



2011 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 170 years, using electric arc furnaces (EAF), which accounted for about 60% of the total raw steel produced in 2011. Consistent with international usage and Federal Government policy, the U.S. Geological Survey (USGS) reports all data on iron and steel in metric units, unless otherwise noted.

Steel scrap recycling conserves energy, landfill space, and raw materials. In 2011, the domestic steel industry recycled or exported for recycling nearly 78 million metric tons (Mt) of appliances, automobiles, cans, construction materials, and other steel products (G.L. Crawford, Steel Recycling Institute, unpub. data, December 12, 2012). This resulted in an overall recycling rate of about 92%. 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, December 13, 2012). The steel industry recovered and recycled almost 15.5 Mt of iron and steel from about 11.9 million end-of-life vehicles in 2011, processed through more than 300 car shredders. The recycling rate for automotive scrap was 94.5% in 2011. About 12,500 vehicle dismantlers in North America resold parts.

The annual average recycling rate of obsolete appliance scrap continued at a high of about 90% in 2011, the same as that of 2010 (G.L. Crawford, Steel Recycling Institute, unpub. data, November 20, 2012). During 2011, almost 2.6 Mt of steel was recovered from recycled appliances, a decrease of about 4% compared with that of 2010. 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 71% in 2011 from 15% in 1983 (G.L. Crawford, Steel Recycling Institute, unpub. data, November 10, 2012). More than 18 Mt of steel containers was recycled. The estimated rate of recycling of structural beams and plates in 2004 through 2011 was about 98%, an increase from 85% in 1997. Recycling rates for reinforcement bar and other materials were 70% in 2011 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 by 5.6% during 2011 (American Iron and Steel Institute, 2012, p. 72), while DRI production remained at zero, as in 2009 and 2010 (Midrex Technologies, Inc., 2012).

Consumption

Domestic data for ferrous scrap were derived from voluntary monthly or annual surveys of U.S. scrap-consuming operations by the USGS. About 61% of the known manufacturers of pig iron and raw steel responded to the surveys. Their response 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 53% of the surveyed establishments responded to the annual survey, which represented about 97% 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 97% of total ferrous scrap consumption by all classes of scrap consumers.

In 2011, brokers, dealers, and other outside sources supplied domestic consumers with 53 Mt of all types of ferrous scrap at an estimated average delivered value of \$21.8 billion, and exported 24.3 Mt (excluding used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping) valued at \$11.4 billion (tables 1, 8, 11). Raw steel production was 86.4 Mt in 2011 compared with 80.5 Mt in 2010 (American Iron and Steel Institute, 2012, p. 73). The share of raw steel produced by EAF and basic oxygen furnaces was 60% and 40%, respectively. In 2011, continuous cast steel production represented 98% of total raw steel production; this was slightly more than that of 2010. Raw steel production capability increased to 116 Mt from 114 Mt in 2010 (American Iron and Steel Institute, 2012, p. 75). The capability utilization index increased to 74.4% in 2011 from 70.4% in 2010.

Steel mills accounted for 91% of all scrap received from brokers, dealers, and other outside sources; iron foundries and miscellaneous users received 8%; and steel foundries received 1% (table 1). Apparent total domestic consumption of ferrous scrap was 98.6 Mt, as measured by net receipts (total external receipts minus shipments) and 9.9 Mt of home scrap production (table 2). Stocks of ferrous scrap at consumer plants increased by 22% to 4.1 Mt (table 1). Total domestic consumption was 63.1 Mt, 6% more than that of 2010 (table 1). The total market

for U.S.-produced scrap (net receipts plus exports minus imports) was 24.5 Mt, compared with 67.0 Mt in 2010 (table 1). Feedstock used in electric furnaces by all iron and steel product manufacturers comprised scrap, 88.3%; pig iron, 9.5%; and DRI, 2.2% (table 4). Total consumption of DRI was 4.4% more than that of 2010 (table 1). Net shipments of all grades of steel mill products were about 83.3 Mt, which was an increase of 10% from the 75.7 Mt shipped in 2010 (American Iron and Steel Institute, 2012, p. 25).

Prices

The average composite delivered price of No. 1 heavy-melting steel scrap in 2011, calculated from prices per long ton published monthly by American Metal Market, was \$410.99 per metric ton. The price ranged from a low of \$379.75 per ton in November to a high of \$429 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 \$391.91 per metric ton; the price ranged from a low of \$334.14 per ton in December to a high of \$411.89 per ton in July.

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 2011 was about \$2,178 per gross ton, a slight decrease compared with that of 2010.

