

Mineral Industry Surveys

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COPPER IN DECEMBER 2022

Mine output of recoverable copper in the United States in December 2022 was 103,000 metric tons (t). The average daily mine production was 3,310 t, essentially unchanged from that in November and 5% lower than that in December 2021 (fig. 1). Total recoverable mine production in 2022 was 1.23 million metric tons, unchanged from that in 2021 (table 2).

In 2022, the largest increase in mined copper production in the United States was at Rio Tinto Group's Bingham Canyon Mine in Utah, where ore grades and recovery rates were higher than those in 2021 following the transition to mining a new area of the open pit. Output of copper in concentrates at Bingham Canyon was 179,000 t, 12% greater than 159,000 t in 2021 (Rio Tinto Group, 2022, p. 12; 2023, p. 28). Copper production also increased significantly at Freeport-McMoRan Inc.'s Morenci and Safford Mines in Arizona, by a total of 12,200 t, reflecting higher volumes of ore milled and placed onto leaching pads (Freeport-McMoRan Inc., 2023, p. II–III). These increases were offset by significantly lower production at ASARCO LLC's Mission Mine in Arizona and KGHM International Ltd.'s Robinson Mine in Nevada. Copper ore grades decreased at both operations, and the Mission Mine was affected by a labor shortage (Grupo México, S.A.B. de C.V., 2022, p. 6; KGHM Polska Miedź S.A., 2022, p. 34).

Owing to indefinite closures of ASARCO LLC's smelter in Arizona and electrolytic refinery in Texas since October 2019, smelter and electrolytic refinery production reported to the U.S. Geological Survey in December 2022 were withheld to avoid disclosing company proprietary data. Smelter and electrolytic refinery output in tables 3 and 4 are estimates based on information in annual and quarterly company reports. As of December 2022, ASARCO had not publicly announced when, or if, operations were expected to resume. The company was reportedly in talks with Freeport-McMoRan at the end of November for a potential sale of the smelter, but no agreement was imminent (Hunter and Attwood, 2022). ASARCO's three copper mines and two electrowon refineries in Arizona continued to operate during the smelter and electrolytic refinery stoppages (Grupo México, S.A.B. de C.V., 2021, p. 83).

In December 2022, estimated domestic smelter production was 25,000 t. Estimated smelter output in 2022 was 375,000 t, an increase of 4% compared with that in 2021 (table 3).

Total U.S. refinery production was 76,200 t in December 2022; data for electrolytic and electrowon output, as well as refined production from scrap, are reported in table 4. The average daily refinery production was 2,460 t, essentially unchanged from that in November and 6% less than that in December 2021 (fig. 1). Total refinery output was 972,000 t in 2022, unchanged from that in 2021.

Freeport-McMoRan did not publicly report production of refined copper cathode at its electrolytic refinery in El Paso, TX. However, Freeport's total domestic production of copper in concentrates, most of which was refined at the El Paso facility, increased by 7% in 2022 compared with that in 2021. Publicly reported production of refined copper at Rio Tinto's electrolytic refinery in Magna, UT (which did not include output from purchased and tolled third-party concentrates) was 148,000 t in 2022, 3% higher than 143,000 t in 2021 (Freeport-McMoRan Inc., 2023, p. III; Rio Tinto Group, 2023, p. 28). Increased production of electrolytically refined copper in 2022 was offset primarily by decreased output of secondary refined copper.

Prices

In December 2022, the average Commodity Exchange Inc. (COMEX) copper price was \$3.82 per pound, an increase of 4% from \$3.68 per pound in November and a decrease of 12% from

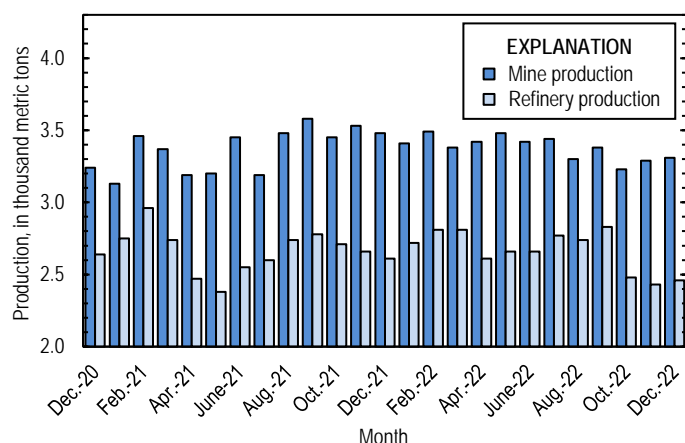


Figure 1. Average daily copper mine (recoverable) and refinery (primary and secondary) production in the United States from December 2020 through December 2022.

