









Source: 1) KITCO, March 2023

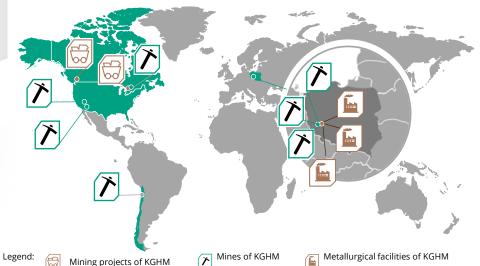
2) World Silver Survey, April 2023





KGHM: a top ten copper producer and a leading Polish exporter

The Group has a global reach and plays a significant role on the global copper and silver markets



Eighth largest mining copper producer



Second largest silver producer



Source: Kitco 2023, World Silver Survey 2023

Other KGHM Group products:

Molybdenum

Palladium

- Platinum
- Lead
- Rhenium
- Nickel Gold
- Sulphuric
- acid Selenium
- Copper sulphate
- Nickel sulphate

Geology

Mining

Metallurgy













Exploration and evaluation

Ore extraction

Ore enrichment

Smelting and refining

Downstream processing

Core production assets in Poland – stable output and earnings

Underground copper mines, fully integrated production





Polkowice-Sieroszowice Mine

approx. 36 years LOM

- Copper in extracted ore in 2022: 196.8 kt
- Associated metals: silver, lead, rock salt, gold



Legnica Smelter and Refinery

LME grade A-registered cathodes
Capacity of ca. 120 kt electrolytic Cu/year 1)

- Other products: Pb, H2SO4, NiSO4, CuSO4
- 2022 Cu production: 122.5 kt



Rudna Mine

approx. 23 years LOM

- Copper in extracted ore in 2022: 174.6 kt
- Associated metals: silver, lead, gold



Głogów I Smelter and Refinery

LME grade A-registered cathodes Capacity of ca. 240 kt electrolytic Cu/year¹⁾

• Other metals produced: Ag, Au, Pb, Re



Lubin Mine

approx. 38 years LOM

- Copper in extracted ore in 2022: 71.3 kt
- Associated metals: silver, lead, gold



Głogów II Smelter and Refinery

LME grade A-registered cathodes
Capacity of ca. 230 kt electrolytic Cu/year¹⁾

• Other metals produced: Ag, Au, Pb, Re

2022 Cu production in total: 463.5 kt



Deep Głogów Project

- Extension of Rudna and Polkowice-Sieroszowice mines
- DG production figures are included in Rudna and Polkowice-Sieroszowice mines' production stats



Cedynia Copper Wire Rod Plant

Contirod and Upcast technology

 Production in 2022: 260.9 kt of copper wire and 17.0 kt of OFE rod





Key assets in the Americas

Existing operations and growth potential from projects

Producing assets



Sierra Gorda (55% stake), Chile

26 years LOM Porphyry

- 2022 production stats: Open-pit mine
 - Cu production
 - (payable, 100%): 165.1 kt (payable, 55%): 90.8 kt



Robinson Mine, USA

14 years LOM

- Open-pit mine
- Porphyry/ Skarn orebody

2022 production stats:

- Cu production
- (payable): 46.8 kt



Sudbury, Canada

5 years LOM

- Underground mine
- Footwall/ Contact orebody

2022 production stats

Cu production (payable): 2.5 kt

Actions involving other, third-tier production assets:

- Carlota Mine, USA renewal of divestment process under consideration
- Sudbury assets (excl. Victoria project) preliminary divestment process commenced (accepting of bids)



Potential growth projects



Sierra Gorda Oxide, Chile





- The project aims at processing the oxide ore
- The oxide ore is currently stored separately for later heap leaching
- The ore will be transported to a permanent heap, where it will be processed via leaching



Victoria, Canada

~14 years LOM (from start of revenue stream)

- The projects assumes building an underground copper-nickel mine
- Current development scenario assumes accessing the deposit via 2 shafts
- Forecasted annual production: 18 kt Cu p.a., 16 kt Ni p.a.



Ajax (80% stake), Canada



19 years LOM

- The project assumes building an open-pit copper-gold mine and processing plant with associated infrastructure
- 53 kt Cu p.a., 114 koz t Au p.a.

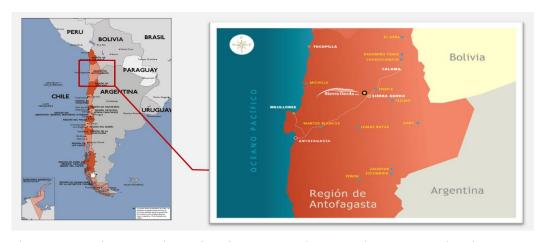






Sierra Gorda mine – KGHM's main asset in the Americas

Location	Region II, Chile												
Ownership	55% KGHM INTERNATIONAL LTD, 45% South32												
Type of mine	open pit												
Main ore type	copper ore												
Associated metals	molybdenum, gold												
End product	copper concentrate, molybdenum concentrate												
Payable production in 2022	165.1 kt of copper in concentrate, 5.3 million pounds of molybdenum in concentrate – on a 100% basis, share of KGHM Polska Miedź S.A. is 55%												
Life of mine	26 years for the current deposit based on phase 1 of the investment, including actions to remove bottlenecks. Moreover, there is a possibility to extend the mine's life using new deposits												
Employment (31 Dec 2022)	1 560												



The Sierra Gorda mine is located in the Atacama desert, in the Sierra Gorda administrative area in the Antofagasta region, in northern Chile, approx. 60 km south-west of the city of Calama. The mine is situated at an altitude of 1 700 meters a.s.l. and 4 km from the town of Sierra Gorda. On 1 July 2015 the Sierra Gorda mine commenced commercial production (since

then it has prepared statements of profit or loss). The ore is extracted using explosives, and next is loaded and hauled away in trucks to the processing plant, where it is crushed and milled. The end product of Sierra Gorda's processing plant is copper concentrate and molybdenum concentrate. Sierra Gorda has concentrated on implementing an optimisation program aimed at improving the work of the mine, processing plant, infrastructure and tailings storage facility.





Robinson mine



Location	Nevada, USA
Ownership	100% KGHM INTERNATIONAL LTD.
Type of mine	open pit
Main ore type	copper ore
Associated metals	gold and molybdenum
Type of orebody	porphyry / skarn
End product	copper and gold concentrate, molybdenum concentrate
Payable production in 2022	46.8 kt
Life of mine	14 years
Employment (31 Dec 2022)	609



The mine is located in White Pine county, Nevada, USA, around 11 km west of Ely (approx. 400 km north of Las Vegas), in the Egan range, at an average altitude of 2 130 meters a.s.l., near highway no. 50. The mine is comprised of 3 large pits: Liberty, Tripp-Veteran and Ruth. Currently, Ruth is in operation. The sulphide ore is extracted by conventional methods and is then enriched through flotation. The end product is copper and gold concentrate, and separately molybdenum concentrate.







Victoria, Ajax and Sierra Gorda Oxide



Victoria

50

Mine type
Ownership

Life of mine

Ajax

open pit

Main product Metals 80% KGHM, 20% Abacus copper concentrate

copper, gold

approx. 19 years

Mine type Ownership Main product Metals

Life of mine

underground 100% KGHM copper-nickel ore copper, nickel, gold, silver, platinum, palladium, cobalt approx. 14 lat

Sierra Gorda Oxide

Mine / facility type

oxide ore leaching and production of copper

cathodes by the SX-EW method

Ownership

Sierra Gorda S.C.M. (55% KGHM, 45% South32)

Main product Life of mine

copper cathodes approx. 11 lat









Current plan									
Facility type	Oxide ore processing on a permanent heap and copper production in a SX-EW plant								
Main product/ copper production	Copper cathodes Annual production: 30 kt/year. Total production during LOM estimated at 298 thousand tonnes								
Resources	Total resources: 128 milion tonnes with total average copper content (CuT) of 0.39% and copper in solution (CuS) of 0.25%. At present most of the oxide ore planned for processing has already been excavated and is currently stored on the grounds of the Sierra Gorda mine near the planned SX-EW installation.								
Ownership structure	Sierra Gorda S.C.M.: KGHM Polska Miedź S.A. (55%) and South32 (45%)								
LOM	11 years								



Since January 2022 Sierra Gorda SCM has owned the project, in which project work continues (in prior years the project was managed by KGHM Chile SpA.). The project involves the leaching of the copper oxide ore, representing the surface layer of the sulphide ore deposit currently being mined by Sierra Gorda. At present most of the oxide ore planned for processing has already been excavated and is currently stored near the site of the future plant. The extracted oxide ore, after preliminary crushing, will

be processed via leaching through a sulphuric acid solution on a heap leach, followed by the production of copper cathodes in a solvent extraction & electrowinning (SX-EW) facility. The project is currently near the completion of the Basic Engineering stage with partial realisation of Detailed Engineering, updated in 2022 with the assistance of an external engineering firm. The goal of further work is to define the future direction of the project.









Location	Sudbury, Ontario, Canada
Ownership	100% KGHM INTERNATIONAL LTD.
Type of mine	underground
Main ore type	copper-nickel ore
Associated metals	gold, silver, cobalt, platinum and palladium
End product	copper, nickel and precious metals ore
Forecasted annual production	16 kt of nickel, 18 kt of copper
Life of mine	14 years



This project is located in the Canadian province of Ontario, around 35 km west of the town of Sudbury. In 2002 rights were acquired to the Victoria mineral deposit and a campaign of exploration in this region commenced. The project foresees the mining of a polymetallic deposit, at a depth of approx. 1000 – 2000 meters, to produce copper and nickel as well as associated metals – platinum, palladium, gold, silver and cobalt. The extracted ore will then be sent for processing by the Clarabelle plant belonging to Vale.

