

# Mineral Industry Surveys

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### **COPPER IN DECEMBER 2023**

In December 2023, mine production of recoverable copper in the United States was 96,600 metric tons (t). The average daily mine output was 3,120 t, an increase of 3% from that in November and 6% lower than that in December 2022 (fig. 1). Full-year mine production in 2023 was 1.11 million metric tons, a decrease of 10% compared with that in 2022 (table 2).

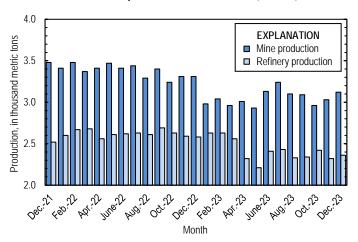


Figure 1. Average daily copper mine (recoverable) and refinery (primary and secondary) production in the United States from December 2021 through December 2023.

Production decreased at a majority of U.S. copper mines in 2023. At Freeport-McMoRan Inc.'s seven mines in Arizona and New Mexico, total copper output decreased by approximately 63,000 t (8%) from that in 2022, primarily owing to lower ore grades at the Morenci and Safford Mines (Freeport-McMoRan Inc., 2024, p. 32, 92). The Bingham Canyon Mine in Utah, owned by Rio Tinto Group, produced 152,000 t of copper in concentrates in 2023, 15% less than 179,000 t in 2022 because of record snowfall in the first quarter and a conveyor belt failure at the concentrator in early March. Concentration operations did not return to full capacity until the third quarter (Rio Tinto Group, 2023a, p. 11; 2023c, p. 13; 2024, p. 28). Mined copper output also decreased significantly at KGHM International Ltd.'s Robinson Mine in Nevada, reflecting processing of ore from a relatively low-grade transition zone of the mine deposit. Full-year results were not publicly available at the time of

publication, but production through the third quarter of 2023 was 17,300 t (56%) lower than that during the same time period in 2022 (KGHM Polska Miedź S.A. Group, 2023, p. 31).

Production of anodes at domestic copper smelters totaled 36,000 t in December 2023. Full-year smelter output was 378,000 t, an increase of 7% compared with that in 2022 (table 3). In 2023, a decrease in primary production of 25,600 t (18%) at Rio Tinto's Kennecott smelter near Salt Lake City, UT, was partially offset by an increase of 20,000 t (10%) at Freeport's refinery in El Paso, TX (Freeport-McMoRan Inc., 2024, p. 26; Rio Tinto Group, 2024, p. 28). A secondary copper smelter in Shelby, NC, with a production capacity of roughly 4,200 metric tons per month of anodes began operating in late 2022 (Toto, 2023).

Total U.S. refinery production of copper in December 2023 was 73,300 t; data for electrolytic and electrowon output, as well as refined production from scrap, are reported in table 4. The average daily refinery production was 2,360 t, slightly greater than that in November and a decrease of 8% from that in December 2022 (fig. 1). Full-year refinery output in 2023 was 881,000 t, a decrease of 8% compared with that in 2022. Domestic refined copper production in 2023 was affected by a major rebuild of the Kennecott smelter and electrolytic refinery that began in May and was completed in October (Rio Tinto Group, 2023b, p. 14; 2023c, p. 13).

#### **Prices**

In December 2023, the average Commodity Exchange Inc. (COMEX) copper price was \$3.85 per pound, 4% higher than \$3.72 per pound in November and essentially unchanged from \$3.82 per pound in December 2022 (fig. 2, table 11). The average full-year COMEX price in 2023 was \$3.86 per pound, 4% less than \$4.01 per pound in 2022. Freeport-McMoRan, the leading copper producer in the United States, attributed the increased annual price to factors such as positive sentiment regarding the economy in China, overall strong global demand for copper, and expectations for reduced output from some of the leading foreign copper mines in the near future (Freeport-McMoRan Inc., 2024, p. 80). The average U.S. dealers buying price of number 2 copper scrap was \$2.93 per pound in December 2023, an increase of 4% compared with \$2.80 per

pound in November and 8% greater than \$2.71 per pound in December 2022 (fig. 2, table 12). The annual average number 2 copper scrap price in 2023 was essentially unchanged from that in 2022 at \$2.98 per pound.

#### **Stocks**

Refined copper stocks in the United States totaled 127,000 t as of the end of December 2023, 12% lower than those in November and 53% higher than those in December 2022. Total stocks at producers and fabricators (brass mills, refineries, wirerod mills, and other manufacturers) increased by 5,650 t (17%) and total stocks at exchanges (COMEX and London Metal Exchange Ltd.) decreased by 22,300 t (20%) compared with those at the end of November (fig. 3, table 10).

