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(Data in thousand metric tons of copper content unless otherwise noted)

Domestic Production and Use: U.S. mine production of copper in 2011 increased slightly to about 1.1 million tons and its value rose to about $10 billion. Arizona, Utah, New Mexico, Nevada, and Montana—in descending order of production—accounted for more than 99% of domestic mine production; copper also was recovered in Idaho and Missouri. Twenty-nine mines recovered copper, 18 of which accounted for about 99% of production. Three primary smelters, 3 electrolytic and 3 fire refineries, and 15 electrowinning facilities operated during the year. Refined copper and scrap were consumed by about 30 brass mills, 15 rod mills, and 500 foundries and miscellaneous consumers. Copper and copper alloy products were used in building construction, 45%; electric and electronic products, 23%; transportation equipment, 12%; consumer and general products, 12%; and industrial machinery and equipment, 8%.[1]

Salient Statistics—United States:	2007	2008	2009	2010	2011[e]
Production:					
Mine	1,170	1,310	1,180	1,110	1,120
Refinery:					
Primary	1,270	1,220	1,110	1,060	1,000
Secondary	46	54	46	38	40
Copper from all old scrap	158	156	138	131	130
Imports for consumption:					
Ores and concentrates	1	1	(2)	1	1
Refined	829	724	664	605	660
General imports, refined	832	721	645	583	650
Exports:					
Ores and concentrates	134	301	151	137	220
Refined	51	37	81	78	35
Consumption:					
Reported, refined	2,140	2,020	1,650	1,760	1,780
Apparent, unmanufactured[3]	2,270	1,990	1,580	1,740	1,750
Price, average, cents per pound:					
Domestic producer, cathode	328.0	319.2	241.2	348.3	405
London Metal Exchange, high-grade	322.8	315.5	233.6	341.7	400
Stocks, yearend, refined, held by U.S. producers, consumers, and metal exchanges	130	199	434	384	380
Employment, mine and mill, thousands	9.7	11.9	8.3	89.1	10.5
Net import reliance[4] as a percentage of apparent consumption	37	31	21	32	35

Recycling: Old scrap, converted to refined metal and alloys, provided 130,000 tons of copper, equivalent to 7% of apparent consumption. Purchased new scrap, derived from fabricating operations, yielded 650,000 tons of contained copper. Of the total copper recovered from scrap (including aluminum- and nickel-based scrap), brass mills recovered 73%; miscellaneous manufacturers, foundries, and chemical plants, 13%; ingot makers, 9%; and copper smelters and refiners, 5%. Copper in all old and new, refined or remelted scrap contributed about 35% of the U.S. copper supply.

Import Sources (2007–10): Unmanufactured: Chile, 42%; Canada, 33%; Peru, 13%; Mexico, 6%; and other, 6%. Refined copper accounted for 83% of unwrought copper imports.

Tariff: Item	Number	Normal Trade Relations[5] 12-31-11
Copper ores and concentrates	2603.00.0000	1.7¢/kg on lead content.
Unrefined copper anode	7402.00.0000	Free.
Refined and alloys; unwrought	7403.00.0000	1.0% ad val.
Copper wire (rod)	7408.11.6000	3.0% ad val.

Depletion Allowance: 15% (Domestic), 14% (Foreign).

Government Stockpile: The stockpiles of refined copper and brass were liquidated in 1993 and 1994, respectively.

Events, Trends, and Issues: Refined copper prices trended upward during the second half of 2010, with the London Metal Exchange Ltd. (LME) price ending the year at the then record-high level of $4.44 per pound of copper. Though fluctuating significantly, copper prices mostly remained above $4 per pound through August 2011, with the LME price reaching a record-high $4.60 per pound in February. In September, in response to concern about the effect on copper

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demand from the mounting debt crises in the European Union and slower growth policies in China, the spot price fell sharply to $3.16 per pound during a 1-week period, the lowest level since July 2010. In September, however, the International Copper Study Group[6] projected that global refined copper demand in 2011 would exceed refined copper production by about 200,000 tons, continuing the production deficit experienced in 2010, as operational problems and labor unrest, including strikes in Chile and Indonesia, continued to constrain world copper mine output. Global consumption and production of refined copper were projected to increase by 1.5% and 2.3%, respectively, in 2011.