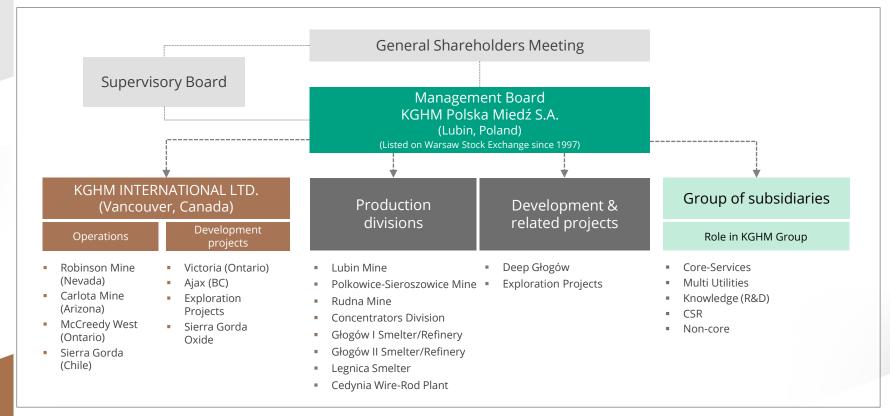
The ore will be extracted through a production shaft. A second shaft will also be sunk to ensure proper ventilation. Preparations are underway to begin sinking an exploration shaft (ultimately for ventilation) to further assess the deposit's potential. Engineering work continues as well as actions aimed at maintaining good relations and cooperation with key stakeholders in the project, along with administrative actions to obtain required permitting for the project.





Transparent Group structure





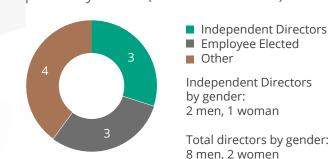




Committed to solid corporate governance



Independent directors on the Supervisory Board (10 directors total)



KGHM meets the top quality Corporate Governance standards of the Warsaw Stock Exchange (compliant with EU/OECD guidance)

KGHM's Corporate Governance is guided by international standards and follows best practices:

- All members of KGHM's Supervisory Board are appointed by the General Shareholders Meeting
- All of KGHM's shares have equal voting rights (no preferred stock)
- 3 independent members of the Supervisory Board ¹⁾
- Committees of the Supervisory Board:
 - Strategy Committee
 - Audit Committee
 - Remuneration Committee
- Internal audit structure implemented across the KGHM Group consistent with the best international practices
- Code of Ethics implemented in 2015

External recognition of ESG performance:

Copper Mark – all 3 metallurgical facilities FTSE4Good index certificate – since 2018

MSCI – BBB rating





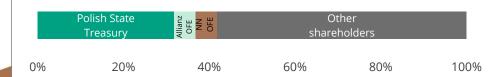


Shareholder structure of KGHM Polska Miedź S.A.



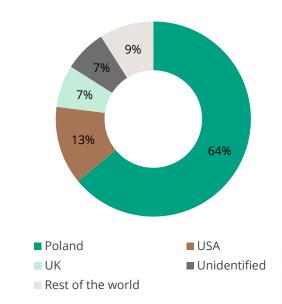
Ownership structure

Shareholder	No. of shares/votes	Percentage of share capital	Share in total number of votes
Polish State Treasury	63,589,900	31.79%	31.79%
Allianz OFE	11,961,453	5.98%	5.98%
Nationale-Nederlanden OFE	10,104,354	5.05%	5.05%
Other shareholders	114,344,293	57.18%	57.18%
Total	200,000,000	100.00%	100.00%



Geographical ownership structure





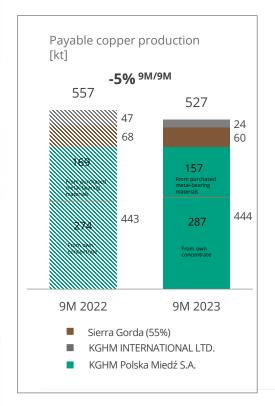


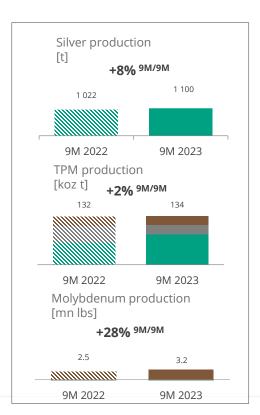




Other major metals: silver, TPMs, molybdenum







- Copper production by KGHM Polska Miedź S.A. similar to prior year
- Copper production lower 9M/9M:
 - in KGHM INTERNATIONAL LTD. due to lower production by the Robinson mine
 - in the Sierra Gorda mine due to lower copper content in ore and lower recovery
- Production of silver and TPM by the Group was higher than in 2022 due to higher production of these metals by KGHM Polska Miedź S.A., as well as by the Sudbury Basin
- Higher molybdenum production by Sierra Gorda due to extraction in areas with higher molybdenum content compared to ore mined in the prior year



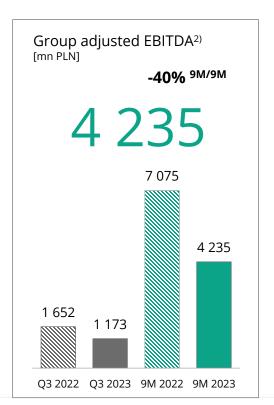


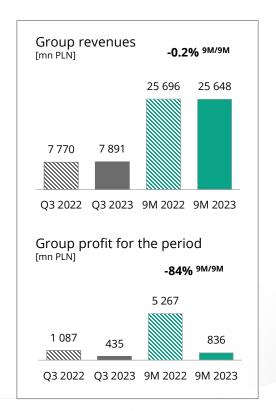
Key financial indicators of the KGHM Group



Adjusted EBITDA of the KGHM Group

Lower adjusted EBITDA compared to the first nine months of 2022, mainly due to a less favourable exchange rate and lower copper prices, alongside cost pressures





²⁾ Sum of segments; adjusted EBITDA = profit/loss on sales + depreciation/amortisation adjusted by impairment losses/reversals of impairment losses on non-current assets. EBITDA presented in accordance with the amended definition (see Consolidated quarterly report, Note 3)

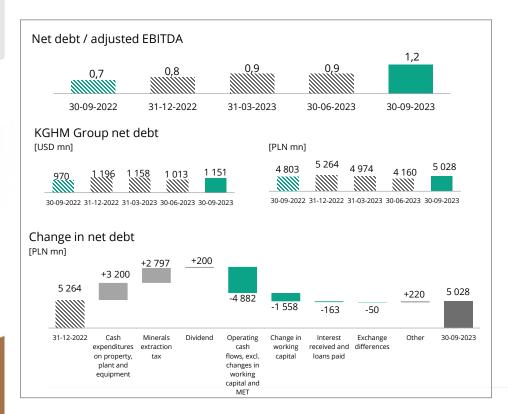




¹⁾ On a 55% basis

Net debt of the KGHM Group

As at the end of Q2 2023





Main factors affecting net debt in 2023

Increases in debt

- Cash expenditures on property, plant and equipment (PLN 3 200 mn)
- The minerals extraction tax (PLN 2 797 mn)
- Change in trade and other receivables (higher by PLN 360 mn)
- Dividend paid (PLN 200 mn)

Decreases in debt

- Positive cash flow from operating activities, excluding the change in working capital and the minerals extraction tax (PLN 4 882 mn)
- Change in trade and other payables, incl. trade liabilities transferred to the factor (higher by PLN 1 662 mn)
- Change in inventories (lower by PLN 256 mn)
- Interest received and repayment of loans (PLN 163 mn)
- Positive exchange differences (lower net debt expressed in PLN by PLN 50 mn)





Summation of 9M 2023 in the KGHM Group



Main macroeconomic factors and aspects of the Group compared to 9M 2022

Macroeconomic environment¹⁾

-8% -5% Copper price Copper price in USD/t in PLN/t +7% +3% Silver price Silver price in PLN/oz t in USD/oz t -4% A weaker USD vs PI N

Operating results

+1.3%

Increase in extraction of ore, dry weight in KGHM Polska Miedź S.A.

+2.7%

Production of copper in concentrate by KGHM Polska Miedź S.A.

+8.0%

Production of metallic silver by KGHM Polska Miedź S.A.

+34.8%

Production of gold by KGHM Polska Miedź S.A.

Indicators

+19%

Higher CAPEX execution by KGHM Polska Miedź S.A.

