



2013 Minerals Yearbook

IRON AND STEEL SCRAP [ADVANCE RELEASE]

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 (EAFs), which accounted for about 61% of the total raw steel produced in 2013.

Steel scrap recycling conserves energy, landfill space, and raw materials. In 2013, the domestic steel industry recycled, or exported for recycling, nearly 69 million metric tons (Mt) of appliances, automobiles, cans, construction materials, and other steel products (J. Woods, Recycling Institute, unpub. data, December 3, 2014). This resulted in an overall recycling rate of about 81%. 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 20 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 outer shell of car bodies is made of about 25% recycled steel (J. Woods, Steel Recycling Institute, unpub. data, December 3, 2014). The steel industry recovered and recycled almost 16.1 Mt of iron and steel from about 11.6 million end-of-life vehicles in 2013. The recycling rate for automotive scrap was 85% in 2013. About 7,000 vehicle dismantlers in North America resold parts processed through an estimated 300 car shredders.

The annual average recycling rate of obsolete appliance scrap decreased to 82% in 2013 from 90% in 2012. During 2013, almost 2.5 Mt of steel was recovered from recycled appliances, about the same as that of 2012. 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 70% in 2013 from 15% in 1983 (J. Woods, Steel Recycling Institute, unpub. data, November 10, 2014). More than 1.3 Mt of steel containers was 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 72% in 2013 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 various proportions of DRI, pig iron, and scrap. Raw steel production in the minimill industry increased slightly during

2013 (American Iron and Steel Institute, 2014, p. 72). DRI production remained at zero, the same as in 2011 and 2012 (Midrex Technologies, Inc., 2014).

Consumption

Domestic data for ferrous scrap were derived by the U.S. Geological Survey from voluntary monthly or annual surveys of U.S. scrap-consuming operations. About 63% of the known manufacturers of pig iron and raw steel responded to the surveys. Their responses represented about 32% of the 52 Mt of ferrous scrap consumed by this class of consumers (table 1). The remaining 68% of scrap consumption was estimated based on previously published reports. Of the iron foundries, manufacturers of steel castings, and miscellaneous users, about 50% of the surveyed establishments responded to the annual survey, which represented about 41% 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. Survey data accounted for about 41% of total ferrous scrap consumption by all classes of scrap consumers.

In 2013, brokers, dealers, and other outside sources supplied domestic consumers with 50 Mt of all types of ferrous scrap at an estimated delivered value of \$17.4 billion and exported 18.5 Mt (excluding used rails for rerolling and other uses and ships, boats, and other vessels for scrapping) valued at \$7.6 billion (tables 1, 8, 11). Raw steel production was 86.9 Mt in 2013 compared with 88.7 Mt in 2012 (American Iron and Steel Institute, 2014, p. 73). The shares of raw steel produced by EAFs and basic oxygen furnaces were 61% and 39%, respectively. In 2013, continuous cast steel production represented 99% of total raw steel production, the same as that of 2012. Raw steel production capability decreased to 113 Mt in 2013 from 118 Mt in 2012 (American Iron and Steel Institute, 2014, p. 75). The capability utilization index increased to 76.7% in 2013 from 75.2% in 2012.

Steel mills accounted for 90% of all scrap received from brokers, dealers, and other outside sources; iron foundries received 8%; and steel foundries received 2% (table 1). Apparent total domestic consumption of ferrous scrap was 47.8 Mt as measured by net receipts (total external receipts minus shipments) and 8.2 Mt of home scrap production (table 2). Stocks of ferrous scrap at consumer plants increased slightly to 4.2 Mt (table 1). Total domestic consumption was 59.0 Mt, down 7% from that of 2012 (table 1). The total market for U.S.-produced scrap (net receipts plus exports minus imports) was 65.0 Mt in 2013 compared with 71.0 Mt in 2012 (table 1). Feedstock used in electric furnaces by all iron and steel product manufacturers comprised scrap, 89%; pig iron, 8%; and DRI, 3% (table 4). Total consumption of DRI was 4.5 Mt, 25% more than that of 2012 (table 1). Net shipments of

all grades of steel mill products were about 86.5 Mt, which was a slight decrease from the 87.0 Mt shipped in 2012 (American Iron and Steel Institute, 2014, p. 25).

Prices

The average composite delivered price of No. 1 heavy-melting steel scrap in 2013, calculated from prices per long ton published monthly by American Metal Market, was \$345.71 per metric ton. The price ranged from a low of \$324.87 per ton in June to a high of \$374.79 per ton in December (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 \$341.14 per metric ton; the price ranged from a low of \$322.33 per ton in June to a high of \$371.54 per ton in December (Metal Bulletin Holdings LLC, 2013).

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 2013 was about \$1,512 per gross ton, an 18% decrease compared with that of 2012.