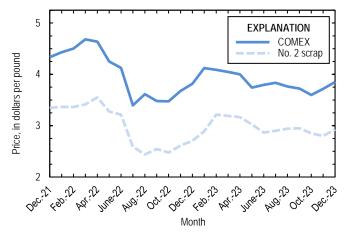


Figure 2. Monthly average Commodity Exchange Inc. (COMEX) copper price and no. 2 copper scrap U.S. dealers buying price from December 2021 through December 2023. Sources: Fastmarkets-AMM and S&P Global Platts Metals Week.

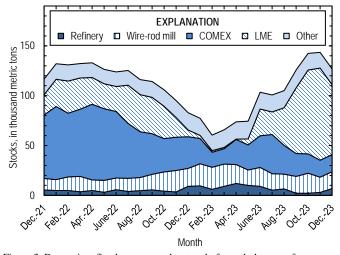


Figure 3. Domestic refined copper stocks at end of month, by type, from December 2021 through December 2023. Sources: London Metal Exchange Ltd., S&P Global Platts Metals Week, and U.S. Geological Survey.

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### ${\bf TABLE~1}$ SALIENT STATISTICS OF THE COPPER INDUSTRY IN THE UNITED STATES $^{\rm I}$

(Metric tons, copper content, unless otherwise specified)

				20	23	
	Source	-				January–
	table <sup>2</sup>	2022 <sup>p</sup>	October	November	December	December
Production:						
Primary (from ore):						
Mine, recoverable <sup>3</sup>	(2)	1,230,000	91,700 <sup>r</sup>	91,000 <sup>r</sup>	96,600	1,110,000
Smelter <sup>4</sup>	(3)	354,000 <sup>r</sup>	36,000 <sup>r</sup>	36,000 <sup>r</sup>	36,000	378,000
Refinery:						
Electrolytic	(4)	362,000 <sup>r</sup>	28,900 r	28,900 r	28,900	327,000
Electrowon	(4)	555,000	43,000 <sup>r</sup>	37,600 <sup>r</sup>	41,100	515,000
Total	(4)	917,000 <sup>r</sup>	71,900 <sup>r</sup>	66,500 <sup>r</sup>	70,000	842,000
Secondary (from copper-base scrap): <sup>5</sup>						
Refineries <sup>6</sup>	(5)	40,000	3,250	3,220	3,240	38,900
Ingot makers <sup>e, 7</sup>	(5)	39,500	3,290	3,290	3,290	39,500
Brass and wire-rod mills	(5)	650,000	54,900	55,700 <sup>r</sup>	54,800	668,000
Foundries, etc. <sup>e, 7</sup>	(5)	40,000	3,330	3,330	3,330	40,000
Consumption:						
Reported, refined copper	(7)	1,720,000	130,000 <sup>r</sup>	122,000 <sup>r</sup>	121,000	1,580,000
Apparent, primary refined copper and copper from old scrap <sup>8</sup>	(8)	1,800,000	112,000 °	102,000 <sup>r</sup>	121,000	1,680,000
Reported, purchased copper-base scrap (gross weight)	(9)	890,000	74,700	75,400 <sup>r</sup>	74,600	906,000
Stocks at end of period:						
Blister and anodes	(10)	13,300	14,300	10,500 <sup>r</sup>	10,500	10,500
Refined <sup>9</sup>	(10)	82,800	142,000 <sup>r</sup>	143,000 <sup>r</sup>	127,000	127,000
Price, U.S. producers cathode (cents per pound) <sup>10</sup>	(11)	410.775	368.664	379.211	392.653	395.297
Imports for consumption: <sup>11</sup>						
Ore and concentrates	(13)	11,700		15	(12)	3,300
Refined	(13)	732,000	48,800	30,000	26,800	771,000
Exports:11						
Ore and concentrates	(14)	353,000	28,500	21,900	25,500	341,000
Refined	(14)	27,600	3,910	4,870	3,540	34,400

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. -- Zero.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits, except prices; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Numbers in parentheses refer to the tables where these data are located.

<sup>&</sup>lt;sup>3</sup>Includes the recoverable copper content of concentrates (of copper and other metals), copper produced by solvent extraction and electrowinning, and copper recovered as precipitates.

<sup>&</sup>lt;sup>4</sup>Data in 2022 are derived from public company reports and reflect primary production only. Data in 2023 include primary production derived from public company reports and an estimated 3,000 metric tons per month of secondary anodes.

<sup>&</sup>lt;sup>5</sup>Copper 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

<sup>&</sup>lt;sup>6</sup>Electrolytically refined and fire-refined copper.

<sup>&</sup>lt;sup>7</sup>Plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2021 not yet available. Monthly data are estimated based on the monthly average of 2021 annual data.

<sup>&</sup>lt;sup>8</sup>Primary 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 refined stock changes. Old scrap consists of copper items used by consumers.

<sup>&</sup>lt;sup>9</sup>Stocks of refined copper at brass mills, exchanges, refineries, wire-rod mills, and other manufacturers.

