall in new copper supply, leaving a shortfall of near 10 million tonnes in 2035. There is an unbridgeable gap between medium to long-term copper demand and supply.

Woodmac forecasts that global copper supply will peak in 2025

Regional mine production capability - kt Cu



Source: Woodmac

■ **Rate hikes by the Federal Reserve and the demand from China are the main themes of logic. It is expected that copper price will remain high and fluctuate in 2023.** Copper is a highly macro-oriented commodity. Against the backdrop of significant changes in the macro environment in the last 2-3 years, the core pricing logic for copper in the short to medium term is still dependent on the two main themes of financial and demand. It is expected that there will be a marginal improvement or even reversal in the two suppressive factors, i.e., the rate hikes by the Federal Reserve and the economic recession in China. This will define the main tone of the strong copper price in 2023. Yet, copper price is constrained by the possibility of the European and US economic recession, as well as the increase in the growth rate of copper supply. It may be temporarily difficult for copper price to show an upward trend this year.

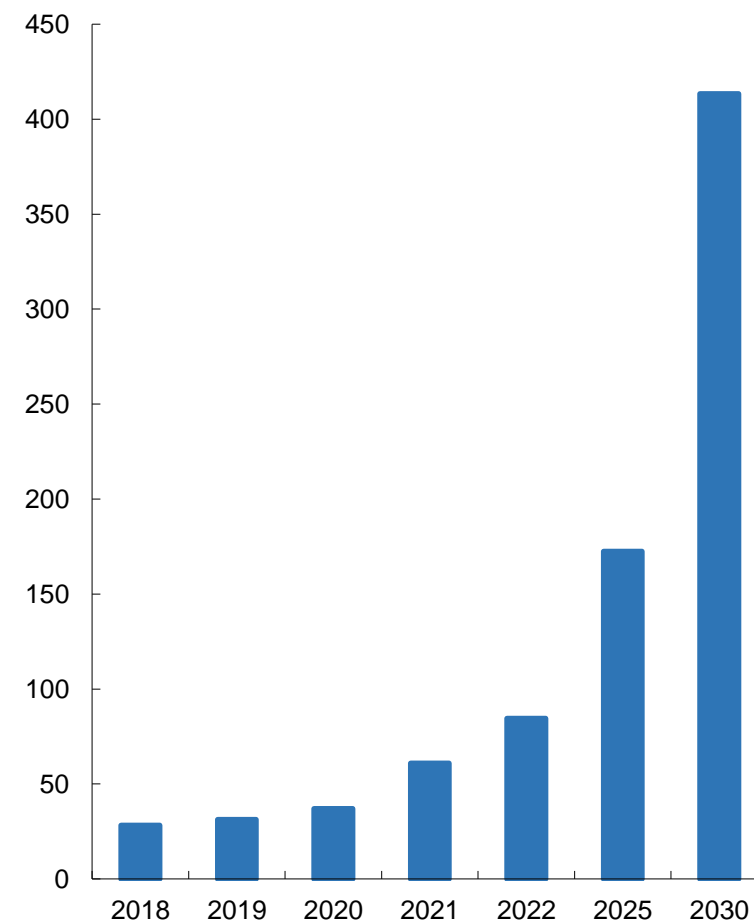




■ **In the medium to long term, lithium will grow into a “big metal”. There may be a reshuffle of the supply pattern of the lithium industry.** Global new energy lithium industry is soon to enter the TWh era. The lithium resource demand is expected to exceed 4 million tonnes of LCE by 2030, with demand growing at a compound annual growth rate of around 25% by 2030. The output value and scale of lithium industry will overtake certain base metals. Thanks to the explosive growth in demand, high lithium price has attracted a large influx of capital investment into lithium resource development activities, but it also caused certain chaos in resource development. Mining development is a high-barrier industry. Following the easing of supply-demand conflict, lithium price will fall gradually. In the coming few years, there may be a reshuffle of the supply pattern of lithium industry.

■ **The tension between the supply and demand of lithium has eased. Lithium has a price reversion pressure in 2023.** The pricing of lithium is still highly market-based. In 2023, the sales growth of new energy vehicle in China is likely to slow down. The tension between the supply and demand of lithium resources will be eased. Lithium resources have a relatively high abundance. Some greenfield projects may be gradually released in 2023 under the stimulation of high lithium price earlier. It is expected that lithium price will drop in 2023. Resource development ability and cost control ability are becoming the key elements for competition in the industry.

