

# Mineral Industry Surveys

#### For information, contact:

Daniel M. Flanagan, Copper Commodity Specialist National Minerals Information Center U.S. Geological Survey 989 National Center Reston, VA 20192 Telephone: (703) 648-7726, Fax: (703) 648-7757 Email: dflanagan@usgs.gov Samir Hakim (Data) Telephone: (703) 648-7955 Fax: (703) 648-7975 Email: shakim@usgs.gov

Internet: http://minerals.usgs.gov/minerals/

### **COPPER IN NOVEMBER 2017**

In November 2017, domestic mine production of recoverable copper was 102,000 metric tons (t). The average daily mine production was 3,400 t, an increase of 6% from that in October and a decrease of 9% compared with that in November 2016. Year-to-date recoverable mine production through November 2017 was 1.16 million metric tons, a decline of 12% relative to the same period in 2016 (fig. 1, table 2).

Total U.S. refinery production was 71,000 t in November 2017; electrolytic and electrowon production data are in table 4. Average daily total refinery production was 2,370 t, a decrease of 11% compared with that in October and 28% less than that in November 2016. Refinery and smelter output were affected by a scheduled maintenance shutdown at one U.S. smelter and the temporary closure of another operation following a fatal accident in October. Year-to-date refinery production through November 2017 was 998,000 t, a decline of 12% relative to the same period in 2016 (fig. 1, table 4).

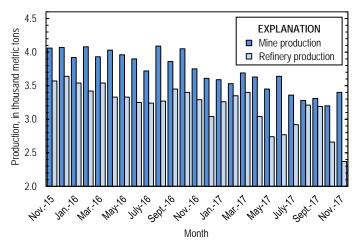


Figure 1. Average daily U.S. copper mine (recoverable) and refinery production from November 2015 through November 2017. Source: U.S. Geological Survey.

Smelter production in November 2017 was 16,200 t. The average daily smelter production was 540 t, 43% less than that in October and a decrease of 63% from the daily average in

November 2016. Year-to-date smelter production through November 2017 was 434,000 t, a decline of 14% compared with the same period in the prior year (table 3).

#### Prices

The average November 2017 COMEX spot copper price was \$3.09 per pound, a slight decrease from \$3.10 per pound in October and 25% greater than \$2.47 per pound in November 2016 (fig. 2, table 11). The average price of New York dealers' number 2 scrap in November 2017 was \$2.08 per pound, up slightly from \$2.05 per pound in October and 26% higher than the average price in November 2016 (table 12).

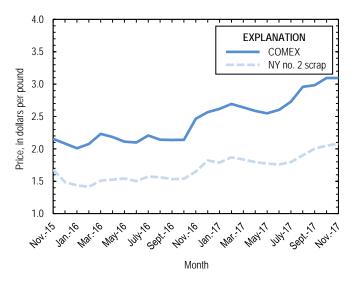


Figure 2. Monthly average COMEX copper price and New York no. 2 copper scrap price from November 2015 through November 2017. Sources: American Metal Market, Platts Metals Week.

#### Stocks

Refined copper stocks in the United States totaled 270,000 t at the end of November 2017, a slight decrease from those in October and 29% more than those in November 2016. COMEX stocks rose slightly, stocks at wire-rod mills increased by 10%, and London Metal Exchange Ltd. stocks in U.S. warehouses were 27% lower compared with those at the end of October (fig. 3, table 10).

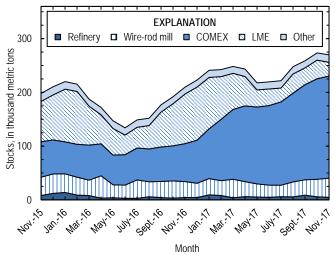


Figure 3. Monthly domestic refined copper stocks, by type, from November 2015 through November 2017. Sources: American Metal Market, London Metal Exchange Ltd., and U.S. Geological Survey.

#### **Industry News**

Rio Tinto Kennecott (South Jordan, UT) resumed normal operations at its smelter near Magna, UT, on November 17 but will maintain force majeure status on shipments of refined copper into December. The company halted anode production on October 8 following a fatal accident and declared force majeure on October 13 (Barker, 2017a, b). In Peru, a portion of the workforce at Southern Copper Corp.'s (Phoenix, AZ) Cuajone Mine, Toquepala Mine, and Ilo refinery began a strike on November 21 in protest of pay and benefits. Rail service to the Ilo smelter was also affected owing to clashes between demonstrators and police. Negotiations between the company and the striking unions failed to reach a resolution by the end of November (Mughal, 2017). In 2016, the Cuajone and Toquepala Mines produced a combined 313,000 t of copper in concentrates, roughly 2% of global output, and the Ilo refinery produced 270,000 t of copper cathode, about 1% of global output (Southern Copper Corporation, 2017, p. 30).