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 7% to about \$409 per metric ton compared with that of 2012 (table 11). The unit value of total imports decreased by 12% to about \$378 per metric ton compared with that of 2012 (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 2013, 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 14.5 Mt valued at about \$6.1 billion (tables 11, 14). This represented a decrease of 18% in quantity and a decrease of 22% in value compared with the 2012 surplus of 17.6 Mt valued at \$7.9 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 2013 than any other country (18.5 Mt) followed by, in decreasing order of export tonnage, Germany (8.4 Mt), Japan (8.2 Mt), the United Kingdom (6.9 Mt), and France (6.0 Mt) (World Steel Association, 2014a, p. 106–107). The leading importing nations were, in decreasing order of import tonnage, Turkey (19.7 Mt), the Republic of Korea (9.3 Mt), India (5.6 Mt), Germany (5.3 Mt), and Italy (5.0 Mt) (World Steel Association, 2014a, p. 108–109).

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 2014, 2015, and 2016 was 2.8%, 3.4%, and 3.5%, respectively, after 2.4% in 2013 (World Bank, The, 2014). The International Monetary Fund's projection of GDP growth was 3.2% for 2014 and 3.4% for 2015 (International Monetary Fund, 2014). The U.S. Federal Reserve's December 2013 projections for the U.S. GDP rate of growth was between 2.8% and 3.0% for 2014, between 3.0% and 3.2% for 2015, and between 2.5% and 3.0% for 2016 (Board of Governors of the Federal Reserve System, 2014). The GDP rate of growth for China in 2013 was 7.7% and is projected to be 7.4% in 2014 and 7.1% in 2015. The GDP rate of growth for India was projected to be 5.0%, 5.4%, and 6.4% for 2013, 2014, and 2015, respectively (World Bank, The, 2014).

World apparent steel consumption (ASC) is expected to increase by 3.3% to 1.576 billion metric tons (Gt) during 2015, after increasing by 3.6% in 2013 and increasing by 3.1% in 2014 (World Steel Association, 2014b). China's ASC is expected to increase by about 3.0% in 2014 to 721 Mt and then by 2.7% in 2015 to 741 Mt. ASC in India is expected to increase by about 3.3% in 2014 to about 76 Mt and by 4.5% in 2015. The U.S. ASC is expected to increase by 4.0% to 99.4 Mt in 2014 and by 3.7% in 2015. The European Union's (EU) ASC is expected to increase by 3.1% to 143 Mt in 2014 and to increase by 3.0% to 148 Mt in 2015. In Japan, the 2014 ASC is expected to decrease by 1.0% to 65 Mt and to increase by 0.5% in 2015. The ASC of the Commonwealth of Independent States (CIS) is expected to increase by 1.1% to 59 Mt in 2014 and then by 33% to 62 Mt in 2015.

World capacity for DRI production in 2013 was estimated to be about 86 Mt (Midrex Technologies, Inc., 2014). DRI production worldwide reached 68.2 Mt in 2013, slightly less than that in 2012 (Fenton, 2013, table 9). The leading producer of DRI was India, followed by, in descending order of tonnage, Iran, Mexico, and Saudi Arabia. In 2013, additional DRI capacity of almost 16 million metric tons per year (Mt/yr) was under construction in China, Egypt, India, Iran, Russia, the United States, and Venezuela. The leading technologies were, in decreasing order of production, the Midrex process, followed by coal-based, HYL/Energiron, and other gas processes. Worldwide DRI production could surpass 200 Mt/yr by 2030 (Midrex Technologies, Inc., 2014).

MEPS International Ltd. forecast total world steel production in 2014 to be 1.66 Gt, up slightly from that in 2013 (Worldsteelnews.com, 2014). MEPS International Ltd. also forecast changes in steel production during 2014 in Asia (3.7% increase), the CIS (slight decrease), the EU (2.6% increase), Europe excluding the EU and CIS (3.1% increase), North America (unchanged), South America (1.5% increase), and Africa (3.1% increase).

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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)

