

# Market Overview



as of: 7<sup>th</sup> November 2022






- **Copper:** Copper demand from the Chinese solar sector is expected to dip 2% year-on-year in 2023 after likely soaring 53% in 2022 to 300,000 tonnes. The EV sector's copper demand is seen up 18% in 2023, slowing from an expected 37% surge this year (*page 2*).
- **Precious metals:** China and India accounted for 60.5% of the world's gold jewelry market in 2021 by tonnes of gold sold. In particular, with 675 tonnes sold, China led with a market share of 31.8%, while Indian consumers purchased 611 tonnes, representing 28.8% (*page 4*).
- **Euro zone:** Consumer prices jumped by 10.7% from a year ago in October, far exceeding the 10.3% median estimate in a Bloomberg survey (*page 5*).

## Key market prices

	Close price	2w chng.
<b>LME (USD/t)</b>		
▲ Copper	7 905.00	4.8%
▲ Nickel	23 735.00	10.1%
<b>LBMA (USD/troz)</b>		
▲ Silver	19.97	8.6%
▲ Gold (PM)	1 674.40	1.9%
<b>FX</b>		
▲ EURUSD	0.9872	1.5%
▼ EURPLN	4.6898	-1.9%
▼ USDPLN	4.7975	-2.1%
▼ USDCAD	1.3517	-1.4%
▼ USDCLP	948.74	-2.4%
<b>Stocks</b>		
▲ KGHM	109.00	21.3%

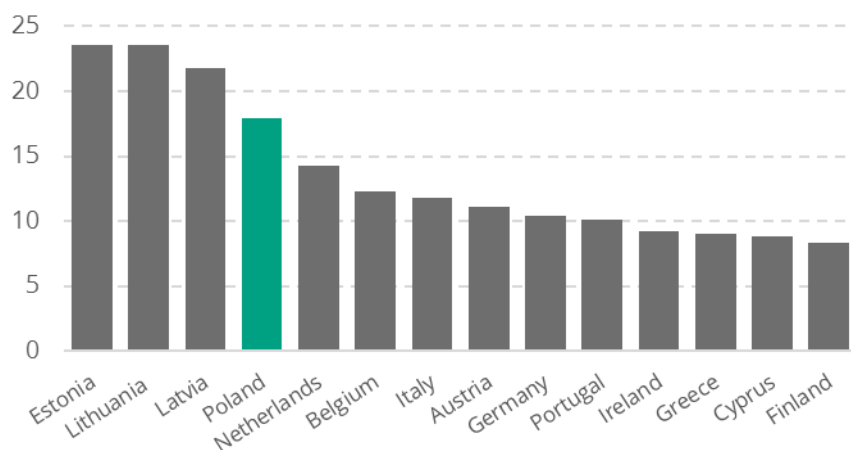
Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 8*)

## Important macroeconomic data

Release	For		
 Industrial prod. (yoy)	Sep	6.3%	▲
 CPI (yoy)	Oct	17.9%	▲
 Manufacturing PMI	Oct	50.4	▲
 Manufacturing PMI	Oct	46.4	▼
 Copper production (mt)	Sep	439 277	▲

Source: Bloomberg, KGHM Polska Miedź S.A.; (*more on page 6*)

## October CPI inflation (%) in Poland and selected countries of the region



Source: Bloomberg, KGHM Polska Miedź S.A.

## Market Risk Unit

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## Base and precious metals | Other commodities

### Copper

#### Stellar Copper Demand From Chinese Solar Makers Seen Slowing In 2023

**Copper demand from the Chinese solar sector is expected to dip 2% year-on-year in 2023 after likely soaring 53% in 2022 to 300,000 tonnes. The EV sector's copper demand is seen up 18% in 2023, slowing from an expected 37% surge this year.**

Copper demand from China's solar power sector is seen slowing next year after stellar growth in 2022, said consultancy CRU, possibly weighing further on copper prices hit this year by a downbeat global outlook. China's solar and electric vehicle (EV) sectors have fuelled copper demand this year, keeping spot premiums in China strong and limiting a bigger sell-off in copper prices. Benchmark London prices have fallen 28% since a record high in March, also due to COVID-19 curbs in the world's top copper consumer. While it remains unclear whether the Chinese subsidies of recent years for the solar power industry will continue in 2023, European demand for the country's solar products has already started to cool. Copper demand from the Chinese solar sector is expected to dip 2% year-on-year in 2023 after likely soaring 53% in 2022 to 300,000 tonnes, according to data from CRU. The EV sector's copper demand is seen up 18% in 2023, slowing from an expected 37% surge this year to 473,000 tonnes. Strong demand from solar was backed this year by the building of solar installations, on course to hit a record high, as China brought forward projects planned for future years to 2022 to boost economic growth. While China stopped granting state-level subsidies for new solar power stations in 2021, some local governments have still used their budgets to support solar power installation. It remains unclear whether this will continue in 2023. While China has said it will extend its exemption of new energy vehicles from purchase taxes to the end of 2023, government subsidies for electric vehicles are set to expire at the end of this year. In addition, Chinese solar module exports to Europe have been cooling lately due to a shortage of labour and inverters in Europe, volatile currency markets and high inflation environment, said InfoLink Consulting's analyst Amy Fang. An energy shortage in Europe, triggered by the Russia-Ukraine war, boosted the region's demand for renewable power plant parts this year. European imports volumes of Chinese solar cells and modules nearly doubled on an annual basis in the first seven months of 2022, according to data from the United Nations Comtrade Database. Meanwhile, China's wind power sector is seen consuming 145,000 tonnes of copper in 2022, 30% less than a year earlier, as a subsidy from the Chinese central government for offshore wind projects - which consume more copper than onshore mills - ended in 2021, CRU's He said. He expects average annual copper demand growth from the sector to be almost flat from 2023 until 2027. But copper consumption from the energy transition sector -