\$4.33 per pound in December 2021 (fig. 2, table 11). The average COMEX price for all of 2022 was \$4.01 per pound, 6% lower than \$4.24 per pound in 2021. Freeport-McMoRan, the leading copper producer in the United States, attributed the decreased annual price to factors such as expectations for reduced global economic growth in the near future, weak demand for copper in China, and increased strength of the U.S. dollar relative to other currencies. Late in 2022, copper market sentiment improved and prices increased owing in part to higher global demand and low copper stockpiles (Freeport-McMoRan Inc., 2022, p. 3; 2023, p. 3). The average U.S. dealers buying price of number 2 copper scrap was \$2.71 per pound in December 2022, an increase of 3% compared with \$2.62 per pound in November and 19% less than \$3.35 per pound in December 2021 (fig. 2, table 12). The annual average number 2 copper scrap price decreased by 6% in 2022 to \$2.96 per pound.

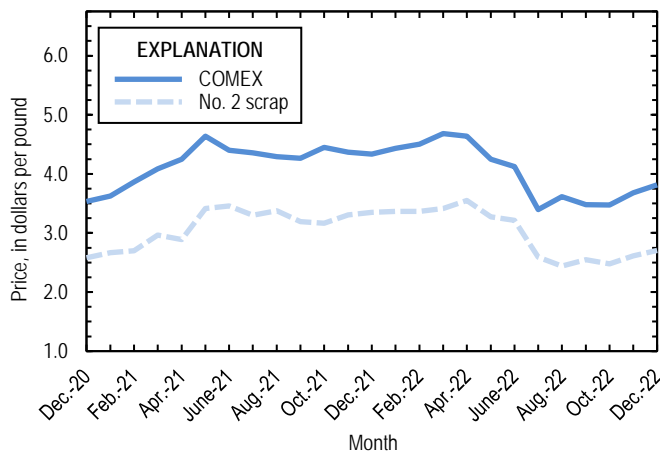


Figure 2. Monthly average Commodity Exchange Inc. (COMEX) copper price and no. 2 copper scrap U.S. dealers buying price from December 2020 through December 2022. Sources: Fastmarkets-AMM and S&P Global Platts Metals Week.

Stocks

Refined copper stocks in the United States totaled 91,300 t at the end of December 2022, a decrease of 5% from those in November and 22% lower than those in December 2021. Total domestic stocks at exchanges (COMEX and London Metal Exchange Ltd.) decreased by 14,600 t (27%), and total stocks at producers and fabricators (brass mills, refineries, wire-rod mills, and other manufacturers) increased by 10,100 t (24%) compared with those at the end of November (fig. 3, table 10).

Industry News

Panama.—On December 21, First Quantum Minerals Ltd. received a formal order to cease operations at the Cobre Panama Mine after the company missed a December 14 deadline to finalize a deal that would have increased payments to the Government of Panama. As of yearend 2022, the parties were negotiating a royalty agreement and the mine was still producing copper. Cobre Panama was one of the leading global copper mines and produced a combined 350,000 t of copper in concentrates and electrowon cathode in 2022 (Go, 2022; First Quantum Minerals Ltd., 2023, p. 4, 6).

Peru.—Protesters disrupted transportation logistics at MMG Ltd.'s Las Bambas Mine, forcing the company to store all output of copper concentrates on-site. MMG reported in mid-

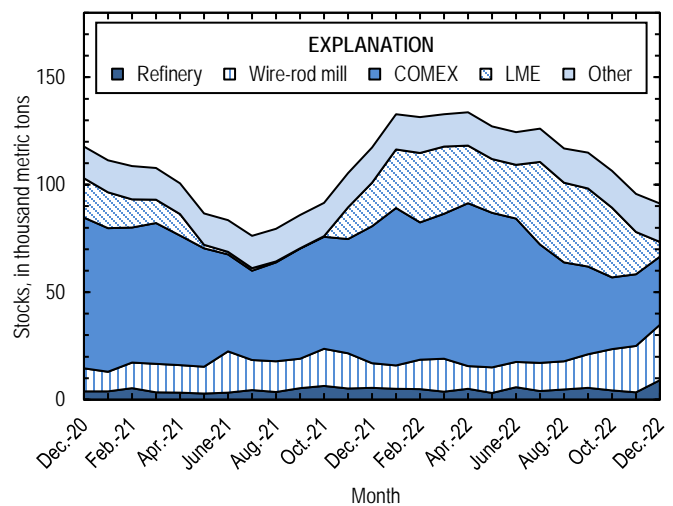


Figure 3. Domestic refined copper stocks at end of month, by type, from December 2020 through December 2022. Sources: London Metal Exchange Ltd., S&P Global Platts Metals Week, and U.S. Geological Survey.

December that the mine stockpile was near full capacity and had reached 500,000 t of concentrates containing 125,000 t of copper. Protests have frequently affected operations at Las Bambas since the mine opened in late 2015 (Attwood, 2022).

United States.—Aurubis AG began construction of a secondary copper smelter in Augusta, GA, on June 17. The facility was expected to be fully operational in the first half of 2024, to process 90,000 metric tons per year (t/yr) of complex copper-containing scrap (such as printed circuit boards and copper cables), and to produce 35,000 t/yr of copper blister. On December 20, Aurubis announced an additional investment that will double the processing and production capacities of the plant, beginning in 2026 (Aurubis AG, 2022; Esmen, 2022).

