



2012 Minerals Yearbook

IRON AND STEEL SCRAP

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Iron and steel scrap is a vital raw material for the production of new steel and cast-iron products. The steelmaking and foundry industries in the United States are highly dependent upon the ready availability of scrap from manufacturing operations and from the recovery of products that are no longer used or needed. The steel industry has been recycling steel scrap for more than 150 years, using electric arc furnaces (EAF), which accounted for about 60% of the total raw steel produced in 2012.

Steel scrap recycling conserves energy, landfill space, and raw materials. In 2012, the domestic steel industry recycled, or exported for recycling, nearly 77 million metric tons (Mt) of appliances, automobiles, cans, construction materials, and other steel products (G.L. Crawford, Steel Recycling Institute, unpub. data, August 15, 2013). This resulted in an overall recycling rate of about 88%. The remelting of scrap requires much less energy than does the production of iron and steel products from iron ore. Each year, steel recycling saves the energy equivalent of the electrical power needed for 1 year by approximately one-fifth of the houses in the United States (about 18 million houses). Consumption of iron and steel scrap by remelting reduces the burden on landfill disposal facilities and prevents the accumulation of abandoned steel products in the environment.

In the United States, the primary source of obsolete steel is the automobile. By weight, the typical car consists of about 60% iron and steel. The steel used in the outside shell of car bodies is made of about 25% recycled steel (G.L. Crawford, Steel Recycling Institute, unpub. data, August 15, 2013). The steel industry recovered and recycled almost 14.8 Mt of iron and steel from about 11.8 million end-of-life vehicles in 2012. The recycling rate for automotive scrap was 92.5% in 2012. About 12,500 vehicle dismantlers in North America resold parts processed through an estimated 300 car shredders. The number of shredders operating in scrap yards in North America increased from an estimated 193 in 2000 to about 300 in 2012 (J. Pambrosia, Metal Bulletin Ltd., unpub. data, September 12, 2013).

The annual average recycling rate of obsolete appliance scrap continued at a high of about 90% in 2012, the same as that of 2011. During 2012, almost 2.6 Mt of steel was recovered from recycled appliances, about the same as that of 2011. The typical appliance consists of about 60% steel, and the steel used in appliances is made with a minimum of 25% recycled steel. The recycling rate of steel containers increased to almost 67% in 2012 from 15% in 1983 (G.L. Crawford, Steel Recycling Institute, unpub. data, August 15, 2013). More than 17 Mt of steel containers were recycled. The estimated rate of recycling of structural beams and plates from 2004 through 2012 was about 98%, an increase from 85% in 1997. Recycling rates for reinforcement bar and other materials increased to 70% in 2012 from 40% in 1997.

Minimills, in which EAFs are used, consumed direct-reduced iron (DRI) to improve steel quality, and integrated steelmakers continued to use small quantities of DRI in blast furnaces as a process coolant. Minimills commonly use a feed mix that has equal proportions of DRI, pig iron, and scrap. Raw steel production in the minimill industry increased slightly during 2012 (American Iron and Steel Institute, 2013, p. 72). DRI production remained at zero, the same as in 2010 and 2011 (Midrex Technologies, Inc., 2013).

Consumption

Domestic data for ferrous scrap were derived by the USGS from voluntary monthly or annual surveys of U.S. scrap-consuming operations. About 60% of the known manufacturers of pig iron and raw steel responded to the surveys. Their responses represented about 35% of the 56 Mt of ferrous scrap consumed by this class of consumers (table 1). The remaining 65% of scrap consumption was estimated based on prior reports. Of the iron foundries, manufacturers of steel castings, and miscellaneous users, about 51% of the surveyed establishments responded to the annual survey, which represented about 46% of scrap consumed by this class of consumers. Total consumption for these two classes of consumers included estimates based on statistical methods and prior reports plus actual survey responses. Actual survey data accounted for about 46% of total ferrous scrap consumption by all classes of scrap consumers.

In 2012, brokers, dealers, and other outside sources supplied domestic consumers with 53 Mt of all types of ferrous scrap at an estimated delivered value of \$19.9 billion, and exported 21.4 Mt (excluding used rails for rerolling and other uses; and ships, boats, and other vessels for scrapping) valued at \$9.4 billion (tables 1, 8, and 11). Raw steel production was 88.7 Mt in 2012 compared with 86.4 Mt in 2011 (American Iron and Steel Institute, 2013, p. 73). The shares of raw steel produced by EAF and basic oxygen furnaces were 59% and 41%, respectively. In 2012, continuous cast steel production represented 99% of total raw steel production; this was slightly more than that of 2011. Raw steel production capability increased to 118 Mt from 116 Mt in 2011 (American Iron and Steel Institute, 2013, p. 75). The capability utilization index increased to 75.2% in 2012 from 74.4% in 2011.

Steel foundries accounted for 52% of all scrap received from brokers, dealers, and other outside sources; steel mills received 47%; and miscellaneous users received 1% (table 1). Apparent total domestic consumption of ferrous scrap was 50.0 Mt, as measured by net receipts (total external receipts minus shipments) and 10.0 Mt of home scrap production (table 2). Stocks of ferrous scrap at consumer plants increased by 5% to 4.2 Mt (table 1). Total domestic consumption was 63.1 Mt, slightly more than that of 2011 (table 1). The total market for U.S.-produced scrap (net receipts plus exports minus

imports) was 71.0 Mt, compared with 73.0 Mt in 2011 (table 1). Feedstock used in electric furnaces by all iron and steel product manufacturers comprised scrap, 87%; pig iron, 10%; and DRI, 3% (table 4). Total consumption of DRI was 121% more than that of 2011 (table 1). Net shipments of all grades of steel mill products were about 87.7 Mt, which was an increase of 5% from the 83.3 Mt shipped in 2011 (American Iron and Steel Institute, 2013, p. 25).

Prices

The average composite delivered price of No. 1 heavy-melting steel scrap in 2012, calculated from prices per long ton published monthly by American Metal Market, was \$373.90 per metric ton. The price ranged from a low of \$317.35 per ton in October to a high of \$433.67 per ton in January (table 8). The average composite delivered price of No. 1 heavy-melting steel scrap, calculated from prices per long ton published weekly in the Iron Age Scrap Price Bulletin, was \$359.51 per metric ton; the price ranged from a low of \$307.90 per ton in September and October to a high of \$421.41 per ton in January.