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

<sup>&</sup>lt;sup>11</sup>Source: U.S. Census Bureau. See tables 13 and 14 for the relevant Harmonized Tariff Schedule (imports) and Schedule B (exports) codes.

<sup>12</sup>Less than 1/2 unit.

 $\label{eq:table 2} \textbf{TABLE 2}$  MINE PRODUCTION OF COPPER IN THE UNITED STATES  $^1$ 

-	Rec	coverable copp	per <sup>2</sup>	per <sup>2</sup> Contained copper		
Period	Arizona	Others <sup>3</sup>	Total	Electrowon	Concentrates <sup>4</sup>	Total
2022: <sup>p</sup>						
December	71,400	31,200	103,000	46,900	57,800	105,000
January-December	855,000	378,000	1,230,000	555,000	704,000	1,260,000
2023:						
January	67,400 <sup>r</sup>	25,000	92,400 <sup>r</sup>	45,500 <sup>r</sup>	48,800 <sup>r</sup>	94,300 <sup>r</sup>
February	62,000 r	23,200	85,200 <sup>r</sup>	37,800 <sup>r</sup>	49,400 <sup>r</sup>	87,200 <sup>r</sup>
March	67,800 <sup>r</sup>	24,100	91,900 <sup>r</sup>	43,300	50,500 <sup>r</sup>	93,900 <sup>r</sup>
April	67,300 <sup>r</sup>	23,000	90,300 <sup>r</sup>	43,400 <sup>r</sup>	48,800 <sup>r</sup>	92,300 <sup>r</sup>
May	66,000 <sup>r</sup>	24,800	90,900 <sup>r</sup>	42,400 <sup>r</sup>	50,500 <sup>r</sup>	92,900 <sup>r</sup>
June	70,200 <sup>r</sup>	23,600	93,800 <sup>r</sup>	46,000 <sup>r</sup>	49,800 <sup>r</sup>	95,700
July	69,000 <sup>r</sup>	31,400	100,000 r	47,700 <sup>r</sup>	54,800 <sup>r</sup>	102,000 r
August	66,700 <sup>r</sup>	29,500	96,300 <sup>r</sup>	44,500 <sup>r</sup>	53,800 <sup>r</sup>	98,300 <sup>r</sup>
September	64,600 <sup>r</sup>	28,100	92,700 <sup>r</sup>	42,500 r	52,000 <sup>r</sup>	94,500 <sup>r</sup>
October	63,100 <sup>r</sup>	28,700	91,700 <sup>r</sup>	43,000 <sup>r</sup>	50,600 <sup>r</sup>	93,600 <sup>r</sup>
November	63,000 <sup>r</sup>	28,000	91,000 <sup>r</sup>	37,600 <sup>r</sup>	55,500 <sup>r</sup>	93,100 <sup>r</sup>
December	65,700	30,900	96,600	41,100	56,900	98,000
January-December	793,000	320,000	1,110,000	515,000	621,000	1,140,000

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Includes the recoverable copper content of concentrates (of copper and other metals), copper produced by solvent extraction and electrowinning, and copper recovered as precipitates.

<sup>&</sup>lt;sup>3</sup>Includes production from Michigan, Missouri, Montana, Nevada, New Mexico, and Utah.

<sup>&</sup>lt;sup>4</sup>Also includes copper recovered as precipitates.

## TABLE 3 COPPER PRODUCED AT SMELTERS IN THE UNITED STATES<sup>1</sup>

(Metric tons, copper content)

	Anode
Period	production <sup>2</sup>
2022: <sup>p</sup>	
December	25,000 <sup>r</sup>
January-December	354,000 <sup>r</sup>
2023:	
January	40,000
February	40,000
March	40,000
April	28,000 <sup>r</sup>
May	28,000 <sup>r</sup>
June	28,000 <sup>r</sup>
July	22,000 <sup>r</sup>
August	22,000 <sup>r</sup>
September	22,000 <sup>r</sup>
October	36,000 <sup>r</sup>
November	36,000 <sup>r</sup>
December	36,000
January-December	378,000

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Data in 2022 are derived from public company reports and reflect primary production only. Data in 2023 include primary production derived from public company reports and an estimated 3,000 metric tons per month of secondary anodes.