	2009	2010	2011	2012	2013
Manufacturers of pig iron and raw steel and castings:²					
Ferrous scrap consumption	47,700	53,500	56,400	55,800	52,100
Pig iron consumption	28,300	34,100	34,900	35,400	31,800
Direct-reduced iron consumption	1,340	1,550	1,620	3,580	4,490
Net receipts of ferrous scrap ³	39,800	46,100	48,400	48,200	45,200
Home scrap production ⁴	7,610	7,710	8,010	7,790	6,780
Ending stocks of ferrous scrap, December 31	2,820	3,030	3,650	3,770	3,620
Manufacturers of steel castings:⁵					
Ferrous scrap consumption	603	536	613	639	1,180
Pig iron consumption	17	10	10	9	63
Direct-reduced iron consumption	14	--	--	--	1
Net receipts of ferrous scrap ³	460	413	464	472	1,100
Home scrap production ⁴	138	148	168	189	142
Ending stocks of ferrous scrap, December 31	70	83	87	89	277
Iron foundries and miscellaneous users:⁵					
Ferrous scrap consumption	5,260	5,670	5,760	6,710	5,660
Pig iron consumption	1,860	1,940	1,980	1,980	2,260
Direct-reduced iron consumption	3	3	3	3	3
Net receipts of ferrous scrap ³	3,530	3,890	3,980	4,580	4,100
Home scrap production ⁴	1,730	1,820	1,830	2,180	1,540
Ending stocks of ferrous scrap, December 31	175	213	245	302	287
Total, all manufacturing types:					
Ferrous scrap consumption	53,500	59,700	62,800	63,100	59,000
Pig iron consumption	30,200	36,100	36,900	37,400	34,100
Direct-reduced iron consumption	1,360	1,550	1,620	3,580	4,490
Net receipts of ferrous scrap ³	43,800	50,400	52,900	53,300	50,400
Home scrap production ⁴	9,480	9,680	10,000	10,100	8,460
Ending stocks, December 31:					
Ferrous scrap at consumer plants	3,070	3,330	3,980	4,170	4,190
Pig iron at consumer and supplier plants	506	418	423	405	449
Direct-reduced iron at consumer plants	234	161	126	147	107
Exports:⁶					
Ferrous scrap (includes tinplate and terneplate):⁷					
Quantity	22,400	20,500	24,300	21,400	18,500
Value	7,120,000	8,380,000	11,400,000	9,430,000	7,570,000
Pig iron, all grades:					
Quantity	11	68	51	21	18 ⁸
Value	4,200	26,500	27,000	8,110	4,440
Direct-reduced iron, steelmaking grade:					
Quantity	(9)	1	4	(9)	(9)
Value	38	115	448	56	29
Imports for consumption:⁶					
Ferrous scrap (includes tinplate and terneplate):⁷					
Quantity	2,990	3,780	4,010	3,720	3,930
Value	814,000	1,420,000	1,650,000	1,590,000	1,470,000
Pig iron, all grades:					
Quantity	2,420	3,780	4,190	4,270	4,120
Value	877,000	1,540,000	2,120,000	1,900,000	1,640,000
Direct-reduced iron, steelmaking grade:					
Quantity	1,020	1,640	1,800	2,470	2,240
Value	304,000	607,000	775,000	921,000	775,000

-- 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

(Thousand metric tons and thousand dollars)

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 2013 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	657	W	25	--	692	--	135
Cut structural and plate	3,910	57	330	--	4,280	2	295
No. 1 heavy-melting steel	4,460	156	600	2	5,150	45	307
No. 2 heavy-melting steel	5,140	56	359	--	5,580	1	327
No. 1 and electric furnace bundles	2,330	W	827	--	2,980	160	254
No. 2 and all other bundles	969	1	W	W	983	W	33
Electric furnace, 1 foot and under (not bundles)	29	--	W	--	119	W	--
Railroad rails	262	--	--	--	267	--	16
Turnings and borings	2,290	13	40	--	2,340	--	119
Slag scrap	732	33	1,020	--	1,170	604	125
Shredded or fragmentized	12,400	1,240	47	W	13,900	5	1,070
No. 1 busheling	4,550	88	169	W	4,800	W	337
Steel cans, postconsumer	88	--	--	--	88	--	--
All other carbon steel scrap	2,530	194	1,470	W	3,920	297	197
Stainless steel scrap	882	58	321	44	1,300	4	47
Alloy steel (except stainless)	336	44	247	--	633	5	172
Ingot mold and stool scrap	4	W	130	W	81	79	14
Machinery and cupola cast iron	27	--	--	--	30	--	W
Cast-iron borings	196	W	3	--	207	W	15
Motor blocks	68	W	--	--	W	--	W
Other iron scrap	571	30	311	--	824	91	45
Other mixed scrap	1,520	618	547	W	2,700	28	108
Total	44,000	2,620	6,550	225	52,100	1,350	3,620
Manufacturers of steel castings:							
Carbon steel:							
Low-phosphorus plate and punchings	831	7	33	--	812	--	239
Cut structural and plate	44	--	10	--	54	--	1
No. 1 heavy-melting steel	9	--	--	--	9	--	4
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	--	7	--	--
Railroad rails	W	--	W	--	W	--	W
Turnings and borings	40	W	5	--	45	W	2
Slag scrap	W	--	W	--	W	W	W
Shredded or fragmentized	23	--	--	--	23	--	1
No. 1 busheling	36	--	--	--	36	--	1
Steel cans, postconsumer	--	--	--	--	--	--	--
All other carbon steel scrap	7	--	27	--	33	--	--
Stainless steel scrap	25	1	19	W	42	1	28
Alloy steel (except stainless)	28	2	20	W	49	1	3
Ingot mold and stool scrap	W	--	W	--	W	--	W
Machinery and cupola cast iron	--	--	--	--	--	--	--
Cast-iron borings	--	--	--	--	--	--	--
Motor blocks	--	--	--	--	--	--	--
Other iron scrap	1	--	--	--	1	--	--
Other mixed scrap	20	--	--	W	28	--	W
Total	1,090	11	132	9	1,180	4	277

See footnotes at end of table.

