



# 2009 Minerals Yearbook

## IRON AND STEEL SCRAP

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**Domestic survey data and tables were prepared by Hoa P. Phamdang, statistical assistant.**

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 62% of the total raw steel produced in 2009. 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 2009, the domestic steel industry recycled or exported for recycling more than 59 million metric tons (Mt) of appliances, automobiles, cans, construction materials, and other steel products (Bill Heenan, Steel Recycling Institute, unpub. data, January 4, 2011). This resulted in an overall recycling rate of greater than 103%. This record-high recycling rate was not only attributed to the collection of steel scrap, but also to the reduced production of new steel for consumer products caused by the recession of 2009. 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 65% iron and steel. The steel used in car bodies is made of about 25% recycled steel (Steel Recycling Institute, 2010a). The steel industry recovered and recycled more than 14 Mt of iron and steel from end-of-life vehicles in 2009. The recycling rate for automotive scrap was 140% in 2009. A recycling rate greater than 100% is a result of the steel industry recycling more steel from automobiles than was used in the production of new vehicles.

The annual average recycling rate of obsolete appliance scrap continued at a high of 90% in 2009, the same as that of 2008, compared with 20% in 1988 (Bill Heenan, President, Steel Recycling Institute, unpub. data, November 15, 2010). During 2009, about 2.5 Mt of steel was recovered from recycled appliances, a decrease of about 15% compared with that of 2008. The typical appliance consists of about 75% steel, and the steel used in appliances is made with a minimum of 25% recycled steel (Steel Recycling Institute, 2010b). The recycling rate of steel containers increased to more than 66% in 2009 from 15% in 1983 (Bill Heenan, Steel Recycling Institute, unpub. data, January 4, 2011). More than 1.3 Mt of steel containers were recycled. The estimated rate of recycling of structural beams and plates in 2004 through 2009 was about 98%, an

increase from 85% in 1997. Recycling rates for reinforcement bar and other materials increased to 70% in 2009 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 often used a feed mix that has equal proportions of DRI, pig iron, and scrap. Raw steel production in the minimill industry decreased by 30% during 2009 (American Iron and Steel Institute, 2010, p. 72; table 3), and DRI production decreased to zero, compared with those in 2008 (Midrex Technologies, 2009).

## Consumption

Domestic data for ferrous scrap were derived from voluntary monthly or annual surveys of U.S. scrap-consuming operations by the USGS. About 49% of the known manufacturers of pig iron and raw steel responded to the surveys. Their responses represented about 52% of estimated total scrap consumption by this class of consumers. The remaining 48% of scrap consumption was estimated based on prior reports. Of the iron foundries, manufacturers of steel castings, and miscellaneous users, about 56% of the surveyed establishments responded to the annual survey, which represented about 40% of estimated scrap consumption by this class of consumers. Total consumption for these two classes of consumers was estimated using statistical methods and prior reports. Actual survey data accounted for about 40% of total estimated scrap consumption by all classes of scrap consumers.

In 2009, brokers, dealers, and other outside sources supplied domestic consumers with 43.4 Mt of all types of ferrous scrap at an estimated average delivered value of \$9.01 billion, and exported 22.4 Mt (excluding used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping) valued at \$7.1 billion (tables 1, 8, and 11). Raw steel production was 59.4 Mt in 2009 compared with 91.9 Mt in 2008 (American Iron and Steel Institute, 2010, p. 73). The share of raw steel produced by EAF and basic oxygen furnaces was 62% and 38%, respectively. In 2009, continuous cast steel production represented 98% of total raw steel production; this was slightly greater than that of 2008. Raw steel production capability increased to 116 Mt from 113 MT in 2008 (American Iron and Steel Institute, 2010, p. 75.). The capability utilization index decreased from 81.4% in 2008 to 51.2% in 2009.

Steel mills accounted for 92% of all scrap received from brokers, dealers, and other outside sources; iron foundries and miscellaneous users received 7%; and steel foundries received 1% (table 1). Apparent total domestic consumption of ferrous scrap was 40.2 Mt, as measured by net receipts (total external receipts minus shipments) and 9.4 Mt of home scrap (table 2).