The unit value of total ferrous scrap exports (excluding used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping) increased by 14% to about \$467 per metric ton compared with that of 2010 (table 11). The unit value of total imports increased by 10% to about \$413 per metric ton, compared with that of 2010 (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 2011, 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 20.3 Mt valued at about \$9.7 billion (tables 11, 14). This represented an increase of 21% in quantity and an increase of 39% in value compared with the 2010 surplus of 16.8 Mt valued at \$7.0 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 and 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 2011 than any other country, followed by, in decreasing order of export tonnage, Germany, France, Japan, and Canada (World Steel Association, 2012a, p. 110–111). The leading importing nations were, in decreasing order of import tonnage, Turkey,

the Republic of Korea, China, Germany, and Italy (World Steel Association, 2012a, p. 111–112).

Outlook

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

The World Bank's forecast of global gross domestic product (GDP) growth for 2011, 2012, and 2013 was 3.2%, 3.6%, and 3.6%, respectively, after 3.8% in 2010 (World Bank, The, 2011). The International Monetary Fund's projection of GDP growth for 2012 was 4.0%, which was down from an earlier projection of 4.5% (International Monetary Fund, 2012). The U.S. Federal Reserve's January 2012 projections for the U.S. 2012 GDP growth rate was between 2.1% and 3.0%, between 2.4% and 3.8% for 2013, and between 2.8% and 4.3% for 2014, which were reduced from earlier projections (Board of Governors of the Federal Reserve System, 2012). The 2011 GDP growth for China was 10.3% and was projected to be 8.7% in 2012 and 8.8% in 2013, and that of India was projected to be 7.7% and 7.9% for those years, respectively (World Bank, The, 2011).

World apparent steel consumption (ASC) was expected to increase by 3.6% to 1.422 billion metric tons (Gt) during 2012, after increasing by 5.6% in 2011, and then increase by 4.5% in 2013, to reach a historic high of 1.49 Gt (World Steel Association, 2012b). China's ASC was expected to increase by about 4% to 649 Mt in 2012, and then by 4% in 2013 to 675 Mt. ASC in India was expected to increase by about 7% in 2012 to about 73 Mt and by 9.4% in 2013. The U.S. ASC was expected to increase by 5.7% to 94 Mt in 2012 and by 5.6% in 2013. The European Union's ASC was expected to decrease by 1.2% to 151 Mt in 2012 and increase by 3.3% to 156 Mt in 2013. In Japan, the 2012 ASC was expected to decrease by 0.6% to 64 Mt, and decrease an additional 2.2% to 62 Mt in 2013. The ASC of the Commonwealth of Independent States was expected to increase by 4% to 56 Mt in 2012 and then by 5% to 59 Mt in 2013.

World capacity for DRI production in 2011 was estimated to be about 87 Mt (Midrex Technologies, Inc., 2012). DRI production worldwide reached a record of 76.3 Mt in 2011, 7.5% more than that in 2010 (Fenton, 2012, table 9). The leading producer of DRI was India, followed by, in descending order of tonnage, Iran, Venezuela, and Mexico. In 2011, additional DRI capacity of almost 22 Mt/yr was under construction in China, Bahrain, Egypt, India, Iran, Pakistan, 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.

MEPS International Ltd. forecast total world steel production in 2012 to be 1.625 Gt, up 11% from that in 2010 and up 5% from that forecast in 2011. MEPS also forecast increasing steel production in 2012 in South America, Africa and the Middle East, China, other Europe and the CIS, and the EU of 5%, 3%, 8%, 4%, and 2%, respectively (Commodities Now, 2012).

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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)