Based on weekly quotations by Iron Age Scrap Price Bulletin for 18–8 (18% chromium, 8% nickel) stainless steel scrap (bundles and solids) delivered to consumers in the Pittsburgh, PA, area, the average price in 2012 was about \$1,789 per gross ton, an 18% decrease compared with that of 2011.

The unit value of total ferrous scrap exports (excluding used rails for rerolling and other uses; and ships, boats, and other vessels for scrapping) decreased by 6% to about \$441 per metric ton compared with that of 2011 (table 11). The unit value of total imports increased by 4% to about \$427 per metric ton compared with that of 2011 (table 14).

Foreign Trade

Foreign trade valuation continued to be reported on a free-alongside-ship basis for exports and on a customs-value basis for imports. In 2012, the U.S. trade surplus for all classes of ferrous scrap (including used rails for rerolling and other uses; and ships, boats, and other vessels for scrapping) was 17.6 Mt valued at about \$7.8 billion (tables 11, 14). This represented a decrease of 13% in quantity and a decrease of 19% in value compared with the 2011 surplus of 20.3 Mt valued at \$9.7 billion.

World Review

Iron and steel scrap is an important raw material for the steel and foundry industries. Because scrap comes from such sources as discarded cars, consumer durables, industrial machinery, manufacturing operations, and old buildings, the relatively mature industrialized economies are generally the main exporters of scrap to lesser developed steelmaking countries.

The United States exported more iron and steel scrap in 2012 than any other country (21.4 Mt) followed by, in decreasing order of export tonnage, Germany (9.0 Mt), the United Kingdom (7.8 Mt), France (6.1 Mt), and Japan (5.4 Mt) (World Steel Association, 2013a, p. 99–100). The leading importing

nations were, in decreasing order of import tonnage, Turkey (21.5 Mt), the Republic of Korea (8.6 Mt), China (6.8 Mt), Germany (6.2 Mt), and Italy (5.7 Mt) (World Steel Association, 2013a, p. 101–102).

Outlook

Because of the close interdependence of the steelmaking and ferrous scrap industries, forecasts of the global steel industry in the context of the global economy serve as the bellwether of the scrap industry.

The World Bank's forecast of global gross domestic product (GDP) growth for 2012, 2013, 2014, and 2015 was 2.3%, 2.2%, 3.0%, and 3.3%, respectively, after 2.8% in 2011 (World Bank, The, 2013). The International Monetary Fund's projection of GDP growth for 2013 was 3.25%, which was lower than an earlier projection of 4.0% (International Monetary Fund, 2013, p. 7). The U.S. Federal Reserve's June 2013 projections for the 2013 U.S. GDP rate of growth were between 2.3% and 2.6%, between 3.0% and 3.5% for 2014, and between 2.9% and 3.6% for 2015, which were lower than earlier projections (Board of Governors of the Federal Reserve System, 2013, p. 13). The GDP rate of growth for China in 2012 was 7.8% and was projected to be 8.0% in 2013 and 8.2% in 2014. The GDP rate of growth for India was projected to be 4.0%, 5.7%, and 6.2% for 2012, 2013, and 2014, respectively (World Bank, The, 2013).

World apparent steel consumption (ASC) was expected to increase by 2.9% to 1.45 billion tons (Gt) during 2013, after increasing by 1.2% in 2012, and then was expected to increase by 3.2% in 2014, to reach a historic high of 1.50 Gt (World Steel Association, 2013b). China's ASC was expected to increase by about 3.5% to 669 Mt in 2013, and then by 2.5% in 2014 to 686 Mt. ASC in India was expected to increase by about 5.9% in 2013 to about 75.8 Mt and by 7.0% in 2014. The U.S. ASC was expected to increase by 2.7% to 99.3 Mt in 2013 and by 2.9% in 2014. The European Union's ASC was expected to decrease by 0.5% to 139 Mt in 2013 and to increase by 3.3% to 144 Mt in 2014. In Japan, the 2013 ASC was expected to decrease by 2.2% to 63 Mt, and to decrease an additional 0.6% in 2014. The ASC of the Commonwealth of Independent States was expected to increase by 2% to 58 Mt in 2013 and then by 4% to 60 Mt in 2014.

World capacity for DRI production in 2012 was estimated to be greater than 100 Mt (Midrex Technologies, Inc., 2013). DRI production worldwide reached 69.9 Mt in 2012, 12% less than that in 2011 (Fenton, 2012, table 9). The leading producer of DRI was India, followed by, in descending order of tonnage, Iran, Venezuela, and Mexico. In 2012, additional DRI capacity of almost 21 million metric tons per year (Mt/yr) was under construction in China, Egypt, India, Iran, Pakistan, Russia, the United States, and Venezuela. The leading technology was, according to declining order of production, the Midrex process, followed by coal-based, HYL/Energiron, and Finmet processes. Worldwide DRI production could surpass 200 Mt/yr between 2025 and 2030 (Midrex Technologies, Inc., 2013).

MEPS International Ltd. (2013) forecast total world steel production in 2013 to be 1.62 Gt, an increase of 4.7% from that in 2012. China, the Commonwealth of Independent States, the European Union, Japan, the Republic of Korea, and South

America were forecast to increase steel production only slightly in 2013. India was forecast to decrease steel production slightly in 2013.