TABLE 2—Continued

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2013 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	147	--	770	--	5
Cut structural and plate	643	3	47	9	697	1	27
No. 1 heavy-melting steel	42	W	W	--	104	--	1
Slag scrap	--	--	W	--	W	W	W
Shredded or fragmentized	772	--	19	--	802	W	34
No. 1 busheling	317	--	5	--	321	1	10
Steel cans, postconsumer	W	--	--	--	W	--	--
All other carbon steel scrap	135	--	56	--	216	1	16
Stainless steel scrap	2	--	--	--	3	--	1
Alloy steel (except stainless)	5	--	1	--	6	W	1
Ingot mold and stool scrap	W	W	W	--	W	W	W
Machinery and cupola cast iron	394	W	128	W	544	5	35
Cast-iron borings	65	6	8	--	79	--	--
Motor blocks	189	W	431	--	620	--	2
Other iron scrap	379	27	525	--	904	17	110
Other mixed scrap	61	7	32	--	94	4	5
Total	4,090	51	1,510	37	5,660	40	287
Grand total, all manufacturing types:							
Carbon steel:							
Low-phosphorus plate and punchings	2,110	15	204	--	2,280	1	379
Cut structural and plate	4,600	60	387	10	5,030	7	323
No. 1 heavy-melting steel	4,510	158	660	2	5,260	45	308
No. 2 heavy-melting steel	5,270	56	407	W	5,760	1	333
No. 1 and electric furnace bundles	2,410	W	827	--	3,060	160	256
No. 2 and all other bundles	1,060	1	6	10	1,070	10	37
Electric furnace, 1 foot and under (not bundles)	113	--	112	W	14,700	8	1,110
Railroad rails	299	--	W	--	304	--	18
Turnings and borings	2,380	15	46	--	2,440	3	138
Slag scrap	735	33	1,030	--	1,180	606	126
Shredded or fragmentized	13,200	1,240	66	W	14,700	8	1,110
No. 1 busheling	4,900	88	175	W	5,160	1	348
Steel cans, postconsumer	95	--	--	--	95	--	1
All other carbon steel scrap	2,670	194	1,550	18	4,170	298	214
Stainless steel scrap	909	59	341	44	1,350	5	76
Alloy steel (except stainless)	370	46	268	W	689	5	176
Ingot mold and stool scrap	17	11	130	21	97	81	22
Machinery and cupola cast iron	421	--	128	W	573	5	36
Cast-iron borings	261	9	12	--	286	--	16
Motor blocks	257	9	431	--	698	--	6
Other iron scrap	950	57	836	--	1,730	108	155
Other mixed scrap	1,600	625	579	11	2,820	32	114
Total	49,200	2,680	8,190	271	59,000	1,390	4,190

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 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 2013¹

(Thousand metric tons)

	Receipts	Production	Consumption	Shipments	Stocks, December 31
Manufacturers of pig iron, raw steel, and castings:					
Pig iron	7,010 ²	24,800	31,800	17	379
Direct-reduced iron (DRI)	1,980 ³	W	4,490	W	107
Manufacturers of steel castings:					
Pig iron	59	(4)	63	(4)	17
DRI	1	--	1	--	(4)
Iron foundries and miscellaneous users:					
Pig iron	2,260	3	2,260	27	53
DRI	3	--	3	--	(4)
Total, all manufacturing types:					
Pig iron	9,330	24,800	34,100	45	449
DRI	1,980	W	4,490	W	107

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 1.37 million metric tons purchased by electric furnace steel producers.

³Includes 186,889 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 2013,
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	DRI ²	Scrap	Pig iron	DRI ²	Scrap	Pig iron	DRI ²	Scrap	Pig iron	DRI ²
Blast furnace	2,390	--	1,140	--	--	--	--	--	--	2,390	--	1,140
Basic oxygen process	7,890	29,600	1,780	--	--	--	--	--	--	7,890	29,600	1,780
Electric furnace	41,700	2,180	1,560	1,180	63	1	4,450	1,910	3	47,300	4,150	1,570
Cupola furnace	53	--	--	--	--	--	1,210	345	--	1,260	345	--
Other ³	80	--	--	1	--	--	--	--	--	81	--	--
Direct castings ⁴	--	--	--	--	--	--	--	--	--	--	--	--
Total	52,100	31,800	4,490	1,180	63	1	5,660	2,260	3	59,000	34,100	4,490

