

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

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

**Domestic Production and Use:** In 2010, five companies operated nine primary aluminum smelters; six smelters were closed the entire year. Demolition of two smelters that had been idle for several years was started in 2010. Based on published market prices, the value of primary metal production was \$3.99 billion. Aluminum consumption was centered in the East Central United States. Packaging accounted for an estimated 31% of domestic consumption; the remainder was used in transportation, 28%; building, 14%; electrical, 9%; machinery, 7%; consumer durables, 7%; and other, 4%.

<b>Salient Statistics—United States:</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010<sup>e</sup></b>
Production:					
Primary	2,284	2,554	2,658	1,727	1,720
Secondary (from old scrap)	1,260	1,540	1,370	1,190	1,120
Imports for consumption	4,660	4,020	3,710	3,680	3,800
Exports	2,820	2,840	3,280	2,710	1,900
Consumption, apparent <sup>2</sup>	5,370	5,040	3,810	3,250	4,610
Price, ingot, average U.S. market (spot), cents per pound	121.4	125.2	120.5	79.4	101.7
Stocks:					
Aluminum industry, yearend	1,410	1,400	1,220	937	937
LME, U.S. warehouses, yearend <sup>3</sup>	228	463	1,290	2,200	2,340
Employment, number <sup>4</sup>	41,400	39,600	38,000	33,800	33,500
Net import reliance <sup>5</sup> as a percentage of apparent consumption	34	19	E	10	38

**Recycling:** In 2010, aluminum recovered from purchased scrap was about 2.7 million tons, of which about 59% came from new (manufacturing) scrap and 41% from old scrap (discarded aluminum products). Aluminum recovered from old scrap was equivalent to about 24% of apparent consumption.

**Import Sources (2006–09):** Canada, 60%; Russia, 11%; China, 5%; Mexico, 3%; and other, 21%.

<b>Tariff: Item</b>	<b>Number</b>	<b>Normal Trade Relations 12-31-10</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 2010, production from domestic primary aluminum smelters had stabilized after cutbacks made during 2008 and 2009 in response to price drops in the second half of 2008. Production from a smelter in New Madrid, MO, reached full capacity in the second quarter of 2010 after partially closing as a result of an electrical failure in January 2009. Work on an expansion project resumed at the smelter in New Madrid that would increase capacity to 266,000 tons per year from 250,000 tons per year by yearend 2013. Work continued on an expansion project at a smelter in Massena, NY, which would increase production capacity to 148,000 tons per year from 125,000 tons per year. Demolition of smelters in Frederick, MD, and Badin, NC, were announced after the owner of both smelters was unable to obtain favorable power contracts. By the beginning of the fourth quarter of 2010, domestic smelters operated at about 55% of rated or engineered capacity.

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The United States continued to be reliant upon imports in 2010, as domestic primary production remained at significantly lower levels than in 2008, and exports continued to decline. Canada, China, and Russia accounted for about 40% of total U.S. imports. U.S. exports decreased by 30% in 2010 compared with the amount exported in 2009. China, Canada, and Mexico, in descending order, received approximately 40% of total U.S. exports.

The monthly average U.S. market price for primary ingot quoted by Platts Metals Week ranged between \$0.934 per pound and \$1.109 per pound throughout 2010. Prices on the London Metal Exchange (LME) followed the trend of U.S. market prices.

World primary aluminum production increased in 2010 compared with production in 2009, mainly as a result of starting new smelters and restarting smelters that had been shut down in 2008 and early in 2009. New smelters and restarted smelters were mainly in China, Qatar, and the United Arab Emirates. Smelters in Norway that shut down production during midyear 2009 remained closed in 2010. World inventories of metal held by producers, as reported by the International Aluminium Institute, increased through the end of August to about 2.4 million tons from 2.2 million tons at yearend 2009. Inventories of primary aluminum metal held by the LME worldwide decreased during the year to 4.4 million tons at the end of September from 4.6 million tons at yearend 2009.

### World Smelter Production and Capacity:

	Production		Yearend capacity	
	2009	2010 <sup>e</sup>	2009	2010 <sup>e</sup>
United States	1,727	1,720	3,500	3,190
Australia	1,940	1,950	2,050	2,050
Bahrain	870	870	880	880
Brazil	1,540	1,550	1,700	1,700
Canada	3,030	2,920	3,090	3,020
China	12,900	16,800	19,000	18,400
Germany	292	370	620	620
Iceland	785	780	790	790
India	1,400	1,400	1,700	2,300
Mozambique	545	550	570	570
Norway	1,130	800	1,230	1,230
Russia	3,820	3,850	4,280	4,280
South Africa	809	800	900	900
United Arab Emirates, Dubai	1,010	1,400	1,120	1,650
Venezuela	610	440	625	590
Other countries	4,900	5,200	6,750	6,800
World total (rounded)	37,300	41,400	48,800	49,000

**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 reserves for bauxite are 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; excludes imported scrap.

<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.