#### **References Cited**

- Barker, Dalton, 2017a, Kennecott declares force majeure after fatality: American Metal Market, October 17. (Accessed October 27, 2017, via http://www.amm.com/.)
- Barker, Dalton, 2017b, Kennecott force majeure extending into Dec: American Metal Market, November 30. (Accessed December 5, 2017, via http://www.amm.com/.)
- Mughal, Sarah, 2017, 2 unions down tools at Southern Copper's Peru ops over profit sharing: S&P Global Market Intelligence, November 22. (Accessed November 24, 2017, via http://www.snl.com/.)
- Southern Copper Corporation, 2017, Form 10–K—2016: U.S. Securities and Exchange Commission, 185 p. (Accessed January 29, 2018, at https://www.sec.gov/Archives/edgar/data/1001838/000104746917001143/a2231031z10-k.htm.)

List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to http://minerals.usgs.gov/minerals/.

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

(Metric tons of copper content, unless otherwise specified)

				2	.017	
	Source					January–
	table <sup>2</sup>	2016 <sup>p</sup>	September	October	November	November
Production:	_					
Primary:	_					
Mine, recoverable	(2)	1,430,000	99,200	99,100 <sup>r</sup>	102,000	1,160,000
Smelter, total	(3)	563,000	49,000	29,300	16,200	434,000
Refinery:						
Electrolytic, domestic and foreign	(4)	561,000	45,700	32,500	21,100	451,000
Electrowon	(4)	615,000	46,700	46,600	46,700	510,000
Total	(4)	1,180,000	92,400	79,100	67,800	961,000
Secondary recoverable copper: <sup>3</sup>	-					
Refineries	(5)	46,300	3,310	3,280	3,240	36,800
Ingot makers <sup>4</sup>	(5)	73,100	6,090	6,090	6,090	67,000
Brass and wire-rod mills	(5)	621,000	52,000	55,600	53,100	595,000
Foundries, etc. <sup>4</sup>	(5)	47,200	3,940	3,940	3,940	43,300
Consumption:	-					
Apparent	(8)	1,890,000	172,000	142,000	147,000	1,730,000
Refined (reported)	(7)	1,810,000	149,000	149,000	140,000	1,640,000
Purchased copper-base scrap (gross weight)	(9)	917,000	79,600	83,200	80,500	898,000
Stocks at end of period:	-					
Total refined	(10)	223,000	259,000	273,000	270,000	270,000
Blister, etc.	(10)	14,400	12,100	13,600	16,700	16,700
Price, U.S. producers cathode (cents per pound) <sup>5</sup>	(11)	224.873	303.468	314.747	314.717	282.717
Imports: <sup>6</sup>	-					
Ore and concentrate	(13)	67	19		3,380	14,100
Refined	(13)	708,000	86,800	76,500	65,200	755,000
Exports: <sup>6</sup>						
Ore and concentrate	(14)	331,000	18,500	20,000	26,000	221,000
Refined	(14)	134,000	7,190	5,210	4,400	89,400

<sup>p</sup>Preliminary. <sup>r</sup>Revised. -- Zero.

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

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

<sup>3</sup>Copper recovered from copper-base scrap only.

<sup>4</sup>Estimated based on the monthly average of 2015 annual data.

<sup>5</sup>Source: Platts Metals Week.

<sup>6</sup>Source: U.S. Census Bureau.