-0.2%

slight decrease in revenues to PLN 25 648 mn

1.2

Debt (Liquidity indicator measured as net debt to adjusted EBITDA)





¹⁾ Macroeconomic data – average for the period

²⁾ Adjusted EBITDA

Challenges facing the KGHM Group





Strategy goals

- achieving by 2030 the key success measures among the five pillars

Decarbonization Program

- energy projects
- achievement of climate goals

Facing new regulatory challenges

- including ESG

Strengthening the Company's resilience in the face of current and potential global threats

- incl. the war in Ukraine, rising cost inflation, unstable markets





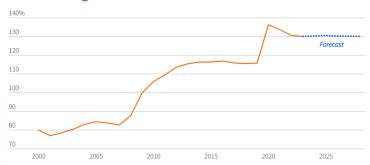




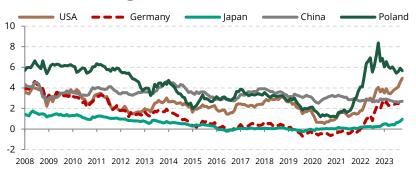
The global economy is struggling with low growth and high levels of debt



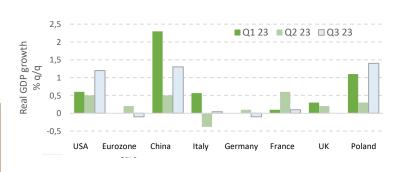
The average debt level of the G7 countries remains high



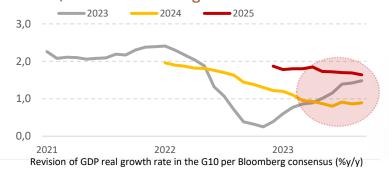
With record high debt service levels.



This increases the risk of the still low GDP growth rate being burdened with debt servicing costs,...



... with analysts' forecasts for 2024-25 still being lowered, for the world's largest economies.







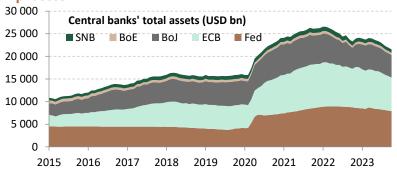
The period of monetary support has ended, the spectre of recession has not gone away, and the fight against inflation continues



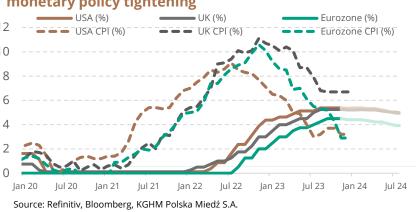
According to models tracking economic data, the probability of a recession remains at an elevated level



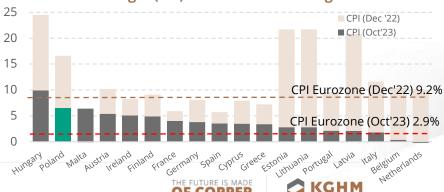
Since 2022, the reduction of Central Bank balance sheets has been underway, with the ECB leading the way in this process



Implied market interest rates point to the peak of monetary policy tightening



Although, despite large CPI declines in 2023 in the EU, the ECB's inflation target (2%) is still far from being reached



Managerial sentiment in the industry remained low in Q3 2023



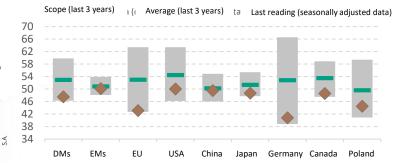
	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23
USA (ISM)	60.0	59.6	60.7	60.4	60.8	58.6	57.6	58.4	57.0	55.9	56.1	53.1	52.7	52.9	51.0	50.0	49.0	48.4	47.4	47.7	46.3	47.1	46.9	46.0	46.4	47.6	49.0	46.7
USA (PMI)	63.4	61.1	60.7	58.4	58.3	57.7	55.5	57.3	58.8	59.2	57.0	52.7	52.2	51.5	52.0	50.4	47.7	46.2	46.9	47.3	49.2	50.2	48.4	46.3	49.0	47.9	49.8	50.0
Canada	56.2	57.2	57.0	57.7	57.2	56.5	56.2	56.6	58.9	56.2	56.8	54.6	52.5	48.7	49.8	48.8	49.6	49.2	51.0	52.4	48.6	50.2	49.0	48.8	49.6	48.0	47.5	48.6
Mexico	49.6	47.1	48.6	49.3	49.4	49.4	46.1	48.0	49.2	49.3	50.6	52.2	48.5	48.5	50.3	50.3	50.6	51.3	48.9	51.0	51.0	51.1	50.5	50.9	53.2	51.2	49.8	52.1
Brazil	56.7	53.6	54.4	51.7	49.8	49.8	47.8	49.6	52.3	51.8	54.2	54.1	54.0	51.9	51.1	50.8	44.3	44.2	47.5	49.2	47.0	44.3	47.1	46.6	47.8	50.1	49.0	48.6
Eurozone	62.8	61.4	58.6	58.3	58.4	58.0	58.7	58.2	56.5	55.5	54.6	52.1	49.8	49.6	48.4	46.4	47.1	47.8	48.8	48.5	47.3	45.8	44.8	43.4	42.7	43.5	43.4	43.1
Germany	65.9	62.6	58.4	57.8	57.4	57.4	59.8	58.4	56.9	54.6	54.8	52.0	49.3	49.1	47.8	45.1	46.2	47.1	47.3	46.3	44.7	44.5	43.2	40.6	38.8	39.1	39.6	40.8
France	58.0	57.5	55.0	53.6	55.9	55.6	55.5	57.2	54.7	55.7	54.6	51.4	49.5	50.6	47.7	47.2	48.3	49.2	50.5	47.4	47.3	45.6	45.7	46.0	45.1	46.0	44.2	42.8
Italy	60.3	60.9	59.7	61.1	62.8	62.0	58.3	58.3	55.8	54.5	51.9	50.9	48.5	48.0	48.3	46.5	48.4	48.5	50.4	52.0	51.1	46.8	45.9	43.8	44.5	45.4	46.8	44.9
Spain	59.0	59.5	58.1	57.4	57.1	56.2	56.2	56.9	54.2	53.3	53.8	52.6	48.7	49.9	49.0	44.7	45.7	46.4	48.4	50.7	51.3	49.0	48.4	48.0	47.8	46.5	47.7	45.1
Netherlands	67.4	65.8	62.0	62.5	60.7	58.7	60.1	60.6	58.4	59.9	57.8	55.9	54.5	52.6	49.0	47.9	46.0	48.6	49.6	48.7	46.4	44.9	44.2	43.8	45.3	45.9	43.6	43.8
Austria	63.9	61.8	62.8	60.6	58.1	58.7	61.5	58.4	59.3	57.9	56.6	51.2	51.7	48.8	48.8	46.6	46.6	47.3	48.4	47.1	44.7	42.0	39.7	39.0	38.8	40.6	39.6	41.7
Ireland	63.3	62.8	60.3	62.1	59.9	58.3	59.4	57.8	59.4	59.1	56.4	53.1	51.8	51.1	51.5	51.4	48.7	48.7	50.1	51.3	49.7	48.6	47.5	47.3	47.0	50.8	49.6	48.2
UK	60.4	60.3	57.1	57.8	58.1	57.9	57.3	58.0	55.2	55.8	54.6	52.8	52.1	47.3	48.4	46.2	46.5	45.3	47.0	49.3	47.9	47.8	47.1	46.5	45.3	43.0	44.3	44.8
Greece	57.4	59.3	58.4	58.9	58.8	59.0	57.9	57.8	54.6	54.8	53.8	51.1	49.1	48.8	49.7	48.1	48.4	47.2	49.2	51.7	52.8	52.4	51.5	51.8	53.5	52.9	50.3	50.8
Poland	57.6	56.0	53.4	53.8	54.4	56.1	54.5	54.7	52.7	52.4	48.5	44.4	42.1	40.9	43.0	42.0	43.4	45.6	47.5	48.5	48.3	46.6	47.0	45.1	43.5	43.1	43.9	44.5
Czech Rep.	62.0	61.0	58.0	55.1	57.1	59.1	59.0	56.5	54.7	54.4	52.3	49.0	46.8	46.8	44.7	41.7	41.6	42.6	44.6	44.3	44.3	42.8	42.8	40.8	41.4	42.9	41.7	42.0
Turkey	54.0	54.1	52.5	51.2	52.0	52.1	50.5	50.4	49.4	49.2	49.2	48.1	46.9	47.4	46.9	46.4	45.7	48.1	50.1	50.1	50.9	51.5	51.5	51.5	49.9	49.0	49.6	48.4
Russia	47.5	46.5	49.8	51.6	51.7	51.6	51.8	48.6	44.1	48.2	50.8	50.9	50.3	51.7	52.0	50.7	53.2	53.0	52.6	53.6	53.2	52.6	53.5	52.6	52.1	52.7	54.5	53.8
																							_					
Asia	51.1	50.5	51.0	51.8	52.5	52.2	52.0	51.8	51.2	50.3	51.2	51.2	50.9	51.0	51.2	50.5	49.7	49.8	51.0	52.3	52.2	51.2	51.2	51.0	51.1	51.5	51.4	50.6
China (Caixin)	50.3	49.2	50.0	50.6	49.9	50.9	49.1	50.4	48.1	46.0	48.1	51.7	50.4	49.5	48.1	49.2	49.4	49.0	49.2	51.6	50.0	49.5	50.9	50.5	49.2	51.0	50.6	49.5
China	50.4	50.1	49.6	49.2	50.1	50.3	50.1	50.2	49.5	47.4	49.6	50.2	49.0	49.4	50.1	49.2	48.0	47.0	50.1	52.6	51.9	49.2	48.8	49.0	49.3	49.7	50.2	49.5
lapan	53.0	52.7	51.5	53.2	54.5	54.3	55.4	52.7	54.1	53.5	53.3	52.7	52.1	51.5	50.8	50.7	49.0	48.9	48.9	47.7	49.2	49.5	50.6	49.8	49.6	49.6	48.5	48.7
India	55.3	52.3	53.7	55.9	57.6	55.5	54.0	54.9	54.0	54.7	54.6	53.9	56.4	56.2	55.1	55.3	55.7	57.8	55.4	55.3	56.4	57.2	58.7	57.8	57.7	58.6	57.5	55.5
Indonesia	40.1	43.7	52.2	57.2	53.9	53.5	53.7	51.2	51.3	51.9	50.8	50.2	51.3	51.7	53.7	51.8	50.3	50.9	51.3	51.2	51.9	52.7	50.3	52.5	53.3	53.9	52.3	51.5
Malaysia	40.1	43.4	48.1	52.2	52.3	52.8	50.5	50.9	49.6	51.6	50.1	50.4	50.6	50.3	49.1	48.7	47.9	47.8	46.5	48.4	48.8	48.8	47.8	47.7	47.8	47.8	46.8	46.8
Taiwan	59.7	58.5	54.7	55.2	54.9	55.5	55.1	54.3	54.1	51.7	50.0	49.8	44.6	42.7	42.2	41.5	41.6	44.6	44.3	49.0	48.6	47.1	44.3	44.8	44.1	44.3	46.4	47.6
Thailand	48.0	48.5	49.1	51.5	51.4	50.3	52.4	52.8	51.4	50.4	50.0	49.8	52.1	54.0	57.1	52.0	51.6	54.9	59.0	56.4	54.2	59.9	58.6	52.6	48.7	48.9	48.1	47.6
South Korea	53.0	51.2	52.4	50.2	50.9	51.9	52.8	53.8	51.2	52.1	51.8	51.3	49.8	47.6	47.3	48.2	49.0	48.2	48.5	48.5	47.6	48.1	48.4	47.8	49.4	48.9	49.9	49.8



