

Annual Data 2017

Copper Supply & Consumption – 1996–2016

Preface

Statistical data on the supply and consumption of copper and copper alloys in the United States are available from many governmental and private sources. In this report, original data from these sources are brought together and rationalized by CDA and Global Market Consultants, Inc. (GMC) to provide a set of data on U.S. copper supply and consumption that is both consistent and accurate in all aspects from mine to end-use market.

The main sources of information assembled here are the U.S. Geological Survey in the U.S. Department of the Interior, the Bureau of the Census in the U.S. Department of Commerce, and Copper Development Association Inc. Where data from different sources are conflicting, and where original data appear to be in error, the best judgment has been applied. General sources are shown in the tables throughout the report. Those interested to know the specific sources of any of the data should contact CDA.

The statistics are arranged in a logical sequence to trace the flow of copper in the U.S. economy from mining and scrap collection through smelting, refining and ingot making to the wire rod and wire mills, brass mills, and foundries and then on to the final end-use markets. This flow is shown schematically on pages 4 and 5. On this schematic flow sheet the major statistics of copper supply and consumption in the United States for 2016 appear. Along with each major statistic on the chart, a reference is shown. This reference identifies the table in the report where details on that item, from 1996 through 2016, will be found. Most data for 2016 are preliminary.

There are four major tables in the report. **Table 1** covers the supply of primary copper. **Table 2** presents data on the supply of copper from secondary sources. In **Table 3**, statistics on the consumption of primary and secondary metals by mills, foundries and other industries are summarized. These three tables are provided by GMC.

Finally, **Table 4** details the supply of mill, foundry and powder products and their consumption in the five end-use market areas. In each of these tables, additions to the flow (such as net imports) are indicated as positive numbers, while subtractions from the flow (such as melting losses or net additions to stocks) are shown in parentheses.

The arrangement of the data in the report can be illustrated with an example. Consider Mine Production, the upper left-hand box in the flow sheet on **page 4**. As shown in the box, mine production of copper in the United States totaled 1,575 thousand short tons in 2016. Beneath this figure a number appears referring to Table 1, abbreviated 1 (1). This means that in **Table 1**, on Line (1), mine production is shown for the full period 1996 through 2016. In **Table 1**, on Line (1), a further reference will be found after the item heading Mine Production, directing the reader elsewhere on page 6. In fact, on page 6, a table entitled **Table 1, Item 1** presents the data on mine production by state for 1996 through 2016. In this way all the data on supply and consumption appear in logical sequence proceeding through the report, eliminating the need for explanatory text.

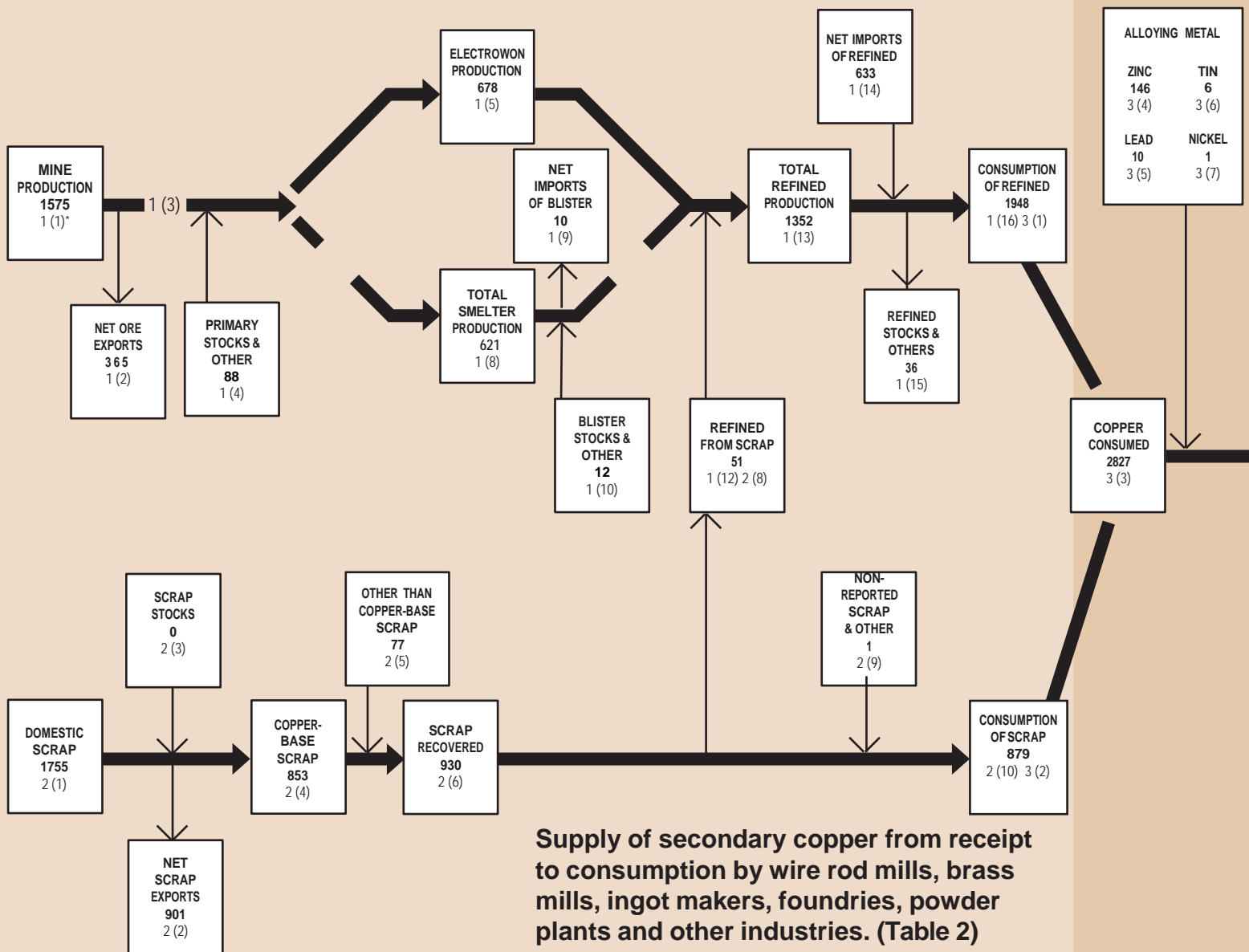
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Copper supply and consumption in the United States – 2016

Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 1)

COPPER CONTENT, thousands of short tons



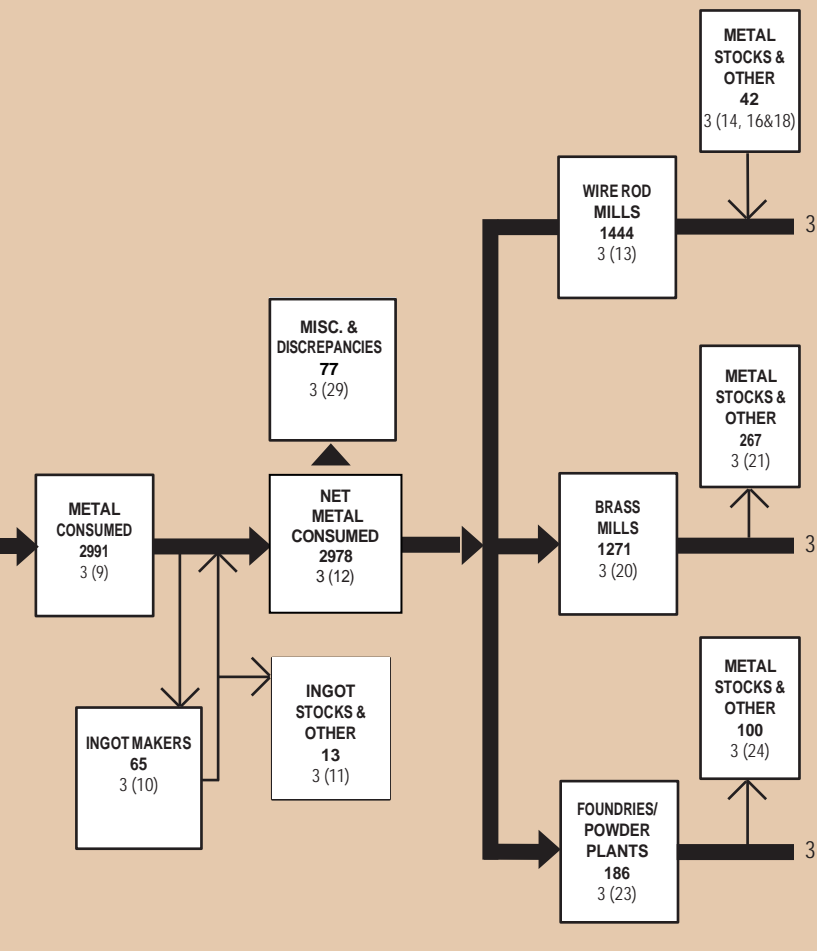
COPPER CONTENT, thousands of short tons

*1 (1) Refers to table and item in report where data for 1996 through 2016 appear.