#### TABLE 2

#### MINE PRODUCTION OF RECOVERABLE COPPER IN THE UNITED STATES<sup>1</sup>

#### (Metric tons)

	Re	coverable copp	er		Contained copper	
Period	Arizona	Others <sup>2</sup>	Total	Electrowon	Concentrates <sup>3</sup>	Total
2016: <sup>p</sup>						
January-October	818,000	388,000	1,210,000	518,000	716,000	1,230,000
November	74,200	38,200	112,000	48,700	66,100	115,000
December	76,600	35,300	112,000	47,900	66,600	115,000
January-December	969,000	461,000	1,430,000	615,000	848,000	1,460,000
2017:						
January	71,000	40,200	111,000	46,800	66,900	114,000
February	64,200	34,500	98,700	41,600	59,400	101,000
March	77,500	36,800	114,000	49,000	67,900	117,000
April	72,500	36,500	109,000	45,600	66,000	112,000
May	75,100	31,900	107,000	48,600	60,900	109,000
June	71,900	37,100	109,000	46,600	64,700	111,000
July	73,500	30,600	104,000	44,900	61,600	107,000
August	71,200	30,500	102,000	46,900	57,000	104,000
September	75,000	24,200	99,200	46,700	55,000	102,000
October	66,900 <sup>r</sup>	32,200	99,100 <sup>r</sup>	46,600	54,800 <sup>r</sup>	101,000
November	72,800	29,200	102,000	46,700	57,700	104,000
January-November	792,000	364,000	1,160,000	510,000	672,000	1,180,000

<sup>p</sup>Preliminary. <sup>r</sup>Revised.

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

<sup>2</sup>Includes production from Michigan, Missouri, Montana, Nevada, New Mexico, and Utah.

<sup>3</sup>Includes copper content of precipitates and other metal concentrates.

#### TABLE 3 COPPER PRODUCED AT SMELTERS IN THE UNITED STATES<sup>1, 2</sup>

#### (Metric tons, copper content)

Anode
production
464,000
43,300
55,000
563,000
48,900
47,800
52,200
40,700
20,100
37,100
45,800
47,200
49,000
29,300
16,200
434,000

<sup>p</sup>Preliminary.

<sup>1</sup>Includes blister and copper anode from primary or secondary sources.

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

#### TABLE 4

### PRODUCTION OF REFINED COPPER, BY SOURCE AND METHOD OF RECOVERY $^{\rm 1}$

#### (Metric tons)

	Pri	mary materials			
	Electrolytically				Total
Period	refined <sup>2</sup>	Electrowon	Total	Scrap	refined
2016: <sup>p</sup>					
January-October	472,000	518,000	990,000	39,800	1,030,000
November	46,600	48,700	95,300	3,220	98,600
December	42,900	47,900	90,800	3,330	94,100
January-December	561,000	615,000	1,180,000	46,300	1,220,000
2017:					
January	51,100	46,800	97,900	3,240	101,000
February	48,200	41,600	89,800	4,090	93,900
March	53,200	49,000	102,000	3,240	105,000
April	42,300	45,600	87,800	3,230	91,000
May	32,800	48,600	81,400	3,390	84,800
June	33,100	46,600	79,800	3,280	83,000
July	42,400	44,900	87,300	3,220	90,600
August	49,200	46,900	96,100	3,340	99,400
September	45,700	46,700	92,400	3,310	95,700
October	32,500	46,600	79,100	3,280	82,400
November	21,100	46,700	67,800	3,240	71,000
January-November	451,000	510,000	961,000	36,800	998,000

<sup>p</sup>Preliminary.

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

<sup>2</sup>From domestic and foreign source materials.

#### TABLE 5

#### COPPER RECOVERABLE IN UNALLOYED AND ALLOYED FORM FROM PURCHASED COPPER-BASE SCRAP

#### (Metric tons, copper content)

	Refin	eries <sup>2</sup>	Ingot n	nakers <sup>3</sup>	Brass and w	ire-rod mills	Foundri	es, etc. <sup>3</sup>	<u> </u>
Period	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	Total <sup>4</sup>
2016: <sup>p</sup>									
January-October	16,600	23,200	12,900	48,000	487,000	29,300	30,400	8,980	656,000
November	1,680	1,540	1,290	4,800	49,900	3,060	3,040	898	66,200
December	1,680	1,650	1,290	4,800	49,100	2,860	3,040	898	65,300
January-December	19,900	26,400	15,400	57,600	586,000	35,200	36,500	10,800	788,000
2017:									
January	1,680	1,560	1,290	4,800	49,500	3,360	3,040	898	66,100
February	1,680	2,420	1,290	4,800	50,100	2,940	3,040	898	67,100
March	1,680	1,560	1,290	4,800	52,000	3,110	3,040	898	68,400
April	1,680	1,550	1,290	4,800	51,300	3,110	3,040	898	67,600
May	1,680	1,710	1,290	4,800	52,000	3,140	3,040	898	68,600
June	1,680	1,600	1,290	4,800	51,300	3,070	3,040	898	67,700
July	1,680	1,540	1,290	4,800	50,700	3,010	3,040	898	67,000
August	1,680	1,660	1,290	4,800	52,100	3,360	3,040	898	68,800
September	1,680	1,630	1,290	4,800	49,200	2,870	3,040	898	65,400
October	1,680	1,600	1,290	4,800	52,200	3,350	3,040	898	68,900
November	1,680	1,560	1,290	4,800	49,900	3,110	3,040	898	66,300
January-November	18,400	18,400	14,200	52,800	560,000	34,400	33,400	9,880	742,000