-- 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 2013, 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	17	--	14	(5)	W	30
New Jersey and New York	1,740	--	116	1	W	1,820
Pennsylvania	3,940	62	848	66	27	4,890
Total	5,690	62	978	67	68	6,730
North Central:						
Illinois	1,730	(5)	144	35	8	1,900
Indiana	4,330	230	1,710	--	355	5,910
Iowa, Nebraska, South Dakota	2,120	38	200	(5)	(5)	2,360
Kansas and Missouri	22	5	21	--	(5)	48
Michigan	2,380	1	1,330	3	621	3,090
Minnesota	313	89	31	115	6	542
Ohio	5,910	222	1,030	14	191	6,980
Wisconsin	1,320	2	894	(5)	4	2,210
Total	18,100	587	5,360	166	1,180	23,000
South Atlantic:						
Delaware and Maryland	W	W	W	--	W	369
Florida and Georgia	W	--	W	--	W	615
North Carolina and South Carolina	3,460	W	287	W	W	3,750
Virginia and West Virginia	1,190	W	100	(5)	W	1,570
Total	5,610	290	412	(5)	7	6,300
South Central:						
Alabama and Mississippi	6,500	W	251	W	W	6,770
Arkansas, Louisiana, Oklahoma	3,640	W	378	W	--	4,590
Kentucky and Tennessee	3,320	205	269	--	W	3,790
Texas	2,940	422	226	W	69	3,520
Total	16,400	1,190	1,120	32	74	18,700
Mountain and Pacific:						
Arizona, Colorado, Idaho, Montana, Utah	1,830	W	178	W	W	2,040
California, Oregon, Washington	1,520	W	141	W	W	2,120
Total	3,340	553	319	5	55	4,160
Grand total	49,200	2,680	8,190	271	1,390	58,900

W Withheld to avoid disclosing company proprietary data; included in "Total" and "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, and so forth.

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 2013, 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	--	94	6	1,850	28
Pennsylvania	4,320	2,240	182	(4)	390	217	4,900	2,460
Total	6,070	2,270	190	(4)	484	223	6,750	2,490
North Central:								
Illinois	1,530	W	25	(4)	344	52	1,900	2,200
Indiana	5,590	13,100	23	(4)	282	51	5,890	13,100
Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, Wisconsin	3,050	W	66	--	2,030	1,660	5,150	1,720
Michigan	2,480	4,280	28	(4)	548	24	3,050	4,310
Ohio	6,550	5,350	68	(4)	437	51	7,050	5,400
Total	19,200	24,900	210	1	3,640	1,830	23,000	26,700
South Atlantic:								
Delaware, Maryland, Virginia, West Virginia	W	W	(4)	(4)	W	W	4,090	23
Florida, Georgia, North Carolina, South Carolina	W	W	(4)	--	W	W	2,220	286
Total	5,880	170	1	(4)	428	140	6,310	309
South Central:								
Alabama, Kentucky, Mississippi, Tennessee	9,100	3,970	W	W	750	40	10,500	W
Arkansas, Louisiana, Oklahoma	4,670	W	W	--	7	3	4,690	W
Texas	3,240	W	49	W	160	15	3,450	52
Total	17,000	4,390	727	61	917	58	18,600	4,510
Mountain and Pacific:								
Arizona, Colorado, Idaho, Montana, Utah	W	9	2	(4)	49	(4)	2,070	9
California, Oregon, Washington	W	--	48	(4)	141	3	2,130	4
Total	3,960	9	50	(4)	190	3	4,200	13
Grand total	52,100	31,700	1,180	63	5,660	2,260	59,000	34,100

W Withheld to avoid disclosing company proprietary data; included in "Total" and "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, 2013, 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)	(5)	(5)
New Jersey and New York	43	W	--	2	(5)	45	(5)
Pennsylvania	152	14	22	52	2	242	33
Total	195	14	22	54	2	287	33
North Central:							
Illinois	89	(5)	(6)	5	W	97	10
Indiana	449	3	5	22	W	487	152
Iowa, Kansas, Missouri, Nebraska, South Dakota	97	W	--	5	--	103	3
Michigan	141	(6)	1	7	8	156	5
Minnesota and Wisconsin	36	W	(6)	9	6	55	11
Ohio	350	28	21	77	W	476	41
Total	1,160	33	27	124	25	1,370	222
South Atlantic:							
Delaware, Maryland, Virginia, West Virginia	62	--	(5)	W	7	W	W
Florida, Georgia, North Carolina, South Carolina	306	(5)	(5)	W	4	W	W
Total	368	(5)	(5)	23	11	402	16
South Central:							
Alabama, Kentucky, Mississippi, Tennessee	666	W	--	W	W	711	123
Arkansas, Louisiana, Oklahoma	692	W	126	W	--	818	44
Texas	385	5	(5)	8	W	397	7
Total	1,740	27	126	25	7	1,930	174
Mountain and Pacific:							
Arizona, Colorado, Idaho, Montana, Utah	37	(5)	(5)	(5)	W	72	W
California, Oregon, Washington	83	(5)	1	8	W	127	W
Total	120	(5)	1	8	69	199	4
Grand total	3,590	76	176	234	114	4,190	449