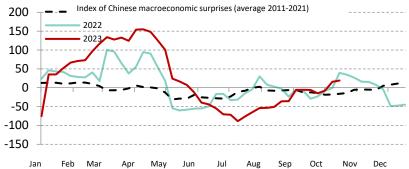
In China, the problems of the construction sector are spilling over into other sectors of the economy



China's PMI is slightly below the 3Y average, but it is still better than those of developed countries



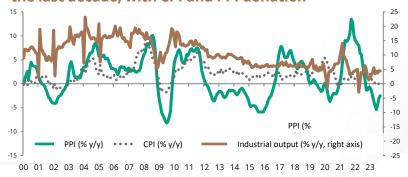
Macroeconomic data from China has been surprising investors negatively since the middle of the year



China's construction sector is in deep decline



Industrial production growth has been declining over the last decade, with CPI and PPI deflation



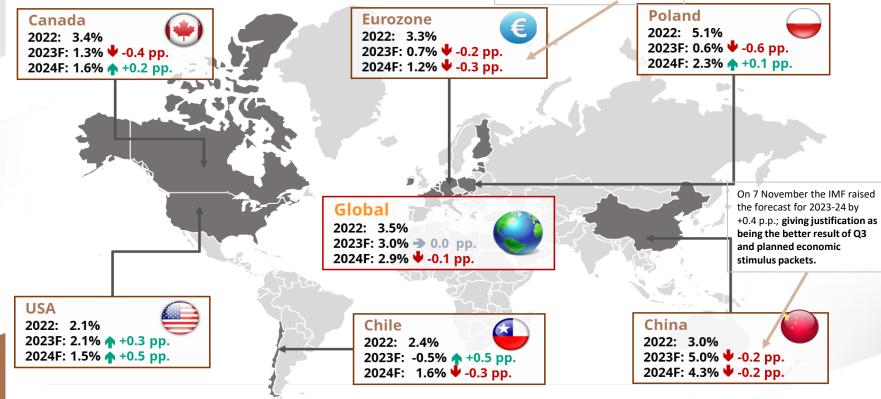




IMF Economic Growth Forecasts for October

2023

On 7 November the IMF published a GDP growth forecast for the eurozone in 2025 of 1.8% y/y

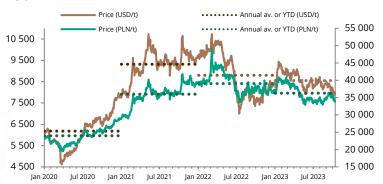




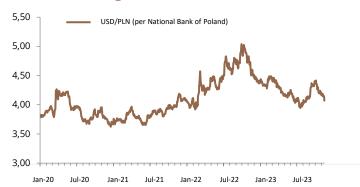
Metal prices



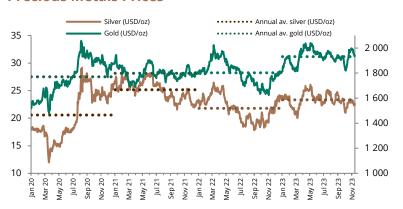
Copper Prices



USDPLN exchange rate



Precious Metals Prices



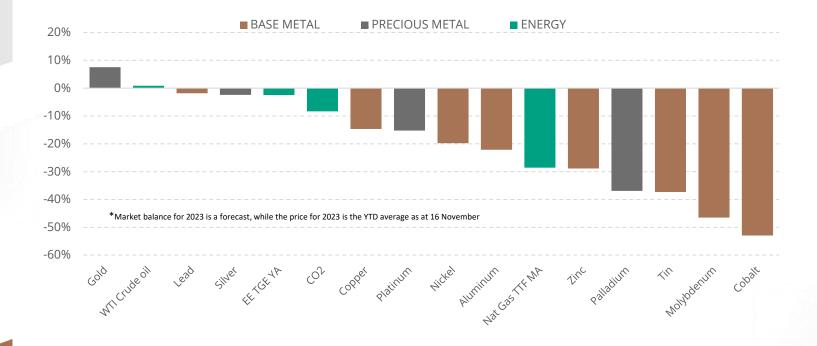
Copper price in USD and CNY

















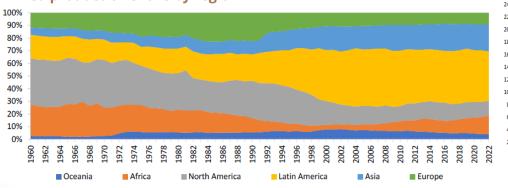
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
World Mine Production	16 687	18 185	18 422	19 153	20 395	20 067	20 597	20 612	20 680	21 113	21 946
World Mine Capacity	20 056	20 839	21 626	22 400	23 530	24 074	24 161	24 265	24 830	26 042	26 922
Mine Capacity Utilization (%)	83,2	87,3	85,2	85,5	86,7	83,4	85,3	84,9	83,3	81,1	81,5
Primary Refined Production	16 598	17 255	18 575	18 892	19 490	19 488	20 054	20 077	20 746	20 652	21 242
Secondary Refined Production	3 596	3 803	3 915	3 945	3 866	4 063	4 035	4 007	3 843	4 149	4 153
World Refined Production (Secondary+Primary)	20 194	21 058	22 490	22 838	23 356	23 551	24 089	24 084	24 589	24 801	25 395
World Refinery Capacity	24 451	25 754	26 615	26 868	27 165	27 700	28 136	29 130	29 893	30 138	31 302
Refineries Capacity Utilization (%)	82,6	81,8	84,5	85,0	86,0	85,0	85,6	82,7	82,3	82,3	81,1
Secondary Refined as % in Total Refined Prod.	17,8	18,1	17,4	17,3	16,6	17,3	16,7	16,6	15,6	16,7	16,4
World Refined Usage 1/	20 479	21 408	22 906	23 046	23 481	23 681	24 457	24 350	24 975	25 256	25 835