<sup>p</sup>Preliminary.

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

<sup>2</sup>Electrolytically refined and fire refined from scrap based on source of material at smelter or refinery level.

<sup>3</sup>Monthly data estimated based on the monthly average of 2015 annual data.

<sup>4</sup>Does not include an estimate, based on reported 2015 annual data, of 3,050 tons per month from new scrap and 2,510 tons per month from old scrap of copper recovered from scrap other than copper-base.

#### TABLE 6

#### PRODUCTION, SHIPMENTS, AND STOCKS OF BRASS AND WIRE-ROD SEMIFABRICATES $^{\rm 1}$

	Pro	duction	Shi	pments	Stocks, e	end of period
Period	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills	Brass mills	Wire-rod mills
2016: <sup>p</sup>						
January-October	735,000	1,120,000	735,000	1,110,000	28,500	24,900
November	72,700	112,000	72,800	109,000	28,300	28,200
December	72,300	94,300	72,100	97,700	28,500	24,800
January-December	880,000	1,320,000	880,000	1,320,000	28,500	24,800
2017:						
January	73,500	114,000	72,900	117,000	29,100	22,200
February	72,800	105,000	73,100	98,000	28,900	29,000
March	74,200	117,000	74,400	120,000	28,600	25,300
April	72,200	112,000	72,800	104,000	28,000	33,000
May	74,700	112,000	74,500	117,000	28,300	28,500
June	73,300	115,000	73,000	117,000	28,600	26,400
July	73,000	97,200	73,200	97,400	28,400	26,700
August	75,000	111,000	74,200	112,000	29,300	25,800
September	74,000	108,000	73,600	103,000	29,700	30,300
October	74,100	107,000	74,100	109,000	29,700	28,500
November	72,500	100,000	72,800	100,000	29,300	28,300
January-November	809,000	1,200,000	809,000	1,200,000	29,300	28,300

#### (Metric tons, gross weight)

<sup>p</sup>Preliminary.

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

### TABLE 7 CONSUMPTION OF REFINED COPPER<sup>1</sup>

#### (Metric tons)

	Brass	Wire-rod	Other	
Period	mills	mills	plants <sup>2</sup>	Total
2016: <sup>p</sup>			•	
January–October	352,000	1,110,000	58,200	1,520,000
November	34,400	116,000	5,820	156,000
December	33,800	93,200	5,820	133,000
January-December	421,000	1,320,000	69,800	1,810,000
2017:				
January	34,600	113,000	5,820	154,000
February	34,800	114,000	5,820	154,000
March	35,300	116,000	5,820	157,000
April	34,200	112,000	5,820	152,000
May	35,300	113,000	5,820	154,000
June	34,700	114,000	5,820	155,000
July	35,000	96,300	5,820	137,000
August	35,300	98,600	5,820	140,000
September	35,200	108,000	5,820	149,000
October	35,400	107,000	5,820	149,000
November	34,700	99,900	5,820	140,000
January-November	385,000	1,190,000	64,000	1,640,000

<sup>p</sup>Preliminary.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown. <sup>2</sup>Monthly consumption data by ingot makers, chemical plants, foundries, and miscellaneous manufacturers are estimated based on the monthly average of 2015 annual data.