TABLE 4 U.S. PRODUCTION OF REFINED COPPER<sup>1</sup>

	From p	rimary materials			
	2		Total	From	Total
Period	Electrolytic <sup>2</sup>	Electrowon	primary	scrap <sup>3</sup>	refined
2022: <sup>p</sup>					
December	29,800 <sup>r</sup>	46,900	76,700 <sup>r</sup>	3,240	80,000 r
January-December	362,000 r	555,000	917,000 <sup>r</sup>	40,000	957,000 <sup>r</sup>
2023:					
January	32,700 <sup>r</sup>	45,500 <sup>r</sup>	78,200 <sup>r</sup>	3,220	81,400 <sup>r</sup>
February	32,700 <sup>r</sup>	37,800 <sup>r</sup>	70,500 <sup>r</sup>	3,230	73,700 <sup>r</sup>
March	32,700 <sup>r</sup>	43,300	76,000 <sup>r</sup>	3,220	79,200 <sup>r</sup>
April	23,000 <sup>r</sup>	43,400 <sup>r</sup>	66,400 <sup>r</sup>	3,220	69,600 <sup>r</sup>
May	23,000 <sup>r</sup>	42,400 r	65,400 <sup>r</sup>	3,260	68,700 <sup>r</sup>
June	23,000 <sup>r</sup>	46,000 <sup>r</sup>	69,000 <sup>r</sup>	3,230	72,200 <sup>r</sup>
July	24,400 <sup>r</sup>	47,700 <sup>r</sup>	72,100 <sup>r</sup>	3,270	75,400 <sup>r</sup>
August	24,400 <sup>r</sup>	44,500 <sup>r</sup>	68,900 <sup>r</sup>	3,220	72,100 <sup>r</sup>
September	24,400 <sup>r</sup>	42,500 <sup>r</sup>	66,900 <sup>r</sup>	3,300	70,200 <sup>r</sup>
October	28,900 <sup>r</sup>	43,000 <sup>r</sup>	71,900 <sup>r</sup>	3,250	75,200 <sup>r</sup>
November	28,900 <sup>r</sup>	37,600 <sup>r</sup>	66,500 <sup>r</sup>	3,220	69,700 <sup>r</sup>
December	28,900	41,100	70,000	3,240	73,300
January-December	327,000	515,000	842,000	38,900	881,000

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Electrolytic production data are derived from public company reports. <sup>3</sup>Electrolytically 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 $^{\rm 1,2}$

	Refine	ries <sup>3</sup>	Ingot ma	akers <sup>e, 4</sup>	Brass and wi	re-rod mills	Foundrie	s, etc. <sup>e, 4</sup>	
Period	New scrap <sup>e</sup>	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	Total <sup>5</sup>
2022: <sup>p</sup>									
December	1,680	1,560	350	2,940	51,800	2,600	740	2,590	64,200
January-December	20,100	19,900	4,200	35,300	608,000	41,900	8,880	31,100	769,000
2023:	= -								
January	1,680	1,540	350	2,940	54,300	4,360	740	2,590	68,500
February	1,680	1,550	350	2,940	53,000	3,360	740	2,590	66,200
March	1,680	1,540	350	2,940	53,400	3,620	740	2,590	66,900
April	1,680	1,540	350	2,940	52,500	3,300	740	2,590	65,700
May	1,680	1,580	350	2,940	51,900	2,960	740	2,590	64,700
June	1,680	1,550	350	2,940	49,900	2,950	740	2,590	62,700
July	1,680	1,590	350	2,940	52,600	3,260	740	2,590	65,700
August	1,680	1,540	350	2,940	53,500	3,280	740	2,590	66,600
September	1,680	1,620	350	2,940	51,800	2,960	740	2,590	64,600
October	1,680	1,570	350	2,940	51,700	3,220	740	2,590	64,800
November	1,680	1,540	350	2,940	53,000 <sup>r</sup>	2,700	740	2,590	65,500 <sup>r</sup>
December	1,680	1,560	350	2,940	52,500	2,240	740	2,590	64,600
January-December	20,100	18,700	4,200	35,300	630,000	38,200	8,880	31,100	787,000

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>New scrap refers to material generated during the manufacturing process. Old scrap consists of copper items used by consumers.

<sup>&</sup>lt;sup>3</sup>Electrolytically refined and fire refined from scrap based on source of material at smelter or refinery level.

<sup>&</sup>lt;sup>4</sup>Plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2021 not yet available. Monthly data are estimated based on the monthly average of 2021 annual data.

<sup>&</sup>lt;sup>5</sup>Does not include an estimate, based on 2021 annual data, of 2,970 tons per month from new scrap and 1,700 tons per month from old scrap of copper recovered from scrap other than copper-base.

 ${\it TABLE~6}$  U.S. PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD SEMIFABRICATES  $^1$ 

	Proc	duction	Ship	oments	Stocks, e	nd of period
Period	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills
2022: <sup>p</sup>						
December	74,800	90,300	74,300	88,400	30,700	18,600
January-December	908,000	1,330,000	906,000	1,330,000	30,700	18,600
2023:	= 1					
January	76,400	95,600	75,400	95,600	31,700	18,500
February	75,300	98,500	74,500	102,000	32,500	15,100
March	77,000	108,000	75,000	105,000	34,500	17,600
April	73,500	97,500	74,700	91,700	33,400	23,400
May	72,900	100,000	74,000	101,000	32,300	22,700
June	73,100	85,200	73,000	93,500	32,400	14,400
July	73,700	101,000	73,200	97,000	32,800	18,700
August	74,800	103,000	74,900	101,000	32,700	20,800
September	74,100	103,000	73,900	101,000	32,900	23,600
October	74,700	100,000	74,300 <sup>r</sup>	108,000	32,900 <sup>r</sup>	16,100
November	71,200 <sup>r</sup>	93,500	71,800 <sup>r</sup>	94,600	32,300 <sup>r</sup>	14,900
December	73,500	84,700	72,700	79,600	33,200	20,300
January-December	890,000	1,170,000	887,000	1,170,000	33,200	20,300