U.S. mine production rose slightly in 2011 as restorations of mine cutbacks instituted at yearend 2008 were mostly offset by lower ore grades at a major producer. Electrolytic refinery production declined owing to the 2010 closure of a refinery that treated imported anode and to lower domestic smelter output, the latter resulting in increased concentrate exports. U.S. copper mine production was expected to rise by more than 100,000 tons in 2012, primarily owing to continued restoration of cutbacks. Domestic consumption of refined copper was nearly unchanged in 2011.

World Mine Production and Reserves: Significant upward revision to Chile's reserves is based on revised company reports and new developments. For Australia, Geoscience Australia's "Accessible Economic Demonstrated Resources" are reported; Joint Ore Reserves Committee (JORC) compliant reserves for Australia were only about 25 million tons. The Kazakhstan reserve estimate was revised downward to reflect international reporting standards.

	Mine production		Reserves[7]
	2010	2011[e]	
United States	1,110	1,120	35,000
Australia	870	940	86,000
Canada	525	550	7,000
Chile	5,420	5,420	190,000
China	1,190	1,190	30,000
Congo (Kinshasa)	343	440	20,000
Indonesia	872	625	28,000
Kazakhstan	380	360	7,000
Mexico	260	365	38,000
Peru	1,250	1,220	90,000
Poland	425	425	26,000
Russia	703	710	30,000
Zambia	690	715	20,000
Other countries	1,900	2,000	80,000
World total (rounded)	15,900	16,100	690,000

World Resources: A 1998 USGS assessment estimated 550 million tons of copper contained in identified and undiscovered resources in the United States.[8] Subsequent USGS reports estimated 1.3 billion tons and 196 million tons of copper in the Andes Mountains of South America and in Mexico, respectively, contained in identified, mined, and undiscovered resources.[9, 10] A preliminary assessment indicates that global land-based resources exceed 3 billion tons. Deep-sea nodules and submarine massive sulfides are unconventional copper resources.

Substitutes: Aluminum substitutes for copper in power cables, electrical equipment, automobile radiators, and cooling and refrigeration tube; titanium and steel are used in heat exchangers; optical fiber substitutes for copper in telecommunications applications; and plastics substitute for copper in water pipe, drain pipe, and plumbing fixtures.

[e]Estimated.

[1]Some electrical components are included in each end use. Distribution for 2010 by the Copper Development Association, Inc., 2011.

[2]Less than ½ unit.

[3]Defined as primary refined production + copper from old scrap converted to refined metal and alloys + refined imports – refined exports ± changes in refined stocks. General imports were used to calculate apparent consumption.

[4]Defined as imports – exports + adjustments for Government and industry stock changes for refined copper.

[5]No tariff for Canada, Chile, Mexico, and Peru for items shown. Tariffs for other countries may be eliminated under special trade agreements.

[6]International Copper Study Group, 2011, Forecast 2011–2012: Lisbon, Portugal, International Copper Study Group press release, October 4, 1 p.

[7]See Appendix C for resource/reserve definitions and information concerning data sources.

[8]U.S. Geological Survey National Mineral Resource Assessment Team, 2000, 1998 assessment of undiscovered deposits of gold, silver, copper, lead, and zinc in the United States: U.S. Geological Survey Circular 1178, 21 p.

[9]Cunningham, C.G., and others, 2008, Quantitative mineral resource assessment of copper, molybdenum, gold, and silver in undiscovered porphyry copper deposits in the Andes Mountains of South America: U.S. Geological Survey Open-File Report 2008–1253, 282 p.

[10]Hammarstrom, J.M., and others, 2010, Global mineral resource assessment—Porphyry copper assessment of Mexico: U.S. Geological Survey Scientific Investigations Report 2010–5090–A, 176 p.