W Withheld to avoid disclosing company proprietary data; included in "Total" and "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
2012, average	375.75 ^r	358.22	367.58 ^r	367.18 ^r
2013:				
January	358.00	344.05	355.00	352.35
February	350.89	336.58	343.16	343.54
March	375.71	349.57	364.29	363.19
April	363.86	339.73	352.73	352.11
May	342.82	312.45	333.64	329.64
June	336.20	308.40	330.00	324.87
July	351.36	317.82	349.32	339.50
August	351.18	315.91	355.00	340.70
September	343.35	319.50	347.00	336.62
October	344.61	317.52	345.00	335.71
November	370.26	336.37	359.74	355.46
December	395.16	349.47	379.74	374.79
Average	356.95	328.95	351.22	345.71

^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	2012		2013	
	Quantity	Value	Quantity	Value
Argentina	1	817	(3)	384
Austria	4	3,510	1	1,590
Bangladesh	40	18,900	66	27,100
Belgium	8	6,750	8	7,330
Brazil	1	247	(3)	932
Canada	1,150	393,000	911	298,000
Chile	1	553	1	482
China	1,940	1,340,000	1,830	1,170,000
Colombia	31	11,900	1	348
Dominican Republic	2	676	2	588
Ecuador	40	14,000	81	26,600
Egypt	372	151,000	872	310,000
Finland	6	11,500	(3)	14
France	1	2,500	1	2,220
Germany	3	4,440	6	3,850
Greece	1	429	(3)	41
Guatemala	30	13,100	(3)	26
Hong Kong	65	49,500	60	46,600
India	1,220	547,000	540	263,000
Indonesia	520	205,000	521	198,000
Israel	1	447	1	246
Italy	66	32,200	121	45,000
Jamaica	1	231	(3)	125
Japan	51	86,800	96	91,700
Korea, Republic of	2,820	1,190,000	2,540	957,000
Kuwait	--	--	44	15,800
Malaysia	810	327,000	527	196,000
Mexico	790	299,000	695	249,000
Morocco	25	10,700	75	27,900
Netherlands	16	22,300	11	13,300
New Caledonia	(3)	1,380	(3)	2,190
Pakistan	218	135,000	219	149,000
Peru	185	71,800	340	121,000
Philippines	4	1,750	8	3,590
Portugal	6	1,070	39	13,300
Saudi Arabia	117	48,500	1	261
Singapore	5	2,270	2	4,030
Spain	17	31,500	10	8,860
Sri Lanka	(3)	940	(3)	630
Sweden	3	6,770	3	7,520
Switzerland	(3)	152	(3)	152
Taiwan	3,510	1,530,000	3,022	1,190,000
Thailand	361	143,000	86	31,000
Trinidad and Tobago	(3)	127	(3)	79
Tunisia	--	--	30	10,100
Turkey	6,400	2,510,000	5,230	1,880,000
United Arab Emirates	3	1,070	5	2,400
United Kingdom	2	3,730	7	6,940
Venezuela	2	370	1	1,490
Vietnam	528	200,000	470	171,000
Other	4 ^r	3,390 ^r	6	3,010
Total	21,400	9,430,000	18,500	7,570,000

See footnotes at end of table.

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

(Thousand metric tons and thousand dollars)

¹Revised. -- Zero.

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 91 countries in 2012 and to 86 countries in 2013.

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	2012		2013	
	Quantity	Value	Quantity	Value
Baltimore, MD	275	118,000	367	143,000
Boston, MA	1,340	537,000	1,140	419,000
Buffalo, NY	265	101,000	196	68,800
Charleston, SC	119	74,000	84	50,100
Charlotte, NC	15	21,100	6	8,420
Chicago, IL	2	1,040	2	1,190
Cleveland, OH	1	2,050	1	548
Columbia-Snake, OR	1,250	517,000	925	343,000
Detroit, MI	309	101,000	234	75,300
Duluth, MN	20	8,410	52	20,200
El Paso, TX	40	14,600	34	11,700
Great Falls, MT	12	3,770	12	3,260
Honolulu, HI	168	66,000	136	48,000
Houston-Galveston, TX	1,290	576,000	948	437,000
Laredo, TX	406	156,000	398	151,000
Los Angeles, CA	4,250	2,150,000	3,930	1,830,000
Miami, FL	481	200,000	452	181,000
Mobile, AL	178	85,300	257	92,400
New Orleans, LA	929	353,000	220	79,000
New York, NY	2,960	1,350,000	2,840	1,160,000
Nogales, AZ	2	849	(3)	30
Norfolk, VA	634	293,000	335	161,000
Ogdensburg, NY	23	8,280	7	2,530
Pembina, ND	411	160,000	325	119,000
Philadelphia, PA	937	381,000	919	330,000
Portland, ME	180	72,900	149	55,600
Providence, RI	604	238,000	597	212,000
San Diego, CA	43	11,900	69	18,100
San Francisco, CA	1,950	845,000	1,900	757,000
San Juan, PR	339	116,000	257	77,200
Savannah, GA	328	193,000	230	140,000
Seattle, WA	1,160	493,000	954	389,000
St. Albans, VT	57	19,900	35	10,100
Tampa, FL	330	142,000	422	167,000
Other	82	15,200	54	7,990
Total	21,400	9,430,000	18,500	7,570,000