	2007	2008	2009	2010	2011
Manufacturers of pig iron and raw steel and castings:²					
Ferrous scrap consumption	55,000	58,000	47,700	53,500 ^r	56,400
Pig iron consumption	36,500	33,600	28,300	34,100	34,900
Direct-reduced iron consumption	2,040	1,950	1,340	1,550 ^r	1,620
Net receipts of ferrous scrap ³	46,800	49,800	39,800	46,100 ^r	48,400
Home scrap production ⁴	8,760	8,720	7,610	7,710 ^r	8,010
Ending stocks of ferrous scrap, December 31	3,650	3,730	2,820	3,030 ^r	3,650
Manufacturers of steel castings:⁵					
Ferrous scrap consumption	1,070 ^r	1,850 ^r	603 ^r	536 ^r	756
Pig iron consumption	11	12	17	10	10
Direct-reduced iron consumption	--	4	14	--	--
Net receipts of ferrous scrap ³	749 ^r	1,480 ^r	460 ^r	413 ^r	583
Home scrap production ⁴	319 ^r	416 ^r	138 ^r	148 ^r	232
Ending stocks of ferrous scrap, December 31	83 ^r	200 ^r	70 ^r	83 ^r	167
Iron foundries and miscellaneous users:⁵					
Ferrous scrap consumption	7,940	7,760	5,250 ^r	5,660 ^r	5,960
Pig iron consumption	870	842	1,860 ^r	1,930 ^r	1,970
Direct-reduced iron consumption	4	3	3	3	3
Net receipts of ferrous scrap ³	5,120	5,200	3,520 ^r	3,880 ^r	4,180
Home scrap production ⁴	2,550	2,560	1,730 ^r	1,820 ^r	1,830
Ending stocks of ferrous scrap, December 31	413	416	175 ^r	213 ^r	246
Total, all manufacturing types:					
Ferrous scrap consumption	64,000 ^r	67,600 ^r	53,500 ^r	59,700 ^r	63,100
Pig iron consumption	37,400	34,400	30,200	36,100 ^r	36,900
Direct-reduced iron consumption	2,050	1,960	1,360	1,550 ^r	1,620
Net receipts of ferrous scrap ³	52,600 ^r	56,400 ^r	43,800 ^r	50,400 ^r	53,200
Home scrap production ⁴	11,600 ^r	11,700 ^r	9,480 ^r	9,680 ^r	10,100
Ending stocks, December 31:					
Ferrous scrap at consumer plants	4,140 ^r	4,340 ^r	3,070 ^r	3,330 ^r	4,060
Pig iron at consumer and supplier plants	771	885	506 ^r	418 ^r	423
Direct-reduced iron at consumer plants	364	435	234	161	126
Exports:⁶					
Ferrous scrap (includes tinplate and terneplate):⁷					
Quantity	16,500	21,500	22,400	20,500	24,300
Value	6,890,000	10,400,000	7,120,000	8,380,000	11,400,000
Pig iron, all grades:					
Quantity	71	51	11	2,220	51
Value	4,610	11,400	4,200	13,400	27,000
Direct-reduced iron, steelmaking grade:					
Quantity	(8)	1	(8)	1	4
Value	23	97	38	115	448
Imports for consumption:⁶					
Ferrous scrap (includes tinplate and terneplate):⁷					
Quantity	3,700	3,600	2,990	3,780	4,010
Value	1,040,000	1,450,000	814,000	1,420,000	1,650,000
Pig iron, all grades:					
Quantity	5,220	4,980	2,420	3,780	4,190
Value	1,660,000	2,800,000	877,000	1,540,000	2,120,000
Direct-reduced iron, steelmaking grade:					
Quantity	2,330	2,340	1,020	1,640	1,800
Value	519,000	971,000	304,000	607,000	775,000

^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.

⁴Home scrap production includes 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.

⁸Less than ½ unit.

TABLE 2

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2011 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	667	7	83	--	699	W	137
Cut structural and plate	3,850	148	724	--	4,690	4	276
No. 1 heavy-melting steel	4,700	196	944	2	5,840	36	341
No. 2 heavy-melting steel	6,120	68	264	--	6,410	3	351
No. 1 and electric furnace bundles	2,330	213	836	--	3,260	120	245
No. 2 and all other bundles	943	13	W	--	979	W	34
Electric furnace, 1 foot and under (not bundles)	11	W	W	--	88	W	--
Railroad rails	245	W	W	--	303	--	21
Turnings and borings	2,200	197	45	--	2,440	1	127
Slag scrap	923	W	1,050	--	1,510	569	163
Shredded or fragmentized	13,700	1,610	492	--	15,800	41	957
No. 1 busheling	4,430	109	173	--	4,660	W	310
Steel cans, post consumer	109	--	W	--	112	--	3
All other carbon steel scrap	2,960	183	1,910	9	4,540	510	186
Stainless steel scrap	866	66	350	W	1,300	4	50
Alloy steel (except stainless)	343	193	249	--	774	10	150
Ingot mold and stool scrap	25	--	106	65	105	89	17
Machinery and cupola cast iron	58	--	W	--	56	W	4
Cast-iron borings	286	--	W	--	295	W	16
Other iron scrap	955	74	242	--	1,200	65	154
Other mixed scrap	753	286	302	W	1,300	31	104
Total	46,500	3,480	7,910	97	56,400	1,560	3,650
Manufacturers of steel castings:							
Carbon steel:							
Low-phosphorus plate and punchings	272	W	106	--	331	--	125
Cut structural and plate	59	--	5	--	64	--	1
No. 1 heavy-melting steel	8	--	--	--	9	1	2
No. 2 heavy-melting steel	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	1	--	W	--	W	--	W
Turnings and borings	34	W	11	--	46	W	1
Slag scrap	W	--	W	--	W	--	W
Shredded or fragmentized	23	--	--	--	23	--	--
No. 1 busheling	38	--	--	--	38	--	1
Steel cans, post consumer	--	--	--	--	--	--	--
All other carbon steel scrap	6	--	47	--	53	--	--
Stainless steel scrap	26	--	21	W	44	1	25
Alloy steel (except stainless)	45	W	27	W	72	--	6
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	38	--	--	W	46	--	2
Total	576	10	223	9	756	4	167

See footnotes at end of table.