Note: Numbers may not sum due to rounding.

Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries. (Table 3)

METAL CONTENT, thousands of short tons



Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets. (Table 4)

METAL CONTENT, millions of pounds

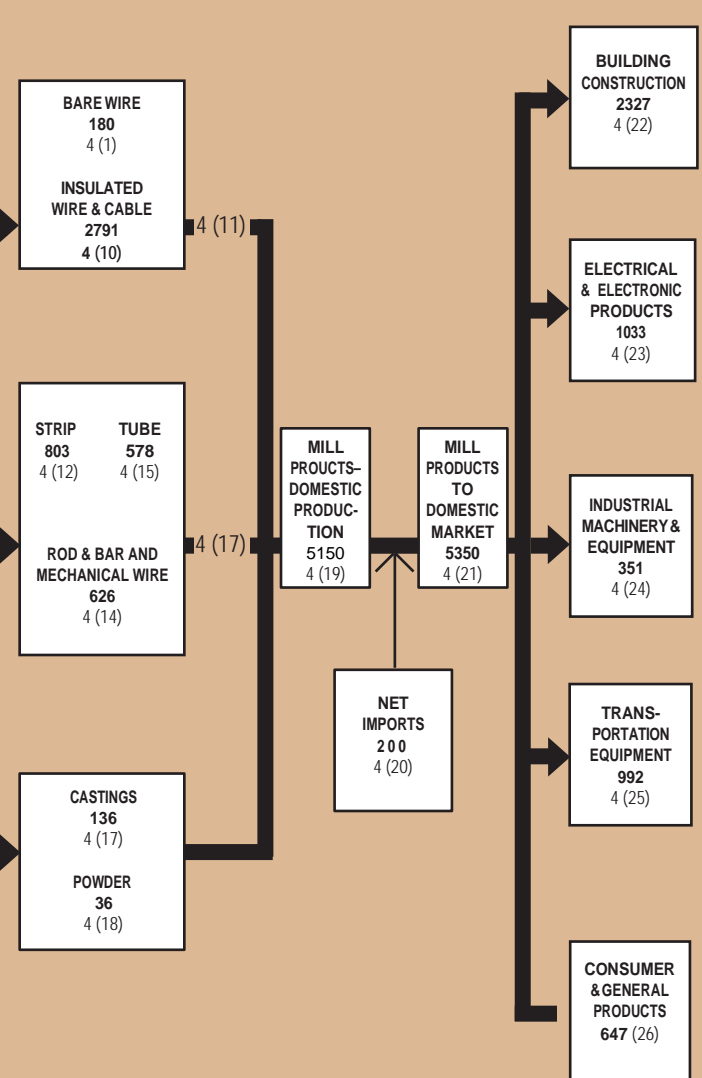


Table 1.**Supply of primary copper from mine to consumption by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries**

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
(1) Mine Production (page 6).....	2,116	2,138	2,051	1,763	1,598	1,477	1,256	1,230	1,275	1,257	1,319	1,287	1,444	1,302	1,224	1,227	1,290	1,376	1,490	1,551	r 1,575
(2) Net Ore/Conc./Matte Imports (page 8) ^(a)	(174)	(153)	177	50	(225)	(24)	36	4	(24)	(195)	(222)	(214)	(381)	(166)	(150)	(261)	(325)	(379)	(452)	(432)	r (365)
(3) Total Primary.....	1,942	1,985	2,228	1,813	1,373	1,453	1,292	1,234	1,251	1,062	1,097	1,074	1,063	1,136	1,074	966	965	997	1,038	1,119	r 1,210
(4) Primary Stocks and Other.....	113	248	85	35	185	164	123	12	(10)	126	39	162	127	46	62	120	89	96	104	110	r 88
(5) Electrowon Production.....	633	646	671	646	613	692	662	652	644	611	584	556	560	525	474	493	519	524	567	648	r 678
(6) Smelter Production from Primary.....	1,422	1,587	1,642	1,202	945	925	753	594	597	577	552	680	630	658	663	593	535	569	575	581	621
(7) Smelter Production from Scrap.....	374	314	256	226	157	88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
(8) Total Smelter Production (page 8).....	1,796	1,901	1,898	1,428	1,102	1,013	753	594	597	577	552	680	630	658	663	593	535	569	575	581	621
(9) Net Imports of Blister/Anode (page 8).....	155	123	135	179	178	270	127	144	115	100	167	152	110	49	10	(15)	(15)	(11)	(12)	(11)	r (10)
(10) Blister/Anode Stocks and Other (page 9)...	(154)	(133)	(125)	5	(3)	(87)	48	(9)	27	45	24	23	51	(9)	22	23	21	14	28	(16)	r 12
(11) Refined Production from Blister/Anode.....	1,797	1,891	1,908	1,612	1,277	1,196	928	729	740	721	744	855	791	699	694	601	541	571	591	553	r 623
(12) Refined Production from Scrap.....	168	180	162	81	87	72	77	59	56	52	49	51	60	51	42	41	44	52	51	54	51
(13) Total Refined Production (page 9).....	2,598	2,717	2,741	2,339	1,977	1,960	1,667	1,440	1,439	1,384	1,378	1,462	1,411	1,275	1,210	1,135	1,104	1,146	1,208	1,255	r 1,352
(14) Net Imports of Refined (page 9).....	497	611	703	981	1,019	1,295	1,136	622	636	1,023	1,117	861	776	643	581	734	519	685	543	661	r 633
(15) Refined Stocks and Other (page 10).....	(210)	(254)	(263)	(29)	339	(368)	(197)	462	587	99	(168)	33	41	(101)	157	68	317	182	181	66	r (36)
(16) Consumption of Refined (page 10).....	2,885	3,074	3,181	3,291	3,335	2,887	2,606	2,524	2,662	2,506	2,327	2,356	2,228	1,817	1,947	1,936	1,940	2,013	1,933	1,982	r 1,948

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Included with domestic ore.

Numbers may not sum due to rounding.

Table 1, Item 1.**Copper content of mine production in the United States¹**

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Arizona.....	1,367	1,378	1,312	1,157	1,024	969	845	817	797	761	785	806	923	784	775	828	843	876	980	1,086	r 1,067
Other States ^(a)	749	760	739	606	574	508	411	413	478	496	535	482	521	518	448	399	446	499	510	465	r 508
TOTAL.....	2,116	2,138	2,051	1,763	1,598	1,477	1,256	1,230	1,275	1,257	1,319	1,287	1,444	1,302	1,224	1,227	1,290	1,376	1,490	1,551	r 1,575

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Includes California, Colorado, Idaho, Illinois, Kentucky, Maine, Michigan, Missouri, Montana, Nevada, New Mexico, Oregon, Pennsylvania, Tennessee, Utah and Washington.

(1) Copper content of concentrates, precipitates, or electrowon.

Numbers may not sum due to rounding.

Table 1, Item 1a.