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	2012		2013	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	7,330	2,890,000	5,980	2,140,000
No. 2 heavy-melting scrap	1,110	423,000	911	316,000
No. 1 bundles	423	156,000	359	124,000
No. 2 bundles	12	3,080	10	1,780
Shredded steel scrap	6,560	2,610,000	5,610	2,030,000
Borings, shovelings, and turnings	101	36,400	130	44,500
Cut plate and structural	1,040	412,000	1,090	399,000
Tinned iron or steel	152	73,300	140	59,600
Remelting scrap ingots	31	32,500	17	15,000
Stainless steel scrap	624	804,000	644	743,000
Other alloy steel scrap	715	539,000	522	389,000
Other steel scrap ³	2,740	1,230,000	2,720	1,160,000
Iron scrap	546	228,000	356	142,000
Total	21,400	9,430,000	18,500	7,570,000
Ships, boats, and other vessels for scrapping	5	913	7	1,030
Used rails for rerolling and other uses ⁴	36	37,600	37	35,100
Grand total	21,400	9,470,000	18,500	7,600,000

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	2012		2013	
	Quantity	Value	Quantity	Value
Argentina	(3)	18	(3)	2
Bahamas, The	9	1,670	4	834
Bermuda	(3)	75	1	161
Brazil	(3)	315	5	1,690
British Virgin Islands	1	71	1	203
Canada	3,010	1,260,000	3,230	1,180,000
Cayman Islands	6	1,650	1	406
China	1	437	9	3,890
Dominican Republic	(3)	413	3	239
Egypt	1	894	1	713
France	16	6,950	--	--
Germany	48	21,500	24	9,120
Guatemala	1	241	(3)	78
Hong Kong	(3)	6	4	696
Israel	(3)	248	(3)	33
Italy	1	149	6	166
Japan	3	1,060	11	2,780
Jordan	1	290	--	--
Korea, Republic of	4	1,580	(3)	42
Malaysia	(3)	39	(3)	65
Mexico	231	120,000	295	138,000
Netherlands	162	68,900	29	11,100
Panama	1	337	(3)	160
Peru	1	437	(3)	39
Singapore	2	463	1	212
Sweden	72	31,800	138	53,200
Taiwan	2	2,290	(3)	400
Trinidad and Tobago	(3)	188	(3)	57
Turks and Caicos Islands	1	241	(3)	34
United Kingdom	140	63,100	161	65,900
Other	2 [†]	2,570 [†]	3	1,730
Total	3,720	1,590,000	3,930	1,470,000

[†]Revised. -- Zero.

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 60 countries in 2012 and 57 countries in 2013.

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	2012		2013	
	Quantity	Value	Quantity	Value
Boston, MA	1	447	--	--
Buffalo, NY	612	405,000	732	359,000
Charleston, SC	213	91,900	217	87,000
Chicago, IL	29	3,440	54	9,270
Cleveland, OH	1	333	(³)	305
Columbia-Snake, OR	63	21,200	8	2,320
Detroit, MI	1,080	449,000	1,260	468,000
Duluth, MN	33	13,000	75	22,100
El Paso, TX	41	17,800	42	16,300
Great Falls, MT	143	49,800	127	39,100
Houston-Galveston, TX	3	3,320	4	1,940
Laredo, TX	86	66,300	188	100,000
Los Angeles, CA	18	8,320	1	1,320
Miami, FL	8	2,100	3	1,050
Mobile, AL	35	16,300	69	26,600
New Orleans, LA	157	63,900	35	11,700
New York, NY	5	5,240	1	227
Nogales, AZ	28	11,000	28	9,050
Norfolk, VA	(³)	36	1	342
Ogdensburg, NY	35	29,500	56	29,000
Pembina, ND	73	28,600	104	36,900
Philadelphia, PA	1	1,360	1	477
Portland, ME	9	3,620	10	3,490
San Diego, CA	61	18,600	43	12,800
Savannah, GA	1	499	(³)	8
Seattle, WA	929	260,000	778	207,000
St. Albans, VT	2	960	21	6,930
Tampa, FL	9	2,340	1	359
Wilmington, NC	36	16,800	57	20,800
Other	1	394	6	395
Total	3,720	1,590,000	3,930	1,470,000

-- Zero.