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TABLE 1
SALIENT U.S. IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS¹

(Thousand metric tons and thousand dollars)

	2008	2009	2010	2011	2012
Manufacturers of pig iron and raw steel and castings:²					
Ferrous scrap consumption	58,000	47,700	53,500	56,400	55,800
Pig iron consumption	33,600	28,300	34,100	34,900	35,400
Direct-reduced iron consumption	1,950	1,340	1,550	1,620	3,580
Net receipts of ferrous scrap ³	49,800	39,800	46,100	48,400	48,200
Home scrap production ⁴	8,720	7,610	7,710	8,010	7,790
Ending stocks of ferrous scrap, December 31	3,730	2,820	3,030	3,650	3,770
Manufacturers of steel castings:⁵					
Ferrous scrap consumption	1,850	603	536	613 ^r	639
Pig iron consumption	12	17	10	10	9
Direct-reduced iron consumption	4	14	--	--	--
Net receipts of ferrous scrap ³	1,480	460	413	464 ^r	472
Home scrap production ⁴	416	138	148	168 ^r	189
Ending stocks of ferrous scrap, December 31	200	70	83	87 ^r	89
Iron foundries and miscellaneous users:⁵					
Ferrous scrap consumption	7,780 ^r	5,260 ^r	5,670 ^r	5,760 ^r	6,710
Pig iron consumption	848 ^r	1,860	1,940 ^r	1,980 ^r	1,980
Direct-reduced iron consumption	3	3	3	3	3
Net receipts of ferrous scrap ³	5,210 ^r	3,530 ^r	3,890 ^r	3,980 ^r	4,580
Home scrap production ⁴	2,560	1,730	1,820	1,830	2,180
Ending stocks of ferrous scrap, December 31	416	175	213	245 ^r	302
Total, all manufacturing types:					
Ferrous scrap consumption	67,600	53,500	59,700	62,800 ^r	63,100
Pig iron consumption	34,400	30,200	36,100	36,900	37,400
Direct-reduced iron consumption	1,960	1,360	1,550	1,620	3,580
Net receipts of ferrous scrap ³	56,500 ^r	43,800	50,400	52,900 ^r	53,300
Home scrap production ⁴	11,700	9,480	9,680	10,000 ^r	10,100
Ending stocks, December 31:					
Ferrous scrap at consumer plants	4,340	3,070	3,330	3,980 ^r	4,160
Pig iron at consumer and supplier plants	885	506	418	423	405
Direct-reduced iron at consumer plants	435	234	161	126	147
Exports:⁶					
Ferrous scrap (includes tinplate and terneplate):⁷					
Quantity	21,500	22,400	20,500	24,300	21,400
Value	10,400,000	7,120,000	8,380,000	11,400,000	9,430,000
Pig iron, all grades:					
Quantity	51	11	68 ^s	51	21 ^s
Value	11,400	4,200	26,500 ^s	27,000	8,110
Direct-reduced iron, steelmaking grade:					
Quantity	1	(9)	1	4	(9)
Value	97	38	115	448	56
Imports for consumption:⁶					
Ferrous scrap (includes tinplate and terneplate):⁷					
Quantity	3,600	2,990	3,780	4,010	3,720
Value	1,450,000	814,000	1,420,000	1,650,000	1,590,000
Pig iron, all grades:					
Quantity	4,980	2,420	3,780	4,190	4,270
Value	2,800,000	877,000	1,540,000	2,120,000	1,900,000
Direct-reduced iron, steelmaking grade:					
Quantity	2,340	1,020	1,640	1,800	2,470
Value	971,000	304,000	607,000	775,000	921,000

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes manufacturers of raw steel that also produce steel castings.

³Net receipts of scrap is defined as receipts from brokers, dealers, and other outside sources plus receipts from other company-owned plants minus shipments.

⁴Includes recirculating scrap that results from current operations and obsolete home scrap.

⁵Some consumers in the "Manufacturers of steel castings" category also produce iron castings; some consumers in the "Iron foundries and miscellaneous users" category also produce steel castings.

TABLE 1—Continued
SALIENT U.S. IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS¹

⁶Data from U.S. Census Bureau and U.S. International Trade Commission. Export valuation is free alongside ship, and import valuation is customs value.

⁷Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping.

⁸Data adjusted by the U.S. Geological Survey.

⁹Less than ½ unit.

TABLE 2

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2012 BY GRADE¹

(Thousand metric tons)

Grade	Receipts of scrap		Production of home scrap		Consumption of purchased and home scrap	Shipments of scrap	Ending stocks, December 31
	From brokers, dealers, and other outside sources	From other company-owned plants	Recirculating scrap from current operations	Obsolete scrap ²			
Manufacturers of pig iron and raw steel and castings:							
Carbon steel:							
Low-phosphorus plate and punchings	700	W	23	--	733	--	141
Cut structural and plate	3,990	69	627	--	4,680	4	269
No. 1 heavy-melting steel	4,940	155	975	1	6,030	29	350
No. 2 heavy-melting steel	5,750	64	361	--	6,170	--	362
No. 1 and electric furnace bundles	2,640	188	877	--	3,560	137	266
No. 2 and all other bundles	1,180	W	52	--	1,240	W	44
Electric furnace, 1 foot and under (not bundles)	17	--	W	--	106	W	--
Railroad rails	317	W	W	--	360	--	18
Turnings and borings	2,310	188	47	--	2,540	1	137
Slag scrap	964	28	1,040	--	1,450	605	136
Shredded or fragmentized	12,900	1,450	W	--	14,500	42	1,110
No. 1 busheling	4,540	103	192	--	4,820	W	319
Steel cans, postconsumer	112	--	--	--	112	--	2
All other carbon steel scrap	2,960	311	1,560	17	4,520	259	212
Stainless steel scrap	858	70	325	44	1,300	4	46
Alloy steel (except stainless)	421	59	255	--	698	10	186
Ingot mold and stool scrap	5	W	121	75	120	99	11
Machinery and cupola cast iron	47	--	W	--	46	W	4
Cast-iron borings	231	W	W	--	233	W	20
Other iron scrap	986	54	316	--	1,270	128	49
Other mixed scrap	465	463	404	--	1,320	40	87
Total	46,400	3,230	7,650	138	55,800	1,380	3,770
Manufacturers of steel castings:							
Carbon steel:							
Low-phosphorus plate and punchings	153	6	42	--	187	--	45
Cut structural and plate	48	--	5	--	52	--	2
No. 1 heavy-melting steel	8	--	--	--	9	--	2
No. 2 heavy-melting steel	W	--	W	W	W	--	--
No. 1 and electric furnace bundles	W	--	--	--	W	--	W
No. 2 and all other bundles	--	--	--	--	--	--	--
Electric furnace, 1 foot and under (not bundles)	5	--	3	--	8	--	--
Railroad rails	W	--	W	--	W	--	W
Turnings and borings	28	1	10	--	40	W	2
Slag scrap	W	--	W	--	W	--	W
Shredded or fragmentized	21	--	--	--	21	--	--
No. 1 busheling	38	--	--	--	38	--	1
Steel cans, postconsumer	--	--	--	--	--	--	--
All other carbon steel scrap	6	--	47	--	54	--	--
Stainless steel scrap	25	1	20	W	43	1	26
Alloy steel (except stainless)	45	2	31	W	73	1	7
Ingot mold and stool scrap	W	--	W	--	W	--	W
Machinery and cupola cast iron	--	--	--	--	--	--	--
Cast-iron borings	--	--	--	--	--	--	--
Other iron scrap	1	--	--	--	2	--	--
Other mixed scrap	52	--	--	W	61	--	2
Total	465	11	179	9	639	4	89
Iron foundries and miscellaneous users:							
Carbon steel:							
Low-phosphorus plate and punchings	1,190	1	146	--	1,340	--	18
Cut structural and plate	621	W	47	W	685	4	25
No. 1 heavy-melting steel	36	W	W	--	97	--	1