TABLE 2—Continued

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2011 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:							
Carbon steel:							
Low-phosphorus plate and punchings	623	1	149	--	770	--	6
Cut structural and plate	673	W	47	12	728	5	28
No. 1 heavy-melting steel	11	W	W	--	69	--	1
No. 2 heavy-melting steel	110	--	W	--	142	--	5
No. 1 and electric furnace bundles	74	--	--	--	74	--	2
No. 2 and all other bundles	80	--	W	--	77	W	5
Electric furnace, 1 foot and under (not bundles)	80	--	--	--	81	--	1
Railroad rails	40	W	W	--	39	--	3
Turnings and borings	W	--	1	--	47	1	18
Slag scrap	W	--	12	--	19	W	W
Shredded or fragmented	852	--	21	--	875	W	51
No. 1 busheling	299	--	4	--	302	--	8
Steel cans, post consumer	7	--	--	--	7	--	--
All other carbon steel scrap	89	--	56	W	144	1	5
Stainless steel scrap	40	--	1	W	39	--	1
Alloy steel (except stainless)	4	--	2	--	6	W	1
Ingot mold and stool scrap	W	W	W	--	W	W	W
Machinery and cupola cast iron	407	W	111	W	545	W	32
Cast-iron borings	54	10	8	--	72	--	1
Motor blocks	189	W	431	--	621	--	2
Other iron scrap	269	23	737	1	963	29	67
Other mixed scrap	209	W	111	--	316	5	4
Total	4,190	45	1,780	41	5,960	51	246
Grand total, all manufacturing types:							
Carbon steel:							
Low-phosphorus plate and punchings	1,560	14	338	--	1,800	60	267
Cut structural and plate	4,580	151	777	13	5,480	9	305
No. 1 heavy-melting steel	4,720	198	1,000	2	5,920	36	344
No. 2 heavy-melting steel	6,240	68	298	W	6,570	3	356
No. 1 and electric furnace bundles	2,410	213	836	--	3,340	120	247
No. 2 and all other bundles	1,020	13	13	--	1,060	W	38
Electric furnace, 1 foot and under (not bundles)	97	W	84	--	177	W	1
Railroad rails	287	W	W	--	342	--	26
Turnings and borings	2,280	198	57	--	2,530	2	147
Slag scrap	934	W	1,060	--	1,530	572	164
Shredded or fragmented	14,600	1,610	513	--	16,700	42	1,010
No. 1 busheling	4,760	109	177	--	5,000	2	319
Steel cans, post consumer	116	W	W	--	119	--	3
All other carbon steel scrap	3,050	183	2,020	9	4,730	511	191
Stainless steel scrap	931	66	372	19	1,380	5	76
Alloy steel (except stainless)	392	195	277	W	851	10	157
Ingot mold and stool scrap	47	W	106	65	133	89	22
Machinery and cupola cast iron	465	W	113	W	601	W	35
Cast-iron borings	340	15	8	--	367	--	16
Motor blocks	189	W	431	--	621	--	2
Other iron scrap	1,230	97	979	1	2,170	94	221
Other mixed scrap	1,000	287	414	10	1,660	36	110
Total	51,300	3,530	9,920	147	63,100	1,620	4,060

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 2011¹

(Thousand metric tons)

	Receipts	Production	Consumption	Shipments	Stocks, December 31
Manufacturers of pig iron, raw steel, and castings:					
Pig iron	8,110 ²	26,900	34,900	73	396
Direct-reduced iron (DRI)	1,630 ³	--	1,620	--	126
Manufacturers of steel castings:					
Pig iron	11	(4)	10	(4)	(4)
DRI	(4)	--	--	--	(4)
Iron foundries and miscellaneous users:					
Pig iron	2,000	(4)	1,970	27	50
DRI	3	--	3	--	(4)
Total, all manufacturing types:					
Pig iron	10,100	26,900	36,900	101	423
DRI	1,630	--	1,620	--	126

-- Zero.

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

²Includes 2.47 million metric tons (Mt) purchased by electric furnace steel producers.

³Includes 43,646 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 2011,
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 iron		Scrap	Pig iron		Scrap	Pig iron		Scrap	Pig iron	
		DRI ²	DRI ²		DRI ²	DRI ²		DRI ²	DRI ²			
Blast furnace	2,370	--	44	--	--	--	--	--	--	2,370	--	44
Basic oxygen process	8,800	31,300	312	--	--	--	--	--	--	8,800	31,300	312
Electric furnace	45,100	3,510	1,260	754	10	--	4,600	1,890	3	50,500	5,410	1,270
Cupola furnace	64	--	--	--	--	--	1,340	76	--	1,400	76	--
Other ³	1	--	--	2	--	--	30	12	--	33	12	--
Direct castings ⁴	--	36	--	--	--	--	--	--	--	--	36	--
Total	56,400	34,900	1,620	756	10	--	5,960	1,970	3	63,100	36,900	1,620