which includes EV, solar and wind -- is seen rising around 9% in 2023 to 997,000 tonnes, calculations based on CRU data showed. Strong demand growth from EV is expected to offset slowing appetite from solar and wind next year.

### Other important information on copper market:

- Chile's total copper production fell 4.27% in September to 428,300 tonnes, government body Cochilco said on Thursday. Production from state-owned giant Codelco fell 7.92% on a year-on-year basis to 123,200 tonnes, while production at Collahuasi, a joint venture of Anglo American and Glencore, fell 3.5% to 44,500 tonnes. Copper output from Escondida, which is controlled by Australian mining giant BHP rose 3.51% to 85,500 tonnes, Cochilco said.
- China's refined copper output reached 946,000 mt in September, up 5.8% year on year and 3.2% higher on the month, data from the National Bureau of Statistics showed. Chinese smelters resumed their production going into September, as the impact from power shortages and pandemic restrictions eased, according to sources. However, tight supply of copper scrap and maintenance works at some medium and small smelters capped output growth, they added. China's refined copper output is expected to remain high in October, as domestic smelters prefer to maintain elevated operating rates amid ample supply of raw material and recovery in sulfuric acid prices.
- Top global copper producer Codelco reported a 50.4% drop in pre-tax profit to \$2.606 billion for the period between January and September. The Chilean state-owned company said that a "significant drop of 12% in the price of copper sales" compared to the previous year explained almost half of the drop in profits. Accumulated production totaled 1.06 million tonnes, down 10% from a year ago. The drop was associated with a decrease in grade ore at the company's divisions Ministro Hales, Chuquicamata and El Teniente as well as "operational difficulties" with the Chuquicamata refinery and smelter. The smelter will undergo major maintenance in November, the company added, which will cause further operational problems. Codelco also cut its copper production estimates for the year to between 1.47 and 1.44 million tonnes, a drop compared to the 1.49-1.51 million tonnes it had forecast in August. The company said its cost rose 21.2% to \$1.574 per pound, up from \$1.299 the year before due to lower copper production and higher supply costs.

## Precious Metals

### China and India control 60% of all gold jewelry market globally

**China and India accounted for 60.5% of the world's gold jewelry market in 2021 by tonnes of gold sold. In particular, with 675 tonnes sold, China led with a market share of 31.8%, while Indian consumers purchased 611 tonnes, representing 28.8%.**

Data presented by Finbold indicates that China and India accounted for 60.53% of the world's gold jewelry market in 2021 by tonnes of gold sold. In particular, with 675 tonnes sold, China led with a market share of 31.77%, while Indian consumers purchased 611 tonnes, representing 28.76%. Southeast Asia comprising Indonesia, Thailand, Vietnam, Singapore, and Malaysia, cumulatively purchased 64 tonnes. Other leading jewelry gold consumers include the United States (149 tonnes), Europe (68 tonnes), Turkey, and the UAE combined (68 tonnes). The rest of the world has the third largest share of 489 tonnes or 23.02%. Elsewhere, a breakdown of gold demand by sector as of Q3 2022 indicates that jewelry ranks top at 67.17 million ounces, followed by investment at 30.56 million ounces, while bar demand ranks third at 30.52 million ounces. Industry sits in the fourth spot at 11.7 million, while electronics caps the fifth position at 9.61 million ounces. China's demand for gold jewelry can be attributed to the cultural practices in the country. The demand is mainly driven by a society that is accumulating more wealth, led by a growing middle class guided by the view that owning gold demonstrates good financial foresight with the promise of harboring good fortune. The latest trend also highlights how jewelry consumers benefited from a pullback in gold prices. Besides the cultural importance, Indian gold consumers consider the metal a store of value, a symbol of wealth and status, and a fundamental part of different rituals. Unlike China, India's rural population also carries a deep affinity for gold due to its portability and the ability to act as an investment option. Overall, with global prices experiencing a downturn since July 2020, consumers in the countries also accumulate the asset for financial gains hoping to benefit from a price rally. Although alternatives like Bitcoin (BTC) have emerged, gold still maintains an upper hand as a historically reliable, tangible long-term store of value. This aspect is highlighted by gold's stronger performance than the equities market in 2022. However, aggressive central bank monetary policy tightening has partly weighed on the price. Gold has generally been supported by greater risk and uncertainty. Along the same line, central banks are accumulating gold aiming to have stable assets in their reserves. With the current economic uncertainty resulting in the weakening of global currencies, most central banks have increasingly opted to purchase gold.