Copper content of world mine production¹

Copper Content, thousands of short tons																						
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
Australasia																						
Australia.....	603	615	669	792	914	960	968	915	941	1,010	947	960	974	941	959	1,058	1,015	1,100	1,070	1,062	r	1,045
Papua New Guinea.....	205	123	167	207	224	225	233	216	191	213	214	187	176	184	176	144	138	116	84	53		88
Total Australasia.....	808	738	836	999	1,138	1,185	1,201	1,131	1,133	1,223	1,161	1,147	1,150	1,125	1,135	1,202	1,153	1,217	1,153	1,115	r	1,133
Americas																						
Argentina.....	—	34	171	220	160	211	225	219	194	206	199	199	173	158	155	129	150	121	113	68		90
Brazil.....	48	43	42	32	34	33	34	30	109	144	158	227	243	228	236	238	244	299	324	382		369
Canada.....	759	727	777	684	699	698	665	615	620	656	665	657	669	540	579	624	638	697	767	769		780
Chile.....	3,435	3,739	4,064	4,840	5,073	5,224	5,049	5,406	5,966	5,865	5,909	6,125	5,873	5,941	5,973	5,801	5,990	6,367	6,338	6,363	r	6,121
Mexico.....	376	431	424	420	402	409	363	394	447	473	368	372	272	263	298	485	551	531	568	655	r	829
Peru.....	534	560	533	591	611	796	931	929	1,142	1,113	1,156	1,312	1,398	1,407	1,375	1,362	1,431	1,516	1,521	1,875		2,595
United States.....	2,116	2,138	2,051	1,763	1,598	1,477	1,256	1,230	1,275	1,257	1,319	1,288	1,444	1,302	1,224	1,227	1,290	1,376	1,488	1,551	r	1,575
Total Americas.....	7,304	7,714	8,089	8,550	8,577	8,848	8,523	8,823	9,754	9,715	9,774	10,180	10,072	9,838	9,839	9,866	10,294	10,907	11,118	11,662	r	12,360
Europe																						
Bulgaria.....	96	95	93	107	103	107	105	103	104	104	122	121	116	116	116	126	119	121	121	121		121
Poland.....	466	457	481	511	501	522	554	546	585	564	548	498	473	484	469	470	471	473	464	469	r	468
Portugal.....	119	117	126	110	84	91	85	85	105	99	87	99	99	96	82	88	81	84	83	90		84
Scandinavia.....	98	112	92	89	99	95	95	108	108	112	110	84	78	76	101	107	119	134	135	129		139
Serbia.....	77	81	78	57	51	30	34	23	13	14	13	18	21	21	0	—	—	—	—	—		—
Total Europe.....	856	862	870	873	838	845	873	865	916	893	880	821	786	793	767	791	790	812	803	810		813
Asia																						
Russian Federation.....	577	557	584	590	584	595	730	694	694	705	744	761	777	745	775	799	794	799	816	769	r	755
Armenia.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	56	91		112
China.....	621	687	678	737	795	802	780	816	977	998	1,126	1,043	1,205	1,171	1,300	1,402	1,642	1,891	1,963	1,881	r	2,090
India.....	53	41	44	38	37	38	34	32	33	25	32	36	31	33	36	40	33	43	32	33	r	34
Indonesia.....	579	604	892	866	1,107	1,155	1,282	1,106	929	1,174	900	870	717	1,098	962	599	439	561	418	638	r	802
Iran.....	114	131	141	143	143	146	146	162	161	181	238	269	273	289	283	334	271	246	239	272	r	319
Kazakhstan ⁽³⁾	276	349	373	412	474	518	522	535	509	443	479	448	465	448	419	479	460	493	484	489		536
Laos ⁽⁴⁾	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	171	176	185		185
Mongolia ⁽⁵⁾	—	—	—	—	—	—	—	—	—	—	—	146	143	142	139	137	137	219	295	366		378
Philippines.....	68	54	50	41	35	26	21	22	18	18	19	24	24	52	65	70	72	102	99	93		90
Turkey.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	134	119	r	116
Total Asia.....	2,288	2,423	2,762	2,827	3,175	3,280	3,515	3,367	3,322	3,544	3,538	3,598	3,634	3,976	3,979	3,859	3,848	4,525	4,711	4,937		5,415
Africa																						
Congo.....	55	44	39	34	36	42	42	70	82	111	141	157	236	332	401	529	619	925	1,008	1,002	r	952
Namibia.....	20	20	7	—	6	17	20	18	15	12	7	11	10	—	—	4	6	5	6	15		18
South Africa.....	208	205	207	177	179	123	100	99	96	98	99	107	120	119	113	127	89	84	87	85	r	72
Zambia.....	400	383	347	309	275	349	376	384	443	477	523	561	612	614	756	864	766	838	776	791	r	841
Total Africa.....	683	652	600	520	496	531	538	571	636	697	769	836	977	1,065	1,270	1,524	1,480	1,852	1,877	1,893	r	1,883
Other⁽⁶⁾.....																						
Other⁽⁶⁾.....	335	348	339	333	339	331	320	320	520	548	600	476	509	741	686	720	856	828	716	673	r	682
TOTAL WORLD.....	12,274	12,737	13,497	14,103	14,563	15,020	14,970	15,077	16,281	16,620	16,721	17,057	17,127	17,539	17,676	17,962	18,421	20,141	20,380	21,090	r	22,286

Sources: International Copper Study Group

p - preliminary r - revised

(1) Copper content of concentrates, precipitates, or electrowon.

(2) Included in "Other" starting in 1995.

(3) Kazakhstan reported separately from the Russian Federation starting in 1992; included with Russian Federation for 1986-1991.

(4) Laos no longer included with Other starting in 2013.

(5) Mongolia no longer included with China starting in 2007.

(6) Includes countries from various continents, making the continent totals som

Numbers may not sum due to rounding.

Table 1, Item 2.**Imports and exports of copper ore, concentrates, matte, ash and precipitates in the United States**

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Imports (Ore, Concentrate, Matte, Ash).....	82	51	242	160	2	52	80	32	27	2	2	3	2	0	2	17	7	5	0	0 r	0
Exports (Ore, Concentrate, Matte, Ash).....	(256)	(204)	(65)	(110)	(227)	(76)	(44)	(28)	(51)	(197)	(224)	(217)	(383)	(166)	(151)	(278)	(332)	(384)	(452)	(432)	(365)
Net Imports (Ore, Concentrate, Matte, Ash)^(a).....	(174)	(153)	177	50	(225)	(24)	36	4	(24)	(195)	(222)	(214)	(381)	(166)	(150)	(261)	(325)	(379)	(452)	(432) r	(365)

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

(a) - () sign denotes net exports.

Numbers may not sum due to rounding.

Table 1, Item 8.**Smelter production of copper in the United States**

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Smelter Production - Domestic Ore (Table 1, Item 6).....	1,422	1,587	1,642	1,202	945	925	753	594	597	577	552	680	630	658	662	593	535	569	575	581	621
Smelter Production - Foreign Ore	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Smelter Production - Scrap (Table 1, Item 7)	374	314	256	226	157	88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL SMELTER PRODUCTION.....	1,796	1,901	1,898	1,428	1,102	1,013	753	594	597	577	552	680	630	658	662	593	535	569	575	581	621

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

(a) - Included with domestic ore.

Numbers may not sum due to rounding.

Table 1, Item 9.**Imports and exports of blister and anode copper in the United States**

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Imports of Blister/Anode Copper.....	181	158	165	213	204	299	163	173	166	146	188	169	136	75	29	1	1	1	1	0 r	0
Exports of Blister/Anode Copper.....	(26)	(35)	(30)	(34)	(26)	(29)	(36)	(29)	(51)	(46)	(21)	(17)	(26)	(26)	(19)	(16)	(15)	(12)	(13)	(12)	(10)
Net Imports of Blister/Anode Copper.....	155	123	135	179	178	270	127	144	115	100	167	152	110	49	10	(15)	(15)	(11)	(12)	(11) r	(10)

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

Numbers may not sum due to rounding.

Table 1, Item 10.

Blister and anode stocks and other

Copper Content, thousands of short tons																						
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
End-of-Year Blister/Anode Copper Stocks....	192	191	198	176	152	134	108	49	63	57	49	21	29	27	17	29	14	14	14	11	15	16
Net Change ^(a)	3	(1)	7	(22)	(24)	(18)	(26)	(59)	14	(6)	(8)	(28)	8	(2)	(10)	12	(15)	(1)	0	(3)	4	0
Apparent Change ^(b)	70	154	133	125	(5)	3	87	(48)	9	(27)	(45)	(24)	(23)	(51)	(9)	(22)	(23)	(21)	(14)	(28)	16 r	(12)

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

(a) - Net Change - the year-to-year increase (+) or decrease () of blister copper stocks as reported.

(b) - Apparent Change - the difference between Line 11 and the sum of Lines 8 & 9 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change.

The sign of the data + or () is opposite that shown in Table 1.

Numbers may not sum due to rounding.

Table 1, Item 13.

Production of refined copper in the United States

Copper Content, thousands of short tons																						
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Refined Production - Primary Sources (Table 1, Items 1,2,4,9 and 10).....	1,974	2,056	2,223	2,323	2,032	1,733	1,800	1,590	1,381	1,383	1,332	1,328	1,411	1,351	1,224	1,168	1,093	1,060	1,095	1,157	1,202 r	1,301
Refined Production - Scrap at Smelters (Table 1, Item 7).....	390	374	314	256	226	157	88	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Refined Production - Scrap at Refiners (Table 1, Item 12).....	151	168	180	162	81	87	72	77	59	56	52	49	51	60	51	42	41	44	52	51	54	51
TOTAL REFINED PRODUCTION.....	2,515	2,598	2,717	2,741	2,339	1,977	1,960	1,667	1,440	1,439	1,384	1,378	1,462	1,411	1,275	1,210	1,135	1,104	1,146	1,208	1,255 r	1,352

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

Numbers may not sum due to rounding.

Table 1, Item 14.