See footnotes at end of table.

TABLE 2—Continued

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2012 BY GRADE¹

(Thousand metric tons)

Grade	Receipts of scrap		Production of home scrap		Consumption of purchased and home scrap	Shipments of scrap	Ending stocks, December 31
	From brokers, dealers, and other outside sources	From other company-owned plants	Recirculating scrap from current operations	Obsolete scrap ²			
Iron foundries and miscellaneous users:							
—Continued							
Carbon steel:—Continued							
No. 2 heavy-melting steel	112	--	W	--	144	--	6
No. 1 and electric furnace bundles	83	--	--	--	83	--	2
No. 2 and all other bundles	75	--	W	--	74	W	3
Electric furnace, 1 foot and under (not bundles)	79	--	--	--	79	--	1
Railroad rails	35	--	--	--	35	--	1
Turnings and borings	W	--	1	--	68	W	33
Slag scrap	--	--	W	--	W	W	W
Shredded or fragmented	755	--	W	--	789	--	33
No. 1 busheling	323	--	5	--	330	1	8
Steel cans, postconsumer	W	--	--	--	W	--	--
All other carbon steel scrap	84	--	56	--	123	1	25
Stainless steel scrap	28	--	1	--	28	--	1
Alloy steel (except stainless)	5	--	2	--	7	W	1
Ingot mold and stool scrap	W	W	W	--	W	W	W
Machinery and cupola cast iron	446	W	109	W	572	W	43
Cast-iron borings	62	6	8	--	76	--	--
Motor blocks	186	W	431	--	617	--	2
Other iron scrap	274	34	1,170	--	1,450	11	88
Other mixed scrap	43	7	33	--	79	5	3
Total	4,550	58	2,140	40	6,710	29	302
Grand total, all manufacturing types:							
Carbon steel:							
Low-phosphorus plate and punchings	2,050	16	210	--	2,260	1	204
Cut structural and plate	4,660	71	679	12	5,420	7	295
No. 1 heavy-melting steel	4,980	157	1,040	1	6,130	29	353
No. 2 heavy-melting steel	5,900	64	412	W	6,360	--	369
No. 1 and electric furnace bundles	2,720	188	877	--	3,650	137	268
No. 2 and all other bundles	1,250	W	52	--	1,320	W	47
Electric furnace, 1 foot and under (not bundles)	101	--	103	--	193	W	1
Railroad rails	354	--	W	--	395	--	23
Turnings and borings	2,430	189	58	--	2,650	2	171
Slag scrap	967	28	1,050	--	1,460	608	136
Shredded or fragmented	13,700	1,450	353	--	15,300	42	1,150
No. 1 busheling	4,900	103	198	--	5,190	4	328
Steel cans, postconsumer	119	--	--	--	119	--	2
All other carbon steel scrap	3,050	311	1,660	17	4,690	260	237
Stainless steel scrap	910	71	345	W	1,370	5	74
Alloy steel (except stainless)	471	60	288	W	778	10	194
Ingot mold and stool scrap	22	19	122	75	139	99	17
Machinery and cupola cast iron	492	--	111	W	619	2	46
Cast-iron borings	293	10	11	--	309	--	20
Motor blocks	186	--	431	--	617	--	2
Other iron scrap	1,260	88	1,490	--	2,720	139	133
Other mixed scrap	560	470	438	8	1,460	46	91
Total	51,400	3,300	9,960	187	63,100	1,410	4,160

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.²Obsolete home scrap includes ingot molds, stools, and scrap from old equipment and buildings.

TABLE 3
U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON
AND DIRECT-REDUCED IRON IN 2012¹

(Thousand metric tons)

	Receipts	Production	Consumption	Shipments	Stocks, December 31
Manufacturers of pig iron, raw steel, and castings:					
Pig iron	7,430 ²	28,100	35,400	55	381
Direct-reduced iron (DRI)	1,930 ³	W	3,580	W	147
Manufacturers of steel castings:					
Pig iron	9	(4)	9	(4)	(4)
DRI	(4)	--	--	--	(4)
Iron foundries and miscellaneous users:					
Pig iron	2,000	1	1,980	27	23
DRI	3	--	3	--	(4)
Total, all manufacturing types:					
Pig iron	9,440	28,100	37,400	82	405
DRI	1,930	W	3,580	W	147

W Withheld to avoid disclosing company proprietary data; included in "Total."-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes 2.86 million metric tons purchased by electric furnace steel producers.

³Includes 49,400 metric tons purchased by integrated steel producers.

⁴Less than ½ unit.

TABLE 4
U.S. CONSUMPTION OF IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON IN 2012,
BY TYPE OF FURNACE OR OTHER USE¹

(Thousand metric tons)

	Manufacturers of pig iron and raw steel and castings			Manufacturers of steel castings			Iron foundries and miscellaneous users			Total, all manufacturing types		
	Scrap	Pig		Scrap	Pig		Scrap	Pig		Scrap	Pig	
		iron	DRI ²		iron	DRI ²		iron	DRI ²		iron	DRI ²
Blast furnace	2,620	--	49	--	--	--	--	--	--	2,620	--	49
Basic oxygen process	8,350	31,500	1,910	--	--	--	--	--	--	8,350	31,500	1,910
Electric furnace	44,700	3,870	1,620	638	9	--	5,580	1,910	3	50,900	5,790	1,620
Cupola furnace	17	--	--	--	--	--	1,090	57	--	1,110	57	--
Other ³	136	--	--	1	--	--	30	10	--	167	10	--
Direct castings ⁴	--	36	--	--	--	--	--	--	--	--	36	--
Total	55,800	35,400	3,580	639	9	--	6,710	1,980	3	63,100	37,400	3,580

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Direct-reduced iron.