-- 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 2011, BY REGION AND STATE^{1,2}

(Thousand metric tons)

Region and State	Receipts of scrap		Production of home scrap			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	Shipments of scrap ⁴	
New England and Middle Atlantic:						
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	19	(5)	15	W	W	33
New Jersey and New York	1,780	--	93	W	W	1,840
Pennsylvania	3,660	659	1,790	W	66	6,130
Total	5,460	659	1,900	84	103	8,000
North Central:						
Illinois	1,710	(5)	122	36	8	1,860
Indiana	4,230	337	1,780	--	358	5,980
Iowa, Nebraska, South Dakota	2,160	30	108	(5)	(5)	2,300
Kansas and Missouri	132	5	85	--	(5)	222
Michigan	2,100	9	1,050	(5)	504	2,650
Minnesota	369	142	20	--	21	511
Ohio	6,080	337	1,490	18	415	7,510
Wisconsin	1,680	2	1,000	(5)	5	2,670
Total	18,500	862	5,640	54	1,310	23,700
South Atlantic:						
Delaware and Maryland	W	W	W	--	W	1,300
Florida and Georgia	W	--	W	--	W	825
North Carolina and South Carolina	3,190	W	W	(5)	(5)	3,680
Virginia and West Virginia	2,130	271	271	(5)	W	2,660
Total	7,100	545	899	(5)	77	8,460
South Central:						
Alabama and Mississippi	5,920	W	228	--	7	6,140
Arkansas, Louisiana, Oklahoma	4,230	W	388	W	--	4,790
Kentucky and Tennessee	3,490	285	308	--	(5)	4,090
Texas	3,090	690	197	W	56	3,920
Total	16,700	1,140	1,120	9	60	18,900
Mountain and Pacific:						
Arizona, Colorado, Idaho, Utah	1,760	W	143	W	W	1,940
California, Oregon, Washington	1,770	W	214	W	W	2,200
Total	3,520	330	357	(5)	65	4,150
Grand total	51,300	3,530	9,920	147	1,620	63,200

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.

³Obsolete scrap includes 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 2011, 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	--	130	7	1,890	29
Pennsylvania	5,700	2,920	206	1	205	19	6,110	2,930
Total	7,450	2,940	214	1	335	26	7,990	2,960
North Central:								
Illinois	1,450	W	25	2	374	56	1,850	2,150
Indiana	5,680	12,600	65	(4)	252	51	6,000	12,700
Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, Wisconsin	3,340	W	206	--	2,100	1,660	5,650	1,780
Michigan	2,100	W	28	--	535	24	2,670	4,040
Ohio	6,830	6,840	68	(4)	623	56	7,530	6,900
Total	19,400	25,700	392	2	3,880	1,840	23,700	27,600
South Atlantic:								
Delaware, Maryland, Virginia, West Virginia	W	W	(4)	(4)	W	W	3,960	1,580
Florida, Georgia, North Carolina, South Carolina	W	W	(4)	--	W	W	4,440	200
Total	7,750	1,730	1	(4)	639	49	8,390	1,780
South Central:								
Alabama, Kentucky, Mississippi, Tennessee	9,390	3,970	W	(4)	W	W	10,200	W
Arkansas, Louisiana, Oklahoma	4,800	W	W	--	W	W	4,820	W
Texas	3,740	W	31	7	132	15	3,900	55
Total	17,900	4,480	69	7	892	54	18,900	4,540
Mountain and Pacific:								
Arizona, Colorado, Idaho, Utah	1,890	W	3	(4)	76	(4)	1,970	15
California, Oregon, Washington	1,960	15	77	(4)	137	4	2,170	4
Total	3,840	15	80	(4)	213	4	4,130	19
Grand total	56,400	34,900	756	10	5,960	1,970	63,100	36,900

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, 2011, 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)	(5)	--	(5)	(5)	(5)	(5)
New Jersey and New York	59	(5)	--	(5)	(5)	60	(5)
Pennsylvania	242	15	14	16	2	288	3
Total	301	15	14	16	2	347	3
North Central:							
Illinois	78	(5)	(6)	5	W	85	11
Indiana	379	3	2	17	W	408	151
Iowa, Kansas, Missouri, Nebraska, South Dakota	186	W	W	2	--	192	4
Michigan	110	(6)	W	18	22	153	4
Minnesota and Wisconsin	68	W	(6)	5	W	77	7
Ohio	414	30	12	106	W	562	35
Total	1,240	36	21	153	31	1,480	212
South Atlantic:							
Delaware, Maryland, Virginia, West Virginia	134	(5)	(5)	W	W	W	W
Florida, Georgia, North Carolina, South Carolina	276	(5)	(5)	W	W	W	W
Total	410	(5)	(5)	91	27	529	60
South Central:							
Alabama, Kentucky, Mississippi, Tennessee	404	W	W	W	W	451	110
Arkansas, Louisiana, Oklahoma	685	W	W	W	--	804	30
Texas	191	3	(5)	8	W	202	2
Total	1,280	24	120	28	5	1,460	142
Mountain and Pacific:							
Arizona, Colorado, Idaho, Utah	103	(5)	(5)	(5)	W	103	W
California, Oregon, Washington	89	(5)	2	7	W	143	W
Total	192	1	2	7	45	246	6
Grand total	3,420	77	157	296	110	4,060	423