Imports and exports of refined copper in the United States

Copper Content, thousands of short tons																						
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
General Imports of Refined Copper ¹	473	684	714	799	1,009	1,126	1,321	1,168	758	776	1,077	1,184	917	798	732	667	739	694	809	683	756	780
Total Exports of Refined Copper.....	(240)	(187)	(103)	(96)	(28)	(107)	(26)	(32)	(136)	(140)	(54)	(67)	(56)	(22)	(89)	(86)	(5)	(175)	(125)	(140)	(95) r	(148)
Net Imports of Refined Copper.....	233	497	611	703	981	1,019	1,295	1,136	622	636	1,023	1,117	861	776	643	581	734	519	685	543	661 r	633

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

¹ General Imports measure the total physical arrivals of merchandise from foreign countries, whether such merchandise enters consumption channels immediately or is entered into bonded warehouses or Foreign Trade Zones under Customs custody.

Numbers may not sum due to rounding.

Table 1, Item 15.**Refined stocks and other**

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
End-of year Refined Copper Stocks at:																					
Refineries.....	36	66	49	11	16	32	13	13	11	9	31	24	17	26	11	9	14	17	11	13	4
Wire Rod Mills.....	35	27	41	37	44	41	25	33	22	22	24	23	25	28	22	26	31	36	46	40	r 43
Brass Mills.....	15	16	23	26	26	28	32	22	24	27	38	11	9	8	7	8	7	7	7	8	r 8
Other Processors.....	3	4	4	4	5	5	5	5	4	6	6	6	4	5	5	5	5	5	5	8	r 8
Government.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Commodity Exchange.....	29	92	94	92	65	269	399	281	48	7	34	15	36	99	65	88	71	17	27	70	88
London Metal Exchange ¹	42	142	376	454	225	680	662	369	39	1	83	67	117	312	313	315	132	204	112	92	109
End-of Year Total.....	160	347	587	624	381	1,055	1,136	723	148	73	216	146	207	478	423	451	260	285	208	232	r 261
Net Change ^(a)	(19)	187	240	37	(243)	674	81	(413)	(575)	(75)	144	(70)	61	271	(56)	29	(191)	25	(77)	24	r 29
Apparent Change ^(b)	210	254	263	29	(339)	368	197	(462)	(587)	(99)	168	(33)	(41)	101	(157)	(68)	(317)	(182)	(181)	(66)	r 36

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

(a) - Net Change - the year-to-year increase (+) or decrease () of refined copper stocks as reported

(b) - Apparent Change - the difference between Line 16 and the sum of Lines 13 and 14 in Table 1, required to rationalize the CDA flow sheet. Factors other than changes in stocks are included in the apparent change. The sign of the data (+) or () is opposite that shown in Table 1.

¹ Prior to 1995 there were no LME warehouses in the USA.

Numbers may not sum due to rounding.

Table 1, Item 16.**Consumption of refined copper in the United States**

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Consumption of Refined Copper by:																					
Wire Rod Mills.....	2,183	2,362	2,396	2,458	2,469	2,138	1,885	1,809	1,962	1,852	1,731	1,775	1,642	1,257	1,378	1,400	1,411	1,444	1,400	1,455	r 1,422
Brass Mills.....	648	659	727	762	797	687	654	647	632	582	540	525	528	500	506	474	467	504	467	465	r 464
Ingot Makers.....	4	5	6	5	5	5	5	5	5	5	5	5	3	0	0	0	0	0	0	0	0
Foundries and Other Industries ^(a)	50	52	57	66	64	57	62	63	63	67	51	51	55	60	63	62	62	65	65	62	r 62
Powder Plants ^(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Other Industries.....	0	(4)	(5)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL REFINED CONSUMPTION...	2,885	3,074	3,181	3,291	3,335	2,887	2,606	2,524	2,662	2,506	2,327	2,356	2,228	1,817	1,947	1,936	1,940	2,013	1,933	1,982	r 1,948

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

(a) - Starting with 1995 Powder Plants data are included with Foundries. Starting in 2008 Ingot Makers data are also included with Foundries.

Numbers may not sum due to rounding.

Table 2.**Supply of secondary copper from receipt to consumption by brass mills, ingot makers, foundries, powder plants and other industries**

		Copper Content, thousands of short tons																					
		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
(1)	Receipts of Domestic Scrap.....	1,534	1,696	1,598	1,542	1,667	1,570	1,423	1,511	1,557	1,511	1,623	1,570	1,755	1,648	1,810	2,064	2,023	1,978	1,857	1,730	r	1,755
(2)	Net Scrap Imports (page 12) ^(a)	(161)	(154)	(115)	(157)	(312)	(384)	(359)	(538)	(549)	(512)	(628)	(653)	(883)	(850)	(1,033)	(1,246)	(1,202)	(1,158)	(1,024)	(930)		(901)
(3)	Scrap Stocks (page 12).....	3	(11)	1	(5)	9	11	3	3	(11)	(9)	(2)	20	0	5	31	0	0	1	(2)	(0)		0
(4)	Recovery from Copper-Base Scrap (page 13)	1,375	1,531	1,484	1,380	1,364	1,198	1,067	977	996	990	992	937	873	803	808	818	821	821	830	800	r	853
(5)	Recovery from Other Scrap (page 13)	79	82	84	86	82	69	68	64	68	61	77	83	67	51	57	67	70	71	76	77		77
(6)	Total Scrap Recovery (page 13).....	1,454	1,613	1,568	1,466	1,446	1,267	1,135	1,041	1,064	1,051	1,069	1,020	940	854	865	885	891	892	906	876	r	930
(7)	Smelter Production from Scrap.....	(374)	(314)	(256)	(226)	(157)	(88)	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—
(8)	Refined Production from Scrap.....	(168)	(180)	(162)	(81)	(87)	(72)	(77)	(59)	(56)	(52)	(49)	(51)	(60)	(51)	(42)	(41)	(44)	(52)	(51)	(54)		(51)
(9)	Non-Reported Scrap & Other.....	162	42	33	55	15	(31)	(2)	8	8	8	8	9	10	9	0	0	0	0	1	1		1
(10)	Consumption of Scrap (page 13).....	1,074	1,161	1,183	1,214	1,217	1,076	1,056	990	1,016	1,006	1,027	978	890	812	823	843	848	841	856	823	r	879

Source: U.S. Department of the Interior, U.S. Geological Survey.

p - preliminary, r - revised

(a) - () sign denotes net exports.

Numbers may not sum due to rounding.

Table 2, Item 2.

Imports and exports of copper-base scrap in the United States

	Copper Content, thousands of short tons																				
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Imports of Copper-Base Scrap.....	196	196	148	119	124	100	89	78	88	100	101	124	117	79	106	121	115	117	129	123	138
Exports of Copper-Base Scrap.....	(357)	(350)	(263)	(276)	(436)	(484)	(448)	(616)	(637)	(612)	(729)	(777)	(1,000)	(929)	(1,139)	(1,367)	(1,317)	(1,275)	(1,153)	(1,053)	(1,039)
Net Imports of Copper-Base Scrap^(a).....	(161)	(154)	(115)	(157)	(312)	(384)	(359)	(538)	(549)	(512)	(628)	(653)	(883)	(850)	(1,033)	(1,246)	(1,202)	(1,158)	(1,024)	(930)	(901)

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - The () sign for each year is used to be consistent with the convention used in Tables 1, 2 and 4, namely that imports are **additions** to the domestic flow, and therefore (+), while exports are **subtractions** from the flow, and therefore ().

Numbers may not sum due to rounding.

Table 2, Item 3.

Copper-base scrap stocks

	Copper Content, thousands of short tons																				
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Scrap Copper-Base Stocks at:																					
Brass Mills.....	35	38	46	50	50	43	42	40	51	56	58	40	40	36	1	1	2	4	5	5	5
Secondary Smelters & Primary Producers...	23	31	23	23	14	10	8	7	7	12	12	10	11	8	12	10	11	9	9	9	9
Foundries.....	5	5	4	5	5	5	5	5	4	4	4	4	3	5	5	7	5	5	5	5	5
Other Processors.....																					
End-of Year Total....	63	74	73	78	69	58	55	52	63	72	74	54	54	49	18	18	18	17	19	19	19
Net Change ^(a)	(3)	11	(1)	5	(9)	(11)	(3)	(3)	11	9	2	(20)	(0)	(5)	(31)	(0)	(0)	(1)	2	0	-

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Net Change - the year-to-year increase (+) or decrease () of stocks as reported. The sign of the data (+) or () is opposite that

Numbers may not sum due to rounding.

Table 2, Item 6.