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TABLE 1
SALIENT STATISTICS OF THE COPPER INDUSTRY IN THE UNITED STATES¹

(Metric tons, copper content, unless otherwise specified)

	Source table ²	2021 ^p	2022			
			October	November	December	January– December
Production:						
Primary (from ore):						
Mine, recoverable ³	(2)	1,230,000	100,000 ^r	98,800 ^r	103,000	1,230,000
Smelter ^{e, 4}	(3)	360,000	25,000	25,000	25,000	375,000
Refinery:						
Electrolytic ^e	(4)	360,000	25,000	25,000	25,000	375,000
Electrowon	(4)	562,000	48,600 ^r	44,600	48,000	557,000
Total	(4)	922,000	73,600 ^r	69,600	73,000	932,000
Secondary (from copper-base scrap): ⁵						
Refineries ⁶	(5)	48,900	3,220	3,280	3,240	40,000
Ingot makers ^{e, 7}	(5)	51,600	4,300	4,300	4,300	51,600
Brass and wire-rod mills	(5)	655,000	54,300	55,100 ^r	54,400	650,000
Foundries, etc. ^{e, 7}	(5)	38,800	3,230	3,230	3,230	38,800
Consumption:						
Reported, refined copper	(7)	1,770,000	145,000	124,000 ^r	120,000	1,730,000
Apparent, primary refined and copper from old scrap ⁸	(8)	1,960,000	143,000 ^r	130,000 ^r	127,000	1,820,000
Reported, purchased copper-base scrap (gross weight)	(9)	919,000	75,200	76,100	75,300	904,000
Stocks at end of period:						
Refined ⁹	(10)	117,000	107,000	95,800 ^r	91,300	91,300
Blister and anodes	(10)	16,100	18,500	14,600	13,300	13,300
Price, U.S. producers cathode (cents per pound) ¹⁰	(11)	432.264	358.386	378.483	391.895	410.775
Imports for consumption: ¹¹						
Ore and concentrates	(13)	11,000	1,180	146	--	11,700
Refined	(13)	919,000	49,700	37,900	38,800	733,000
Exports: ¹¹						
Ore and concentrates	(14)	347,000	30,400	37,400	37,900	352,000
Refined	(14)	47,600	1,190	1,430	2,100	27,800

^eEstimated. ^pPreliminary. ^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits, except prices; may not add to totals shown.

²Numbers in parentheses refer to the tables where these data are located.

³Includes the recoverable copper content of concentrates (of copper and other metals), copper produced by solvent extraction and electrowinning, and copper recovered as precipitates.

⁴May contain small quantities of copper from scrap.

⁵Copper recovered from copper-base scrap and converted to refined metal, alloys, and other forms. Does not include copper recovered from scrap other than copper-base.

⁶Electrolytically refined and fire-refined copper.

⁷Plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2020 not yet available. Monthly data are estimated based on the monthly average of 2020 annual data.

⁸Primary refined copper production plus copper recovered from old scrap (of copper-base and non-copper-base) plus refined imports for consumption minus refined exports, including adjustments for changes in refined stocks. Old scrap consists of copper items used by consumers.

⁹Stocks of refined copper at brass mills, exchanges, refineries, wire-rod mills, and other manufacturers.

¹⁰Source: S&P Global Platts Metals Week. Sum of the monthly average Commodity Exchange Inc. (COMEX) price and New York dealers cathode premium; reflects the delivered spot price of copper cathode to U.S. consumers by U.S. producers.

¹¹Source: U.S. Census Bureau. See tables 13 and 14 for listings of the relevant Harmonized Tariff Schedule (imports) and Schedule B (exports) codes.

TABLE 2
MINE PRODUCTION OF COPPER IN THE UNITED STATES¹

(Metric tons)

Period	Recoverable copper ²			Contained copper		
	Arizona	Others ³	Total	Electrowon	Concentrates ⁴	Total
2021: ^p						
December	75,100	32,700	108,000	46,800	63,400	110,000
January–December	868,000	363,000	1,230,000	562,000	696,000	1,260,000
2022:						
January	72,200	33,500	106,000	45,400	62,800	108,000
February	65,500	32,100	97,600	40,300	59,400	99,800
March	73,100	31,700	105,000	48,500	58,400	107,000
April	72,200	30,400	103,000	44,900	59,900	105,000
May	77,900	29,800	108,000	49,100	60,900	110,000
June	73,900	28,600	103,000	46,500	58,200	105,000
July	73,300	33,500	107,000	47,600	61,400	109,000
August	69,600	32,600	102,000	46,800	57,500	104,000
September	69,700	31,500	101,000	46,800 ^r	56,500	103,000
October	68,900 ^r	31,200 ^r	100,000 ^r	48,600 ^r	53,500 ^r	102,000 ^r
November	66,600 ^r	32,300 ^r	98,800 ^r	44,600	56,200 ^r	101,000
December	72,000	30,700	103,000	48,000	56,900	105,000
January–December	855,000	378,000	1,230,000	557,000	702,000	1,260,000

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes the recoverable copper content of concentrates (of copper and other metals), copper produced by solvent extraction and electrowinning, and copper recovered as precipitates.