## Global economies | Foreign exchange markets

### **Euro-Zone Inflation Soars to New Record as Economy Fades Consumer prices jumped by 10.7% from a year ago in October, far exceeding the 10.3% median estimate in a Bloomberg survey.**

Euro-area inflation surged to a fresh all-time high, while the bloc's economy lost momentum -- reinforcing fears that a recession is now all-but unavoidable. Consumer prices jumped by 10.7% from a year ago in October, far exceeding the 10.3% median estimate in a Bloomberg survey. With the energy crisis continuing to ravage businesses and households, the expansion is widely expected to shift into reverse during the winter. European bonds remained lower after the data, with 10-year German yields four basis points higher at 2.15%. The euro was down 0.3% at \$0.9937. There was good news last week from Germany, the region's top economy, which defied predictions of a contraction by notching growth that was faster than the previous three months. But it's still seen leading Europe into a downturn in the coming quarters, with steep increases in interest rates by the European Central Bank adding to the headwinds. "Recession risks are spreading," Spanish central bank Governor Pablo Hernandez De Cos told. "Decisive action by us in the current juncture will support medium-term growth, by reducing inflationary pressures and avoiding a de-anchoring of inflation expectations." A dramatic third-quarter slowdown was already evident in Spain and France as a post-lockdown boom in the tourism and leisure industries faded. Those data came a day after the ECB doubled borrowing costs to the highest level in more than a decade, with officials later backing further big moves to wrest prices back toward their 2% target. Inflation figures offered scant encouragement. While the headline number continued to be driven by energy and food costs, an underlying gauge that excludes those two elements also ticked up to a record. Italy revealed an all-time high that was far more than any economist surveyed by Bloomberg had anticipated. The outlook remains extraordinarily uncertain. Mild weather and stronger-than-expected supplies of natural gas have led to a significant drop in some wholesale energy costs, but the trajectory of future supply and Russia's war in Ukraine still pose risks. ECB officials maintain that the priority is to fight inflation. While acknowledging that a euro-area recession "is becoming more and more likely," Dutch central bank chief Klaas Knot said that he favors a rate hike of 50 or 75 basis points at the final policy meeting of the year in December. But other officials are showing concern about a downturn, some cautioning against pushing rates too high too quickly. How that debate plays out may determine the scale of the economic contraction facing the region.