Recovery of copper from scrap

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Copper Recovered from Copper-Base Scrap.....																					
New Scrap.....	941	1,017	1,008	995	1,002	876	885	773	810	805	851	797	726	670	675	681	669	657	685	662	r 722
Old Scrap.....	434	514	476	385	362	322	182	204	186	185	141	140	147	132	133	137	152	164	145	138	r 131
Total (Table 2, Item 4).....	1,375	1,531	1,484	1,380	1,364	1,198	1,067	977	996	990	992	937	873	803	808	818	821	821	830	800	r 853
Copper Recovered from Scrap other than Copper-Base																					
New Scrap.....	42	48	47	51	50	42	41	40	43	44	52	50	42	32	33	35	36	37	40	40	40
Old Scrap.....	37	34	37	35	32	27	27	24	25	17	25	33	26	19	24	32	34	34	36	36	36
Total (Table 2, Item 5).....	79	82	84	86	82	69	68	64	68	61	77	83	67	51	57	67	70	71	76	77	77
Copper Recovered from All Scrap																					
New Scrap.....	983	1,065	1,055	1,046	1,052	918	926	813	853	848	902	846	768	703	708	716	706	694	726	702	r 763
Old Scrap.....	471	548	513	420	394	349	209	228	211	202	166	173	172	151	158	169	186	198	181	174	r 167
Total Copper Recovered (Table 2, Item 6).....	1,454	1,613	1,568	1,466	1,446	1,267	1,135	1,041	1,064	1,051	1,069	1,020	940	854	865	885	891	892	906	876	r 930

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

Numbers may not sum due to rounding.

Table 2, Item 10.

Consumption of copper scrap in the United States

Copper Content, thousands of short tons																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Consumption of Copper Scrap by:																					
Wire Rod Mills.....	30	33	33	34	35	30	30	28	29	29	30	28	26	24	25	25	20	20	21	20	r 22
Brass Mills.....	768	853	861	880	896	771	779	717	748	739	763	710	651	605	608	615	611	604	647	608	r 663
Ingot Makers.....	137	138	149	143	130	135	109	101	99	104	91	100	87	83	84	86	84	83	62	62	r 62
Foundries.....	59	61	57	83	87	80	79	80	71	74	66	57	59	49	50	51	63	62	50	54	r 55
Powder Plants ^(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Chemical Plants ^(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Non-copper based scrap.....	79	82	84	86	82	69	68	64	68	61	77	83	67	51	57	67	70	72	77	77	r 72
Miscellaneous Adjustments...	1	(6)	(1)	(12)	(13)	(9)	(9)	—	—	—	—	—	—	—	—	—	—	—	—	1	6 r
TOTAL COPPER CONSUMED.....	1,074	1,161	1,183	1,214	1,217	1,076	1,056	990	1,015	1,007	1,027	978	890	812	823	843	848	841	856	823	r 879 r

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Starting with 1995 Powder Plants data are included with Foundries.

(b) - Chemical Plants data included with Foundries.

Numbers may not sum due to rounding.

Table 3.

Consumption of metals by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

		Copper Content, thousands of short tons																					
		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
(1)	Consumption of Refined Copper (Table 1, Item 16)	2,885	3,074	3,181	3,291	3,335	2,887	2,606	2,524	2,662	2,506	2,327	2,356	2,228	1,817	1,947	1,936	1,940	2,013	1,933	1,982	r	1,948
(2)	Consumption of Copper in Scrap (Table 2, Item 10)	1,074	1,161	1,183	1,214	1,217	1,076	1,056	990	1,016	1,006	1,027	978	890	812	823	843	848	841	856	823	r	879
(3)	Total Copper Consumed (page 15)	3,959	4,235	4,364	4,505	4,552	3,963	3,662	3,514	3,678	3,512	3,354	3,334	3,118	2,628	2,771	2,780	2,788	2,854	2,789	2,805	r	2,827
(4)	Consumption of Zinc.....	292	300	305	312	329	283	296	266	284	273	268	253	226	238	236	186	196	166	162	143	r	146 r
(5)	Consumption of Lead.....	19	20	20	19	19	17	15	13	14	11	11	11	13	12	11	13	10 r	10	12	10	r	10 r
(6)	Consumption of Tin.....	8	9	10	9	11	11	10	8	8	9	9	9	8	8	7	11	9	8	7	6	r	6 r
(7)	Consumption of Nickel.....	8	7	8	11	11	8	6	6	7	7	6	6	5	5	5	2	1	1	2	1	r	1 r
(8)	Total Alloying Metal Consumed (page 16).....	327	336	343	351	370	319	327	293	314	300	295	278	252	263	259	212	217 r	186	183	160 r	163	
(9)	Total Metal Consumed	4,286	4,571	4,707	4,856	4,922	4,282	3,989	3,807	3,992	3,812	3,649	3,611	3,371	2,891	3,030	2,991	3,004	3,040	2,972	2,966 r	2,991 r	
(10)	Ingot Consumed (page 17) ^(a)	136	140	125	139	137	126	122	112	109	102	97	90	84	85	83	68	68	65	65	62	r	65
(11)	Ingot Stocks & Other ^(a,b)	(38)	(39)	(66)	(40)	(32)	(45)	(16)	(14)	(17)	(27)	(20)	(38)	(30)	(28)	(23)	(41)	(40)	(38)	(17)	(16)	r	(13)
(12)	Net Metal Consumed (page 17).....	4,248	4,532	4,641	4,816	4,890	4,237	3,972	3,793	3,974	3,785	3,629	3,573	3,341	2,863	3,007	2,950	2,965	3,002	2,956	2,950 r	2,978 r	
(13)	Wire Rod Mills - Net Metal Consumed (p 17)	2,213	2,395	2,429	2,492	2,504	2,168	1,915	1,837	1,991	1,881	1,760	1,802	1,668	1,281	1,403	1,425	1,431	1,464	1,421	1,475	r	1,444
(14)	Wire Rod Mills - Metal Stocks & Other.....	8	(72)	(53)	(154)	(148)	(114)	32	(29)	(30)	(201)	(13)	(40)	7	(24)	(36)	(47)	(20)	(9)	1	(31)	r	(11)
(15)	Wire Rod Mills - Shipments.....	2,221	2,323	2,376	2,338	2,356	2,054	1,947	1,808	1,961	1,680	1,747	1,763	1,676	1,257	1,367	1,378	1,411	1,455	1,422	1,444		1,433
(16)	Wire Rod - Net Imports.....	(6)	18	51	197	237	351	339	241	208	486	446	159	77	1	(43)	36	(5)	15	10	(19)		(20)
(17)	Wire Mills - Net Metal Consumed.....	2,215	2,341	2,427	2,535	2,593	2,405	2,286	2,049	2,169	2,166	2,193	1,922	1,753	1,257	1,324	1,414	1,406	1,470	1,432	1,425	r	1,413 r
(18)	Wire Mills - Metal Stocks & Other.....	(370)	(327)	(320)	(351)	(422)	(439)	(540)	(197)	(151)	(109)	(304)	(181)	(207)	151	77	(134)	16 r	(15)	(10)	30	r	72 r
(19)	Wire Mills - Metal Contained in Products Supplied (Table 4, Item 11)	1,846	2,014	2,108	2,184	2,172	1,966	1,747	1,852	2,018	2,057	1,889	1,741	1,546	1,408	1,401	1,280	1,422 r	1,455	1,422	1,456		1,486
(20)	Brass Mills - Net Metal Consumed (p 17).....	1,680	1,783	1,867	1,934	1,998	1,717	1,712	1,609	1,637	1,571	1,547	1,455	1,368	1,285	1,298	1,272	1,260 r	1,297	1,273	1,215	r	1,271 r
(21)	Brass Mills - Metal Stocks & Other.....	104	69	30	52	18	(53)	(46)	(21)	82	128	74	(7)	(94)	(344)	(260)	(261)	(276) r	(252)	(224)	(232)	r	(267) r
(22)	Brass Mills - Metal Contained in Products Supplied (Table 4, Item 17).....	1,784	1,852	1,897	1,986	2,016	1,664	1,666	1,588	1,720	1,699	1,621	1,448	1,274	941	1,038	1,011	983	1,018	1,049	983	r	1,004
(23)	Foundries - Net Metal Consumed (page 17).....	275	282	267	303	307	283	278	274	270	264	238	223	230	242	250	186	204	196	184	182	r	186 r
(24)	Foundries - Metal Stocks & Other.....	(64)	(70)	(54)	(86)	(90)	(113)	(121)	(127)	(130)	(127)	(108)	(103)	(123)	(149)	(159)	(96)	(117)	(109)	(98)	(99)	r	(100) r
(25)	Foundries - Metal Contained in Products Supplied.....	212	213	214	217	218	171	158	148	140	138	130	120	108	93	91	90	87	87	87	83		86
(26)	Powder Plants - Net Metal Consumed ^(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)		(c)
(27)	Powder Plants - Metal Stocks & Other ^(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)		(c)
(28)	Powder Plants - Metal Contained in Products Supplied	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)		(c)
(29)	Other Industries - Net Metal Consumed.....	80	72	78	87	81	69	67	73	77	70	86	90	74	56	57	67	70	72	77	78	r	77

Sources: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised, NA - not available

(a) - Direct consumption only; not including consumption of copper in ingots from ingot makers.