### TABLE 8 U.S. APPARENT CONSUMPTION OF COPPER<sup>1</sup>

#### (Metric tons)

	Refined copper	Copper in	Refined general	Refined	Stock change	Apparent
Period	production	old scrap <sup>2</sup>	imports <sup>3</sup>	exports <sup>3</sup>	during period	consumption
2016: <sup>p</sup>						
January-October	990,000	135,000	576,000	113,000	-18,500	1,610,000
November	95,300	12,800	65,900	13,100	17,900	143,000
December	90,800	12,700	59,400	8,040	13,200	142,000
January–December	1,180,000	160,000	701,000	134,000	12,600	1,890,000
2017:						
January	97,900	13,100	72,400	12,300	18,000	153,000
February	89,800	13,600	53,500	9,100	1,420	146,000
March	102,000	12,900	73,800	9,760	5,800	173,000
April	87,800	12,900	51,400	12,200	-5,100	145,000
May	81,400	13,100	63,200	9,230	-25,200	174,000
June	79,800	12,900	79,500	6,140	1,300	165,000
July	87,300	12,800	91,800	7,140	2,900	182,000
August	96,100	13,200	54,300	6,680	25,600	131,000
September	92,400	12,700	85,400	7,190	11,400	172,000
October	79,100	13,200	69,600	5,210	14,200	142,000
November	67,800	12,900	66,500	4,400	-3,740	147,000
January-November	961,000	143,000	761,000	89,400	46,600	1,730,000

<sup>p</sup>Preliminary.

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

<sup>2</sup>Includes reported monthly production of copper from old scrap of copper-base, an estimate for annual reporters, and a monthly average of copper from non-copper-base materials based on 2015 annual data.

<sup>3</sup>Source: U.S. Census Bureau.

### TABLE 9 CONSUMPTION OF PURCHASED COPPER-BASE SCRAP<sup>1</sup>

#### (Metric tons, gross weight)

	Sme	lters			Brass	s and			
	and ref	ineries	Ingot n	nakers <sup>2</sup>	wire-roo	d mills <sup>3</sup>	Foundri	es, etc. <sup>2</sup>	Total scrap
Period	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	New scrap	Old scrap	used
2016: <sup>p</sup>									
January-October	17,100	19,300	28,900	54,600	566,000	30,100	36,600	9,920	763,000
November	1,730	1,590	2,890	5,460	58,000	3,250	3,660	992	77,500
December	1,730	1,590	2,890	5,460	57,100	2,990	3,660	992	76,400
January-December	20,500	22,400	34,700	65,500	681,000	36,400	43,900	11,900	917,000
2017:									
January	1,820	4,630	2,890	5,460	57,500	3,490	3,660	992	80,400
February	1,820	4,630	2,890	5,460	58,000	3,040	3,660	992	80,500
March	1,820	4,630	2,890	5,460	60,100	3,240	3,660	992	82,700
April	1,820	4,630	2,890	5,460	59,300	3,190	3,660	992	81,900
May	1,820	4,630	2,890	5,460	60,100	3,250	3,660	992	82,800
June	1,820	4,690	2,890	5,460	59,300	3,180	3,660	992	82,000
July	1,820	4,630	2,890	5,460	58,700	3,070	3,660	992	81,200
August	1,820	4,630	2,890	5,460	60,100	3,450	3,660	992	83,000
September	1,820	4,730	2,890	5,460	57,100	2,920	3,660	992	79,600
October	1,820	4,700	2,890	5,460	60,200	3,460	3,660	992	83,200
November	1,820	4,650	2,890	5,460	57,900	3,180	3,660	992	80,500
January-November	20,100	51,200	31,800	60,000	648,000	35,500	40,200	10,900	898,000

<sup>p</sup>Preliminary.

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

<sup>2</sup>Monthly data estimated based on the monthly average of 2015 annual data.

<sup>3</sup>Consumption at brass and wire-rod mills assumed equal to receipts.

### TABLE 10COPPER STOCKS AT END OF PERIOD1

#### (Metric tons)

				]	Refined copper			
	Crude		Wire-rod					Total
Period	copper <sup>2</sup>	Refineries <sup>3</sup>	mills <sup>3</sup>	Brass mills <sup>3</sup>	Other <sup>4</sup>	Comex	LME <sup>5</sup>	refined
2016: <sup>p</sup>								
November	13,800	4,290	29,700	7,070	5,730	70,600	92,400	210,000
December	14,400	4,190	26,700	7,380	5,730	80,100	98,900	223,000
2017:								
January	11,700	9,250	30,300	7,430	5,730	92,600	95,700	241,000
February	13,200	8,010	27,700	7,330	5,730	114,000	79,600	242,000
March	13,500	3,860	34,400	7,050	5,730	130,000	67,200	248,000
April	26,100	5,980	27,900	8,030	5,730	141,000	54,700	243,000
May	11,000	5,280	24,400	7,410	5,730	143,000	31,900	218,000
June	11,000	4,670	22,700	7,430	5,730	148,000	31,000	219,000
July	11,000	5,810	21,500	7,920	5,730	155,000	25,800	222,000
August	7,350	5,610	27,800	7,740	5,730	165,000	35,900	248,000
September	12,100	8,740	28,600	7,440	5,730	177,000	31,300	259,000
October	13,600	5,620	32,600	7,650	5,730	187,000	34,800	273,000
November	16,700	4,700	35,700	8,190	5,730	190,000	25,600	270,000