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

### TABLE 7 $\mbox{U.s. Consumption of Refined Copper}^1$

	Brass	Wire-rod	Other	
Period	mills	mills	plants <sup>e, 2</sup>	Total
2022: <sup>p</sup>			-	
December	35,200	88,700	3,590	127,000
January-December	420,000	1,250,000	43,000	1,720,000
2023:				
January	34,700	91,100	3,590	129,000
February	36,200	91,200	3,590	131,000
March	34,100	104,000	3,590	142,000
April	35,800	92,400	3,590	132,000
May	35,900	96,600	3,590	136,000
June	35,200	86,400	3,590	125,000
July	35,500	94,400	3,590	133,000
August	35,200	99,800	3,590	139,000
September	35,000	96,000	3,590	135,000
October	36,500 <sup>r</sup>	90,300	3,590	130,000 <sup>r</sup>
November	31,800 <sup>r</sup>	86,900 <sup>r</sup>	3,590	122,000 <sup>r</sup>
December	33,300	84,300	3,590	121,000
January-December	419,000	1,110,000	43,000	1,580,000

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Chemical plants, foundries, ingot makers, and miscellaneous manufacturers. These plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2021 not yet available. Monthly data are estimated based on the monthly average of 2021 annual data.

 ${\bf TABLE~8} \\ {\bf U.S.~APPARENT~CONSUMPTION~OF~COPPER}^1$ 

	Primary refined	Copper in	Refined imports	Refined	Refined stock change	Apparent
Period	copper production	old scrap <sup>2</sup>	for consumption <sup>3</sup>	exports <sup>3</sup>	during period	consumption <sup>4</sup>
2022: <sup>p</sup>						
December	76,700 <sup>r</sup>	11,400	38,800	2,100	-12,300	137,000
January-December	917,000 <sup>r</sup>	149,000	732,000	27,600	-33,800	1,800,000
2023:						
January	78,200 <sup>r</sup>	13,100	39,000	1,190	-5,510	135,000 <sup>r</sup>
February	70,500 <sup>r</sup>	12,100	48,700	2,000	-16,800	146,000 <sup>r</sup>
March	76,000 <sup>r</sup>	12,400	126,000	1,290	5,250	208,000 r
April	66,400 <sup>r</sup>	12,100	97,900	2,020	8,080	166,000 <sup>r</sup>
May	65,400 <sup>r</sup>	11,800	86,700	1,910	587	161,000 <sup>r</sup>
June	69,000 r	11,700	92,800	1,770	29,200	143,000 <sup>r</sup>
July	72,100 <sup>r</sup>	12,100	60,300	4,700	-2,990	143,000 <sup>r</sup>
August	68,900 r	12,000	54,300	3,580	4,450	127,000 r
September	66,900 r	11,800	59,700	3,650	20,700	114,000 <sup>r</sup>
October	71,900 <sup>r</sup>	12,000	48,800	3,910	16,600 <sup>r</sup>	112,000 <sup>r</sup>
November	66,500 <sup>r</sup>	11,500	30,000	4,870	1,110 <sup>r</sup>	102,000 <sup>r</sup>
December	70,000	11,000	26,800	3,540	-16,600	121,000
January-December	842,000	144,000	771,000	34,400	44,100	1,680,000

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Copper 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 2021 annual data. Old scrap consists of copper items used by consumers.

<sup>&</sup>lt;sup>3</sup>Source: 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.

<sup>&</sup>lt;sup>4</sup>Primary refined copper production plus copper in old scrap plus refined imports for consumption minus refined exports minus refined stock change during period.