³Includes air furnaces.

⁴Includes ingot molds and stools.

TABLE 5
IRON AND STEEL SCRAP SUPPLY AVAILABLE FOR CONSUMPTION IN 2012, BY REGION AND STATE^{1,2}

(Thousand metric tons)

Region and State	Receipts of scrap		Production of home scrap		Shipments of scrap ⁴	New supply available for consumption
	From brokers, dealers, and other outside sources	From other company-owned plants	Recirculating scrap resulting from current operations	Obsolete scrap ³		
New England and Middle Atlantic:						
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	19	--	9	(5)	W	27
New Jersey and New York	1,750	--	90	(5)	W	1,800
Pennsylvania	3,490	629	1,740	115	62	5,910
Total	5,260	629	1,840	116	100	7,740
North Central:						
Illinois	1,760	2	127	35	8	1,920
Indiana	4,260	316	1,740	6	362	5,970
Iowa, Nebraska, South Dakota	2,270	29	57	(5)	(5)	2,360
Kansas and Missouri	22	5	21	--	(5)	48
Michigan	2,190	14	1,330	(5)	590	2,940
Minnesota	369	149	20	--	22	516
Ohio	6,220	235	1,210	16	135	7,540
Wisconsin	1,490	2	892	(5)	5	2,380
Total	18,600	753	5,390	57	1,120	23,700
South Atlantic:						
Delaware and Maryland	W	W	W	--	W	1,070
Florida and Georgia	W	--	W	--	W	843
North Carolina and South Carolina	3,290	W	216	(5)	1	3,590
Virginia and West Virginia	1,810	290	252	(5)	W	2,340
Total	6,740	387	770	(5)	58	7,840
South Central:						
Alabama and Mississippi	5,710	W	256	--	7	5,950
Arkansas, Louisiana, Oklahoma	4,190	W	390	W	--	4,750
Kentucky and Tennessee	3,400	278	284	W	(5)	3,960
Texas	3,480	608	217	W	68	4,240
Total	16,800	1,050	1,150	13	75	18,900
Mountain and Pacific:						
Arizona, Colorado, Idaho, Montana, Utah	2,490	W	667	(5)	W	3,200
California, Oregon, Washington	1,530	W	149	W	W	2,060
Total	4,020	485	817	(5)	54	5,260
Grand total	51,400	3,300	9,960	187	1,410	63,400

W Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total." -- Zero.

¹Supply available for consumption is a net figure computed by adding production to receipts and deducting scrap shipped during the year. The difference in stock levels at the beginning and end of the year is not taken into consideration.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Includes ingot molds, stools, and scrap from old equipment, buildings, etc.

⁴Includes scrap shipped, transferred, or otherwise disposed of during the year.

⁵Less than ½ unit.

TABLE 6
U.S. CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN 2012, BY REGION AND STATE^{1,2,3}

(Thousand metric tons)

Region and State	Manufacturers of pig iron and raw steel and castings		Manufacturers of steel castings		Iron foundries and miscellaneous users		Total, all manufacturing types	
	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron	Scrap	Pig iron
New England and Middle Atlantic:								
Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont	1,750	22	8	--	98	7	1,850	28
Pennsylvania	5,520	2,970	208	1	196	16	5,920	2,990
Total	7,260	2,990	216	1	294	23	7,770	3,010
North Central:								
Illinois	1,530	W	25	1	348	58	1,900	2,070
Indiana	5,570	13,000	64	(4)	278	51	5,910	13,100
Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, Wisconsin	3,170	W	60	--	2,040	1,660	5,270	1,730
Michigan	2,420	W	28	--	531	29	2,980	4,170
Ohio	6,800	6,770	68	(4)	634	51	7,500	6,820
Total	19,500	26,000	245	1	3,830	1,850	23,600	27,800
South Atlantic:								
Delaware, Maryland, Virginia, West Virginia	W	W	(4)	(4)	W	W	2,760	1,470
Florida, Georgia, North Carolina, South Carolina	W	W	(4)	--	W	W	5,070	260
Total	7,400	1,680	1	(4)	431	49	7,830	1,730
South Central:								
Alabama, Kentucky, Mississippi, Tennessee	9,060	4,280	W	(4)	767	38	9,860	W
Arkansas, Louisiana, Oklahoma	4,650	W	W	--	8	3	4,670	W
Texas	3,930	W	60	7	167	15	4,160	54
Total	17,700	4,760	99	7	942	56	18,700	4,820
Mountain and Pacific:								
Arizona, Colorado, Idaho, Montana, Utah	W	W	4	(4)	1,080	(4)	3,190	10
California, Oregon, Washington	W	W	74	(4)	137	4	2,090	4
Total	3,980	9	78	(4)	1,220	4	5,280	14
Grand total	55,800	35,400	639	9	6,710	1,980	63,100	37,400

W Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total." -- Zero.

¹Includes recirculating scrap resulting from current operations and home-generated obsolete scrap.

²Includes molten pig iron used for ingot molds and direct castings.

³Data are rounded to no more than three significant digits; may not add to totals shown.

⁴Less than ½ unit.