# Macroeconomic calendar

## Important macroeconomic data releases

China 								
🔔🔔🔔🔔	24-Oct	GDP (yoy)	3Q	3.9%	▲	0.4%	3.3%	🟢
🔔🔔🔔🔔	24-Oct	GDP (sa, qoq)‡	3Q	3.9%	▲	-2.7%	2.8%	🟢
🔔🔔🔔	24-Oct	Industrial production (yoy)	Sep	6.3%	▲	4.2%	4.8%	🟢
🔔🔔	24-Oct	Trade balance (USD bn)‡	Sep	84.7	▲	79.4	80.3	🟢
🔔🔔	24-Oct	Exports (yoy)	Sep	5.7%	▼	7.1%	4.0%	🟢
🔔🔔	24-Oct	Fixed assets investments (ytd, yoy)	Sep	5.9%	▲	5.8%	6.0%	🟡
🔔	24-Oct	Retail sales (yoy)	Sep	2.5%	▼	5.4%	3.0%	🟡
🔔🔔	31-Oct	Official manufacturing PMI	Oct	49.2	▼	50.1	49.8	🟡
🔔🔔	01-Nov	Caixin's manufacturing PMI	Oct	49.2	▲	48.1	48.5	🟢
Poland 								
🔔	24-Oct	M3 money supply (yoy)	Sep	7.7%	▲	7.4%	7.6%	🟢
🔔🔔	25-Oct	Unemployment rate‡	Sep	5.1%	▼	5.2%	4.8%	🟢
🔔🔔🔔	31-Oct	Consumer inflation CPI (yoy) - preliminary data	Oct	17.9%	▲	17.2%	17.8%	🟢
🔔🔔	02-Nov	Manufacturing PMI	Oct	42.0	▼	43.0	42.6	🟡
US 								
🔔🔔	24-Oct	Composite PMI - preliminary data	Oct	47.3	▼	49.5	49.2	🟡
🔔🔔	24-Oct	Manufacturing PMI - preliminary data	Oct	--		52.0	51.0	
🔔🔔	24-Oct	PMI services - preliminary data	Oct	--		49.3	49.5	
🔔	25-Oct	Richmond Fed manufacturing index	Oct	-10.0	▼	0.0	-5.0	🟡
🔔🔔🔔🔔	27-Oct	GDP (annualized, qoq) - estimation	3Q	2.6%	▲	-0.6%	2.4%	🟢
🔔🔔	27-Oct	Durable goods orders - preliminary data‡	Sep	0.4%	▲	0.2%	0.6%	🟡
🔔🔔🔔	28-Oct	Consumer spending inflation PCE (mom)‡	Sep	0.5%	-	0.5%	0.5%	🟡
🔔🔔🔔	28-Oct	Consumer spending inflation PCE (yoy)	Sep	5.1%	▲	4.9%	5.2%	🟡
🔔🔔	28-Oct	Personal income (sa, mom)‡	Sep	0.4%	-	0.4%	0.4%	🟡
🔔🔔	28-Oct	Personal spending (sa, mom)‡	Sep	0.6%	-	0.6%	0.4%	🟢
🔔🔔	28-Oct	University of Michigan confidence index - final data	Oct	59.9	▲	59.8	59.6	🟢
🔔	31-Oct	Dallas Fed manufacturing activity	Oct	-19.4	▼	-17.2	-17.4	🟡
🔔🔔	01-Nov	Manufacturing PMI - final data	Oct	50.4	▲	49.9	49.9	🟢
🔔🔔	01-Nov	ISM Manufacturing	Oct	50.2	▼	50.9	50.0	🟢
🔔🔔🔔🔔	02-Nov	FOMC base rate decision - upper bound (Fed)	Nov	4.00%	▲	3.25%	4.00%	🟡
🔔🔔🔔🔔	02-Nov	FOMC base rate decision - lower bound (Fed)	Nov	3.75%	▲	3.00%	3.75%	🟡
🔔🔔	03-Nov	Composite PMI - final data	Oct	48.2	▲	47.3	47.3	🟢
🔔🔔	03-Nov	PMI services - final data	Oct	47.8	▲	46.6	46.6	🟢
🔔🔔	04-Nov	Change in non-farm payrolls (ths)‡	Oct	261	▼	315	193	🟢
🔔🔔	04-Nov	Underemployment rate (U6)	Oct	6.8%	▲	6.7%	--	
🔔🔔	04-Nov	Unemployment rate	Oct	3.7%	▲	3.5%	3.6%	🟢
🔔	04-Nov	Average hourly earnings (yoy)	Oct	4.7%	▼	5.0%	4.7%	🟡