³Includes production from Michigan, Missouri, Montana, Nevada, New Mexico, and Utah.

⁴Includes the contained copper content of concentrates (of copper and other metals) and copper recovered as precipitates.

TABLE 3
COPPER PRODUCED AT SMELTERS IN
THE UNITED STATES^{1, 2}

(Metric tons, copper content)

Period	Anode production ^{e, 3}
2021: ^p	
December	30,000
January–December	360,000
2022:	
January	35,000
February	35,000
March	35,000
April	30,000
May	30,000
June	30,000
July	35,000
August	35,000
September	35,000
October	25,000
November	25,000
December	25,000
January–December	375,000

^eEstimated. ^pPreliminary.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Primary production. May contain small quantities of copper from scrap.

³To avoid disclosing company proprietary data, monthly smelter production data are estimated based on information in annual and quarterly public company reports and do not reflect actual production reported to the U.S. Geological Survey.

TABLE 4
U.S. PRODUCTION OF REFINED COPPER¹

(Metric tons)

Period	From primary materials			From scrap ³	Total refined
	Electrolytic ^{e,2}	Electrowon	Total primary		
2021: ^p					
December	30,000	46,800	76,800	4,060	80,800
January–December	360,000	562,000	922,000	48,900	971,000
2022:					
January	35,000	45,400	80,400	3,990	84,400
February	35,000	40,300	75,300	3,280	78,600
March	35,000	48,500	83,500	3,490	87,000
April	30,000	44,900	74,900	3,250	78,200
May	30,000	49,100	79,100	3,220	82,300
June	30,000	46,500	76,500	3,370	79,900
July	35,000	47,600	82,600	3,250	85,800
August	35,000	46,800	81,800	3,260	85,000
September	35,000	46,800 ^r	81,800 ^r	3,220	85,000 ^r
October	25,000	48,600 ^r	73,600 ^r	3,220	76,800 ^r
November	25,000	44,600	69,600	3,280	72,900
December	25,000	48,000	73,000	3,240	76,200
January–December	375,000	557,000	932,000	40,000	972,000

^eEstimated. ^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²To avoid disclosing company proprietary data, monthly electrolytically refined production data are estimated based on information in annual and quarterly public company reports and do not reflect actual production reported to the U.S. Geological Survey.

³Electrolytically refined and fire-refined copper.

TABLE 5
COPPER RECOVERED AS REFINED COPPER AND IN ALLOYS AND OTHER FORMS FROM PURCHASED
COPPER-BASE SCRAP IN THE UNITED STATES^{1, 2}

(Metric tons)

Period	Refineries ³		Ingot makers ^{e, 4}		Brass and wire-rod mills		Foundries, etc. ^{e, 4}		Total ⁵
	New scrap ^e	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
2021: ^p									
December	1,680	2,380	394	3,910	48,500	2,480	763	2,470	62,600
January–December	20,100	28,800	4,730	46,900	614,000	41,100	9,160	29,600	795,000
2022:									
January	1,680	2,310	394	3,910	51,800	4,470	763	2,470	67,800
February	1,680	1,600	394	3,910	48,100	3,530	763	2,470	62,500
March	1,680	1,810	394	3,910	50,900	3,950	763	2,470	65,900
April	1,680	1,570	394	3,910	49,900	3,750	763	2,470	64,400
May	1,680	1,540	394	3,910	49,800	3,640	763	2,470	64,100
June	1,680	1,690	394	3,910	49,800	3,710	763	2,470	64,400
July	1,680	1,570	394	3,910	50,700	3,110	763	2,470	64,600
August	1,680	1,580	394	3,910	51,400	3,330	763	2,470	65,600
September	1,680	1,540	394	3,910	50,800	3,340	763	2,470	64,900
October	1,680	1,540	394	3,910	51,100	3,230	763	2,470	65,100
November	1,680	1,600	394	3,910	51,800	3,270	763	2,470	65,900
December	1,680	1,560	394	3,910	51,800	2,600	763	2,470	65,200
January–December	20,100	19,900	4,730	46,900	608,000	41,900	9,160	29,600	780,000

^eEstimated. ^pPreliminary.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²New scrap refers to material generated during the manufacturing process. Old scrap consists of copper items used by consumers.

³Electrolytically refined and fire refined from scrap based on source of material at smelter or refinery level.

⁴Plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2020 not yet available. Monthly data are estimated based on the monthly average of 2020 annual data.

⁵Does not include an estimate, based on 2020 annual data, of 2,670 tons per month from new scrap and 1,870 tons per month from old scrap of copper recovered from scrap other than copper-base.