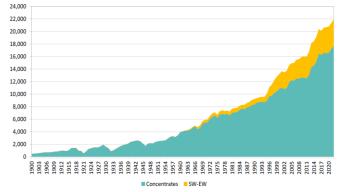




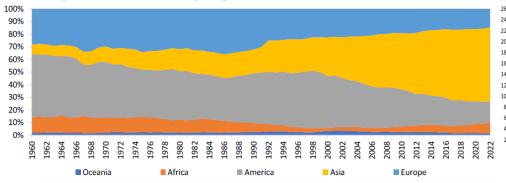
Mined and refined copper production

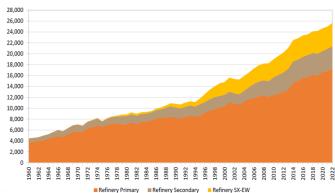






Refined production share by region



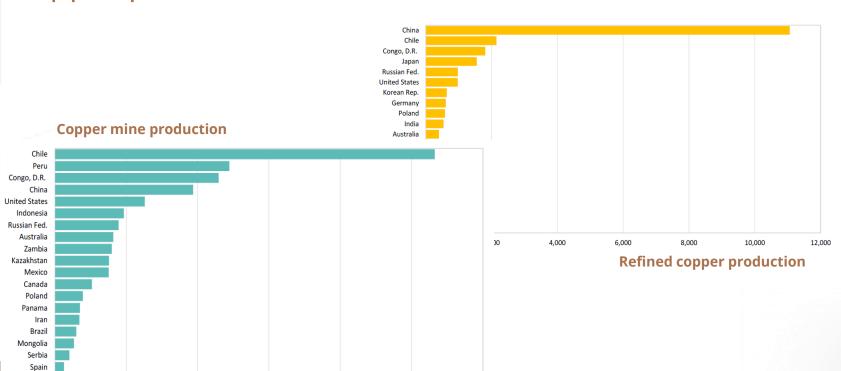






es

Copper production in various countries



5,000

6,000

4,000



Ecuador

1,000

2,000

3,000

Production growth burdened with uncertainty



Annual Change in Mined Copper Output - Key Countries

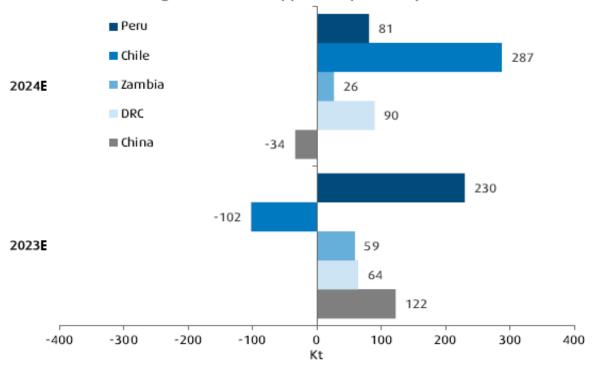
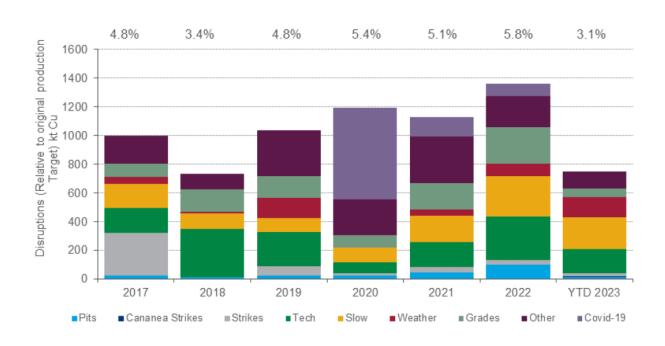








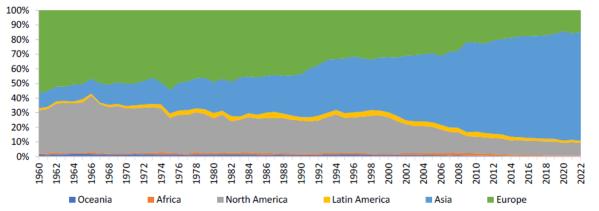
Chart: Mine disruptions summary



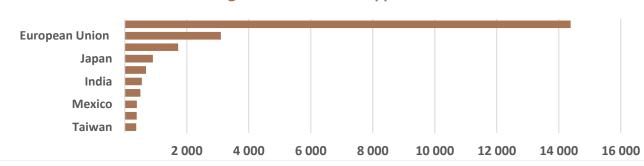


Geographical evolution of copper consumption





Largest consumers of copper

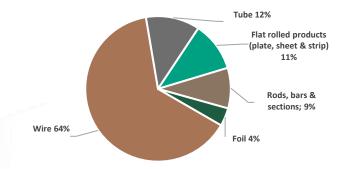






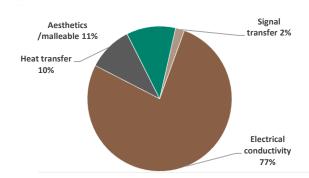
Uses of copper

Main copper product groups (2023e)



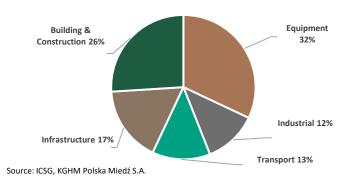
Source: ICSG, KGHM Polska Miedź S.A.

Global copper consumption by properties (2023e)

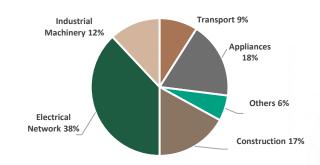


Source: HSBC, KGHM Polska Miedź S.A.

Global consumption by end use (2023e)



End-use consumption in China (2023e)



Source: HSBC, KGHM Polska Miedź S.A.





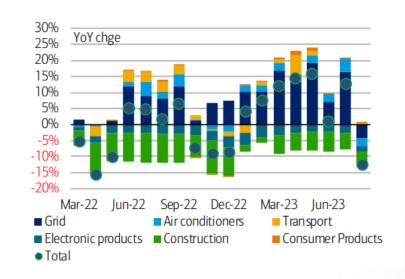
China's consumption is growing solidly despite slower economic growth



China's apparent demand

Apparent demand is copper production in China + (imports – exports to/from China) +/- change in stocks in China

China, copper demand by sector (as of August 23)







Energy Transition Drives Cu Demand in China



Exhibit43: China's floor space started and sold vs floor space completed

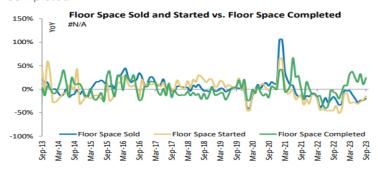
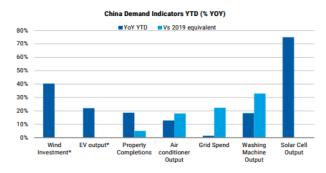


Exhibit 37: Copper demand drivers



Exhibit 1: China demand indicators



Wind/Solar/EV wzrosły o >100% od 2029

Exhibit42: Raw materials: China's copper concentrate and scrap monthly imports



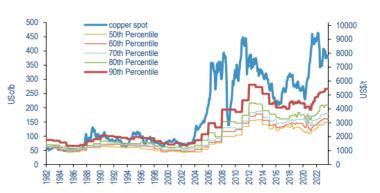




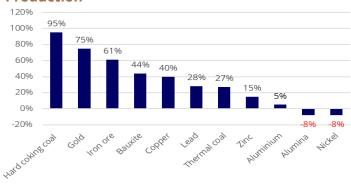
Production costs are rising across the industry



Evolution of the copper cost curve



Commodity Spot Prices vs Marginal Cost of Production



*marginal cost (2023), as at end-Q3 2023, C1 cost

Copper to Aluminium Price Ratio

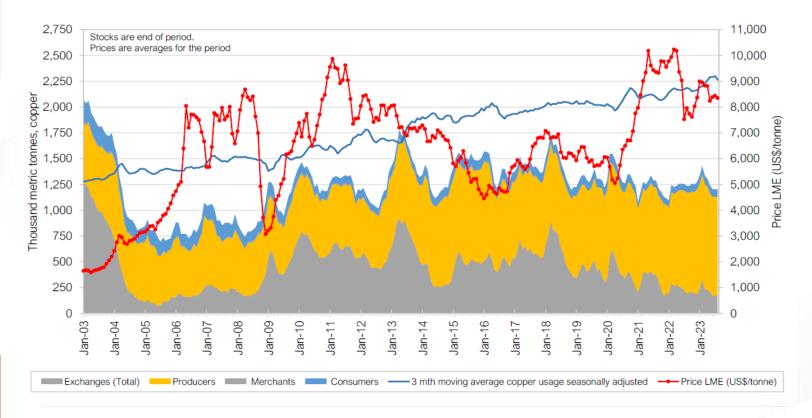










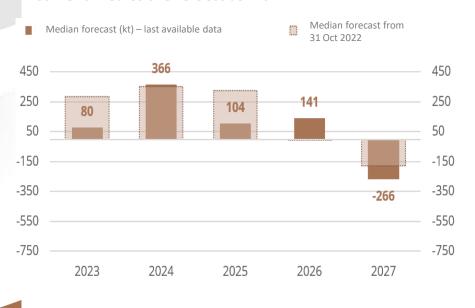








Current Predictions vs October 2022



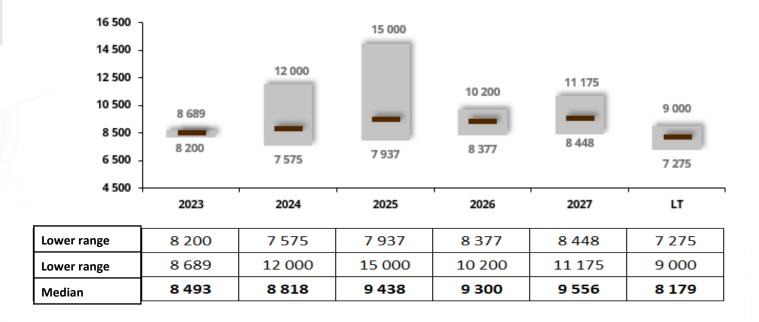
Forecasts by institutions (thousand tonnes)

2023	2024	2025	2026	2027
267	411	-122	-	-
48	166	104	-48	-140
112	355	-459	-	-
173	-54	325	251	-158
-147	-201	-387	-	-
-2	434	446	260	-348
-27	467	-	-	-
221	245	162	-	-
205	483	504	362	-282
-20	-60	-50	-160	-450
150	428	51	-	-
-94	377	388	30	-250















Increase in the operating costs of the metals industry

No new mining projects

Large deficit expected in 2030

Declining copper content in deposits

High prices expected

Demand Destruction

Recycling / scrap metal

Substitution

Technological development

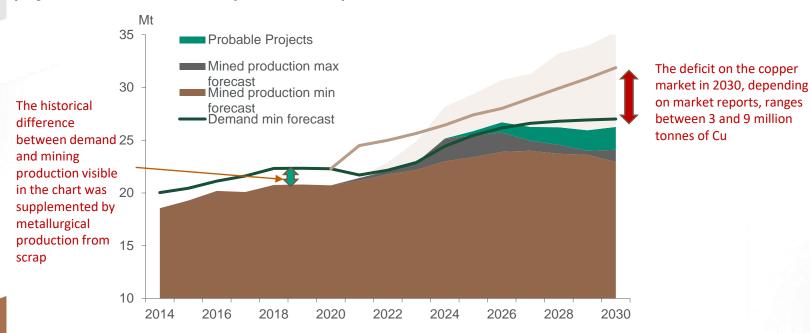






Demand forecasts vs. production forecasts

In order to cover the anticipated demand for copper, it will be necessary to launch new, currently planned projects and to increase the acquisition of scrap metal