(b) - Ingot makers consume refined copper, scrap copper and alloying metal and ship to foundries, brass mills, powder plants and other industries.

(c) - Starting with 1995 Powder Plants are combined with "Foundries."

Numbers may not sum due to rounding.

Table 3, Item 3.

Consumption of copper by wire rod mills, brass mills, ingot makers, foundries, powder plants and other industries

Copper Content, thousands of short tons

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Consumption of Copper by:																					
Wire Rod Mills																					
Refined.....	2,183	2,362	2,396	2,458	2,469	2,138	1,885	1,809	1,962	1,852	1,731	1,775	1,642	1,257	1,378	1,400	1,411	1,444	1,400	1,455	r 1,422
Scrap.....	30	33	33	34	35	30	30	28	29	29	30	28	26	24	25	25	20	20	21	20	r 22
Total.....	2,213	2,395	2,429	2,492	2,504	2,168	1,915	1,837	1,991	1,881	1,760	1,802	1,668	1,281	1,403	1,425	1,431	1,464	1,421	1,475	r 1,444
Brass Mills ^(a)																					
Refined.....	648	659	727	762	797	687	654	647	632	582	540	525	528	500	506	474	467	504	467	465	r 464
Scrap.....	768	853	861	880	896	771	779	717	748	739	763	710	651	605	608	615	611	604	647	608	r 663
Total.....	1,416	1,512	1,588	1,642	1,693	1,458	1,433	1,364	1,380	1,321	1,303	1,235	1,179	1,105	1,114	1,089	1,078	1,108	1,114	1,073	r 1,127
Ingot Makers ^(b)																					
Refined.....	4	5	6	5	5	5	5	5	5	5	5	5	3	0	0	0	0	0	0	0	0
Scrap.....	137	138	149	143	130	135	109	101	99	104	91	100	87	83	84	86	84	83	62	62	r 62
Total.....	141	143	155	148	135	140	114	106	104	109	96	105	90	83	84	86	84	83	62	62	r 62
Foundries and Other Industries ^(a,c)																					
Refined.....	50	52	57	66	64	57	62	63	63	67	51	51	55	60	63	62	62	65	65	62	r 62
Scrap.....	59	61	57	70	75	71	70	71	63	65	57	51	52	44	50	51	63	62	50	54	r 55
Total.....	109	113	114	136	139	128	132	134	127	132	109	103	107	104	113	113	125	127	115	116	r 117
Powder Plants ^(c)																					
Refined.....	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
Scrap.....	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
Total.....	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)	(c)
Miscellaneous ^(d)																					
Refined.....	—	(4)	(5)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scrap.....	80	76	83	87	81	69	68	73	77	70	86	89	74	56	57	67	70	72	77	78	r 77
Total.....	80	72	78	87	81	69	68	73	77	70	86	89	74	56	57	67	70	72	77	78	r 77
All Industries																					
Refined (Table 1, Item 16)	2,885	3,074	3,181	3,291	3,335	2,887	2,606	2,524	2,662	2,506	2,327	2,356	2,228	1,817	1,947	1,936	1,940	2,013	1,933	1,982	r 1,948
Scrap (Table 2, Item 10).....	1,074	1,161	1,183	1,214	1,217	1,076	1,056	990	1,016	1,006	1,027	978	890	812	823	843	848	841	856	823	r 879
TOTAL COPPER CONSUMED (Table 3, Item 3)...	3,959	4,235	4,364	4,505	4,552	3,963	3,662	3,514	3,678	3,512	3,354	3,334	3,118	2,628	2,771	2,780	2,788	2,854	2,789	2,805	r 2,827

Sources: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Direct consumption only; not including consumption of copper in ingots from

(b) - Ingot makers consume refined copper, scrap copper and alloying metal and ship to foundries, brass mills, powder plants and other industries.

(c) - Starting with 1995 Powder Plants and Other Industries data are included with "Foundries and Other Industries."

(d) - Miscellaneous - reconciles discrepancies between USGS reports.

Numbers may not sum due to rounding.

Table 3, Item 8.

Consumption of alloying metal by brass mills, ingot makers, foundries and powder plants

	Copper Content, thousands of short tons																				
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Consumption of Alloying Metal by:																					
Brass Mills ^(a)																					
Zinc:Unalloyed & in Secondary Copper Alloys	246	253	259	269	501	241	263	231	241	236	230	209	179	170	176	173	174	154	150	134	r 137
Lead:Unalloyed & in Secondary Copper Alloys	8	9	9	9	8	7	7	6	7	4	4	3	3	3	3	4	4	4	6	5	r 5
Tin:Unalloyed & in Secondary Copper Alloys...	2	2	3	3	4	3	3	2	2	3	4	3	2	2	2	5	3	2	2	1	r 1
Nickel:Unalloyed & in Secondary Copper Alloys	8	7	8	11	11	8	6	6	7	7	6	5	5	5	3	1	1	1	1	1	1
Total	264	271	279	292	305	259	279	245	256	250	243	221	189	180	184	183	182	162	159	141	r 144
Ingot Makers																					
Zinc:Unalloyed & in Secondary Copper Alloys	19	20	20	17	18	16	12	10	12	10	10	12	10	17	10	10	13	10	10	8	r 8
Lead:Unalloyed & in Secondary Copper Alloys	9	10	10	9	10	9	7	6	6	6	6	7	9	9	7	8	6	6	6	5	r 5
Tin:Unalloyed & in Secondary Copper Alloys	5	6	6	5	6	6	5	4	4	4	4	5	5	4	4	5	4	4	4	4	r 3
Nickel:Unalloyed	—	—	—	—	—	—	—	—	0	0	0	—	0	0	1	0	0	0	0	0	r 0
Total	33	36	36	31	34	31	24	20	22	20	20	24	24	30	22	23	23	20	20	16	r 16
Foundries and Other Industries ^(a)																					
Zinc:Unalloyed & in Secondary Copper Alloys	27	27	26	26	29	26	21	25	32	27	28	32	37	51	50	2	9	2	2	1	r 1
Lead:Unalloyed & in Secondary Copper Alloys	2	1	1	1	1	1	1	2	1	1	1	0	1	1	1	1	1	1	1	1	r 1
Tin:Unalloyed & in Secondary Copper Alloys	1	1	1	1	1	2	2	2	2	2	2	1	1	1	1	2	2	2	1	1	r 1
Nickel:Unalloyed	—	—	—	—	—	—	—	—	0	0	0	—	0	0	1	0	0	0	0	0	r 0
Total	30	29	28	28	31	29	24	29	35	30	31	33	39	54	53	5	12	4	4	3	r 3
Powder Plants ^(a)																					
Zinc-Slab																					
Zinc in Scrap																					
Tin-Refined	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)
Total																					
All Industries																					
Zinc: Unalloyed & in Secondary Copper Alloys	292	300	305	312	329	283	296	266	284	273	268	253	226	238	236	186	196	166	162	143	146 r
Lead: Unalloyed & in Secondary Copper Alloys	19	20	20	19	19	17	15	13	14	11	11	11	13	12	11	13	10	10	12	10	10 r
Tin: Unalloyed & in Secondary Copper Alloys	8	9	10	9	11	11	10	8	8	9	9	9	8	8	7	11	9	8	7	6 r	6 r
Nickel: Unalloyed & in Secondary Copper Alloys	8	7	8	11	11	8	6	6	7	7	6	5	5	5	5	2	1	1	2	1	1 r
TOTAL ALLOYING METAL CONSUMED (Table 3, Item 8)	327	336	343	351	370	319	327	293	314	300	295	278	252	263	259	212	217	186	183	160 r	163 r

Sources: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Direct consumption only; not including consumption of alloying metal in ingots from ingot makers.

(b) - Starting with 1995 Powder Plants data are included with "Foundries and Other Industries."

Numbers may not sum due to rounding.

Table 3, Item 12.