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
2010, ^r average	334.48	321.85	339.54	331.96
2011:				
January	429.00	423.75	434.25	429.00
February	427.37	406.58	417.63	417.19
March	425.00	409.13	415.00	416.38
April	425.00	400.71	410.72	412.14
May	407.86	408.57	396.90	404.44
June	419.32	414.55	413.18	415.68
July	420.00	423.50	415.00	419.50
August	420.00	420.65	415.00	418.55
September	420.00	420.00	410.48	416.83
October	411.43	408.57	397.86	405.95
November	388.75	373.00	377.50	379.75
December	408.68	381.84	398.68	396.40
Average	416.87	407.57	408.52	410.99

^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	2010		2011	
	Quantity	Value	Quantity	Value
Argentina	4	1,450	2	1,180
Austria	1	2,860	1	2,970
Bangladesh	37	13,800	50	24,600
Belgium	10	20,100	9	12,500
Brazil	61	20,600	36	15,200
Canada	1,360	417,000	1,460	503,000
Chile	1	453	(3)	183
China	3,210	1,800,000	4,230	2,310,000
Colombia	(3)	560	2	798
Dominican Republic	4	960	2	635
Ecuador	31	11,300	76	33,600
Egypt	650	228,000	890	383,000
Finland	43	91,700	41	93,200
France	8	3,010	12	5,090
Germany	9	3,540	4	2,850
Greece	72	21,800	35	12,600
Guatemala	(3)	100	32	14,000
Hong Kong	96	83,500	104	65,100
India	976	347,000	1,210	532,000
Indonesia	388	145,000	246	104,000
Israel	3	959	(3)	321
Italy	179	71,200	195	92,300
Jamaica	1	290	1	219
Japan	172	170,000	243	196,000
Korea, Republic of	2,820	1,030,000	2,960	1,320,000
Malaysia	803	311,000	984	432,000
Mexico	666	213,000	549	233,000
Netherlands	23	19,500	31	43,600
New Caledonia	1	3,740	1	3,110
Pakistan	174	70,100	202	111,000
Peru	280	98,200	187	79,300
Saudi Arabia	(3)	227	19	8,360
Singapore	8	2,880	8	3,080
Spain	20	32,100	29	26,000
Sri Lanka	1	281	1	1,070
Sweden	3	9,060	5	9,120
Switzerland	(3)	79	1	313
Taiwan	2,820	1,160,000	3,540	1,690,000
Thailand	562	204,000	814	357,000
Trinidad and Tobago	1	496	2	737
Turkey	4,350	1,530,000	5,620	2,420,000
United Arab Emirates	4	1,690	34	14,300
United Kingdom	6	7,750	4	3,620
Uruguay	1	118	1	198
Venezuela	16	7,270	2	1,090
Vietnam	645	221,000	396	161,000
Other	9 ^r	5,710 ^r	73	32,900
Total	20,500	8,380,000	24,300	11,400,000

^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 2010 and 93 countries in 2011.

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	2010		2011	
	Quantity	Value	Quantity	Value
Baltimore, MD	264	102,000	400	189,000
Boston, MA	1,040	360,000	1,430	619,000
Buffalo, NY	316	120,000	306	125,000
Charleston, SC	160	94,300	148	93,200
Charlotte, NC	21	21,500	29	23,100
Chicago, IL	14	5,400	7	4,570
Cleveland, OH	5	1,810	2	1,160
Columbia-Snake, OR	1,270	466,000	1,440	644,000
Detroit, MI	295	86,700	337	103,000
Duluth, MN	75	22,700	73	28,000
El Paso, TX	25	7,070	15	6,620
Great Falls, MT	8	2,110	7	2,060
Honolulu, HI	171	58,300	184	78,500
Houston-Galveston, TX	889	340,000	1,190	540,000
Laredo, TX	347	113,000	311	128,000
Los Angeles, CA	4,000	2,030,000	5,080	2,700,000
Miami, FL	482	166,000	601	237,000
Mobile, AL	97	47,100	144	79,700
New Orleans, LA	1,290	477,000	1,330	588,000
New York, NY	2,580	1,170,000	3,230	1,580,000
Nogales, AZ	(3)	6	1	168
Norfolk, VA	360	166,000	433	214,000
Ogdensburg, NY	47	15,000	35	14,100
Pembina, ND	430	148,000	545	214,000
Philadelphia, PA	919	321,000	1,140	499,000
Portland, ME	173	65,000	193	87,700
Providence, RI	449	155,000	567	245,000
San Diego, CA	29	7,620	9	2,880
San Francisco, CA	2,120	798,000	2,330	1,040,000
San Juan, PR	339	92,300	364	126,000
Savannah, GA	443	247,000	478	287,000
Seattle, WA	1,190	450,000	1,220	559,000
St. Albans, VT	71	22,300	83	32,200
Tampa, FL	505	184,000	597	264,000
Other	111	16,500	73	9,150
Total	20,500	8,380,000	24,300	11,400,000

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.