Stocks of ferrous scrap at consumer plants decreased by 26% to 3.4 Mt (table 1). Total domestic consumption was 53.1 Mt, 21% less than that of 2008 (table 1). The total market for U.S.-produced scrap (net receipts plus exports minus imports) was 62.8 Mt, compared with 74.2 Mt in 2008 (table 1). Feedstock used in electric furnaces by all iron and steel product manufacturers comprised scrap, 90%; pig iron, 9%; and DRI, 1% (table 4). Total consumption of DRI was 31% less than that of 2008 (table 1). Net shipments of all grades of steel mill products were about 56.4 Mt, which was a decrease of 37% from the 89.3 Mt shipped in 2008 (American Iron and Steel Institute, 2010, p. 25).

## Prices

The average composite delivered price of No. 1 heavy-melting steel scrap in 2009, calculated from prices per long ton published monthly by American Metal Market, was \$207.58 per metric ton. The price ranged from a low of \$146.74 per ton in April to a high of \$257.06 per ton in September (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 \$204.21 per metric ton; the price ranged from a low of \$141.32 per ton in April to a high of \$252.37 per ton in September.

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 2009 was about \$1,547 per gross ton, a decrease of 35% compared with that of 2008.

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 34% to about \$318 per metric ton compared with that of 2008 (table 11). The unit value of total imports decreased by 33% to about \$273 per metric ton, compared with that of 2008 (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 2009, 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 19.4 Mt valued at about \$6.3 billion (tables 11, 14). This represented an increase of about 9% in quantity and a decrease of 29% in value compared with the 2008 surplus of 17.9 Mt valued at \$8.9 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 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 2009 than any other country, followed by, in decreasing order of export tonnage, Japan, Germany, the United Kingdom, and

France (World Steel Association, 2010a, p. 115–116). The leading importing nations were, in decreasing order of import tonnage, Turkey, China, the Republic of Korea, India, and Spain (World Steel Association, 2010a, p. 117).

## 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 GDP growth for 2010 and 2011 was 2.7% and 3.2%, respectively (World Bank, The, 2010). The International Monetary Fund's forecast of world GDP growth for 2010 and 2011 was 4.2% and 4.3%, respectively (International Monetary Fund, 2010). The U.S. Federal Reserve Bank's forecast for the U.S. 2010 GDP growth rate was between 2.1% and 3.3% (U.S. Federal Reserve Bank, 2009). The GDP growth for China was projected to be 10% and 9.9% in 2010 and 2011, respectively, and that of India was 8.8% and 8.4% for those years, respectively (International Monetary Fund, 2010).

World apparent steel consumption (ASC) was expected to increase by 11% to 1,241 Mt during 2010 and then increase by 5.3% in 2011, to reach a historic high of 1.3 billion tons. China's ASC was expected to increase by 6.7% to 579 Mt in 2010, and then by 2.8% in 2011. China was expected to account for 46% of world steel consumption in 2010. ASC in India was expected to grow by 14% in both 2010 and 2011. The United States ASC was expected to increase by 27% in 2010, and then by 7.5% in 2011. The European Union (EU) ASC was expected to increase by 14% in 2010 and increase by 7.9% in 2011. In Japan and the Commonwealth of Independent States (CIS), the 2010 ASC was expected to increase by 10% and 11%, respectively. Japan's ASC was expected to decrease slightly in 2011, while that of the CIS was expected to increase by 8%. Turkey's ASC was expected to increase by 13% in both 2010 and 2011 (World Steel Association, 2010b).

World capacity for DRI production in 2009 was estimated to be almost 75 million metric tons per year (Mt/yr). In 2009, additional DRI capacity of almost 17 Mt/yr was under construction in China, Egypt, India, Iran, Oman, Pakistan, the United Arab Emirates, and Venezuela (Midrex Technologies, Inc., 2010).