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	20112		20113	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	253	88,400	322	108,000
No. 2 heavy-melting scrap	94	29,200	169	45,600
No. 1 bundles	1,060	430,000	1,140	444,000
No. 2 bundles	19	4,510	51	15,400
Shredded steel scrap	418	112,000	470	116,000
Borings, shoveling, and turnings	85	20,800	65	14,800
Cut plate and structural	262	78,400	261	82,500
Tinned iron or steel	91	30,800	60	21,400
Remelting scrap ingots	(3)	279	(3)	56
Stainless steel scrap	155	236,000	226	211,000
Other alloy steel scrap	455	313,000	418	202,000
Other steel scrap ⁴	612	181,000	499	149,000
Iron scrap	207	65,500	240	63,600
Total	3,720	1,590,000	3,930	1,470,000
Ships, boats, and other vessels for scrapping	(3)	22	(3)	446
Used rails for rerolling and other uses ⁵	71	32,000	86	40,000
Grand total	3,790	1,620,000	4,010	1,510,000

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	2012		2013	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Argentina	19	\$16	243	\$191
Aruba	12	20	14	20
Australia	2,490	3,560	1,630	2,340
Bahamas, The	41	88	10	28
Bermuda	1	4	22	18
Brazil	86	167	17	57
British Virgin Islands	3	4	58	48
Cayman Islands	7	12	50	42
Chile	18	94	23	32
China	296	684	2,380	1,030
Colombia	215	260	352	404
Costa Rica	8	26	72	60
Dominican Republic	1,070	1,200	476	460
Germany	33	34	--	--
Honduras	7	6	183	119
Hong Kong	64	162	25	27
Hungary	6	177	37	182
India	49	42	--	--
Jamaica	67	68	26	38
Japan	1,070	859	452	563
Korea, Republic of	13	11	288	241
Mexico	27,800	27,800	29,200	27,500
Netherlands	223	205	82	119
Nicaragua	17	32	1	8
Panama	377	399	--	--
Peru	52	58	83	119
Saudi Arabia	47	48	29	170
Singapore	4	109	18	95
Saint Kitts and Nevis	51	62	90	76
Taiwan	1,260	719	455	211
Trinidad and Tobago	22	34	36	39
United Arab Emirates	--	--	29	25
United Kingdom	5	20	24	20
Venezuela	402	377	102	128
Other	175 ^r	229 ^r	486	625
Total	36,000	37,600	37,000	35,100

^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}

Country	2012		2013	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Austria	--	--	24	\$29
Belgium	19	\$26	23	28
Brazil	3	9	1	6
Canada	62,400	26,100	79,900	34,400
China	241	372 ^r	6,280	5,420
Germany	18	31	66	149
Japan	16	18	--	--
Korea, Republic of	53	22	--	--
Mexico	(³)	6	16	18
Netherlands	--	--	7	14
Russia	8,680	5,350	--	--
Taiwan	1	2	1	3
United Kingdom	4	11	--	--
Other	1 ^r	1 ^r	29	17
Total	71,500	32,000	86,300	40,000

^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}

Country	2012		2013	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Afghanistan	--	--	34	\$4
Canada	80	\$8	--	--
France	--	--	20	3
Germany	--	--	34	4
Korea, Republic of	453	48	70	7
Mexico	--	--	107	11
Total	533	56	265	29

-- 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	2012		2013	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Brazil	36,100	\$15,400	75,400	\$29,700
Canada	16,400	5,030	83,200	27,600
Russia	20,000	7,860	38,500	11,200
Trinidad and Tobago	1,910,000	742,000	1,770,000	623,000
Ukraine	--	--	24,700	9,230
Venezuela	488,000	151,000	246,000	74,400
Total	2,470,000	921,000	2,240,000	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	2012		2013	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Canada	5,480	\$2,240	7,310	\$2,670
China	2,530	249	38	13
Dominican Republic	146	107	--	--
Germany	3	5	--	--
Italy	236	466	--	--
Japan	212	191	9	4
Korea, Republic of	364	372	1,240	438
Malaysia	11	4	--	--
Mexico	10,800 ³	4,160 ³	7,650	1,100
United Arab Emirates	897	94	1,590	140
United Kingdom	164	96	2	11
Uruguay	164	54	194	65
Other	187 ^f	75 ^f	--	--
Total	21,200	8,110	18,000	4,440

^fRevised. -- 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}

Country	2012		2013	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Argentina	--	--	20	\$113
Australia	53	\$89	--	--
Brazil	1,990,000	882,000	1,760,000	694,000
Canada	148,000	72,000	75,300	35,300
Chile	22	103	--	--
Germany	3,220	1,690	--	--
India	--	--	13	8
Indonesia	--	--	228	187
Japan	3	4	10	5
Russia	1,420,000	637,000	1,600,000	641,000
Slovakia	101	176	--	--
South Africa	204,000	84,700	211,000	83,100
Switzerland	100,000	45,500	--	--
Taiwan	11	24	11	26
Ukraine	414,000	178,000	474,000	189,000
United Kingdom	--	--	21	11
Total	4,270,000	1,900,000	4,120,000	1,640,000

-- 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.