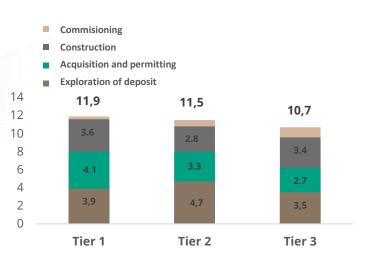




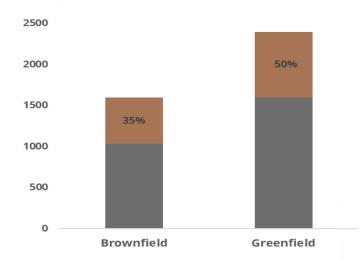
The lead time and the fact that the target CAPEX is frequently exceeded make the construction of new mines unattractive



Time required to start a mine, in years



Average CAPEX and its overruns in USD million



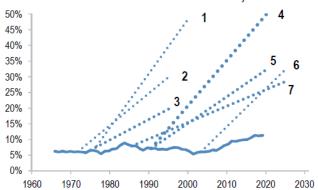


Renewable plans are not a new concept



Renewable share of US primary energy consumption and previous forecasts

Percent. Lines start when forecasts were made and end in year of forecast



1 Physicist Bent Sorensen

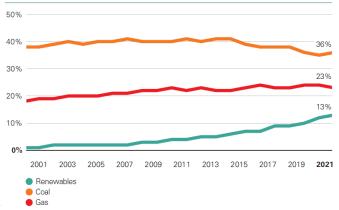
Source: JP Morgan

- 2 Amory Lovins, Rocky Mountain Institute
- 2 Carter Administration (solar only)
- 4 Clinton Presidential Advisory Panel
- 5 Intergovernmental Panel on Climate Change
- 6 Google 2030 Clean Energy Plan
- 7 National Renewable Energy Laboratory

Source: "Future Shock", 11th Annual Eye on the Market energy paper, JP Morgan Asset Management, 2021. Renewables include wind, solar, hydropower, geothermal, biomass, wood and waste.

- In the U.S., there have been ambitious plans to use renewable energy sources for several decades
- History shows that their implementation does not always go according to plan
- There has been a significant acceleration in recent years, but will there be enough determination in the global economy this time

The share of renewables in global power generation continued to increase

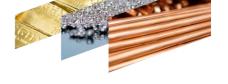


Source: BP Statistical Review of World Energy 2022

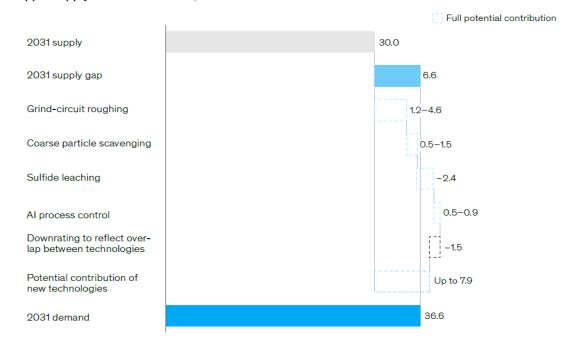




Copper market deficit vs. technological potential



Copper supply contribution totals, million metric tons



Note: Figures do not sum to 100%, because of rounding. Source: McKinsey analysis $\,$

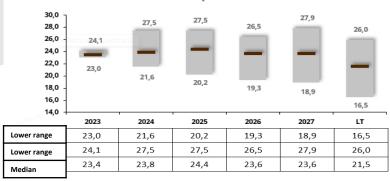




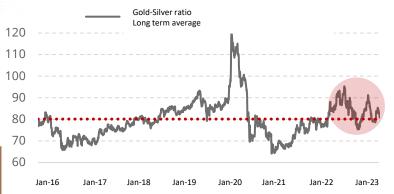
Silver



USD Silver Price Predictions per Ounce



Gold to Silver Price Ratio



Investors' interest in the silver market has declined in recent years



Value of the silver market compared to other markets (data for 2022)



Source: USGS; Trading Economics, Cameco, FastMarkets



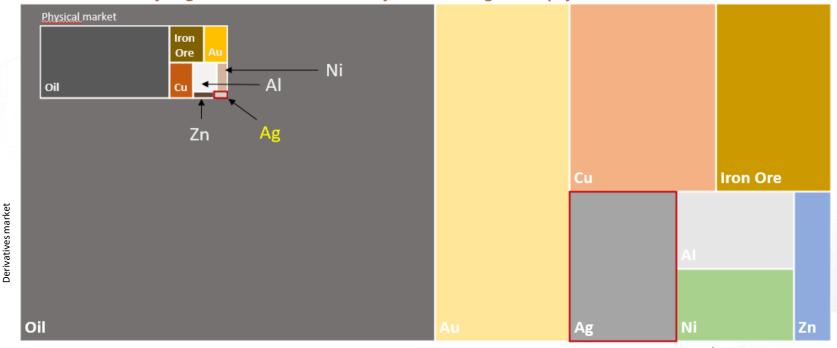




Commodity market – physical and derivatives

The commodity market of the top 8 commodities was value at over \$3 trillion in 2022. The derivatives market is nearly 17 times larger.

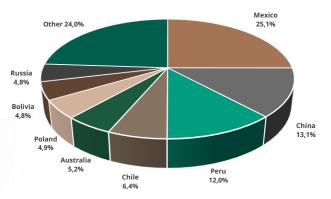
Silver has a relatively large derivatives market, nearly 150 times larger than physical silver.



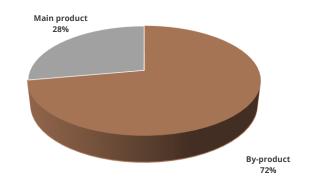


Silver

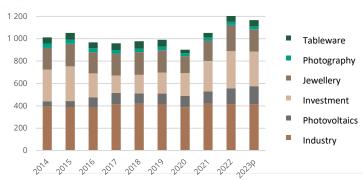
Geographical structure of silver production in 2022



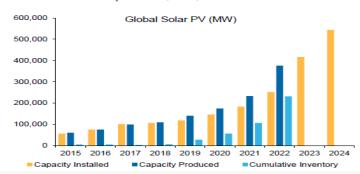
72% percent of silver is mined as a by-product



Directions of demand for silver



Global PV Development (MW)



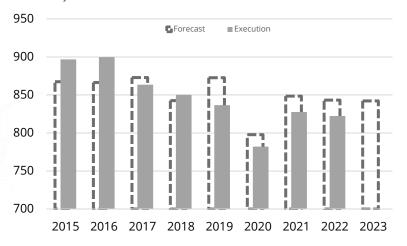
Source: CME, CFTC, SHFE, Bloomberg NEF, Macquarie



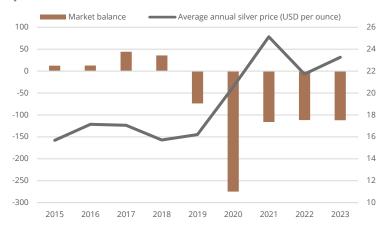


Silver

Silver Mining Production Forecast vs Execution (Million Ounces)



Silver market balance (million ounces) vs average annual price of the metal



*Market balance for 2023 is a forecast, while the price for 2023 is the YTD average as at 16 November

- In the observed period, we can see a predominance of periods when the forecasts of mining production were more optimistic than the actual production of mines.
- So far, the balance of the silver market has had little impact on the valuation of the metal, but the negative balance forecast for this year, for the fifth year in a row, with the demand for this metal forecast for the coming years, may change this situation.





Silver – in the green revolution



- At least 30% of industrial silver consumption is related to the energy transition.
- PV consumes the most silver, followed by EV, where consumption increases, wind farms, nuclear power plants, catalytic converters and the chemical industry.
- EV to ICE contains roughly 2x more silver. An additional factor supporting silver consumption is the increase in the share of EVs in the automotive market. In the U.S., sales of electric cars increased by 56% y/y in Q1 23.
- Mining output will not be sufficient to meet the expected increase in demand, as more than 70% of silver is mined as a by-product of other metals.
- Silver that has already been mined will have to be used, but a much higher price will be needed to increase silver recycling.
- PV consumed 140 million ounces of silver in 2022, and consumption is forecast at 160 million ounces in 2023.
- In PV technologies, the aim is to reduce the amount of silver, but there is always a point that cannot be crossed, and according to experts in currently functioning technologies, it has already been reached, and those that are coming into use have up to twice the demand for silver. Here, too, the process of lowering the content will continue, but it will take time.
- There are discussions and attempts to replace silver with cheaper copper, but according to experts, it is very complicated and will certainly not happen at least for the next 5-6 years.