MEPS (International) Inc. (2010) forecast total world steel production in 2010 to be 1,395 Mt, up 14% from that in 2009, and 1,625 Mt for 2014. MEPS also forecast increasing steel production in 2010 in the EU, South America, Asia (excluding China), China, the CIS, and Africa of 22%, 13%, 12%, 10%, 8%, and 6%, respectively. For China, MEPS forecast a 31% increase in steel production by 2014 compared with that in 2009.

Because the primary source of obsolete steel is the automobile, an increasing world population and increased demand for vehicles in developing countries, especially China and India, are expected to contribute to a dramatic rise in the amount of vehicle scrap created during the next 25 years, according to the Oxford Brookes University in the United Kingdom (Blanco, 2007). More vehicles are expected to be

produced in the next 25 years than in the history of the motor vehicle industry through 2008.

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TABLE 1  
SALIENT U.S. IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS<sup>1</sup>

(Thousand metric tons and thousand dollars)

	2005	2006	2007	2008	2009
<b>Manufacturers of pig iron and raw steel and castings:<sup>2</sup></b>					
Ferrous scrap consumption	55,000	54,500	54,600	57,600 <sup>r</sup>	47,600
Pig iron consumption	36,900	36,700	36,500	33,600 <sup>r</sup>	28,300
Direct-reduced iron consumption	1,740	1,530	2,040	1,950	1,340
Net receipts of ferrous scrap <sup>3</sup>	43,600	45,300	46,400	49,400 <sup>r</sup>	39,800
Home scrap production <sup>4</sup>	11,400	9,120	8,700	8,650 <sup>r</sup>	7,570
Ending stocks of ferrous scrap, December 31	4,430	3,870	3,620	3,700 <sup>r</sup>	2,820
<b>Manufacturers of steel castings:<sup>5</sup></b>					
Ferrous scrap consumption	1,060	1,080	1,700	2,080 <sup>r</sup>	838
Pig iron consumption	36	11	11	12 <sup>r</sup>	17
Direct-reduced iron consumption	--	--	--	4	14
Net receipts of ferrous scrap <sup>3</sup>	713	754	965	1,630 <sup>r</sup>	586
Home scrap production <sup>4</sup>	333	319	692	549 <sup>r</sup>	271
Ending stocks of ferrous scrap, December 31	85	79	383	503 <sup>r</sup>	397

See footnotes at end of table.

TABLE 1—Continued  
SALIENT U.S. IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS<sup>1</sup>

(Thousand metric tons and thousand dollars)

	2005	2006	2007	2008	2009
Iron foundries and miscellaneous users: <sup>5</sup>					
Ferrous scrap consumption	9,540	8,300	7,940	7,770 <sup>r</sup>	4,640
Pig iron consumption	1,140	937	877	846 <sup>r</sup>	1,850
Direct-reduced iron consumption	3	4	4	3 <sup>r</sup>	4
Net receipts of ferrous scrap <sup>3</sup>	6,460	5,610	5,130	5,200	2,970
Home scrap production <sup>4</sup>	3,280	2,700	2,550	2,560 <sup>r</sup>	1,720
Ending stocks of ferrous scrap, December 31	450	421	416	415 <sup>r</sup>	197
Total, all manufacturing types:					
Ferrous scrap consumption	65,600	63,900	64,200	67,400 <sup>r</sup>	53,100
Pig iron consumption	38,100	37,600	37,400	34,400	30,200
Direct-reduced iron consumption	1,750	1,540	2,050	1,960	1,360
Net receipts of ferrous scrap <sup>3</sup>	50,800	51,700	52,500	56,200 <sup>r</sup>	43,400
Home scrap production <sup>4</sup>	15,000	12,100	11,900	11,800 <sup>r</sup>	9,560
Ending stocks, December 31:					
Ferrous scrap at consumer plants	4,970	4,370	4,420	4,620 <sup>r</sup>	3,410
Pig iron at consumer and supplier plants	664	700	771	885 <sup>r</sup>	507
Direct-reduced iron at consumer plants	263	319	364	435	234
Exports: <sup>6</sup>					
Ferrous scrap (includes tinplate and terneplate): <sup>7</sup>					
Quantity	13,000	14,900	16,500	21,500	22,400
Value	3,430,000	4,230,000	6,890,000	10,400,000	7,120,000
Pig iron, all grades:					
Quantity	51	813	71	51	11
Value	8,110	8,750	4,610	11,400	4,200
Direct-reduced iron, steelmaking grade:					
Quantity	(8)	(8)	(8)	1	(8)
Value	16	11	23	97	38
Imports for consumption: <sup>6</sup>					
Ferrous scrap (includes tinplate and terneplate): <sup>7</sup>					
Quantity	3,840	4,820	3,700	3,600	2,990
Value	909,000	1,250,000	1,040,000	1,450,000	814,000
Pig iron, all grades:					
Quantity	6,030	6,730	5,220	4,980	2,420
Value	1,580,000	1,760,000	1,660,000	2,800,000	877,000
Direct-reduced iron, steelmaking grade:					
Quantity	2,170	2,610	2,330	2,340	1,020
Value	361,000	417,000	519,000	971,000	304,000

