ALUMINUM[1]

(Data in thousand metric tons of metal, unless otherwise noted)

Domestic Production and Use: In 2002, 11 companies operated 16 primary aluminum reduction plants; 6 smelters were temporarily idled. The 11 smelters east of the Mississippi River accounted for 75% of the production; whereas the remaining 11 smelters, which included the 9 Pacific Northwest smelters, accounted for only 25%. Based upon published market prices, the value of primary metal production was $3.9 billion in 2002. Aluminum consumption was centered in the East Central United States. Transportation accounted for an estimated 34% of domestic consumption in 2002; packaging, 25%; building, 17%; consumer durables, 7%; electrical, 7%; and other, 10%.

Salient Statistics—United States:	1998	1999	2000	2001	2002[e]
Production:					
Primary	3,713	3,779	3,668	2,637	2,700
Secondary (from old scrap)	1,500	1,570	1,370	1,210	1,200
Imports for consumption	3,550	4,000	3,910	3,740	4,000
Exports	1,590	1,640	1,760	1,590	1,500
Shipments from Government stockpile excesses	(2)	—	—	—	—
Consumption, apparent[3]	7,090	7,770	7,530	6,230	6,400
Price, ingot, average U.S. market (spot), cents per pound	65.5	65.7	74.6	68.8	65.0
Stocks:					
Aluminum industry, yearend	1,930	1,870	1,550	1,300	1,300
LME, U.S. warehouses, yearend[4]	13	14	(2)	28	10
Employment, primary reduction, number	18,400	17,900	17,100	15,100	13,700
Net import reliance[5] as a percentage of apparent consumption	27	31	33	38	39

Recycling: In 2002, aluminum recovered from purchased scrap was about 3 million tons, of which about 60% came from new (manufacturing) scrap and 40% from old scrap (discarded aluminum products). Aluminum recovered from old scrap was equivalent to about 20% of apparent consumption.

Import Sources (1998-2001): Canada, 60%; Russia, 18%; Venezuela, 4%; Mexico, 2%; and other, 16%.

Tariff: Item	Number	Normal Trade Relations 12/31/02
Unwrought (in coils)	7601.10.3000	2.6% ad val.
Unwrought (other than aluminum alloys)	7601.10.6000	Free.
Waste and scrap	7602.00.0000	Free.

Depletion Allowance: Not applicable.[1]

Government Stockpile: None.

Prepared by **Patricia A. Plunkert [(703) 648-4979, pplunker@usgs.gov, fax: (703) 648-7757]**

ALUMINUM

Events, Trends, and Issues: The 121,000-ton-per-year Troutdale, OR, smelter and a 76,000-ton-per-year potline at the Rockdale, TX, smelter were permanently closed. Most of the smelter capacity that was idled in the Pacific Northwest at the end of 2001 remained off line. However, as energy shortages began to ease and take-or-pay energy contracts took effect, some smelters in the region began limited restarts.

Imports for consumption increased, reversing a 2-year decline. Canada and Russia accounted for approximately three-fourths of the total imports. U.S. exports decreased slightly. Canada and Mexico received an estimated two-thirds of total U.S. exports.

The price of primary aluminum ingot fluctuated through August 2002. In January, the average monthly U.S. market price for primary ingot quoted by Platts Metals Week was 64.65 cents per pound; in August, the price was 62.55 cents per pound. Prices on the London Metal Exchange (LME) followed the trend of U.S. market prices. The monthly average LME cash price for August was 58.59 cents per pound. According to American Metal Market, prices in the aluminum scrap and secondary aluminum alloy markets increased during the first quarter of the year before beginning a general downward trend that continued through the end of September.

World production continued to increase as temporarily idled capacity and new capacity expansions were brought on-stream. Inventories of metal held by producers, as reported by the International Aluminium Institute, decreased slightly during the first half of 2002. Inventories of metal held by the LME, however, exceeded 1.2 million tons, reaching levels not seen since the first half of 1995.

World Smelter Production and Capacity:

	Production		Yearend capacity	
	2001	2002[e]	2001	2002[e]
United States	2,637	2,700	4,370	4,190
Australia	1,798	1,800	1,810	1,820
Brazil	1,131	1,300	1,280	1,330
Canada	2,583	2,700	2,670	2,790
China	3,250	3,800	4,250	5,000
France	462	480	475	480
Norway	1,068	1,050	1,050	1,050
Russia	3,300	3,350	3,300	3,350
South Africa	663	690	685	695
Venezuela	570	600	640	640
Other countries	6,890	6,900	7,690	7,780
World total (rounded)	24,400	25,400	28,200	29,100

World Resources: Domestic aluminum requirements cannot be met by domestic bauxite resources. Potential domestic nonbauxitic aluminum resources are abundant and could meet domestic aluminum demand. However, no processes for using these resources have been proven economically competitive with those now used for bauxite. The world reserve base for bauxite is sufficient to meet world demand for metal well into the 21st century.

Substitutes: Copper can replace aluminum in electrical applications; magnesium, titanium, and steel can substitute for aluminum in structural and ground transportation uses. Composites, wood, and steel can substitute for aluminum in construction. Glass, plastics, paper, and steel can substitute for aluminum in packaging.

[e]Estimated. — Zero.

[1]See also Bauxite and Alumina.

[2]Less than ½ unit.

[3]Domestic primary metal production + recovery from old aluminum scrap + net import reliance.

[4]Includes aluminum alloy.

[5]Defined as imports - exports + adjustments for Government and industry stock changes.