TABLE 7

U.S. CONSUMER STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, DECEMBER 31, 2012, BY REGION AND STATE¹

(Thousand metric tons)

Region and State	Carbon steel ²	Stainless steel	Alloy steel ³	Cast iron ⁴	Other grades of scrap	Total scrap	Pig iron
New England and Middle Atlantic:							
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	(5)	W	--	(5)	(5)	2	(5)
New Jersey and New York	46	W	--	1	(5)	47	(5)
Pennsylvania	227	15	18	16	2	278	22
Total	273	15	18	17	2	326	22
North Central:							
Illinois	91	(5)	(6)	5	W	99	7
Indiana	439	3	5	13	W	467	151
Iowa, Kansas, Missouri, Nebraska, South Dakota	108	W	W	3	--	115	6
Michigan	107	(6)	W	11	11	130	4
Minnesota and Wisconsin	69	W	1	6	W	79	3
Ohio	406	27	32	101	--	565	38
Total	1,220	33	42	138	21	1,460	209
South Atlantic:							
Delaware, Maryland, Virginia, West Virginia	79	(5)	(5)	W	W	W	W
Florida, Georgia, North Carolina, South Carolina	298	(5)	(5)	W	W	W	W
Total	377	(5)	(5)	29	29	434	27
South Central:							
Alabama, Kentucky, Mississippi, Tennessee	439	W	--	W	W	490	95
Arkansas, Louisiana, Oklahoma	781	W	W	W	--	914	43
Texas	298	3	W	9	W	310	3
Total	1,520	25	132	35	4	1,710	141
Mountain and Pacific:							
Arizona, Colorado, Idaho, Montana, Utah	107	(5)	(5)	(5)	W	108	W
California, Oregon, Washington	86	(5)	2	4	W	127	W
Total	193	(5)	2	4	35	236	6
Grand total	3,580	73	194	223	91	4,160	405

W Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.²Excludes rerolling rails.³Excludes stainless steel.⁴Includes borings.⁵Less than ½ unit.⁶Withheld to avoid disclosing company proprietary data; included in "North Central Total" of "Total Scrap."

TABLE 8
 U.S. AVERAGE MONTHLY PRICE AND COMPOSITE PRICE FOR NO. 1
 HEAVY-MELTING STEEL, WITH ANNUAL AVERAGES¹

(Dollars per metric ton)

Period	Chicago, IL	Philadelphia, PA	Pittsburgh, PA	Composite price
2011, ^r average	417.00	407.94	408.64	411.19
2012:				
January	464.00	405.00	432.00	433.67
February	443.00	393.00	408.00	414.67
March	440.00	388.27	405.00	411.09
April	427.14	382.86	395.95	401.98
May	425.00	395.64	395.00	405.21
June	376.43	358.00	352.14	362.19
July	325.00	323.29	312.62	320.30
August	391.96	343.00	355.22	363.39
September	375.53	335.84	351.58	354.32
October	334.78	308.57	308.70	317.35
November	366.60	330.20	344.00	346.93
December	377.00	335.00	355.00	355.67
Average	395.54	358.22	367.93	373.90

^rRevised.

¹Calculated by the U.S. Geological Survey from prices published in American Metal Market.

TABLE 9
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY COUNTRY^{1,2}

(Thousand metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Argentina	2	1,180	1	817
Austria	1	2,970	4	3,510
Bangladesh	50	24,600	40	18,900
Belgium	9	12,500	8	6,750
Brazil	36	15,200	1	247
Canada	1,460	503,000	1,150	393,000
Chile	(3)	183	1	553
China	4,230	2,310,000	1,940	1,340,000
Colombia	2	798	31	11,900
Curacao	(3)	59	1	202
Dominican Republic	2	635	2	676
Ecuador	76	33,600	40	14,000
Egypt	890	383,000	372	151,000
Finland	41	93,200	6	11,500
France	12	5,090	1	2,500
Germany	4	2,850	3	4,440
Greece	35	12,600	1	429
Guatemala	32	14,000	30	13,100
Hong Kong	104	65,100	65	49,500
India	1,210	532,000	1,220	547,000
Indonesia	246	104,000	520	205,000
Israel	(3)	321	1	447
Italy	195	92,300	66	32,200
Jamaica	1	219	1	231
Japan	243	196,000	51	86,800
Korea, Republic of	2,960	1,320,000	2,820	1,190,000
Malaysia	984	432,000	810	327,000
Mexico	549	233,000	790	299,000
Morocco	43	19,600	25	10,700
Netherlands	31	43,600	16	22,300
New Caledonia	1	3,110	(3)	1,380
Pakistan	202	111,000	218	135,000
Peru	187	79,300	185	71,800
Philippines	(3)	64	4	1,750
Saudi Arabia	19	8,360	117	48,500
Singapore	8	3,080	5	2,270
Spain	29	26,000	17	31,500
Sri Lanka	1	1,070	(3)	940
Sweden	5	9,120	3	6,770
Switzerland	1	313	(3)	152
Taiwan	3,540	1,690,000	3,510	1,530,000
Thailand	814	357,000	361	143,000
Trinidad and Tobago	2	737	(3)	127
Turkey	5,620	2,420,000	6,400	2,510,000
United Arab Emirates	34	14,300	3	1,070
United Kingdom	4	3,620	2	3,730
Venezuela	2	1,090	2	370
Vietnam	396	161,000	528	200,000
Other	31 ^r	13,500 ^r	9	4,260
Total	24,300	11,400,000	21,400	9,430,000

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is free alongside ship. The United States exported scrap to 93 countries in 2011 and to 91 countries in 2012.

³Less than ½ unit.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 10
U.S. EXPORTS OF IRON AND STEEL SCRAP,
BY CUSTOMS DISTRICT^{1,2}

(Thousand metric tons and thousand dollars)