³Less than ½ unit.

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	2010		2011	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	5,650	1,940,000	8,060	3,430,000
No. 2 heavy-melting scrap	1,020	331,000	1,160	482,000
No. 1 bundles	326	80,900	525	173,000
No. 2 bundles	53	21,900	10	2,450
Shredded steel scrap	7,440	2,640,000	8,390	3,680,000
Borings, shovelings, and turnings	62	10,500	106	31,400
Cut plate and structural	825	302,000	955	420,000
Tinned iron or steel	82	52,400	127	69,700
Remelting scrap ingots	27	34,200	39	38,300
Stainless steel scrap	937	936,000	656	958,000
Other alloy steel scrap	916	840,000	947	585,000
Other steel scrap ³	2,680	1,000,000	2,850	1,270,000
Iron scrap	517	197,000	515	228,000
Total	20,500	8,380,000	24,300	11,400,000
Ships, boats, and other vessels for scrapping	4	743	4	835
Used rails for rerolling and other uses ⁴	49	41,000	49	50,400
Grand total	20,600	8,420,000	24,400	11,400,000

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	2010		2011	
	Quantity	Value	Quantity	Value
Argentina	3	2,310	(3)	37
Bahamas, The	9	2,560	9	2,370
Brazil	1	1,790	4	983
Canada	2,700	964,000	3,260	1,290,000
Cayman Islands	2	647	6	1,900
China	(3)	171	1	1,330
Egypt	1	1,230	1	1,080
France	1	479	(3)	772
Germany	76	28,900	27	11,100
Guatemala	(3)	1,060	(3)	528
Israel	1	976	(3)	873
Japan	2	1,110	3	1,460
Jordan	1	147	2	355
Korea, Republic of	1	1,450	(3)	277
Malaysia	1	881	(3)	33
Mexico	439	197,000	467	212,000
Netherlands	136	49,700	55	25,000
Peru	1	522	5	806
Singapore	3	776	4	7,800
Sweden	117	38,800	86	42,900
Taiwan	4	8,900	2	4,220
Trinidad and Tobago	(3)	1,080	(3)	121
United Kingdom	274	106,000	69	33,800
Other	5 ^r	7,270 ^r	8	5,090
Total	3,780	1,420,000	4,010	1,650,000

^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 57 countries in 2010 and 59 countries in 2011.

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	2010		2011	
	Quantity	Value	Quantity	Value
Buffalo, NY	518	282,000	674	376,000
Charleston, SC	224	83,800	147	67,600
Chicago, IL	2	1,270	9	2,910
Cleveland, OH	1	2,760	63	14,900
Columbia-Snake, OR	34	9,890	43	14,400
Detroit, MI	974	363,000	1,220	491,000
Duluth, MN	29	14,500	44	20,900
El Paso, TX	77	28,600	48	20,200
Great Falls, MT	183	58,600	172	66,300
Houston-Galveston, TX	3	9,770	2	4,670
Laredo, TX	156	109,000	163	113,000
Los Angeles, CA	7	11,500	2	2,670
Miami, FL	8	1,660	7	2,340
Mobile, AL	61	23,700	29	14,600
New Orleans, LA	299	107,000	60	28,100
New York, NY	4	1,900	5	3,270
Nogales, AZ	11	3,940	32	12,700
Norfolk, VA	1	1,470	(3)	125
Ogdensburg, NY	29	37,100	23	29,800
Pembina, ND	35	21,400	73	33,200
Philadelphia, PA	17	7,190	2	1,160
Portland, ME	8	5,710	12	4,930
San Diego, CA	195	54,400	225	65,300
Savannah, GA	(3)	938	8	1,360
Seattle, WA	889	173,000	933	252,000
Tampa, FL	8	2,220	12	3,790
Other	3	1,080 ^r	2	919
Total	3,780	1,420,000	4,010	1,650,000

