IRON ORE[1]

(Data in million metric tons of usable ore[2] unless otherwise noted)

Domestic Production and Use: In 2012, mines in Michigan and Minnesota shipped 97% of the usable ore produced in the United States, with an estimated value of $6.0 billion. Thirteen iron ore mines (11 open pits, 1 reclamation operation, and 1 dredging operation), 9 concentration plants, and 9 pelletizing plants operated during the year. Almost all ore was concentrated before shipment. Eight of the mines operated by three companies accounted for virtually all of the production. The United States was estimated to have produced and consumed 2% of the world's iron ore output.

Salient Statistics—United States:	2008	2009	2010	2011	2012[e]
Production, usable	53.6	26.7	49.9	54.7	53.2
Shipments	53.6	27.6	50.6	55.6	54.1
Imports for consumption	9.2	3.9	6.4	5.3	5.2
Exports	11.1	3.9	10.0	11.1	11.8
Consumption:					
Reported (ore and total agglomerate)[3]	51.9	31.0	42.3	46.3	45.0
Apparent[e]	49.7	25.7	48.0	49.1	49.6
Price,[4] U.S. dollars per metric ton	70.43	92.76	98.79	99.45	101.00
Stocks, mine, dock, and consuming plant, yearend, excluding byproduct ore	4.07	5.06	3.47	3.26	3.50
Employment, mine, concentrating and pelletizing plant, quarterly average, number	4,770	3,530	4,780	5,270	5,290
Net import reliance[5] as a percentage of apparent consumption (iron in ore)	E	E	E	E	E

Recycling: None (see Iron and Steel Scrap section).

Import Sources (2008–11): Canada, 76%; Brazil, 7%; Russia, 5%; Chile, 4%; and other, 8%.

Tariff: Item	Number	Normal Trade Relations 12–31–12
Concentrates	2601.11.0030	Free.
Coarse ores	2601.11.0060	Free.
Fine ores	2601.11.0090	Free.
Pellets	2601.12.0030	Free.
Briquettes	2601.12.0060	Free.
Sinter	2601.12.0090	Free.
Roasted Iron Pyrites	2601.20.0000	Free.

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

Government Stockpile: None.

Events, Trends, and Issues: U.S. iron ore production was slightly less in 2012 owing to reduced steel consumption and destocking. In Cedar City, UT, the former Mountain Lion Mine returned to production and was renamed the Iron Mountain Project, selling crushed iron ore to China under contract. Construction of an iron nugget plant, planned for production in Michigan's Upper Peninsula, was determined to be not commercially viable. However, after closing down in June $60 million was invested in the Empire Mine, bringing it back into production in August. It was expected to remain in operation until at least 2015.

Following a 30% decrease in the worldwide price for iron ore fines sold in European and Asian markets in the first three quarters of 2012, owing to an increase in global iron ore production and project development, the price stabilized in the fourth quarter of 2012. Major iron-ore-mining companies continued to reinvest profits in mine development, but increases in production capacity outstripped expected consumption throughout early 2012, as economic growth that had been dominated by China slowed. Declining demand in China led to drops in spot prices for iron ore, and the delay, cancellation, or reorganization of major production improvement projects worldwide. Global prices declined steadily since 2011, and in September 2012, they reached the lowest benchmark prices since 2009.

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IRON ORE

Slight price rebounds in the fourth quarter were expected to be maintained through yearend of 2012 because of supply constraints from decreased exports; 1.6 million tons of output losses from worker strikes at Sishen Mine, South Africa; 1 million tons of shipment losses resulting from protests at Carajas Mine, Brazil: and 5 million tons per month of export losses owing to mining bans in Goa, India. This decline in supply led to prices increasing by approximately 30% in October 2012. It was estimated that in 2012, China imported more than 60% of the world's total iron ore trade, the Republic of Korea reported increases in imports of 15%, and Japan's imports fell by 4.4%. International iron ore imports are indicators of iron ore consumption, demonstrating that iron ore consumption in Asia is currently a key factor for the expansion of the international iron ore industry. Chinese companies are investing in all phases of mining and production, to include the takeover of a major iron ore producer in South Africa, for increased production of higher grade ore by Chinese mining groups. Despite overall weak iron ore prices, several major Australian producers planned to continue expansions of mines and shipping ports.

World Mine Production and Reserves: The mine production estimate for China is based on crude ore, rather than usable ore, which is reported for the other countries. Iron ore reserve estimates for Kazakhstan and Ukraine have been revised based on new information from those countries.

	Mine production		Reserves[6]	
	2011	2012[e]	Crude ore	Iron content
United States	55	53	6,900	2,100
Australia	488	525	35,000	17,000
Brazil	373	375	29,000	16,000
Canada	34	40	6,300	2,300
China	1,330	1,300	23,000	7,200
India	240	245	7,000	4,500
Iran	28	28	2,500	1,400
Kazakhstan	25	25	2,500	900
Mauritania	12	12	1,100	700
Mexico	15	13	700	400
Russia	100	100	25,000	14,000
South Africa	60	61	1,000	650
Sweden	25	25	3,500	2,200
Ukraine	81	81	[7]6,500	[7]2,300
Venezuela	17	20	4,000	2,400
Other countries	59	61	12,000	6,000
World total (rounded)	2,940	3,000	170,000	80,000

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

Substitutes: The only source of primary iron is iron ore, used directly as lump ore or converted to briquettes, concentrates, pellets, or sinter. At some blast furnace operations, ferrous scrap may constitute as much as 7% of the blast furnace feedstock. Scrap is extensively used in steelmaking in electric arc furnaces and in iron and steel foundries, but scrap availability can be an issue. Technological advancements were made, which allow hematite to be recovered from tailings basins and pelletized.

[e]Estimated. E Net exporter.

[1]See also Iron and Steel and Iron and Steel Scrap.

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

[3]Includes weight of lime, flue dust, and other additives in sinter and pellets for blast furnaces.

[4]Estimated from reported value of ore at mines.

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

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

[7]For Ukraine, reserves consist of the A+B categories of the former Soviet Union's reserves classification system.