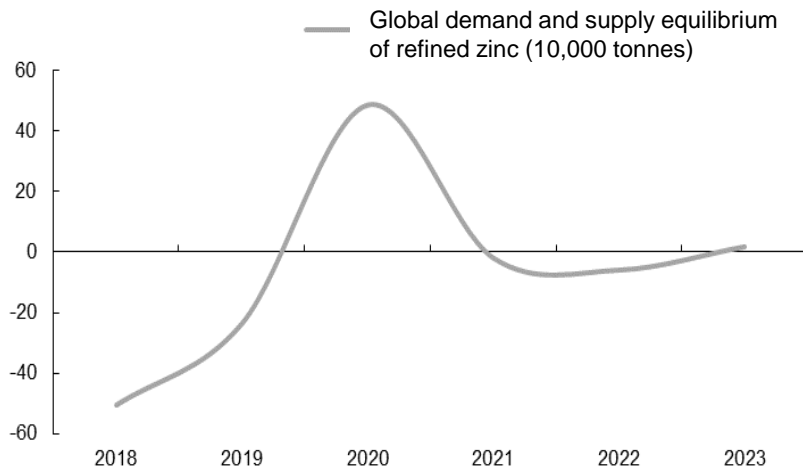
Global lithium demand forecast / converted to LCE, 10,000 tonnes



Source: Research of Zijin Mining

Outlook: Zinc - The equilibrium status of refined zinc will continue

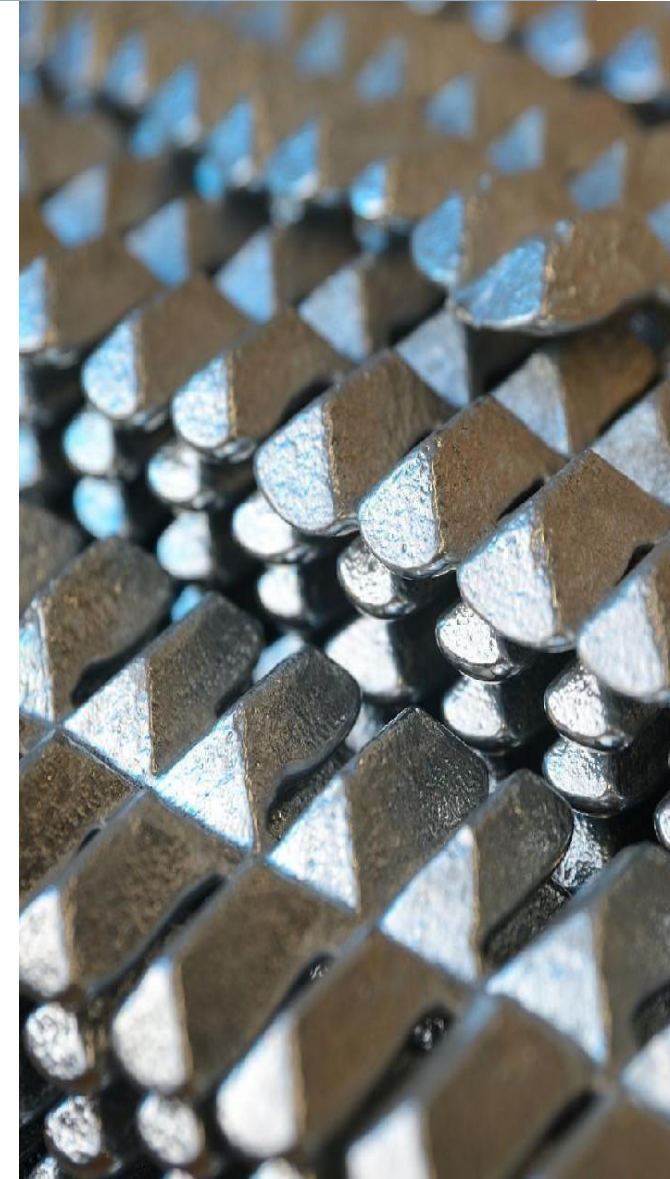
Global demand and supply equilibrium of refined zinc (10,000 tonnes)



Source: CRU

■ **In the medium to long term, the growth in demand from the new energy sector shall not be ignored and the room for growth of zinc supply is limited.** According to the International Zinc Association, a 10MW offshore wind farm turbine requires 4 tonnes of zinc and a 100MW photovoltaic power station requires 240 tonnes of zinc. CRU estimates that during 2022-2027, zinc demand in China will increase from 6.52 million tonnes to 6.975 million tonnes, with 120 thousand tonnes from the field of renewable energy, accounting for 26% of the increase in the total demand. At the same time, we are still cautious about the release of long-term supply of zinc mines, mainly due to the lack of subsequent flagship incremental mining projects and the fact that the global metal mining industry is facing a combination of increased production disturbances, rising development difficulties and environmental constraints.

■ **The zinc market is expected to maintain a tight supply and demand equilibrium, and in 2023, zinc price is expected to stay relatively strong yet volatile.** The European energy issue has become the most important pricing factor for zinc price in the past two years. Although the European energy issue has eased, it has not been completely resolved. The speed of production resumption of European smelters may not meet the expectations. At the same time, the Chinese economic recovery has set the main theme for demand. It is expected that the performance of zinc price will stay relatively strong yet volatile in 2023.





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