TABLE 6
U.S. PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD SEMIFABRICATES¹

(Metric tons, gross weight)

Period	Production		Shipments		Stocks, end of period	
	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills
2021: ^P						
December	74,400	86,100	74,200	95,100	29,100	20,200
January–December	892,000	1,360,000	892,000	1,360,000	29,100	20,200
2022:						
January	74,300	117,000	74,300	114,000	29,100	25,400
February	76,000	103,000	75,800	107,000	29,300	19,300
March	76,900	118,000	77,000	116,000	29,300	21,500
April	76,300	117,000	76,100	112,000	29,500	26,200
May	74,200	112,000	74,300	116,000	29,400	21,900
June	74,800	111,000	74,900	115,000	29,300	17,200
July	74,600	117,000	74,800	114,000	29,100	21,000
August	75,300	112,000	75,200	115,000	29,200	17,900
September	79,900	116,000	79,400	119,000	29,800	15,600
October	75,400	115,000	75,100	114,000	30,000	16,600
November	74,900	94,800	74,800	94,700	30,200	16,600
December	74,800	82,200	74,300	79,700	30,700	19,100
January–December	908,000	1,320,000	906,000	1,320,000	30,700	19,100

^PPreliminary.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 7
U.S. CONSUMPTION OF REFINED COPPER¹

(Metric tons)

Period	Brass mills	Wire-rod mills	Other plants ^{e, 2}	Total
2021: ^p				
December	34,700	81,800	5,180	122,000
January–December	415,000	1,290,000	62,100	1,770,000
2022:				
January	34,900	111,000	5,180	151,000
February	34,800	101,000	5,180	141,000
March	36,600	114,000	5,180	155,000
April	34,600	113,000	5,180	153,000
May	34,900	109,000	5,180	149,000
June	34,800	107,000	5,180	147,000
July	34,900	112,000	5,180	152,000
August	35,000	106,000	5,180	146,000
September	34,900	101,000	5,180	141,000
October	35,000	105,000	5,180	145,000
November	35,000	83,700 ^r	5,180	124,000 ^r
December	35,200	79,900	5,180	120,000
January–December	420,000	1,240,000	62,100	1,730,000

^eEstimated. ^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Chemical plants, foundries, ingot makers, and miscellaneous manufacturers. These plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2020 not yet available. Monthly data are estimated based on the monthly average of 2020 annual data.

TABLE 8
U.S. APPARENT CONSUMPTION OF COPPER¹

(Metric tons)

Period	Primary refined copper production	Copper in old scrap ²	Refined imports for consumption ³	Refined exports ³	Refined stock change during period	Apparent consumption ⁴
2021: ^p						
December	76,800	13,100	77,300	3,630	11,900	152,000
January–December	922,000	169,000	919,000	47,600	-513	1,960,000
2022:						
January	80,400	15,000	140,000	2,530	15,500	218,000
February	75,300	13,400	34,300	3,110	-1,320	121,000
March	83,500	14,000	48,700	2,590	1,350	142,000
April	74,900	13,600	64,800	2,820	794	150,000
May	79,100	13,400	74,300	2,890	-6,470	170,000
June	76,500	13,600	75,900	1,720	-2,560	167,000
July	82,600	12,900	80,900	1,900	1,560	173,000
August	81,800	13,200	36,400	3,060	-9,190	137,000
September	81,800 ^r	13,100	50,700	2,470	-1,970	145,000
October	73,600 ^r	13,000	49,700	1,190	-8,330	143,000 ^r
November	69,600	13,100	37,900	1,430	-10,800 ^r	130,000 ^r
December	73,000	12,400	38,800	2,100	-4,490	127,000
January–December	932,000	161,000	733,000	27,800	-26,000	1,820,000

^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Copper recovered from old scrap (of copper-base and non-copper-base) and converted to refined metal, alloys, and other forms. Includes reported monthly production and estimates for annual reporters based on the monthly average of 2020 annual data. Old scrap consists of copper items used by consumers.

³Source: U.S. Census Bureau. Includes Harmonized Tariff Schedule (imports) and Schedule B (exports) codes 7403.11.0000, 7403.12.0000, 7403.13.0000, and 7403.19.0000.

⁴Primary refined copper production plus copper in old scrap plus refined imports for consumption minus refined exports minus refined stock change during period.

TABLE 9
U.S. CONSUMPTION OF PURCHASED COPPER-BASE SCRAP^{1, 2}

(Metric tons, gross weight)

Period	Smelters and refineries		Ingot makers ^{e, 3}		Brass and wire-rod mills ⁴		Foundries, etc. ^{e, 3}		Total
	New scrap ^c	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	
2021: ^p									
December	1,730	2,450	1,050	4,600	56,500	2,610	897	2,900	72,800
January–December	20,700	29,700	12,600	55,200	711,000	43,200	10,800	34,800	919,000
2022:									
January	1,730	2,380	1,050	4,600	59,800	4,610	897	2,900	78,000
February	1,730	1,650	1,050	4,600	56,200	3,720	897	2,900	72,800
March	1,730	1,870	1,050	4,600	59,200	4,250	897	2,900	76,500
April	1,730	1,620	1,050	4,600	58,100	3,980	897	2,900	74,800
May	1,730	1,590	1,050	4,600	57,800	3,810	897	2,900	74,400
June	1,730	1,740	1,050	4,600	57,900	3,880	897	2,900	74,700
July	1,730	1,620	1,050	4,600	58,800	3,220	897	2,900	74,800
August	1,730	1,630	1,050	4,600	59,500	3,490	897	2,900	75,800
September	1,730	1,590	1,050	4,600	58,900	3,510	897	2,900	75,100
October	1,730	1,590	1,050	4,600	59,100	3,340	897	2,900	75,200
November	1,730	1,650	1,050	4,600	59,800	3,420	897	2,900	76,100
December	1,730	1,610	1,050	4,600	59,800	2,710	897	2,900	75,300
January–December	20,700	20,500	12,600	55,200	705,000	43,900	10,800	34,800	904,000