Eurozone						
🟢🟢🟢	24-Oct	Composite PMI - preliminary data	Oct	--	48.1	47.6
🟢🟢🟢	24-Oct	Manufacturing PMI - preliminary data	Oct	--	48.4	47.9
🟢🟢🟢	24-Oct	Services PMI - preliminary data	Oct	--	48.8	48.2
🟢	26-Oct	M3 money supply (yoy)	Sep	6.3% ▲	6.1%	6.0% 🟢
🟢🟢🟢🟢	27-Oct	ECB main refinancing rate	Oct	20.0 ▲	12.5	20.0 🟡
🟢🟢🟢🟢	27-Oct	ECB deposit facility rate	Oct	15.0 ▲	0.8%	15.0 🟡
🟢	28-Oct	Economic confidence‡	Oct	92.5 ▼	93.6	92.4 🟢
🟢	28-Oct	Industrial confidence‡	Oct	-1.2 ▼	-0.3	-1.5 🟢
🟢	28-Oct	Consumer confidence - final data	Oct	-27.6 -	-27.6	--
🟢🟢🟢🟢	31-Oct	GDP (sa, yoy) - estimation	3Q	2.1% ▼	4.1%	2.1% 🟡
🟢🟢🟢🟢	31-Oct	GDP (sa, qoq) - estimation	3Q	0.2% ▼	0.8%	0.1% 🟢
🟢🟢🟢	31-Oct	Core CPI (yoy) - preliminary data	Oct	5.0% ▲	4.8%	5.0% 🟡
🟢🟢🟢	31-Oct	CPI estimate (yoy)	Oct	10.7% ▲	10.0%	10.3% 🟢
🟢🟢	02-Nov	Manufacturing PMI - final data	Oct	46.4 ▼	46.6	46.6 🟡
🟢	03-Nov	Unemployment rate‡	Sep	6.6% ▼	6.7%	6.6% 🟡
🟢🟢	04-Nov	Composite PMI - final data	Oct	47.3 ▲	47.1	47.1 🟢
🟢🟢	04-Nov	Services PMI - final data	Oct	48.6 ▲	48.2	48.2 🟢
🟢	04-Nov	Producer inflation PPI (yoy)‡	Sep	41.9% ▼	43.4%	41.9% 🟡
Germany						
🟢🟢	24-Oct	Composite PMI - preliminary data	Oct	44.1 ▼	45.7	45.5 🟡
🟢🟢	24-Oct	Manufacturing PMI - preliminary data	Oct	--	47.8	47.0
🟢	25-Oct	IFO business climate‡	Oct	84.3 ▼	84.4	83.5 🟢
🟢	27-Oct	GfK consumer confidence‡	Nov	-41.9 ▲	-42.8	-42.3 🟢
🟢🟢🟢	28-Oct	GDP (yoy) - preliminary data‡	3Q	1.1% ▼	1.7%	0.7% 🟢
🟢🟢🟢	28-Oct	GDP (sa, qoq) - preliminary data	3Q	0.3% ▲	0.1%	-0.2% 🟢
🟢🟢🟢	28-Oct	Harmonized consumer inflation HICP (yoy) - preliminary data	Oct	11.6% ▲	10.9%	10.9% 🟢
🟢🟢	28-Oct	Consumer inflation CPI (yoy) - preliminary data	Oct	10.4% ▲	10.0%	10.1% 🟢
🟢	31-Oct	Retail sales (yoy)‡	Sep	-0.6% ▼	-1.6%	-3.4% 🟡
🟢	02-Nov	Manufacturing PMI - final data	Oct	45.1 ▼	45.7	45.7 🟡
🟢	02-Nov	Unemployment rate	Oct	5.5% -	5.5%	5.5% 🟡
🟢	04-Nov	Composite PMI - final data	Oct	45.1 ▲	44.1	44.1 🟢
🟢	04-Nov	Factory orders (wda, yoy)‡	Sep	-10.8% ▼	-3.8%	-7.2% 🟡
France						
🟢🟢	24-Oct	Composite PMI - preliminary data	Oct	--	51.2	50.2
🟢	24-Oct	Manufacturing PMI - preliminary data	Oct	--	47.7	47.0
🟢🟢	28-Oct	GDP (yoy) - preliminary data	3Q	1.0% ▼	4.2%	1.0% 🟡
🟢🟢	28-Oct	GDP (qoq) - preliminary data	3Q	0.2% ▼	0.5%	0.2% 🟡
🟢	28-Oct	Harmonized consumer inflation HICP (yoy) - preliminary data	Oct	7.1% ▲	6.2%	6.5% 🟢
🟢	28-Oct	Consumer inflation CPI (yoy) - preliminary data	Oct	6.2% ▲	5.6%	5.8% 🟢
🟢	02-Nov	Manufacturing PMI - final data	Oct	47.2 ▼	47.4	47.4 🟡
🟢	04-Nov	Industrial production (yoy)‡	Sep	1.8% ▲	1.5%	1.2% 🟢
🟢	04-Nov	Composite PMI - final data	Oct	50.2 ▲	50.0	50.0 🟢
Italy						
🟢	28-Oct	Harmonized consumer inflation HICP (yoy) - preliminary data	Oct	12.8% ▲	9.4%	9.9% 🟢
🟢	31-Oct	GDP (wda, yoy) - preliminary data‡	3Q	2.6% ▼	4.9%	2.0% 🟢
🟢	31-Oct	GDP (wda, qoq) - preliminary data	3Q	0.5% ▼	1.1%	0.0% 🟢
🟢	02-Nov	Manufacturing PMI	Oct	46.5 ▼	48.3	46.9 🟡
🟢	03-Nov	Unemployment rate‡	Sep	7.9% -	7.9%	7.8% 🟢
🟢	04-Nov	Composite PMI	Oct	45.8 ▼	47.6	47.4 🟡
UK						
🟢	24-Oct	Manufacturing PMI (sa) - preliminary data	Oct	--	48.4	48.0
🟢	24-Oct	Composite PMI - preliminary data	Oct	--	49.1	48.0
🟢	01-Nov	Manufacturing PMI (sa) - final data	Oct	46.2 ▲	45.8	45.8 🟢
🟢	03-Nov	BoE base rate decision	Nov	30.0 ▲	22.5	30.0 🟡
🟢	03-Nov	Composite PMI - final data	Oct	48.2 ▲	47.2	47.2 🟢
Japan						
🟢	24-Oct	Composite PMI - preliminary data	Oct	51.7 ▲	51.0	--
🟢	24-Oct	Manufacturing PMI - preliminary data	Oct	--	50.8	--
🟢	31-Oct	Industrial production (yoy) - preliminary data	Sep	9.8% ▲	5.8%	10.5% 🟢
Chile						
🟢	28-Oct	Total copper production (metric tons)	Sep	439 277 ▲	422 888	--
🟢	28-Oct	Manufacturing (yoy)	Sep	-3.4% ▲	-4.0%	-4.5% 🟢
🟢	02-Nov	Economic activity (yoy)	Sep	-0.4% ▼	0.0%	-1.1% 🟢
Canada						
🟢	26-Oct	BoC base rate decision	Oct	3.75% ▲	3.25%	4.00% 🟢
🟢	28-Oct	GDP (yoy)‡	Aug	4.0% ▼	4.4%	3.7% 🟢
🟢	04-Nov	Net change in employment (ths)	Oct	108 ▲	21.1	10.0 🟢

<sup>1</sup> Reading difference to previous release: ▲ = higher than previous; ▼ = lower than previous; == equal to previous.