^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	2010		2011	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	163	48,700	199	72,400
No. 2 heavy-melting scrap	70	18,400	70	23,900
No. 1 bundles	1,190	457,000	1,080	493,000
No. 2 bundles	34	6,360	21	5,320
Shredded steel scrap	441	98,200	387	93,100
Borings, shovelings, and turnings	94	21,400	109	25,000
Cut plate and structural	174	43,700	263	79,600
Tinned iron or steel	68	14,300	97	28,500
Remelting scrap ingots	(3)	190	(3)	507
Stainless steel scrap	195	305,000	169	295,000
Other alloy steel scrap	740	240,000	797	310,000
Other steel scrap ⁴	469	123,000	621	156,000
Iron scrap	142	42,300	193	65,100
Total	3,780	1,420,000	4,010	1,650,000
Ships, boats, and other vessels for scrapping	(3)	226	(3)	50
Used rails for rerolling and other uses ⁵	53	23,700	71	35,000
Grand total	3,830	1,440,000	4,080	1,680,000

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}

Country	2010		2011	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Argentina	10	\$22	166	\$139
Australia	1,760	2,460	1,500	2,470
Bahamas, The	106	143	120	142
Brazil	28	62	229	442
Canada	13,200	12,600	27,500	27,000
Cayman Islands	15	36	4	6
Chile	161	270	910	1,310
China	169	154	20	121
Colombia	18	41	156	149
Denmark	24	99	--	--
Dominican Republic	981	1,010	1,140	1,200
Germany	--	--	102	158
Guatemala	23	39	103	91
Guinea	--	--	433	536
Guyana	8	22	8	22
Hungary	12	10	5	150
India	79	142	86	413
Ireland	130	178	13	11
Italy	18	116	--	--
Jamaica	37	60	73	114
Japan	201	168	846	714
Korea, Republic of	3	20	19	16
Mexico	27,800	19,900	12,100	9,980
Netherlands	52	135	47	54
Nigeria	204	172	1	7
Panama	80	158	1,880	3,060
Peru	135	140	28	30
Saudi Arabia	95	262	--	--
Taiwan	3,290	1,870	892	804
United Arab Emirates	--	--	102	221
United Kingdom	10	13	31	26
Venezuela	79	176	310	616
Other	265 [†]	504 [†]	249	406
Total	49,100	41,000	49,100	50,400

[†]Revised. -- 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}

Country	2010		2011	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Canada	46,800	\$18,500	59,300	\$27,100
France	--	--	142	77
Germany	15	40	5	11
Japan	4	10	5	13
Mexico	107	38	241	150
Russia	6,250	4,910	11,000	7,540
Spain	13	119	--	--
United Kingdom	2	6	1	3
Other	37	69	29	56
Total	53,200	23,700	70,700	35,000

-- Zero.

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

²Import valuation is customs value.

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

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

Country	2010		2011	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Canada	--	--	1,970	\$242
China	213	\$31	--	--
Costa Rica	557	59	--	--
Korea, Republic of	--	--	414	44
Malaysia	--	--	54	6
Mexico	204	25	--	--
Switzerland	--	--	85	9
United Kingdom	--	--	1,390	147
Total	974	115	3,910	448

-- 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}

Country	2010		2011	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Russia	--	--	252	\$117
South Africa	39,100	\$11,700	7,600	2,280
Trinidad and Tobago	1,270,000	490,000	1,450,000	645,000
Venezuela	331,000	106,000	342,000	127,000
Other	63	22	43	11
Total	1,640,000	607,000	1,800,000	775,000

-- 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}

Country	2010		2011	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Austria	--	--	289	\$96
Brazil	9	\$9	107	27
Canada	14,900	7,190	8,320	4,170
China	62	19	33	35
Colombia	3,300	25	--	--
Dominican Republic	149	137	--	--
French Polynesia	--	--	175	58
Germany	25	26	11	4
Hong Kong	37	40	15	5
India	--	--	86	32
Israel	29	10	19	6
Italy	--	--	146	78
Japan	2	5	757	495
Korea, Republic of	272	237	1,100	933
Mexico ³	2,200,000	5,530	40,100	20,900
Singapore	113	123	20	22
Uruguay	76	25	162	54
Other	13	6	84	35
Total	2,220,000	13,400	51,400	27,000

-- 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. Export valuation is free alongside ship value.

³All or part of these data have been referred to the U.S. Census Bureau for verification.

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}

Country	2010		2011	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Australia	175	\$185	619	\$834
Belgium	7,000	2,340	--	--
Brazil	1,600,000	650,000	2,250,000	1,130,000
Canada	141,000	63,300	106,000	67,200
China	56,900	23,000	--	--
Germany	37	35	7,460	4,240
Russia	1,060,000	447,000	1,190,000	596,000
South Africa	127,000	51,000	157,000	83,300
Sweden	--	--	8,330	3,860
Switzerland	--	--	49,200	25,400
Ukraine	729,000	280,000	293,000	149,000
United Kingdom	--	--	9	5
Venezuela	61,300	20,400	128,000	55,100
Total	3,780,000	1,540,000	4,190,000	2,120,000

-- 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.