^eEstimated. ^pPreliminary.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²New scrap refers to material generated during the manufacturing process. Old scrap consists of copper items used by consumers.

³Plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2020 not yet available. Monthly data are estimated based on the monthly average of 2020 annual data.

⁴Consumption at brass and wire-rod mills assumed equal to receipts.

TABLE 10
COPPER STOCKS IN THE UNITED STATES AT END OF PERIOD¹

(Metric tons, copper content)

Period	Blister and anodes	Refined copper					LME ⁴	Total refined
		Refineries	Wire-rod mills	Brass mills	Other ^{c, 2}	COMEX ³		
2021: ^p								
December	16,100	5,440	11,500	9,500	6,850	63,800	20,200	117,000
2022:								
January	11,800	5,000	10,900	9,530	6,850	73,300	27,200	133,000
February	13,300	4,870	13,700	9,860	6,850	63,900	32,300	131,000
March	12,200	3,690	15,400	8,160	6,850	67,400	31,300	133,000
April	16,100	4,990	10,600	8,620	6,850	75,800	26,800	134,000
May	11,500	3,090	12,000	8,330	6,850	71,800	25,100	127,000
June	13,100	5,800	11,700	8,330	6,850	66,700	25,100	125,000
July	12,900	3,980	13,100	8,640	6,850	55,100	38,400	126,000
August	14,200	4,790	13,100	9,010	6,850	46,000	37,100	117,000
September	14,900	5,570	15,500	9,840	6,850	40,800	36,400	115,000
October	18,500	4,300	19,200	10,400	6,850	33,400	32,400	107,000
November	14,600	3,470	21,500 ^r	10,800	6,850	33,400	19,700	95,800 ^r
December	13,300	9,100	25,800	11,000	6,850	31,700	6,850	91,300

^cEstimated. ^pPreliminary. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Chemical plants, foundries, ingot makers, and miscellaneous manufacturers. These plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2020 not yet available. Monthly data are estimated based on yearend 2020 stocks.

³Commodity Exchange Inc.

⁴London Metal Exchange Ltd., U.S. warehouses.

TABLE 11
AVERAGE PRICES FOR REFINED COPPER IN THE UNITED STATES
AND ON THE LONDON METAL EXCHANGE

(Cents per pound)

Period	COMEX	U.S. producers	LME
	first position ¹	cathode ²	grade A cash ³
2021:			
December	433.320	441.820	433.140
Year	424.306	432.264	422.496
2022:			
January	443.113	451.613	443.364
February	450.211	458.711	450.870
March	468.228	477.228	464.329
April	463.763	473.388	461.863
May	424.929	434.929	424.657
June	412.540	422.540	409.684
July	339.610	350.610	341.513
August	361.500	372.500	361.070
September	348.021	359.021	350.800
October	347.386	358.386	345.649
November	367.683	378.483	364.184
December	381.645	391.895	379.511
January–December	400.719	410.775	399.791

¹Listed as “COMEX high grade first position.” COMEX refers to the Commodity Exchange Inc.

²Sum of “COMEX high grade first position” and “NY dealer premium cathode.” Reflects the delivered spot price of copper cathode to U.S. consumers by U.S. producers.

³LME refers to the London Metal Exchange Ltd.

Source: S&P Global Platts Metals Week.

TABLE 12
AVERAGE BUYING PRICES FOR COPPER SCRAP IN THE UNITED STATES

(Cents per pound)

Period	Brass mills no. 1 scrap	Refiners no. 2 scrap	Dealers	
			No. 2 scrap	Red brass turnings and borings
2021:				
December	420.45	380.45	335.00	230.00
Year	408.14	369.04	314.79	212.63
2022:				
January	433.10	393.50	336.50	235.00
February	440.32	399.84	336.50	225.00
March	459.30	423.17	341.50	217.00
April	454.35	418.85	355.00	211.50
May	414.90	379.40	327.50	196.50
June	401.81	366.31	321.50	185.00
July	329.10	295.60	259.00	172.50
August	350.65	322.65	244.00	153.00
September	335.52	307.81	254.50	148.00
October	333.62	308.71	247.50	148.00
November	356.15	332.15	261.50	150.50
December	371.67	348.57	270.50	155.50
January–December	390.04	358.05	296.29	183.13

Source: Fastmarkets-AMM.