Net consumption of metals by wire rod mills, brass mills, foundries, powder plants and other industries

Copper Content, thousands of short tons																						
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
Net Metal Consumed by:																						
Wire Rod Mills - Copper (Table 3, Item 13)	2,213	2,395	2,429	2,492	2,504	2,168	1,915	1,837	1,991	1,881	1,760	1,802	1,668	1,281	1,403	1,425	1,431	1,464	1,421	1,475	r	1,444
Brass Mills																						
Copper.....	1,416	1,512	1,588	1,642	1,693	1,458	1,433	1,364	1,380	1,321	1,303	1,235	1,179	1,105	1,114	1,089	1,078	1,108	1,114	1,073	r	1,127
Alloy.....	264	271	279	292	305	259	279	245	256	250	243	221	189	180	184	183	182	162	159	141	r	144
Ingot.....								2														
Total (Table 3, Item 20).....	1,680	1,783	1,867	1,934	1,998	1,717	1,712	1,609	1,637	1,571	1,547	1,456	1,368	1,285	1,298	1,272	1,260	1,270	1,273	1,215	r	1,271
Foundries ^(a)																						
Copper.....	109	113	114	136	139	128	132	134	128	132	110	100	107	104	113	113	125	127	115	116	r	117
Alloy.....	30	29	28	28	31	29	24	28	35	30	31	33	39	54	53	5	12	4	4	3	r	3
Ingot.....	136	140	125	139	137	126	122	112	109	102	97	90	84	85	83	68	68	65	65	62	r	65
Total (Table 3, Item 23)...	275	282	267	303	307	283	278	274	272	264	238	223	230	242	250	186	204	196	184	182	r	186
Powder Plants ^(a)																						
Copper.....	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Alloy.....	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Ingot.....	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Total	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Other Industries ^(a)																						
Copper.....	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Ingot.....	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Total (Table 3, Item 29)...	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Miscellaneous and Discrepancies																						
Copper (Table 3, Item 29)...	80	72	78	87	81	69	67	73	77	70	86	89	74	56	57	67	70	72	77	78	r	77
Ingot.....																						
All Industries																						
Copper.....	3,818	4,092	4,209	4,357	4,417	3,823	3,547	3,408	3,575	3,403	3,258	3,226	3,029	2,545	2,687	2,694	2,703	2,771	2,727	2,743	r	2,765
Alloy.....	294	300	307	320	336	288	303	273	291	280	274	254	228	233	237	188	193	166	163	145	r	148
Ingot (Table 3, Item 10) ^(b)	136	140	125	139	137	126	122	112	109	102	97	90	84	85	83	68	68	65	65	62	r	65
NET METAL CONSUMED																						
(Table 3, Item 12).....	4,248	4,532	4,641	4,816	4,890	4,237	3,972	3,793	3,974	3,785	3,629	3,571	3,341	2,863	3,007	2,950	2,965	3,002	2,956	2,950	r	2,978

Source: U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised

(a) - Starting with 1995 Powder Plants and Other Industries data are included with "Foundries."

(b) - Total consumption of ingot shown here is less than the consumption of metal by ingot makers shown in the details of Table 3, Item 3, and Table 3, Item 8. The difference, shown as Ingot Stocks & Other in Table 3, is partially melting and other losses in the making of ingot.

Numbers may not sum due to rounding.

Table 4.

Supply of wire mill, brass mill, foundry and powder products and their consumption in the end-use markets

		Metal Content, millions of pounds																					
		1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
(1)	Bare Wire.....	290	300	320	330	340	310	290	270	260	255	225	200	175	170	165	160	166	167	150	170	r	180
(2)	Telecommunications Cable.....	563	609	697	628	749	599	384	395	366	375	359	292	225	177	168	160	163	163	155	156		162
(3)	Electronic Wire and Cable.....	202	241	241	246	290	232	178	238	255	256	265	290	210	155	150	145	148	151	148	147		149
(4)	Building Wire.....	1,172	1,393	1,447	1,562	1,358	1,329	1,270	1,425	1,664	1,700	1,533	1,426	1,259	1,177	1,059	1,005	1,020	1,035	1,031	1,052		1,073
(5)	Magnet Wire.....	714	719	700	778	714	615	573	561	570	532	536	493	443	400	380	360	367	380	361	370		384
(6)	Power Cable.....	266	267	286	303	333	319	288	294	300	372	315	249	326	352	335	315	326	335	328	328		307
(7)	Apparatus Wire and Cordage.....	210	211	229	235	250	216	185	193	140	140	89	86	124	102	100	95	97	98	95	96		101
(8)	Automotive Wire and Cable (except Magnet)	401	411	407	442	433	387	407	398	397	391	336	355	330	283	406	443	518	540	538	554		576
(9)	Other Insulated Wire and Cable.....	85	89	85	56	69	80	80	82	85	93	119	90	54	43	40	38	39	40	38	38		38
(10)	Total Insulated Wire and Cable.....	3,612	3,940	4,092	4,250	4,196	3,776	3,365	3,586	3,777	3,859	3,552	3,281	2,972	2,690	2,638	2,561	2,678	2,742	2,694	2,741		2,791
(11)	Total Wire Mill Products^(a).....	3,902	4,240	4,412	4,580	4,536	4,086	3,655	3,856	4,037	4,114	3,777	3,481	3,147	2,860	2,803	2,721	2,844	2,909	2,844	2,911	r	2,971
(12)	Strip, Sheet, Plate and Foil.....	1,178	1,230	1,262	1,356	1,421	1,018	1,019	957	1,068	1,035	1,067	999	928	692	794	740	757	816	830	791	r	803
(13)	Mechanical Wire ^(b)	93	96	98	94	99	85	78	72	80	75	72	62	(b)	(b)	(b)	(b)	(b)	(b)	(b)	(b)		(b)
(14)	Rod and Bar.....	1,096	1,193	1,190	1,238	1,247	1,025	1,038	965	1,059	1,032	1,022	882	808	562	675	675	636	641	702	606		626
(15)	Tube and Pipe ^(c)	1,200	1,184	1,244	1,285	1,266	1,202	1,197	1,182	1,233	1,256	1,080	953	812	619	607	608	574	579	567	568	r	578
(16)	Total Brass Mill Products (page 19).....	3,567	3,703	3,794	3,973	4,033	3,329	3,332	3,177	3,439	3,397	3,241	2,896	2,548	1,873	2,076	2,023	1,967	2,035	2,099	1,966	r	2,008
(17)	Total Foundry Products.....	381	382	383	384	385	300	270	250	230	225	215	200	180	160	150	145	140	140	138	130		136
(18)	Total Powder Products.....	42	43	44	50	50	41	45	45	50	50	45	40	35	27	32	34	34	34	35	36		36
(19)	Domestic Products - Total.....	7,892	8,368	8,633	8,986	9,004	7,756	7,302	7,328	7,756	7,786	7,279	6,617	5,910	4,919	5,061	4,923	4,985	5,118	5,116	5,043	r	5,150
(20)	Net Imports of Mill Products (page 20).....	108	126	223	376	568	276	249	265	343	266	319	311	224	108	81	96	149	86	155	163	r	200
(21)	Mill Products to Domestic Market*.....	8,000	8,494	8,856	9,362	9,572	8,033	7,551	7,593	8,099	8,052	7,597	6,928	6,134	5,027	5,142	5,018	5,133	5,203	5,270	5,206	r	5,350
(22)	Building Construction.....	3,221	3,455	3,635	3,900	3,918	3,584	3,532	3,640	4,035	4,071	3,721	3,405	3,025	2,420	2,285	2,193	2,222	2,234	2,276	2,282	r	2,327
(23)	Electrical and Electronic Products.....	2,020	2,170	2,329	2,400	2,517	2,016	1,598	1,582	1,569	1,525	1,533	1,400	1,274	1,018	1,059	1,037	1,024	978	976	953	r	1,033
(24)	Industrial Machinery and Equipment.....	946	972	965	1,005	965	749	729	697	682	701	682	575	494	432	430	377	358	378	383	359	r	351
(25)	Transportation Equipment.....	841	875	855	915	894	718	754	749	978	961	883	811	702	621	768	819	925	987	983	990	r	992
(26)	Consumer and General Products.....	761	811	875	930	1,085	810	776	773	836	794	778	737	639	536	601	592	605	627	653	622	r	647

Sources: Copper Development Association; Global Market Consultants, Inc.; U.S. Department of Commerce, Bureau of the Census; Metal Powder Producers Association.

Note: Totals may not sum due to rounding.

p - preliminary, r - revised

(a) - Copper content.

(b) - Rod and bar and mechanical wire data combined starting 2008.

(c) - Commercial tube and plumbing tube data combined.

* Markets include:

Building Construction - Building Wire; Plumbing & Heating; Air Conditioning & Commercial Refrigeration; Builders Hardware; Architectural

Electrical and Electronic Products - Power Utilities; Telecommunications; Business Electronics; Lighting & Wiring Devices

Industrial Machinery and Equipment - In-Plant Equipment; Industrial Valves & Fittings; Non-Electrical Instruments; Off-Highway Vehicles; Heat Exchangers

Transportation Equipment - Automobile; Truck & Bus; Railroad; Marine; Aircraft & Aerospace

Consumer and General Products - Appliances; Cord Sets; Military & Commercial Ordnance; Consumer Electronics; Fasteners & Closures; Coinage; Utensils & Cultery; Miscellaneous

Numbers may not sum due to rounding.

Table 4, Item 16.