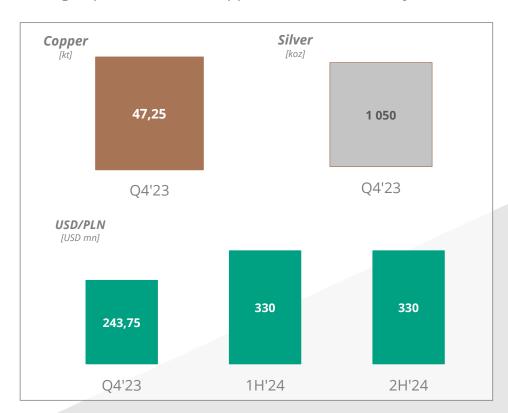




Market risk management



Hedged position on the copper, silver and currency markets (as at 30 September 2023)



At the end of Q3 2023 the Parent Entity recorded a result on derivatives* and hedges in the amount of PLN 279 million:

- +PLN 425 mn adjusted revenues from contracts with customers (transactions settled to 30 September 2023),
- PLN 192 mn decreased the result on other operating activities
- PLN 46 mn increased the result on financing activities.
- The fair value of open derivatives in KGHM Polska Miedź S.A. as at 30 September 2023 amounted to PLN 70 mn*.
- The revaluation reserve on cash flow hedging instruments as at 30 September 2023 amounted to PLN 358 mn (excluding the tax effect).
- In the third quarter of 2023 the Parent Entity did not enter into derivatives transactions on the forward metals, currency and interest rates markets.
- As at 30 September 2023 the Parent Entity held open CIRS (Cross Currency Interest Rate Swap) transactions for the notional amount of PLN 2 billion.





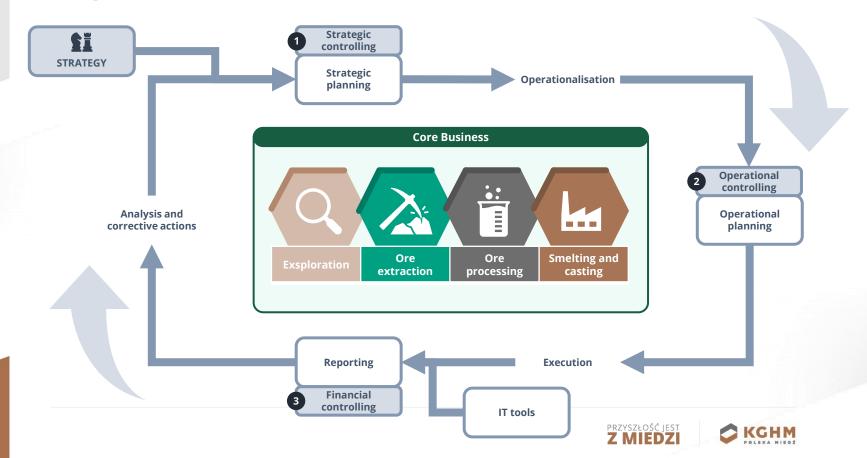




Structure of controlling GCT

Controlling in the core business of KGHM Polska Miedź S.A.

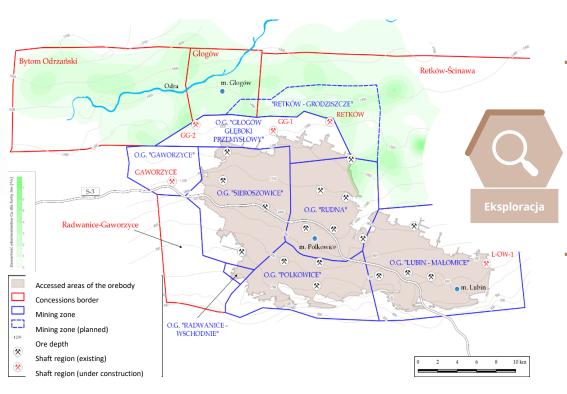




Core business economic model

Controlling in the core business of KGHM Polska Miedź S.A.





 KGHM applies an economic model which estimates the long-term effectiveness of the Core Business' operations up to the exhaustion of the deposits.

> The main goal of the Model is to enable the financial quantification and assessment of technical development scenarios.

 The Model's economic projections, along with its technical assumptions, represent the preliminary simulations and long-term production plans of KGHM and contain short- and medium-term planning guidelines.





Core business characteristics

Controlling in the core business of KGHM Polska Miedź S.A.



OPPORTUNITIES Copper is a critical Long-term outlook **EU** raw material Global reach and Limited impact on geographic production volumes premiums Access to own **Limited impact on** deposits metals prices Length of the value **Cyclicality and** nature of demand chain **Extensive and Rising production** unique experience and processing costs

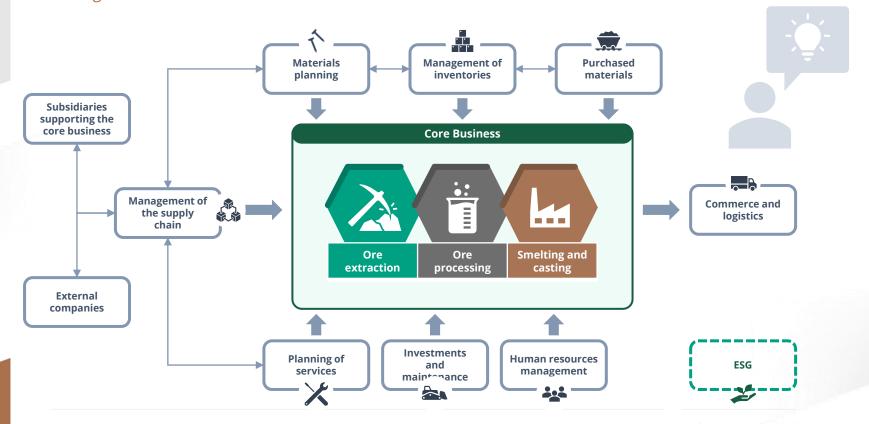






Key areas of the core business for the financial controller

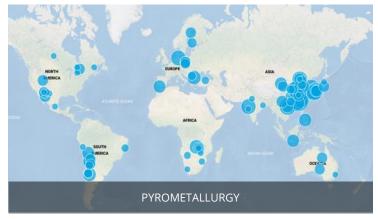
Controlling in the core business of KGHM Polska Miedź S.A.





Core business – geographic contextControlling in the core business of KGHM Polska Miedź S.A.







Data: Wood Mackenzie











PROJECT TO BUILD A SMALL MODULAR REACTOR IN KGHM



KGHM, as one of the largest industrial consumers of electricity in Poland, adopted an ambitious Climate Policy, calling for the achievement of **climate neutrality by 2050**;

One of the main projects to attain this goal is the construction of a **small modular reactor (SMR)** power plant; In order to select the optimum site for the power plant, from the point of view of operational safety as well as in terms of social, technological and economic aspects, sites were analysed in the voivodeships of Lower Silesia and in neighbouring voivodeships.







SELECTION OF AN APPROPRIATE SITE

The selection of a site for the nuclear power plant is a multi-layered process and involves the detailed analysis of numerous factors, among others:

Environmental impact, natural conditions, the way in which terrain will be used and the level of social acceptance;

Polish laws were used in the setting of guidelines (socalled **Siting decrees**) as well as recommendations developed by the **International Atomic Energy Agency (IAEA)**;

KGHM has identified **several promising sites in the western part of Poland** where an SMR facility could reasonably be built. Fundamental approval was granted to KGHM by the Ministry of Climate and the Environment in July 2023 for two sites (both in the Greater Poland voivodeship) from a list of several identified by the company.







INVESTMENT PROCESS - WORK IN PROGRESS AND PLANNED





- KGHM applied to the **President of the State Atomic Agency for the issuance of a so-called General Opinion**, which assesses the safety aspects of one of the considered projects a 6-module NuScale Power plant with total capacity of 462 MWe;
- KGHM also applied to the Minister of Climate and the Environment for the issuance of a fundamental decision for two identified sites selected on the basis of a siting study, with indication of the planned reactor technology to be used.

 This decision was issued on 12 July 2023.
- One of the subsequent steps, following receipt of the **fundamental decision**, **is commencement** of environmental and siting research in the identified sites.









Environmental research

- Environmental research is aimed at confirming that the siting data will be suitable for the nuclear power plant from the environmental point of view
- Research into the environmental condition and inventorisation of bio resources will last a minimum of 12 months
- GOAL obtain an Environmental Impact Decision

Siting research

- Siting research is aimed at confirming that the siting data will be suitable for the nuclear power plant from the nuclear safety point of view
- Meteorological, geotechnical, geophysical, seismic, hydrological and hydrogeological measurements and research will last a minimum of 24 months, of which the first year will be conducted simultaneously to the environmental research
- GOAL obtain a Siting Decision and prepare the Preliminary Safety Report section



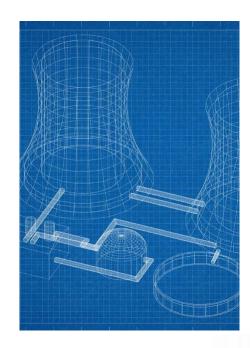








- SMR projects have a variety of advantages compared to large nuclear reactors: passive safety systems, guaranteeing the safe shutdown and cooling of the reactor in an emergency; the small area occupied by the power plant; the small zone of restricted use (ending at "the fence"); flexibility in energy production (cooperation with renewable sources);
- **Modular construction and factory production** enables reduction of on-site building time -> lower impact on the vicinity during construction;
- SMR reactors applying Light Water Reactor and Pressurized-Water Reactor technology are a safe solution, which have already proven themselves in large-scale nuclear power plants;
- Leading projects in the **Euro-Atlantic economic sphere** are **VOYGR (NuScale Power)**; SMR-160 (Holtec); Rolls-Royce SMR (Rolls Royce); NUWARD (EDF) and these projects, among others, are being considered by KGHM.