TABLE 13
U.S. IMPORTS FOR CONSUMPTION OF UNMANUFACTURED COPPER¹

(Metric tons, copper content)

Country or locality	Ore and concentrates ²			Matte, ash, and precipitates ³			Blister and anodes ⁴			Refined ⁵		
	2022			2022			2022			2022		
	2021	December	January– December	2021	December	January– December	2021	December	January– December	2021	December	January– December
Belgium	--	--	--	236	--	384	--	--	--	29	--	2
Bolivia	--	--	--	--	--	--	--	--	--	763	--	--
Brazil	--	--	--	--	--	--	--	--	(6)	5,720	--	(6)
Canada	11,000	--	11,700	651	43	581	(6)	--	(6)	141,000	9,030	118,000
Chile	--	--	--	--	--	--	--	--	--	613,000	15,900	473,000
China	--	--	--	--	--	--	--	--	(6)	654	5	897
Congo (Kinshasa)	--	--	--	--	--	--	--	--	--	22,200	--	8,910
Finland	--	--	--	--	--	--	371	48	281	35	--	39
Germany	--	--	(6)	155	--	94	(6)	--	(6)	2,150	308	3,410
Japan	1	--	(6)	483	--	--	1	--	(6)	1,440	146	1,350
Mexico	--	--	--	8	3	25	(6)	--	(6)	87,300	6,270	75,500
Peru	--	--	--	--	--	--	--	--	--	28,500	7,110	50,100
Russia	--	--	--	--	--	--	--	--	--	3,900	--	--
South Africa	--	--	--	--	--	--	--	--	--	277	--	--
Zambia	--	--	--	--	--	--	--	--	--	11,400	--	1,230
Other	10	--	19	49	51	109	12	(6)	24	155	1	323
Total	11,000	--	11,700	1,580	98	1,190	384	48	306	919,000	38,800	733,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Harmonized Tariff Schedule of the United States (HTS) code 2603.00.0010. Includes copper ore and concentrates only; excludes copper contained in ore and concentrates of other metals.

³HTS codes 2620.30.0010 and 7401.00.0000. Includes copper matte, ash, and precipitates only; excludes the copper content of mattes and ashes of other metals.

⁴HTS code 7402.00.0000.

⁵HTS codes 7403.11.0000, 7403.12.0000, 7403.13.0000, and 7403.19.0000.

⁶Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 14
U.S. EXPORTS OF UNMANUFACTURED COPPER¹

(Metric tons, copper content)

Country or locality	Ore and concentrates ²			Matte, ash, and precipitates ³			Blister and anodes ⁴			Refined ⁵		
	2022			2022			2022			2022		
	2021	December	January– December	2021	December	January– December	2021	December	January– December	2021	December	January– December
Belgium	246	33	70	6,120	307	5,950	1,490	7	211	--	--	--
Canada	39,500	5,730	39,800	16,200	1,380	13,300	18,800	2,650	6,740	24,700	1,700	14,200
China	65,600	4,130	56,900	548	140	378	171	--	60	3,190	47	2,350
Dominican Republic	202	3	125	--	--	6	--	--	--	10	9	10
Finland	783	--	552	--	--	--	--	--	--	--	--	--
Germany	784	1,500	1,500	430	--	235	190	--	244	20	--	1
Hong Kong	2	--	1	44	--	(6)	310	14	35	9	10	17
India	--	--	--	30	--	16	433	80	1,560	--	--	34
Italy	--	--	--	--	--	--	113	--	155	22	--	10
Japan	6,350	--	11,000	760	37	361	17	--	20	11	--	23
Korea, Republic of	2,370	--	59	171	32	189	1,320	96	1,570	30	--	133
Malaysia	5	21	186	47	--	147	188	--	168	13	18	51
Mexico	228,000	26,500	232,000	33	--	30	258	8	260	19,100	185	7,680
Philippines	2,350	--	7,770	1	--	(6)	39	--	67	--	--	35
Singapore	--	--	--	300	134	414	92	--	40	22	--	22
Slovakia	--	--	--	1,450	14	1,210	--	--	--	--	--	--
Spain	--	--	--	1,130	464	1,510	20	--	42	(6)	135	376
Taiwan	1,490	--	--	19	44	86	291	--	137	282	2	25
Trinidad and Tobago	--	--	--	--	--	--	157	--	--	--	--	--
Other	92	2	2,810	208	118	1,260	499	118	616	125	2	2,840
Total	347,000	37,900	352,000	27,500	2,670	25,100	24,400	2,970	11,900	47,600	2,100	27,800

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Schedule B of the United States code 2603.00.0010. Includes copper ore and concentrates only; excludes copper contained in ore and concentrates of other metals.

³Schedule B codes 2620.30.0000, 7401.00.0010, and 7401.00.0050. Includes copper matte, ash, and precipitates only; excludes the copper content of mattes and ashes of other metals.

⁴Schedule B code 7402.00.0000.

⁵Schedule B codes 7403.11.0000, 7403.12.0000, 7403.13.0000, and 7403.19.0000.