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

	Smelt	ters			Brass	and			
	and refin	neries	Ingot ma	akers <sup>e, 3</sup>	wire-rod	l mills <sup>4</sup>	Foundrie	s, etc. <sup>e, 3</sup>	
Period	New scrap <sup>e</sup>	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	Total
2022: <sup>p</sup>									
December	1,730	1,610	933	3,450	59,900	2,710	871	3,040	74,200
January-December	20,700	20,500	11,200	41,400	705,000	43,900	10,500	36,500	890,000
2023:									
January	1,730	1,590	933	3,450	62,400	4,500	871	3,040	78,500
February	1,730	1,600	933	3,450	61,100	3,500	871	3,040	76,200
March	1,730	1,590	933	3,450	61,500	3,740	871	3,040	76,800
April	1,730	1,590	933	3,450	60,600	3,430	871	3,040	75,600
May	1,730	1,630	933	3,450	59,900	3,090	871	3,040	74,700
June	1,730	1,600	933	3,450	57,900	3,060	871	3,040	72,600
July	1,730	1,640	933	3,450	60,600	3,360	871	3,040	75,600
August	1,730	1,590	933	3,450	61,500	3,400	871	3,040	76,500
September	1,730	1,670	933	3,450	59,800	3,060	871	3,040	74,500
October	1,730	1,620	933	3,450	59,800	3,340	871	3,040	74,700
November	1,730	1,590	933	3,450	61,000 <sup>r</sup>	2,810	871	3,040	75,400 <sup>r</sup>
December	1,730	1,610	933	3,450	60,600	2,370	871	3,040	74,600
January-December	20,700	19,300	11,200	41,400	727,000	39,700	10,500	36,500	906,000

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>New scrap refers to material generated during the manufacturing process. Old scrap consists of copper items used by consumers.

<sup>&</sup>lt;sup>3</sup>Plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2021 not yet available. Monthly data are estimated based on the monthly average of 2021 annual data.

<sup>&</sup>lt;sup>4</sup>Consumption at brass and wire-rod mills assumed equal to receipts.

 $\label{eq:table 10} \text{COPPER STOCKS IN THE UNITED STATES AT END OF PERIOD}^1$ 

(Metric tons, copper content)

				l	Refined copper			
	Blister and		Wire-rod					Total
Period	anodes	Refineries	mills	Brass mills	Other <sup>e, 2</sup>	COMEX <sup>3</sup>	$LME^4$	refined
2022: <sup>p</sup>								
December	13,300	9,100	18,000	11,000	6,200	31,700	6,850	82,800
2023:								
January	13,600	9,640	22,100	10,900	6,200	25,400	3,050	77,300
February	13,000	6,040	22,200	9,380	6,200	15,000	1,680	60,500
March	14,300	9,160	22,200	11,400	6,200	15,400	1,400	65,700
April	35,100	12,000	19,000	11,200	6,200	25,100	300	73,800
May	39,900	10,100	15,400	11,700	6,200	25,100	5,950	74,400
June	34,500	9,050	19,000	10,700	6,200	31,700	26,900	104,000
July	20,400	5,210	16,500	10,800	6,200	39,400	22,600	101,000
August	17,700	6,560	14,700	11,100	6,200	29,000	37,600	105,000
September	15,000	2,170	16,800	11,700	6,200	23,000	65,900	126,000
October	14,300	2,230	20,100	10,500 <sup>r</sup>	6,200	19,300	84,100	142,000 1
November	10,500 <sup>r</sup>	3,070	15,100 <sup>r</sup>	9,530 <sup>r</sup>	6,200	17,100	92,500	143,000
December	10,500	6,810	16,900	9,680	6,200	17,200	70,100	127,000

<sup>&</sup>lt;sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Chemical plants, foundries, ingot makers, and miscellaneous manufacturers. These plants are surveyed by the U.S. Geological Survey on an annual basis; data after 2021 not yet available. Monthly data are estimated based on yearend 2021 stocks.

<sup>&</sup>lt;sup>3</sup>Commodity Exchange Inc.

<sup>&</sup>lt;sup>4</sup>London 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)

	COMEX		
	first	U.S. producers	LME
Period	position <sup>1</sup>	cathode <sup>2</sup>	grade A cash <sup>3</sup>
2022:			
December	381.645	391.895	379.511
Year	400.719	410.775	399.791
2023:			
January	412.233	423.233	408.200
February	408.824	418.824	406.165
March	404.915	414.915	400.734
April	400.037	410.037	399.767
May	374.173	384.173	373.469
June	379.598	389.598	380.362
July	383.570	393.570	383.041
August	376.330	386.330	378.804
September	372.360	382.360	375.129
October	359.964	368.664	360.118
November	371.836	379.211	370.743
December	385.153	392.653	380.729
January-December	385.749	395.297	384.772

Listed as "COMEX high grade first position." COMEX refers to the Commodity Exchange Inc.

Source: S&P Global Platts Metals Week.

<sup>&</sup>lt;sup>2</sup>Sum 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.

<sup>&</sup>lt;sup>3</sup>LME refers to the London Metal Exchange Ltd.

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

### (Cents per pound)

			De	ealers
				Red brass
	Brass mills	Refiners	No. 2	turnings and
Period	no. 1 scrap	no. 2 scrap	scrap	borings
2022:	_			
December	371.67	348.57	270.50	155.50
Year	390.04	358.05	296.29	183.13
2023:				
January	401.30	379.30	289.00	159.00
February	397.03	374.29	321.50	159.00
March	392.67	369.41	319.00	156.50
April	389.50	365.84	316.50	158.00
May	365.86	341.68	302.50	154.00
June	371.69	347.00	286.50	154.00
July	376.35	351.85	290.00	168.00
August	369.28	343.74	294.00	187.50
September	367.05	341.55	295.00	190.00
October	352.14	325.64	285.00	182.50
November	363.50	337.00	280.00	183.00
December	377.50	351.00	292.50	188.00
January-December	376.99	352.36	297.63	169.96

Source: Fastmarkets-AMM.