Customs district	2011		2012	
	Quantity	Value	Quantity	Value
Baltimore, MD	400	189,000	275	118,000
Boston, MA	1,430	619,000	1,340	537,000
Buffalo, NY	306	125,000	265	101,000
Charleston, SC	148	93,200	119	74,000
Charlotte, NC	29	23,100	15	21,100
Chicago, IL	7	4,570	2	1,040
Cleveland, OH	2	1,160	1	2,050
Columbia-Snake, OR	1,440	644,000	1,250	517,000
Detroit, MI	337	103,000	309	101,000
Duluth, MN	73	28,000	20	8,410
El Paso, TX	15	6,620	40	14,600
Great Falls, MT	7	2,060	12	3,770
Honolulu, HI	184	78,500	168	66,000
Houston-Galveston, TX	1,190	540,000	1,290	576,000
Laredo, TX	311	128,000	406	156,000
Los Angeles, CA	5,080	2,700,000	4,250	2,150,000
Miami, FL	601	237,000	481	200,000
Mobile, AL	144	79,700	178	85,300
New Orleans, LA	1,330	588,000	929	353,000
New York, NY	3,230	1,580,000	2,960	1,350,000
Nogales, AZ	1	168	2	849
Norfolk, VA	433	214,000	634	293,000
Ogdensburg, NY	35	14,100	23	8,280
Pembina, ND	545	214,000	411	160,000
Philadelphia, PA	1,140	499,000	937	381,000
Portland, ME	193	87,700	180	72,900
Providence, RI	567	245,000	604	238,000
San Diego, CA	9	2,880	43	11,900
San Francisco, CA	2,330	1,040,000	1,950	845,000
San Juan, PR	364	126,000	339	116,000
Savannah, GA	478	287,000	328	193,000
Seattle, WA	1,220	559,000	1,160	493,000
St. Albans, VT	83	32,200	57	19,900
Tampa, FL	597	264,000	330	142,000
Other	73	9,150	82	15,200
Total	24,300	11,400,000	21,400	9,430,000

¹Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is free alongside ship.

²Data are rounded to no more than three significant digits; may not add to totals shown.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 11
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY GRADE^{1,2}

(Thousand metric tons and thousand dollars)

Grade	2011		2012	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	8,060	3,430,000	7,330	2,890,000
No. 2 heavy-melting scrap	1,160	482,000	1,110	423,000
No. 1 bundles	525	173,000	423	156,000
No. 2 bundles	10	2,450	12	3,080
Shredded steel scrap	8,390	3,680,000	6,560	2,610,000
Borings, shovelings, and turnings	106	31,400	101	36,400
Cut plate and structural	955	420,000	1,040	412,000
Tinned iron or steel	127	69,700	152	73,300
Remelting scrap ingots	39	38,300	31	32,500
Stainless steel scrap	656	958,000	624	804,000
Other alloy steel scrap	947	585,000	715	539,000
Other steel scrap ³	2,850	1,270,000	2,740	1,230,000
Iron scrap	515	228,000	546	228,000
Total	24,300	11,400,000	21,400	9,430,000
Ships, boats, and other vessels for scrapping	4	835	5	913
Used rails for rerolling and other uses ⁴	49	50,400	36	37,600
Grand total	24,400	11,400,000	21,400	9,470,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export valuation is free alongside ship.

³Includes tinplate and terneplate.

⁴Includes mixed (used plus new) rails. More information can be found in table 15.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 12
 U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP,
 BY COUNTRY^{1,2}

(Thousand metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Argentina	(3)	37	(3)	18
Bahamas, The	9	2,370	9	1,670
Brazil	4	983	(3)	315
Canada	3,260	1,290,000	3,010	1,260,000
Cayman Islands	6	1,900	6	1,650
China	1	1,330	1	437
Egypt	1	1,080	1	894
France	(3)	772	16	6,950
Germany	27	11,100	48	21,500
Guatemala	(3)	528	1	241
Israel	(3)	873	(3)	248
Italy	(3)	49	1	149
Japan	3	1,460	3	1,060
Jordan	2	355	1	290
Korea, Republic of	(3)	277	4	1,580
Malaysia	(3)	33	(3)	39
Mexico	467	212,000	231	120,000
Netherlands	55	25,000	162	68,900
Panama	(3)	200	1	337
Peru	5	806	1	437
Singapore	4	7,800	2	463
Sweden	86	42,900	72	31,800
Taiwan	2	4,220	2	2,290
Trinidad and Tobago	(3)	121	(3)	188
Turks and Caicos Islands	2	933	1	241
United Kingdom	69	33,800	140	63,100
Other	6 ^r	3,910 ^r	3	3,130
Total	4,010	1,650,000	3,720	1,590,000

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Import valuation is customs values. The United States imported scrap from 59 countries in 2011 and from 60 countries in 2012.

³Less than ½ unit.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 13
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP,
BY CUSTOMS DISTRICT^{1,2}

(Thousand metric tons and thousand dollars)

Customs district	2011		2012	
	Quantity	Value	Quantity	Value
Boston, MA	2	801	1	447
Buffalo, NY	674	376,000	612	405,000
Charleston, SC	147	67,600	213	91,900
Chicago, IL	9	2,910	29	3,440
Cleveland, OH	63	14,900	1	333
Columbia-Snake, OR	43	14,400	63	21,200
Detroit, MI	1,220	491,000	1,080	449,000
Duluth, MN	44	20,900	33	13,000
El Paso, TX	48	20,200	41	17,800
Great Falls, MT	172	66,300	143	49,800
Houston-Galveston, TX	2	4,670	3	3,320
Laredo, TX	163	113,000	86	66,300
Los Angeles, CA	2	2,670	18	8,320
Miami, FL	7	2,340	8	2,100
Mobile, AL	29	14,600	35	16,300
New Orleans, LA	60	28,100	157	63,900
New York, NY	5	3,270	5	5,240
Nogales, AZ	32	12,700	28	11,000
Norfolk, VA	(3)	125	(3)	36
Ogdensburg, NY	23	29,800	35	29,500
Pembina, ND	73	33,200	73	28,600
Philadelphia, PA	2	1,160	1	1,360
Portland, ME	12	4,930	9	3,620
San Diego, CA	225	65,300	61	18,600
Savannah, GA	8	1,360	1	499
Seattle, WA	933	252,000	929	260,000
St. Albans, VT	(3)	35	2	960
Tampa, FL	12	3,790	9	2,340
Wilmington, NC	(3)	60	36	16,800
Other	(3) ^r	23 ^r	1	394
Total	4,010	1,650,000	3,720	1,590,000

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Import valuation is customs values.