⁶Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 15
U.S. IMPORTS FOR CONSUMPTION OF COPPER SCRAP¹

(Metric tons, gross weight)

Country or locality	Unalloyed ²			Alloyed ³		
	2022			2022		
	2021	December	January– December	2021	December	January– December
Bahamas	--	--	--	608	37	612
Bolivia	114	--	39	442	18	94
Canada	19,900	1,260	17,600	48,200	3,110	41,800
Cayman Islands	--	--	--	219	26	243
Colombia	174	39	196	643	--	106
Costa Rica	729	72	712	1,480	139	1,350
Dominican Republic	1,550	81	1,350	2,720	91	2,090
Ecuador	88	--	24	277	--	57
El Salvador	--	--	--	583	185	1,090
Germany	210	23	260	191	--	50
Guatemala	--	--	--	484	7	309
Honduras	75	--	24	907	52	787
Jamaica	7	--	7	159	81	461
Mexico	12,600	1,400	12,200	43,800	3,270	42,900
Panama	1,040	66	1,190	496	27	405
Peru	19	--	--	439	--	225
Suriname	254	61	360	58	4	69
Uruguay	481	17	80	58	--	32
Venezuela	--	--	--	675	--	43
Vietnam	114	--	62	64	--	50
Other	301	5	127	2,060	166	1,950
Total	37,700	3,030	34,200	105,000	7,220	94,700

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Harmonized Tariff Schedule of the United States (HTS) codes 7404.00.3020 and 7404.00.6020.

³HTS codes 7404.00.3045, 7404.00.3055, 7404.00.3065, 7404.00.3090, 7404.00.6045, 7404.00.6055, 7404.00.6065, and 7404.00.6090.

Source: U.S. Census Bureau.

TABLE 16
U.S. EXPORTS OF COPPER SCRAP¹

(Metric tons, gross weight)

Country or locality	Unalloyed ²							Alloyed ³				
	2022							2022				
	2021	No. 1		No. 2		Other		2021	Segregated		Unsegregated	
		December	January– December	December	January– December	December	January– December		December	January– December	December	January– December
Austria	1,250	--	53	137	1,250	--	--	193	75	850	72	362
Belgium	20,700	1,130	13,800	928	12,300	615	6,970	8,520	116	1,310	506	7,680
Canada	61,000	--	--	--	--	4,010	60,900	53,900	--	--	2,950	45,800
Chile	2,380	--	21	--	--	--	--	345	--	--	--	--
China	195,000	6,810	82,100	3,310	49,900	9,840	129,000	43,300	2,030	22,100	1,040	10,000
Germany	19,100	1,050	11,300	41	1,350	263	2,610	15,300	83	1,690	717	14,000
Greece	15,000	166	5,420	--	250	21	3,240	2,140	39	319	123	1,850
Hong Kong	23,100	198	1,490	570	9,500	240	5,750	7,570	95	417	231	3,490
India	12,800	699	8,390	151	3,050	528	8,390	39,600	1,390	25,100	3,010	41,100
Japan	19,900	421	3,750	1,300	18,100	174	3,540	7,490	84	1,530	414	5,380
Korea, Republic of	47,200	1,330	18,100	636	12,300	846	11,600	17,100	214	4,820	218	6,530
Malaysia	63,900	597	5,970	391	3,950	684	15,100	88,200	603	9,590	3,070	32,100
Mexico	3,590	95	3,020	--	--	--	104	4,640	64	1,300	433	7,080
Netherlands	2,950	370	6,040	--	296	19	1,280	569	--	20	75	1,520
Pakistan	476	--	1,150	--	233	--	109	24,400	60	1,470	1,150	24,800
Poland	11,300	432	2,990	99	436	1,320	12,300	2,280	19	58	118	972
Russia	1,410	--	--	--	39	--	77	766	--	--	--	38
Slovakia	1,850	135	1,540	--	--	--	--	1,760	155	2,190	37	307
Spain	2,960	361	2,510	--	225	--	1,160	7,070	20	2,210	495	5,170
Sweden	1,080	--	19	--	--	--	562	2,480	--	--	26	1,940
Taiwan	13,800	57	2,990	138	2,880	361	7,230	6,310	77	1,430	99	3,040
Thailand	9,750	664	3,870	38	684	2,000	19,400	35,900	450	3,330	2,170	36,200
United Arab Emirates	1,770	--	686	--	23	--	58	3,320	--	229	493	5,580
Other	6,440	457	4,580	37	559	109	1,120	5,020	55	708	548	6,290
Total	539,000	15,000	180,000	7,790	117,000	21,000	291,000	378,000	5,630	80,700	18,000	261,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Schedule B of the United States codes 7404.00.0010 and 7404.00.0015 (no. 1), 7404.00.0025 (no. 2), and 7404.00.0030 (other).

³Schedule B codes for segregated alloyed copper scrap are 7404.00.0041, 7404.00.0046, 7404.00.0051, 7404.00.0056, 7404.00.0061, 7404.00.0066, and 7404.00.0075. Schedule B codes for unsegregated alloyed copper scrap are 7404.00.0085 and 7404.00.0095.

Source: U.S. Census Bureau.