How does KGHM intend to achieve its strategic energy transformation goals?





under development



Development of in-house RES projects

(own terrain)

Development of in-house RES projects

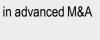
(external terrain)



Purchase of projects from the market M&A

47 MW

Portfolio of PV projects acquired from PST



~250 MW







Energy Development Program, including RES | major events in Q3 2023





Development of solar energy

- Administrative proceedings commenced, including for a building permit and an announcement of intent to build a cable network for the HMG I-III¹⁾ photovoltaic power plants complex at the Głogów Copper Smelter and Refinery
- An internal Technical Connection Conditions Decision was issued for the Obora Sandpit PV project to connect to the network of KGHM with total capacity of 50 MW. Procedures are underway to agree the possibilities of connection of such capacity to the network of OSD Tauron Dystrybucja S.A. An application was submitted for the issuance of an Environmental Impact decision to the Lubin Mining Office, based on which the Office commenced administrative proceedings. The decision of the County Office in Lubin was received regarding completion of restoration of former terrain of the Obora Sandpit, which enabled the designation of former mining terrain comprising 38.89 hectares of watery terrain and 18.93 hectares of land, for renewable energy purposes.
- Design work is underway in respect of the Cedynia, Tarnówek, Kalinówka and Polkowice photovoltaic power plants, under an agreement signed with general contractors.
- The project to build a photovoltaic power plant on the grounds of liquidated shafts of the Lubin mine was commenced, along with the process of preparing the investment.
- The Company submitted an application to issue a technical connection conditions decision for a RES project being advanced on Company terrain with designed power of 88 MW. Tauron recognised the application as complete, and and commenced analysis of the impact of the connection of the planned PV farm to its network.
- Further localisation projects were assessed (Feasibility Study, MAMP) to secure the possibility of advancing the RES investment on KGHM terrain.



M&A

- At the consent of the Management Board and Supervisory Board, on 12 September 2023 a preliminary contingent agreement was signed for the purchase of shares in special purpose companies, the owners of solar power farm projects with a combined capacity of approx. 47 MW. The farms are located in the following voivodeships: Lower Silesia, Łódź, Pomerania and Greater Poland. On 10 October 2023, KGHM became the owner of the first of the farms in the aforementioned portfolio PV Żuki, with a capacity of 5.2 MW, carrying out the closing of the acquisition of shares in the Company INVEST PV7 sp. z o.o.
- The market environment continued to be assessed in terms of potential acquisitions of companies with OZE projects (solar farms, wind farms).
- KGHM submitted preliminary non-binding offers to selected investors (developers) for the purchase of shares of companies with RES projects: those at
 the ready-to-build stage as well as those built by the seller and are ready for commercial operation (so-called commercial operation date projects, COD).



Development of wind energy

• As a result of liberalisation of the distance law in the first quarter of 2023, containing clauses enabling a reduction in the absolute distance for siting wind turbines from housing to 700 m, KGHM commenced a review of the possibilities of advancing on-shore wind power projects, including the signing of an Agreement with the Company Energetyka regarding the transfer of project documentation and proprietary asset rights to the Radwanice-Żukowice project aimed at renewing appropriate project work. A detailed site analysis is being developed which will reflect current sector regulations, upon which continuation of the project is contingent.





Energy Development Program, including RES | major events in Q3 2023





Development of nuclear energy

- KGHM continued work on the SMR project.
- Jointly with the company Przedsiębiorstwo Energoprojekt-Katowice, work continued on analysing specific sites for the SMR installation under the second stage of preparing a preliminary siting report.
- Public opinion research regarding potential sites for the SMR installation was completed.
- On 12 July 2023 the Minister of Climate and Environment granted the Company a foundational decision, as described in art. 3a of the special act on nuclear energy (this decision represents the first administrative permit required to advance the investment).



Ensuring energy security in KGHM

- The Natural Gas-Steam (CCGT) blocks of the Head Office ensured energy security for the Core Production Business as regards the supply of power to the Polkowice-Sieroszowice and Rudna mines as well as to the Głogów Copper Smelter and Refinery. Maintaining the operation and/or availability of the CCGT blocks serves to reduce the impact on KGHM in the case of a blackout of the National Energy System, and ensures the supply of cogenerated heat for the production needs of the metallurgical plants as well as heat in the form of hot water for KGHM's facilities and for customers in the communities of Polkowice, Głogów and Lubin.
- KGHM Polska Miedź S.A. as a corporate whole (meaning all of its facilities and equipment) is protected against the potential introduction of restrictions in the supply and off-take of electricity by a Decision of the President of the Energy Regulatory Office dated 25 May 2023 confirming the consolidated plan of restrictions for the period from 1 June 2023 to 31 May 2024 and confirming the Company's exemption in this regard.





Mine project development stages





EXSPLORATION

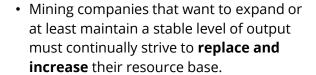


AND ACCESSING OF ORE



MINING





- **Exploration** is one of the basic (most important) stages in mine investment, aimed at increasing a Company's ore resources with profitable deposits.
- These activities are usually conducted under conditions of uncertainty and risk; it is therefore vital that they be conducted in stages, with each stage followed by a rigorous assessment of the result, in order to minimise investment risk and make appropriated decisions.











From exploration to mining



- Preparation of geological projects and mining concessions.
- II. Submission of an application with the appropriate body (Ministry of Climate and the Environment) for the granting of exploration concessions to search for minerals in a given area.
- II. The granting of the aforementioned exploration concessions.
- V. Preparations to conduct geological and other work (contractors/agreements).
- Execution of geological and other work (incl. ongoing analyses of the results).
- VI. Completion of geological and other work.
- VII. Execution of geological documentation.
- VIII. Submission of geological documentation to the appropriate geological administration body.
- IX. Approval of the geological documentation by the geological administration body.
- X. Submission to the Ministry of Climate and the Environment of an application for the granting of mining concessions.
- XI. The granting of the aforementioned mining concessions.





Development of the global resource base



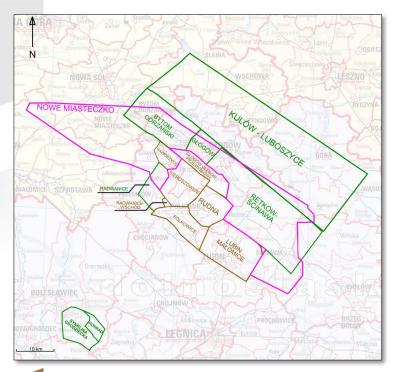
Every mining company recognises the need to engage in exploration to ensure a resource base. The world's largest mining companies, such as Codelco, Glencore, BHP Billiton, Rio Tinto, Freeport McMoran, Anglo American etc., **including KGHM**, strive to **development their resource base** in two main ways:

- 1) mergers with and acquisitions of other mining companies (requiring enormous expenditures)
- exploration (high risk of failure, though in the case of success, the expenditures incurred are lower by several orders of scale):
 - "in-mine" exploration within an exisiting mine,
 e.g. from existing mine tunnels,
 - "near-mine" exploration of areas adjacent to a mine,
 - "brownfield" exploration in historic mine workings or where there has only been preliminary assessment,
 - "greenfield" exploration in new, as-yet unmined areas, the assessment of whose potential can be challenging.



Existing concessions held by KGHM





KGHM Polska Miedź S.A. currently holds 9 exploration concessions:

- 7 "copper concessions":
 Retków –Ścinawa,
 Głogów, Radwanice,
 Synklina Grodziecka,
 Konrad; Bytom
 Odrzański, Kulów
 Luboszyce,
- 2 "non-copper concessions": the hydrocarbon concession "Nowe Miasteczko"; the concession "Puck" (potassium/manganese

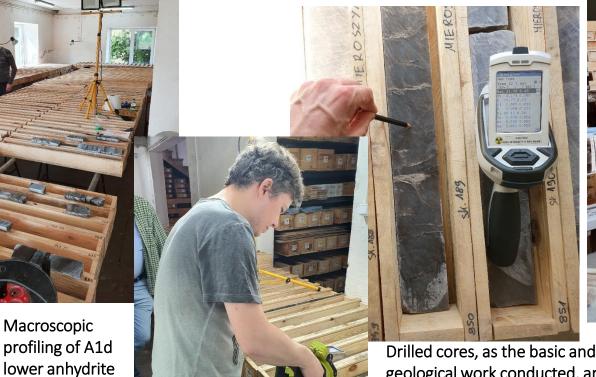


	(potassian	ny manganese	
LEGEND:	salts).		
Mining (extraction) concession	Exploration concession	Exploration concession - hydrocarbon	





Post-drilling activities



Drilled cores, as the basic and most important evidence of the geological work conducted, are subjected to rigorous geological testing and description. The success of a mine project could depend on the accuracy and correctness of the conclusions reached from such research.





81-71

cores, "Puck"

concession.

Central Drill Cores Warehouse



Drill cores are an extremely important source of data for geological research, for the documentation of a deposit, as well as for technical research, related to the development of existing and future mine infrastructure. Because of this, in recent years KGHM has been transforming its facilities into a professional core warehouse, together with a laboratory section which will be able to carry out the needed geological research.