<sup>p</sup>Preliminary.

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

<sup>2</sup>Copper content of blister and anode.

<sup>3</sup>Stocks of refined copper as reported; no estimates are made for nonrespondents.

<sup>4</sup>Monthly estimates based on 2015 annual data, comprising stocks at ingot makers, chemical plants, foundries, and miscellaneous manufacturers.

<sup>5</sup>London Metal Exchange Ltd., U.S. warehouses.

#### TABLE 11 AVERAGE PRICE OF COPPER IN THE UNITED STATES AND ON THE LONDON METAL EXCHANGE

#### (Cents per pound)

		Comex	LME
	U.S. producers	first	cash price
Period	cathode <sup>1</sup>	position <sup>2</sup>	Grade A
2016:			
November	251.388	246.638	246.878
December	261.183	256.683	256.997
January–December	224.873	219.727	220.571
2017:			
January	266.363	261.863	260.225
February	274.051	269.426	269.484
March	269.122	264.122	264.040
April	263.626	258.626	258.428
May	259.902	254.902	253.608
June	265.143	260.193	258.506
July	277.821	272.883	271.162
August	300.928	295.878	293.822
September	303.468	298.405	298.585
October	314.747	309.559	308.299
November	314.717	309.417	309.581
January-November	282.717	277.752	276.885

<sup>1</sup>Sum of "Comex high grade first position" and "NY dealer premium cathode." <sup>2</sup>Listed as "Comex high grade first position."

Source: Platts Metals Week.

### TABLE 12 AVERAGE BUYING PRICES FOR COPPER SCRAP

#### (Cents per pound)

			Dealers	(New York)
				Red brass
	Brass mills	Refiners	No. 2	turnings and
Period	No. 1 scrap	No. 2 scrap	scrap	borings
2016:				
November	241.32	218.05	165.00	137.50
December	248.38	224.48	181.98	146.00
January-December	218.01	197.52	155.05	132.17
2017:				
January	254.78	228.38	178.80	144.65
February	261.50	234.00	186.97	148.00
March	256.70	228.57	183.67	146.30
April	251.10	225.95	179.50	145.00
May	249.41	225.32	177.23	144.36
June	255.59	232.27	175.95	144.00
July	267.82	243.18	179.50	146.00
August	285.74	260.67	190.07	151.17
September	286.25	261.35	200.30	154.45
October	297.34	270.18	204.95	156.18
November	295.42	267.25	208.00	157.50
January-November	269.24	243.37	187.72	148.87

Source: American Metal Market.

### TABLE 13 U.S. IMPORTS FOR CONSUMPTION OF COPPER (UNMANUFACTURED), BY CLASS<sup>1</sup>

	Ore	and concent	rate	Matte, ash, and precipitates			Blister and anodes			Refined		
	2017				2017			2017			2017	
Country or			January-			January-			January-			January–
locality	2016	November	November	2016	November	November	2016	November	November	2016	November	November
Belgium				27	13	69						(2)
Canada	33		21	355	27	284	2			193,000	20,800	191,000
Chile										354,000	35,500	455,000
China						7	(2)			76	(2)	44
Congo (Kinshasa)										21,100	714	8,960
Finland							175	49	327	110		4
Germany						7	(2)			1,830	95	2,070
India	3									1,210		224
Japan				109		76	3	(2)	1	4,090	377	4,230
Mexico	3	3,380	14,000	41		25				102,000	4,990	70,300
Netherlands				69	39	166	(2)	(2)	3	(2)		3
Peru										24,800	2,300	16,000
Other	27		9	205	9	394	93	(2)	122	4,100	317	6,690
Total	67	3,380	14,100	806	89	1,030	274	49	454	708,000	65,200	755,000

#### (Metric tons, copper content)

-- Zero.