<sup>2</sup> Reading difference to consensus: 🟢 = higher than consensus; 🟡 = lower than consensus; 🟠 = equal to consensus.

mom = month-on-month; yoy = year-on-year; qoq = quarter on quarter; ytd year-to-date; sa = seasonally adjusted; wda = working days adjusted; ‡ = previous data after revision.

Source: Bloomberg, KGHM Polska Miedź

## Key market data

### Key base & precious metal prices, exchange rates and other important market factors

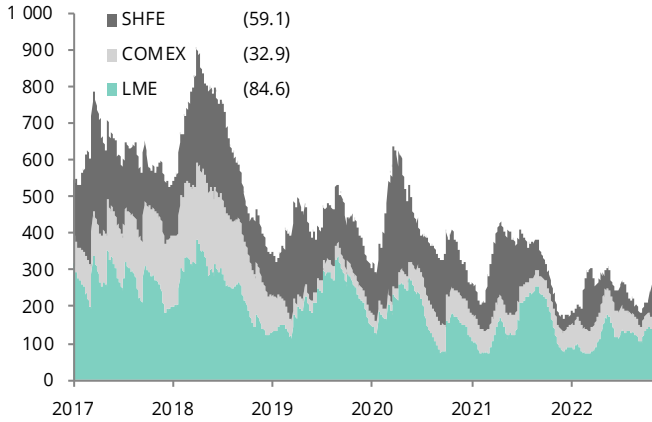
<i>(as of: 04-Nov-22)</i>		Price change <sup>1</sup>					From year beginning <sup>2</sup>		
	Price	2W	QTD	YTD	1Y	Average	Min	Max	
<b>LME (USD/t; Mo in USD/lbs)</b>									
Copper	7 905.00	▲ 4.8%	▲ 3.4%	▼ -18.4%	▼ -19.2%	8 896.30	7 000.00	10 730.00	
Molybdenum	18.50	▼ -3.6%	▲ 0.7%	▼ -1.0%	▼	17.95	14.10	19.71	
Nickel	23 735.00	▲ 10.1%	▲ 6.5%	▲ 13.4%	▲ 21.2%	25 284.83	19 100.00	45 795.00	
Aluminum	2 306.00	▲ 7.0%	▲ 5.8%	▼ -17.8%	▼ -12.8%	2 761.59	2 080.00	3 984.50	
Tin	18 375.00	▼ -0.3%	▼ -11.4%	▼ -53.6%	▼ -52.0%	32 683.78	17 700.00	50 050.00	
Zinc	2 849.00	▼ -4.7%	▼ -4.6%	▼ -21.5%	▼ -14.8%	3 555.19	2 682.00	4 530.00	
Lead	2 022.00	▲ 4.8%	▲ 7.0%	▼ -13.2%	▼ -16.2%	2 146.73	1 754.00	2 513.00	
<b>LBMA (USD/troz)</b>									
Silver	19.97	▲ 8.6%	▲ 5.0%	▼ -13.5%	▼ -15.9%	21.62	17.77	26.18	
Gold <sup>2</sup>	1 674.40	▲ 1.9%	▲ 0.2%	▼ -8.0%	▼ -6.8%	1 805.18	1 628.75	2 039.05	
<b>LPPM (USD/troz)</b>									
Platinum <sup>2</sup>	947.00	▲ 4.6%	▲ 9.6%	▼ -1.6%	▼ -9.1%	953.12	831.00	1 151.00	
Palladium <sup>2</sup>	1 889.00	▼ -5.5%	▼ -14.7%	▼ -2.0%	▼ -6.9%	2 152.15	1 786.00	3 015.00	
<b>FX <sup>3</sup></b>									
EURUSD	0.9872	▲ 1.5%	▲ 1.3%	▼ -12.8%	▼ -14.7%	1.0542	0.9565	1.1464	
EURPLN	4.6898	▼ -1.9%	▼ -3.7%	▲ 2.0%	▲ 2.0%	4.6879	4.4879	4.9647	
USDPLN	4.7975	▼ -2.1%	▼ -3.1%	▲ 18.2%	▲ 20.5%	4.4585	3.9218	5.0381	
USDCAD	1.3517	▼ -1.4%	▼ -1.4%	▲ 6.6%	▲ 8.6%	1.2926	1.2451	1.3856	
USDCNY	7.1851	▼ -0.6%	▲ 1.0%	▲ 13.0%	▲ 12.3%	6.6755	6.3093	7.3050	
USDCLP	948.74	▼ -2.4%	▼ -1.8%	▲ 12.3%	▲ 16.3%	869.63	777.10	1 042.97	
<b>Money market</b>									
3m LIBOR USD	4.550	▲ 0.19	▲ 0.80	▲ 4.34	▲ 4.41	1.991	0.216	4.550	
3m EURIBOR	1.734	▲ 0.19	▲ 0.56	▲ 2.31	▲ 2.30	0.062	-0.576	1.737	
3m WIBOR	7.590	▲ 0.16	▲ 0.38	▲ 5.05	▲ 6.33	5.836	2.590	7.590	
5y USD interest rate swap	4.421	▲ 0.04	▲ 0.28	▲ 3.05	▲ 3.21	2.914	1.445	4.488	
5y EUR interest rate swap	3.067	▼ -0.05	▲ 0.10	▲ 3.05	▲ 3.21	1.539	0.031	3.196	
5y PLN interest rate swap	7.545	▼ -0.37	▲ 0.50	▲ 3.81	▲ 4.58	5.902	3.780	7.911	
<b>Fuel</b>									
WTI Cushing	92.61	▲ 6.9%	▲ 16.5%	▲ 20.3%	▲ 17.5%	97.28	76.71	123.70	
Brent	99.89	▲ 8.8%	▲ 15.9%	▲ 29.0%	▲ 23.4%	102.80	79.83	133.89	
Diesel NY (ULSD)	486.48	▲ 15.2%	▲ 44.7%	▲ 103.0%	▲ 101.7%	376.56	241.70	534.54	
<b>Others</b>									
VIX	24.55	▼ -5.14	▼ -7.07	▲ 7.33	▲ 9.11	26.29	16.91	36.45	
BBG Commodity Index	117.49	▲ 5.6%	▲ 5.4%	▲ 18.5%	▲ 14.5%	119.76	100.58	136.61	
S&P500	3 770.55	▲ 0.5%	▲ 5.2%	▼ -20.9%	▼ -19.4%	4 125.52	3 577.03	4 793.54	
DAX	13 459.85	▲ 5.7%	▲ 11.1%	▼ -15.3%	▼ -16.0%	13 806.05	11 975.55	16 271.75	
Shanghai Composite	3 070.80	▲ 1.0%	▲ 1.5%	▼ -15.6%	▼ -12.9%	3 247.03	2 886.43	3 632.33	
WIG 20	1 601.27	▲ 13.4%	▲ 16.2%	▼ -29.4%	▼ -34.3%	1 818.07	1 358.50	2 411.11	
KGHM	109.00	▲ 21.3%	▲ 24.3%	▼ -21.8%	▼ -28.3%	128.13	84.22	182.20	