³Less than ½ unit.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 14
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY CLASS^{1,2}

(Thousand metric tons and thousand dollars)

Class	2011		2012	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	199	72,400	253	88,400
No. 2 heavy-melting scrap	70	23,900	94	29,200
No. 1 bundles	1,080	493,000	1,060	430,000
No. 2 bundles	21	5,320	19	4,510
Shredded steel scrap	387	93,100	418	112,000
Borings, shovelingen, and turnings	109	25,000	85	20,800
Cut plate and structural	263	79,600	262	78,400
Tinned iron or steel	97	28,500	91	30,800
Remelting scrap ingots	(3)	507	(3)	279
Stainless steel scrap	169	295,000	155	236,000
Other alloy steel scrap	797	310,000	455	313,000
Other steel scrap ⁴	621	156,000	612	181,000
Iron scrap	193	65,100	207	65,500
Total	4,010	1,650,000	3,720	1,590,000
Ships, boats, and other vessels for scrapping	(3)	50	(3)	22
Used rails for rerolling and other uses ⁵	71	35,000	71	32,000
Grand total	4,080	1,680,000	3,790	1,620,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Import valuation is customs value.

³Less than ½ unit.

⁴Includes tinplate and terneplate.

⁵Includes mixed (used plus new) rails. More information can be found in table 16.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 15
U.S. EXPORTS OF USED RAILS FOR REROLLING AND OTHER USES,
BY COUNTRY^{1,2}

(Metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Argentina	166	\$139	19	\$16
Australia	1,500	2,470	2,490	3,560
Bahamas, The	120	142	41	88
Brazil	229	442	86	167
Canada	27,500	27,000	--	--
Cayman Islands	4	6	7	12
Chile	910	1,310	18	94
China	20	121	296	684
Colombia	156	149	215	260
Costa Rica	2	4	8	26
Dominican Republic	1,140	1,200	1,070	1,200
Germany	102	158	33	34
Guatemala	103	91	--	--
Guinea	433	536	--	--
Hungary	5	150	6	177
India	86	413	49	42
Jamaica	73	114	67	68
Japan	846	714	1,070	859
Korea, Republic of	19	16	13	11
Mexico	12,100	9,980	27,800	27,800
Netherlands	47	54	223	205
Nicaragua	27	41	17	32
Panama	1,880	3,060	377	399
Peru	28	30	52	58
Singapore	83	97	4	109
Taiwan	892	804	1,260	719
Trinidad and Tobago	8	31	22	34
United Arab Emirates	102	221	--	--
United Kingdom	31	26	5	20
Venezuela	310	616	402	377
Other	151 ^r	273 ^r	360	535
Total	49,100	50,400	36,000	37,600

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Export valuation is free alongside ship.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 16
U.S. IMPORTS FOR CONSUMPTION OF USED RAILS FOR REROLLING
AND OTHER USES, BY COUNTRY^{1,2}

(Metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Canada	59,300	\$27,100	62,400	\$26,100
China	--	--	241	382
France	142	77	--	--
Germany	5	11	18	31
Japan	5	13	16	18
Korea, Republic of	--	--	53	22
Mexico	241	150	(3)	6
Russia	11,000	7,540	8,680	5,350
Taiwan	4	11	1	2
United Kingdom	1	3	4	11
Other	25 ^r	45 ^r	23	25
Total	70,700	35,000	71,500	32,000

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Import valuation is customs value.

³Less than ½ unit.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 17
U.S. EXPORTS OF DIRECT-REDUCED IRON, BY COUNTRY^{1,2}

(Metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Canada	1,970	\$242	80	\$8
Korea, Republic of	414	44	453	48
Malaysia	54	6	--	--
Switzerland	85	9	--	--
United Kingdom	1,390	147	--	--
Total	3,910	448	533	56

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data are for steelmaking-grade direct-reduced iron only.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 18
U.S. IMPORTS FOR CONSUMPTION OF DIRECT-REDUCED IRON,
BY COUNTRY^{1,2}

(Metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Brazil	--	--	36,100	\$15,400
Canada	12	\$3	16,400	5,030
China	31	8	--	--
Russia	252	117	20,000	7,860
South Africa	7,600	2,280	--	--
Trinidad and Tobago	1,450,000	645,000	1,910,000	742,000
Venezuela	342,000	127,000	488,000	151,000
Total	1,800,000	775,000	2,470,000	921,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data are for steelmaking-grade direct-reduced iron only.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 19
U.S. EXPORTS OF PIG IRON, BY COUNTRY^{1,2}

(Metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Austria	289	\$96	--	--
Brazil	107	27	--	--
Canada	8,320	4,170	5,480	\$2,240
China	33	35	2,530	249
Dominican Republic	--	--	146	107
French Polynesia	175	58	--	--
Germany	11	4	3	5
India	86	32	--	--
Italy	146	78	236	466
Japan	757	495	212	191
Korea, Republic of	1,100	933	364	372
Mexico	40,100	20,900	10,800 ³	4,160 ³
United Arab Emirates	--	--	897	94
United Kingdom	9	3	164	96
Uruguay	162	54	164	54
Other	129 ^r	65 ^r	198	79
Total	51,400	27,000	21,200	8,110

^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes the following grades of pig iron: less than or equal to 0.5% phosphorus content, greater than 0.5% phosphorus content, and alloy grade. Export valuation is free alongside ship value.

³Data adjusted by the U.S. Geological Survey.

Sources: U.S. Census Bureau and U.S. International Trade Commission.

TABLE 20
U.S. IMPORTS FOR CONSUMPTION OF PIG IRON, BY COUNTRY^{1,2}

(Metric tons and thousand dollars)

Country	2011		2012	
	Quantity	Value	Quantity	Value
Australia	619	\$834	53	\$89
Brazil	2,250,000	1,130,000	1,990,000	882,000
Canada	106,000	67,200	148,000	72,000
Chile	--	--	22	103
Germany	7,460	4,240	3,220	1,690
Japan	--	--	3	4
Russia	1,190,000	596,000	1,420,000	637,000
Slovakia	--	--	101	176
South Africa	157,000	83,300	204,000	84,700
Sweden	8,330	3,860	--	--
Switzerland	49,200	25,400	100,000	45,500
Taiwan	--	--	11	24
Ukraine	293,000	149,000	414,000	178,000
United Kingdom	9	5	--	--
Venezuela	128,000	55,100	--	--
Total	4,190,000	2,120,000	4,270,000	1,900,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes the following grades of pig iron: less than or equal to 0.5% phosphorus content, greater than 0.5% phosphorus content, and alloy grade. Import valuation is customs value.

Sources: U.S. Census Bureau and U.S. International Trade Commission.