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

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

### TABLE 14 U.S. EXPORTS OF COPPER (UNMANUFACTURED), BY CLASS<sup>1</sup>

#### Ore and concentrate Matte, ash, and precipitates Blister and anodes Refined 2017 2017 2017 2017 Country or January-January-January-Januarylocality 2016 November November 2016 November November 2016 November November 2016 November November Belgium 5,700 175 679 18 425 (2) ---4,750 ------(2) ---Canada 25,800 2,300 22,400 12,300 1,960 15,200 2,050 134 2,790 32,400 493 18,000 2 China 57,100 11,400 65,200 52 73 292 485 10 219 32,600 10,000 Germany 204 37 564 517 ---195 21 ---14 --------99 Hong Kong 36 1,070 1,060 1 ------------------Italy 35 377 21 245 240 13 ---------------Japan 20,400 --1,500 180 ---182 453 ---80 157 (2) 16 Korea, Republic of 138 99 352 37 328 1,420 116 1,590 85 10 2,460 --132,000 58,100 Mexico 226,000 12,300 99 6 99 67,700 3,880 ---------42 40 Singapore 13 (2) 5 --------------------Spain 40 8 124 266 20 121 4 ---1 ---------Switzerland 24 30 5 2 5 ------6 ----------20 122 19 Taiwan 359 18 90 60 62 -----------Other 853 134 883 39 542 1,970 1,630 518 10 653 14 106 Total 331,000 26,000 221,000 20,100 2,350 22,100 9,510 556 8,640 134,000 4,400 89,400

#### (Metric tons, copper content)

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown. <sup>2</sup>Less than  $\frac{1}{2}$  unit.

### TABLE 15U.S. COPPER SCRAP IMPORTS1

#### (Metric tons, gross weight)

		Unalloyed		Alloyed			
		20	17		2017		
Country or			January-			January–	
locality	2016	November	November	2016	November	November	
Canada	13,300	1,530	17,800	52,200	6,530	76,300	
Chile	41		57	211	18	287	
Colombia	259	35	520	1,180	167	1,300	
Costa Rica	344	41	539	1,030	105	965	
Guatemala		2	33	326	56	408	
Honduras	102		52	357	35	335	
Mexico	12,900	885	9,520	34,400	2,930	32,600	
Nicaragua			20	264	40	266	
Other	2,170	618	4,050	6,180	581	7,890	
Total	29,100	3,110	32,600	96,100	10,500	120,000	
7							

-- Zero.

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

## TABLE 16U.S. COPPER SCRAP EXPORTS1

(Metric tons,	gross	weight)	

	Unalloyed							Alloyed				
		2017							2017			
		No. 1		No. 2		Other			Segregated		Unsegregated	
Country or			January-		January–		January-			January-		January–
locality	2016	November	November	November	November	November	November	2016	November	November	November	November
Belgium	9,030	350	3,630	80	1,930	286	1,860	8,390	19	1,410	725	6,300
Canada	23,400					3,480	41,200	51,200			2,750	47,700
China	284,000	11,200	115,000	10,900	92,500	9,920	112,000	376,000	8,120	95,000	14,800	220,000
Germany	24,900	688	13,700	194	3,390	19	1,070	8,130	369	1,520	839	7,910
Hong Kong	6,550	253	2,060	139	1,150	293	3,470	17,100	1,140	9,550	1,430	19,900
India	1,670	400	2,150	164	594	92	1,740	23,000	1,170	15,100	1,130	3,710
Japan	6,460	143	1,640	592	5,490	344	3,720	8,730	17	627	412	7,800
Korea, Republic of	17,000	1,010	9,600	91	798	509	4,690	10,300	715	6,490	1,320	6,140
Mexico	1,660	333	3,040			5	120	950	6	47	5	415
Netherlands	12,100	157	2,180	197	805	297	3,640	1,170		57	200	1,000
Spain	182	58	435	100	661		20	7,770	275	955	489	4,440
Taiwan	8,290	218	3,610	40	1,060	39	472	1,740	38	767	269	1,320
Thailand	121	59	156				4	1,050	57	215	20	78
Other	16,100	433	7,280	151	1,700	142	1,780	16,900	375	2,460	1,440	14,300
Total	411,000	15,300	164,000	12,600	110,000	15,400	175,000	532,000	12,300	134,000	25,800	341,000

-- Zero.

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