<sup>°</sup> change over: 2W = two weeks; QTD = quarter-to-day; YTD = year-to-date; 1Y = one year. <sup>1</sup> based on daily closing prices. <sup>2</sup> latest quoted price. <sup>3</sup> central banks' fixing rates (Bank of China HK for USD/CNY). <sup>4</sup>

Source: Bloomberg, KGHM Polska Miedź

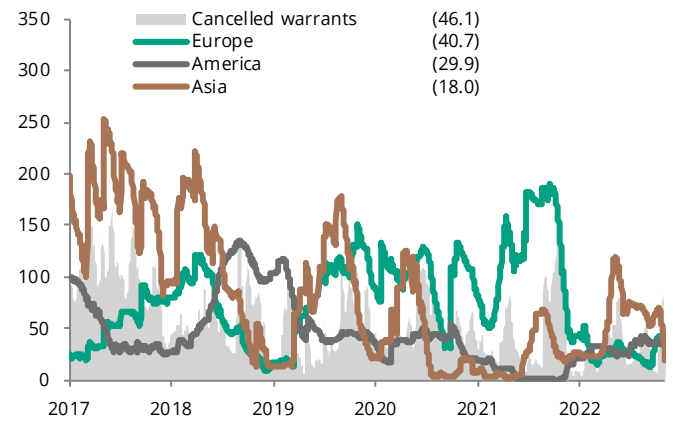


**Copper: official exchange stocks (thousand tonnes)**



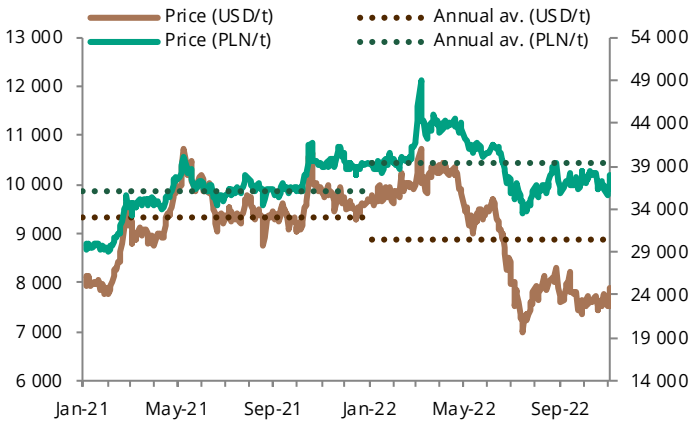
Note: Latest values in brackets. Source: Bloomberg, KGHM

