

IRON ORE¹

(Data in million metric tons of usable ore,² unless noted)

Domestic Production and Use: Value of usable ore shipped from mines in Minnesota, Michigan, and six other States in 1995 was estimated at \$1.6 billion. Iron ore was produced by 16 companies operating 16 mines, 10 concentration plants, and 10 pelletizing plants. The mines included 15 open pits and 1 underground operation. Virtually all ore was concentrated before shipment. Nine mines operated by six companies accounted for 98.8% of production.

Salient Statistics—United States:	1991	1992	1993	1994	1995^e
Production, usable	56.8	55.6	55.7	58.4	62.0
Shipments	56.8	55.6	56.3	57.6	62.0
Imports for consumption	13.3	12.5	14.1	17.5	18.0
Exports	4.0	5.1	5.1	5.0	5.0
Consumption: Reported (ore and total agglomerate) ³	66.4	75.1	76.8	77.7	78.0
Apparent	63.4	65.6	66.2	70.9	75.3
Price (Oct.), Lake Superior pellets, cents per ton of Fe ⁴	72.5-74.0	72.5-74.0	72.5-74.0	72.5-74.0	72.5-74.0
Stocks, mine, dock, and consuming plant, yearend, excluding byproduct ore	25.4	22.9	21.3	21.3	21.0
Employment, mine, concentrating and pelletizing plant, quarterly average	7,800	8,000	7,800	7,200	7,000
Net import reliance ⁵ as a percent of apparent consumption (iron in ore)	11	12	14	18	18

Recycling: Insignificant.

Import Sources (1991-94): Canada, 55%; Brazil, 20%; Venezuela, 20%; Australia, 2%; and other, 3%.

Tariff: Item	Number	Most favored nation (MFN) 12/31/95	Non-MFN⁶ 12/31/95
Concentrates	2601.11.0030	Free	Free.
Coarse ores	2601.11.0060	Free	Free.
Fine ores	2601.11.0090	Free	Free.
Pellets	2601.12.0030	Free	Free.
Briquettes	2601.12.0060	Free	Free.
Sinter	2601.12.0090	Free	Free.

Depletion Allowance: 12.0% (Domestic), 11.2% (Foreign).

Government Stockpile: None.

Events, Trends, and Issues: Domestic iron ore production, driven by demand from the U.S. steel industry, increased in 1995 for the third consecutive year. Imports increased slightly and exports, which go primarily to regular customers in Canada, were little changed.

The U.S. steel industry was undergoing structural changes potentially negative to the iron ore sector. Flat-rolled minimills under construction or proposed could add 17 million tons of capacity to the flat-rolled market by the end of the decade. Also, tougher environmental regulations, especially those restricting coke oven gas emissions, was expected to force the closure of some older integrated facilities. However, those changes also provided potential benefits to those companies providing alternatives to scrap. Because of concern over the availability of low residue scrap, investment in alternative ironmaking technologies has become more attractive and a number of companies have moved in that direction. One alternative to scrap is direct-reduced iron (DRI). Four projects were under consideration that, if completed, would increase U.S. DRI capacity from 0.5 to 4.2 million metric tons per year.

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Internationally, iron ore consumption increased and prices increased after declining for the previous 3 years. There was a trend in the international market away from sintering of iron ore toward pelletization. This was driven, in large part, by environmental considerations. Australia and Brazil continued to be the leading exporters of iron ore with a combined total of close to 60% of the world total. The United States continued to be a net importer of iron ore.

Since 1983, five areas or countries—China, Europe, the Former Soviet Union (FSU), Japan and North America—have accounted for more than 80% of the world's pig iron production. In three of these areas (Europe, Japan, and North America) pig iron production has remained virtually constant. In recent years, production has fallen considerably in the FSU and risen dramatically in China. Production has also increased substantially in other parts of Asia, particularly India, South Korea, and Taiwan. Even including the mature Japanese market, Asia's share of world pig iron production has increased in recent years. This trend is expected to continue.

The increase in consumption in Asia is expected to benefit Australia primarily. Australia and Brazil each account for about 30% of the world total of exports, while the next closest exporter accounts for less than 10% of the world total. Of the two, Australia appears to be better positioned to take advantage of growth of iron ore consumption in Asia because of Australia's proximity and the consequent lower freight rates.

World Mine Production, Reserves, and Reserve Base:⁷

	Mine production		Crude ore Reserve		Iron content Reserve	
	1994	1995 ^e	Reserves	base	Reserves	base
United States	58	60	16,000	25,000	3,800	6,000
Australia	129	130	16,000	28,000	10,000	18,000
Brazil	166	170	11,000	17,000	6,500	10,000
Canada	37	37	12,000	26,000	4,600	10,000
China ^e	240	250	9,000	9,000	3,500	3,500
France	3	3	2,200	2,200	900	900
India	57	58	5,400	12,000	3,300	6,300
Liberia	—	—	900	1,600	500	800
Mauritania	9	10	400	700	200	300
Russia	135	135	64,000	78,000	24,000	29,000
South Africa	32	33	4,000	9,300	2,500	5,900
Sweden	20	20	3,000	4,600	1,600	2,400
Other countries	115	120	7,400	16,000	2,300	6,300
World total (rounded)	1,000	1,000	150,000	230,000	65,000	100,000

World Resources: World resources are estimated to exceed 800 billion tons of crude ore containing more than 230 billion tons of iron. U.S. resources are estimated to be about 110 billion tons of ore containing about 27 billion tons of iron. U.S. resources are mainly low-grade taconite-type ores from the Lake Superior district that require beneficiation and agglomeration for commercial use.

Substitutes: Iron ore is the only source of primary iron. In some operations, ferrous scrap constitutes up to 7% of the blast furnace burden. Scrap is extensively used in steelmaking and in iron and steel foundries.

^eEstimated.

¹See also Iron and Steel Scrap.

²Agglomerates, concentrates, direct-shipping ore, and byproduct ore for consumption.

³Includes weight of lime, flue dust, and other additives used in producing sinter for blast furnaces. Consumption data are not entirely comparable to those of 1987 and earlier years owing to changes in data collection.

⁴Delivered rail of vessel at lower lake ports.

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

⁶See Appendix B.

⁷See Appendix C for definitions.