

**ALUMINUM<sup>1</sup>**

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

**Domestic Production and Use:** In 2008, 6 companies operated 14 primary aluminum smelters; 4 smelters were temporarily idled and 1 that had been idle since 2000 was demolished in 2007. Based upon published market prices, the value of primary metal production was \$7.9 billion. Aluminum consumption was centered in the East Central United States. Transportation accounted for an estimated 37% of domestic consumption; the remainder was used in packaging, 23%; building, 13%; electrical, 8%; machinery, 8%; consumer durables, 7%; and other, 4%.

<b>Salient Statistics—United States:</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008<sup>e</sup></b>
Production:					
Primary	2,516	2,481	2,284	2,554	2,640
Secondary (from old scrap)	1,160	1,080	1,260	1,600	1,400
Imports for consumption	4,720	5,330	5,180	4,490	4,300
Exports	1,820	2,370	2,820	2,840	3,800
Consumption, apparent <sup>2</sup>	6,060	5,990	5,980	5,110	3,700
Price, ingot, average U.S. market (spot), cents per pound	84.0	91.0	121.4	125.2	132.3
Stocks:					
Aluminum industry, yearend	1,470	1,430	1,410	1,400	1,300
LME, U.S. warehouses, yearend <sup>3</sup>	116	209	228	463	860
Employment, number <sup>4</sup>	57,500	58,400	57,300	56,600	55,000
Net import reliance <sup>5</sup> as a percentage of apparent consumption	39	41	31	19	E

**Recycling:** In 2008, aluminum recovered from purchased scrap was about 3.6 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 30% of apparent consumption.

**Import Sources (2004-07):** Canada, 55%; Russia, 16%; Brazil, 4%; China, 4%; and other, 21%.

<b>Tariff:</b>	<b>Item</b>	<b>Number</b>	<b>Normal Trade Relations</b>
			<b>12-31-08</b>
	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.<sup>1</sup>

**Government Stockpile:** None.

**Events, Trends, and Issues:** During the first half of 2008, domestic primary aluminum production increased substantially owing to smelter restarts after new power contracts were obtained by producers in late 2006 and early 2007. However, in the second half of the year, production was curtailed at two smelters owing to high electricity prices, power supply issues, and a sharp drop in the price of aluminum that took place in August. Domestic smelters operated at about 72% of rated or engineered capacity.

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Net import reliance as a percent of apparent consumption continued a decline that began in 2005, as domestic primary production increased while imports for consumption decreased and exports increased, resulting in the United States becoming a net exporter of aluminum in 2008. Canada and Russia accounted for almost three-fourths of total imports. U.S. exports increased by 34% in 2008 compared with the amount exported in 2007. China, Canada, Mexico and Taiwan, in descending order, received approximately three-fourths of total U.S. exports.

The price of primary aluminum generally rose through July 2008 before declining significantly. In January, the average monthly U.S. market price for primary ingot quoted by Platts Metals Week was \$1.136 per pound; it reached a high of \$1.426 per pound in July, but in September, the price was \$1.192 per pound. Prices on the London Metal Exchange (LME) followed the trend of U.S. market prices. The monthly average LME cash price for September was \$1.138 per pound.

World primary aluminum production continued to increase as capacity expansions outside the United States were brought onstream. World inventories of metal held by producers, as reported by the International Aluminium Institute, increased through the end of August to about 3.0 million tons from 2.8 million tons at yearend 2007. Inventories of primary aluminum metal held by the LME worldwide increased during the year to 1,380,000 tons at the end of September from 930,000 tons at yearend 2007.

### World Smelter Production and Capacity:

	Production		Yearend capacity	
	2007	2008 <sup>e</sup>	2007	2008 <sup>e</sup>
United States	2,554	2,640	3,620	3,620
Australia	1,960	1,960	1,950	1,950
Bahrain	873	870	830	830
Brazil	1,660	1,660	1,700	1,700
Canada	3,090	3,100	3,100	3,100
China	12,600	13,500	14,000	15,000
Germany	550	590	600	600
Iceland	398	790	790	790
India	1,220	1,300	1,500	1,800
Mozambique	564	550	570	570
Norway	1,300	1,100	1,350	1,200
Russia	3,960	4,200	4,400	4,400
South Africa	899	850	900	900
Tajikistan	419	420	515	515
United Arab Emirates, Dubai	890	920	890	950
Venezuela	610	550	625	625
Other countries	<u>4,460</u>	<u>4,700</u>	<u>5,360</u>	<u>5,770</u>
World total (rounded)	38,000	39,700	42,700	44,300

**World Resources:** Domestic aluminum requirements cannot be met by domestic bauxite resources. 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 future.

**Substitutes:** Composites can substitute for aluminum in aircraft fuselages and wings. Glass, paper, plastics, and steel can substitute for aluminum in packaging. Magnesium, titanium, and steel can substitute for aluminum in ground transportation and structural uses. Composites, steel, vinyl, and wood can substitute for aluminum in construction. Copper can replace aluminum in electrical applications.

<sup>e</sup>Estimated. E Net exporter.

<sup>1</sup>See also Bauxite and Alumina.

<sup>2</sup>Domestic primary metal production + recovery from old aluminum scrap + net import reliance. Series revised by removing imported scrap to avoid double counting.

<sup>3</sup>Includes aluminum alloy.

<sup>4</sup>Alumina and aluminum production workers (North American Industry Classification System—3313). Source: U.S. Department of Labor, Bureau of Labor Statistics.

<sup>5</sup>Defined as imports – exports + adjustments for Government and industry stock changes.