 ${\bf TABLE~13} \\ {\bf U.S.~IMPORTS~FOR~CONSUMPTION~OF~UNMANUFACTURED~COPPER}^1$ 

(Metric tons, copper content)

	Ore and concentrates <sup>2</sup>			Matte, ash, and precipitates <sup>3</sup>			Bl	ister and anod	es <sup>4</sup>	Refined <sup>5</sup>		
		2023			2023			2023			20	23
Country or			January-			January-			January-			January-
locality	2022	December	December	2022	December	December	2022	December	December	2022	December	December
Austria										54		
Belgium				384		175				2	(6)	(6)
Canada	11,700		3,270	581	34	675	(6)		5	118,000	9,700	128,000
Chile										472,000	15,000	531,000
China							(6)		9	897	(6)	462
Congo (Kinshasa)										8,910		11,800
Finland							281		78	39		41
France							15			53		56
Germany	(6)			94			(6)		(6)	3,410	19	2,240
Hungary	9		34									
India	11					(6)			(6)	57		
Japan	(6)	(6)	1				(6)		(6)	1,370	56	1,880
Korea, Republic of							1		1	10	(6)	57
Mexico			2	25	(6)	24	(6)			75,500	1,170	14,000
Peru										50,100	924	79,500
Qatar				43								
Slovakia				14								
Spain				51		203	(6)					(6)
United Kingdom	(6)			(6)		(6)	5	1	4	138		
Zambia										1,230		2,040
Other	(6)		(6)	1		2	4		28	11	(6)	26
Total	11,700	(6)	3,300	1,190	34	1,080	306	1	125	732,000	26,800	771,000

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Harmonized 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.

<sup>&</sup>lt;sup>3</sup>HTS 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.

<sup>&</sup>lt;sup>4</sup>HTS code 7402.00.0000.

<sup>&</sup>lt;sup>5</sup>HTS codes 7403.11.0000, 7403.12.0000, 7403.13.0000, and 7403.19.0000.

<sup>&</sup>lt;sup>6</sup>Less than ½ unit.

TABLE 14
U.S. EXPORTS OF UNMANUFACTURED COPPER<sup>1</sup>

(Metric tons, copper content)

	Ore and concentrates <sup>2</sup>			Matte, ash, and precipitates <sup>3</sup>			Bl	ister and anode	es <sup>4</sup>	Refined <sup>5</sup>		
	2023			2023			2023				2023	
Country or			January-			January-		-	January–			January–
locality	2022	December	December	2022	December	December	2022	December	December	2022	December	December
Belgium	70	29	126	5,950	335	5,120	211	27	647			140
Bulgaria	1,540											
Canada	39,800	3,860	42,400	13,500	101	3,120	6,740	1,760	25,100	14,200	1,870	9,120
China	56,900	3,660	53,900	378	6	422	60		935	2,150	62	660
Costa Rica			5	345		4			25	(6)		3
Germany	1,590			235	19	293	244	75	245	1		3,580
India			9	16		38	1,560		274	34		37
Israel							115	6	36	98		33
Italy						2	155	2	129	10		3
Japan	11,000		4,260	361		87	20		53	23		4
Korea, Republic of	59		11	189	96	105	1,570	76	1,240	133	19	90
Madagascar	1,220											
Malaysia	186	39	124	147		2,780	168	27	630	51	235	1,870
Mexico	232,000	17,900	230,000	30		1,560	260	(6)	130	7,680	1,320	15,700
Netherlands				40	19	48	4			1,070		2,010
Philippines	7,770			(6)	170	1,020	67		47	35		
Poland				270	38	999						
Singapore			5	414		181	40		2	22	(6)	80
Slovakia				1,210	5	392						
Spain	26			1,510	189	2,580	42	20	178	376	39	218
Taiwan			6,000	86		18	137		45	25		14
Thailand				158		13	94	3	144			1
Turkey				233		159	20		40	20		
United Kingdom				4		4	40		12	1,630		7
Other	718	29	4,960	194	21	285	378	24	337	57	1	818
Total	353,000	25,500	341,000	25,200	998	19,200	11,900	2,020	30,300	27,600	3,540	34,400

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Schedule 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.

<sup>&</sup>lt;sup>3</sup>Schedule 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.

<sup>&</sup>lt;sup>4</sup>Schedule B code 7402.00.0000.

 $<sup>^5</sup>$ Schedule B codes 7403.11.0000, 7403.12.0000, 7403.13.0000, and 7403.19.0000.