**Copper: official LME stocks (thousand tonnes)**



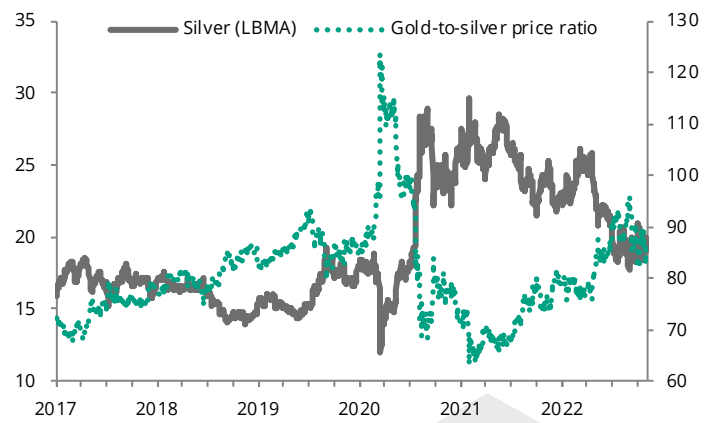
Note: Latest values in brackets. Source: Bloomberg, KGHM

**Copper: price in USD (lhs) and PLN (rhs) per tonne**



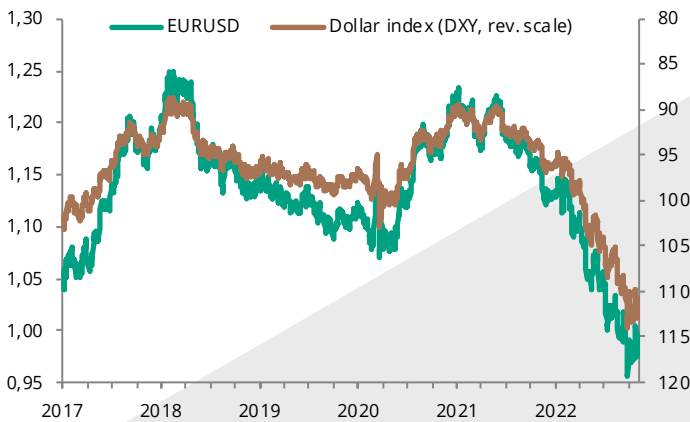
Source: Bloomberg, KGHM Polska Miedź

**Silver: price (lhs) and gold ratio (rhs)**



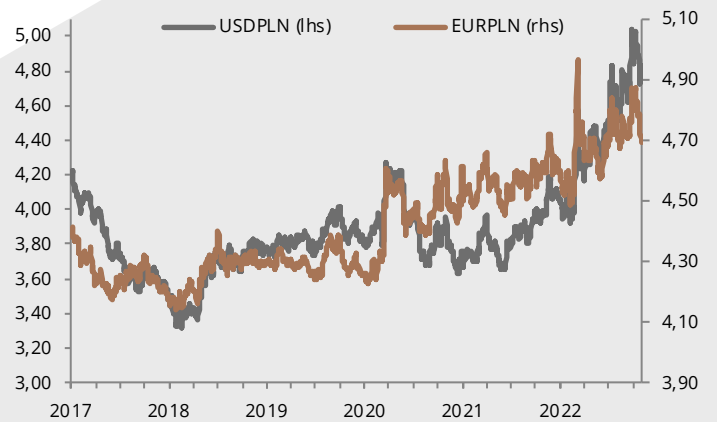
Source: Bloomberg, KGHM Polska Miedź

**USD: dollar index (lhs) and ECB-based EURUSD (rhs)**



Source: Bloomberg, KGHM Polska Miedź

**PLN: NBP-fixing based rate vs. USD (lhs) and EUR (rhs)**



Source: Bloomberg, KGHM Polska Miedź

## Legal note

This document has been prepared based on the below listed reports, among others, published in the following period:  
**24 October – 6 November 2022.**

- Barclays Capital, ▪ BofA Merrill Lynch, ▪ Citi Research, ▪ CRU Group, ▪ Deutsche Bank Markets Research,
- GavekalDragonomics, ▪ Goldman Sachs, ▪ JPMorgan, ▪ Macquarie Capital Research, ▪ Mitsui Bussan Commodities,
- Morgan Stanley Research, ▪ SMM Information & Technology, ▪ Sharps Pixley.

Moreover, additional information published here was acquired in direct conversations with market dealers, from financial institution reports and from the following websites: ▪ thebulliondesk.com, ▪ lbma.org.uk, ▪ lme.co.uk, ▪ metalbulletin.com, ▪ nbp.pl, , also: Bloomberg and Thomson Reuters.

Official metals prices are available on following websites:

- base metals: [www.lme.com/dataprices\\_products.asp](http://www.lme.com/dataprices_products.asp) (charge-free logging)
- silver and gold: [www.lbma.org.uk/pricing-and-statistics](http://www.lbma.org.uk/pricing-and-statistics)
- platinum and palladium: [www.lppm.com/statistics.aspx](http://www.lppm.com/statistics.aspx)

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