Supply of brass mill products in the United States

Metal Content, millions of pounds																						
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
Strip, Sheet, Plate and Foil																						
Copper.....	383	405	435	477	531	390	363	341	390	391	394	378	343	224	240	236	234	258	258	287	r	284
Alloy.....	795	825	827	879	890	628	655	616	677	644	673	621	586	468	554	504	523	558	572	505		519
Total.....	1,178	1,230	1,262	1,356	1,421	1,018	1,019	957	1,068	1,035	1,067	999	929	692	794	740	757	816	830	791	r	803
Mechanical Wire																						
Copper.....	21	22	22	22	22	18	16	16	19	18	14	11	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Alloy.....	72	74	76	72	77	67	62	56	61	57	58	51	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Total.....	93	96	98	94	99	85	78	72	80	75	72	62	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)	(a)
Rod and Bar^(a)																						
Copper.....	183	206	206	217	245	207	177	170	205	212	211	201	188	133	161	167	151	163	180	144		160
Alloy.....	913	987	984	1,021	1,003	818	861	795	854	820	812	681	620	428	515	508	485	478	522	462		466
Total.....	1,096	1,193	1,190	1,238	1,247	1,025	1,038	965	1,059	1,032	1,022	882	808	562	675	675	636	641	702	606		626
Tube and Pipe^(b)																						
Copper.....	1,143	1,129	1,188	1,247	1,234	1,180	1,178	1,168	1,218	1,243	1,066	940	800	610	596	597	565	570	559	562	r	572
Alloy.....	57	55	56	38	32	22	19	14	15	13	14	13	12	9	11	11	9	8	8	7	r	6
Total.....	1,200	1,184	1,244	1,285	1,266	1,202	1,197	1,182	1,233	1,256	1,080	953	812	619	607	608	574	579	567	568	r	578
All Mill Products																						
Copper.....	1,730	1,762	1,851	1,963	2,032	1,794	1,735	1,695	1,832	1,863	1,685	1,529	1,330	968	996	1,000	951	991	997	992	r	1,016
Alloy.....	1,837	1,941	1,943	2,010	2,001	1,535	1,597	1,482	1,607	1,534	1,556	1,367	1,218	906	1,080	1,023	1,016	1,044	1,102	974		991
TOTAL BRASS MILL PRODUCTS	3,567	3,703	3,794	3,973	4,033	3,329	3,332	3,177	3,439	3,397	3,241	2,896	2,548	1,873	2,076	2,023	1,967	2,035	2,099	1,966	r	2,008

Sources: Copper Development Association; Global Market Consultants, Inc.

(a)- Copper and alloy rod and bar and mechanical wire data combined starting 2008.

(b) - Commercial tube and plumbing t

Numbers may not sum due to rounding.

Table 4, Item 16a.

Supply of brass mill products in selected countries

Metal Content, millions of pounds																						
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p	
France.....	584	747	769	742	461	393	369	263	227	201	498	421	382	254	274	251	251	261	263	266		270
Germany.....	1,951	2,196	2,296	2,324	2,620	2,464	2,412	2,328	2,561	2,510	2,585	4,096	3,909	2,982	3,650	3,597	3,306	3,391	3,526	3,590		3,698
Italy.....	1,672	1,337	1,988	1,938	2,186	2,051	1,980	1,957	1,682	1,369	2,020	1,836	1,584	862	1,137	1,106	1,124	1,378	1,368	1,381	r	1,403
Japan.....	2,607	2,611	2,239	2,324	2,559	2,162	2,114	2,175	2,290	2,075	2,296	2,200	1,497	1,436	1,756	1,721	1,686	1,701	1,792	1,681	r	1,719
Mexico.....	163	179	329	346	340	311	307	311	319	276	229	258	232	302	251	327	277	259	262	266		283
Scandinavia.....	425	438	453	420	444	429	445	442	469	464	478	381	437	349	383	393	391	381	408	393		395
Spain.....	211	233	262	285	291	218	250	213	166	194	185	194	198	204	225	215	258	178	217	216		216
Turkey.....	314	134	148	143	176	139	97	88	88	144	160	141	121	46	65	65	66	70	70	70		70
United Kingdom.....	452	440	409	385	403	178	162	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		NA
United States.....	3,567	3,703	3,794	3,973	4,033	3,329	3,332	3,177	3,439	3,397	3,241	2,896	2,548	1,873	2,076	2,023	1,967	2,035	2,099	1,966	r	2,008

Sources: World Bureau of Metal Statistics; U.S. Department of the Interior, U.S. Geological Survey

p - preliminary, r - revised, NA - not available

Numbers may not sum due to rounding.

Table 4, Item 20.

Imports and exports of wire mill, brass mill and powder products

Metal Content, millions of pounds																					
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016p
Imports of:																					
Bare Wire (including Stranded).....	15	24	118	162	200	40	47	50	42	56	39	38	43	29	36	40	44	55	50	30	31
Insulated Wire and Cable.....	176	213	273	305	356	324	297	314	334	405	418	417	362	282	319	331	359	362	383	383	r 383
Total Wire Mill Products⁽¹⁾.....	191	237	391	468	555	364	344	364	376	461	457	455	405	311	356	371	403	417	433	412	r 414
Copper-Strip, Sheet, Plate and Foil.....	94	113	113	132	174	168	120	111	135	111	120	84	87	64	85	86	84	70	77	74	72
Rod and Bar.....	31	33	32	46	58	59	40	36	51	49	48	63	48	30	43	48	46	48	48	37	31
Tube and Pipe.....	121	122	123	149	180	166	170	188	227	225	285	259	262	189	158	127	125	133	148	134	134
Alloy-Strip, Sheet, Plate and Foil.....	83	84	99	104	155	120	115	93	118	95	92	74	61	43	65	61	65	75	81	81	83
Mechanical Wire.....	34	37	41	37	48	37	35	37	41	35	36	33	36	22	35	33	41	37	39	43	37
Rod and Bar.....	102	152	128	127	183	107	109	114	139	120	132	115	70	43	70	79	84	86	83	73	56
Tube and Pipe.....	55	60	56	69	75	71	71	68	77	66	59	51	52	32	40	41	38	38	39	36	36
Total Brass Mill Products.....	520	600	591	664	872	729	660	648	790	700	771	679	616	423	496	475	484	485	515	477	449
Total Powder Products.....	4	5	6	5	5	4	6	8	6	8	10	10	8	7	9	9	8	8	9	9	8
TOTAL IMPORTS.....	715	842	988	1,137	1,433	1,097	1,010	1,019	1,172	1,169	1,238	1,144	1,028	741	860	855	894	910	957	898	r 871
Exports of:																					
Bare Wire (including Stranded).....	37	65	71	80	113	93	104	82	99	107	102	103	88	66	88	90	113	157	135	114	97
Insulated Wire and Cable.....	278	316	333	355	398	412	370	362	379	392	423	367	400	336	437	422	392	403	407	375	330
Total Wire Mill Products⁽¹⁾.....	315	381	403	435	511	504	475	444	478	498	525	470	488	402	525	512	505	560	542	489	427
Copper-Strip, Sheet, Plate and Foil.....	33	50	47	65	65	43	32	33	38	34	36	32	30	23	33	33	31	30	32	33	34
Rod and Bar.....	5	11	7	5	5	16	16	9	21	33	37	40	44	26	23	31	32	29	26	26	28
Tube and Pipe.....	55	55	61	58	76	68	71	81	70	80	76	77	48	51	40	48	41	41	35	32	31
Alloy-Strip, Sheet, Plate and Foil.....	79	81	121	73	77	67	52	63	72	96	81	72	71	57	63	54	60	72	74	57	58
Mechanical Wire.....	10	20	18	16	24	19	17	16	20	21	29	34	33	23	27	25	24	24	21	25	23
Rod and Bar.....	61	77	71	70	71	70	71	77	88	95	95	64	50	22	27	25	23	39	41	43	44
Tube and Pipe.....	39	31	23	24	22	20	14	17	21	18	16	18	21	15	16	13	12	12	13	13	10
Total Brass Mill Products.....	281	324	348	311	339	304	273	297	331	377	369	337	297	216	229	229	222	247	242	229	228
Total Powder Products.....	11	11	13	15	14	13	14	13	21	27	26	25	19	15	24	18	18	18	18	18	16
TOTAL EXPORTS.....	607	717	764	761	864	821	761	754	829	902	920	833	804	633	778	759	746	824	803	735	672
NET IMPORTS (Table 4, Item 20)	108	126	223	376	568	276	249	265	343	266	319	311	224	108	81	96	149	86	155	163	r 200

Sources: U.S. Department of Commerce, Bureau of the Census

p - preliminary, r - revised

(1) - In previous additions, wire rod exports were included in the table. Starting with 1999, net wire rod imports are shown as line 16 on table 3, page 14. Appropriate adjustments have been made for all years.

Numbers may not sum due to rounding.