<sup>&</sup>lt;sup>6</sup>Less than ½ unit.

 $\label{eq:table 15} \text{U.S. IMPORTS FOR CONSUMPTION OF COPPER SCRAP}^{1}$ 

		Unalloyed <sup>2</sup>	Alloyed <sup>3</sup>				
		20	2023				
Country or			January-			January–	
locality	2022	December	December	2022	December	December	
Antigua and Barbuda				188	13	139	
Bahamas, The				612	82	606	
Barbados				326	25	168	
Bermuda	12		27	90	13	107	
Bolivia	46			106		99	
Brazil	14		113	69		230	
Canada	17,600	920	15,100	41,800	2,310	32,200	
Cayman Islands				243	21	214	
Colombia	196	20	150	106	29	131	
Costa Rica	712	76	829	1,350	91	1,020	
Dominican Republic	1,350	53	1,020	2,090	94	1,330	
Ecuador	24			57		120	
El Salvador				1,090	77	861	
Germany	260	37	502	50		85	
Grenada				72	14	155	
Guatemala				309	42	280	
Haiti				104		192	
Honduras	24		49	787	109	1,140	
Jamaica	7	5	5	461	38	396	
Mexico	12,200	1,390	13,200	42,900	3,340	45,100	
Nicaragua				194		35	
Panama	1,190	153	961	405	60	627	
Peru				225		96	
Saudi Arabia				134			
Sint Maarten	1			54	35	256	
Saint Lucia	25			269	25	181	
Saint Vincent and the Grenadines				91	9	133	
Suriname	360	22	264	69		83	
Uruguay	73		45	20		15	
Vietnam	62			50			
Other	75		100	401	53	618	
Total	34,200	2,680	32,300	94,700	6,480	86,500	
7							

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Harmonized Tariff Schedule of the United States (HTS) codes 7404.00.3020 and 7404.00.6020.

 $<sup>^{3}</sup>$ HTS 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.

TABLE 16
U.S. EXPORTS OF COPPER SCRAP<sup>1</sup>

				Unalloyed <sup>2</sup>		Alloyed <sup>3</sup>						
				2023					2023			
		No. 1		No	No. 2		Other		Segregated		Unsegregated	
Country or			January–		January–		January–			January-		January–
locality	2022	December	December	December	December	December	December	2022	December	December	December	December
Austria	1,300	(4)	237		693			1,210		1,200	19	648
Belgium	33,200	1,200	12,000	489	9,370	664	5,280	8,860	39	931	609	6,510
Canada	60,900					4,460	69,600	46,200			1,360	26,000
China	260,000	8,690	84,500	5,380	49,500	16,600	155,000	31,900	1,660	20,600	2,140	17,200
Germany	15,400	875	11,800	178	1,370	273	5,910	15,300		582	798	11,300
Greece	8,830	119	4,260	60	100	20	1,260	2,170		74		1,490
Hong Kong	16,800	158	1,120	1,460	10,100	501	6,880	3,760	76	712	393	3,080
India	19,900	426	8,670	202	1,810	699	8,970	65,700	1,280	17,600	2,680	36,300
Japan	25,400	337	4,330	677	10,300	296	3,870	6,980	59	824	270	5,600
Korea, Republic of	42,200	842	10,700	460	5,190	1,020	10,100	11,400	338	3,370	476	10,100
Malaysia	24,700	1,410	14,000	525	4,240	1,820	12,600	41,700	836	6,830	2,930	34,500
Mexico	3,120	101	2,400	(4)	4	10	252	8,380		292	27	1,570
Netherlands	7,600	14	1,070	79	294	40	842	1,540		81		951
Pakistan	1,020		371		70	20	83	26,300		122	1,200	16,700
Philippines	1,660		526				495	757	5	93	40	686
Poland	15,700	137	3,350	59	80	808	10,600	1,030		20	20	447
Singapore	1,210		1,710		41			264			19	402
Slovakia	1,550	35	781					2,500	332	1,070	174	504
Spain	3,860	59	596	20	118		952	7,380	39	1,060	313	3,540
Sweden	581		30					1,940				278
Taiwan	13,100	444	2,690	155	1,580	979	5,150	4,440	19	296	379	3,970
Thailand	23,900	773	7,560	135	466	3,200	23,600	39,600	385	3,750	2,830	31,800
Turkey	1,020		572					2,320		24	160	1,120
United Arab Emirates	766		295				19	5,790		45	38	7,580
Vietnam	139		1,020		226		1,170	929		88		241
Other	2,180	19	796	99	526	33	495	2,400	66	456	21	1,430
Total	586,000	15,600	175,000	9,980	96,000	31,400	323,000	341,000	5,130	60,100	16,900	224,000

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Schedule 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).

 $<sup>^{3}</sup>$ Schedule 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.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.