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Includes manufacturers of raw steel that also produce steel castings.

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

<sup>4</sup>Home scrap production includes recirculating scrap that results from current operations and obsolete home scrap.

<sup>5</sup>Some 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.

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

<sup>7</sup>Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping.

<sup>8</sup>Less than ½ unit.

TABLE 2  
U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2009 BY GRADE<sup>1</sup>

(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 <sup>2</sup>			
Manufacturers of pig iron and raw steel and castings:							
Carbon steel:							
Low-phosphorus plate and punchings	686	W	18	--	714	--	125
Cut structural and plate	3,100	145	503	--	3,810	15	190
No. 1 heavy-melting steel	3,720	277	1,650	W	5,530	132	292
No. 2 heavy-melting steel	5,000	67	260	--	5,370	14	307
No. 1 and electric furnace bundles	2,820	179	W	48	3,680	173	243
No. 2 and all other bundles	788	W	W	--	804	W	36
Electric furnace, 1 foot and under (not bundles)	20	--	W	--	66	W	W
Railroad rails	146	23	W	--	210	W	3
Turnings and borings	1,790	203	51	--	2,070	--	93
Slag scrap	863	85	832	W	1,250	513	153
Shredded or fragmentized	8,770	1,250	332	--	10,200	51	625
No. 1 busheling	4,030	80	190	--	4,370	W	167
Steel cans, post consumer	108	2	--	--	108	W	5
All other carbon steel scrap	3,220	196	1,510	W	4,700	259	252
Stainless steel scrap	832	56	366	--	1,260	4	45
Alloy steel (except stainless)	89	W	399	--	517	33	43
Ingot mold and stool scrap	W	--	81	80	62	99	11
Machinery and cupola cast iron	15	W	W	--	18	W	2
Cast-iron borings	112	W	W	--	119	W	8
Motor blocks	--	--	--	--	--	--	--
Other iron scrap	765	83	125	--	943	34	128
Other mixed scrap	1,270	335	176	--	1,800	45	92
Total	38,100	3,070	7,440	135	47,600	1,410	2,820
Manufacturers of steel castings:							
Carbon steel:							
Low-phosphorus plate and punchings	204	W	148	--	371	--	73
Cut structural and plate	51	--	6	--	58	--	2
No. 1 heavy-melting steel	16	--	4	--	22	--	4
No. 2 heavy-melting steel	19	--	--	--	18	--	3
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	26	--	8	W	35	W	--
Slag scrap	W	--	W	--	6	--	--
Shredded or fragmentized	58	--	--	--	57	--	5
No. 1 busheling	74	--	--	--	79	--	3
Steel cans, post consumer	--	--	--	W	--	W	--
All other carbon steel scrap	3	--	32	--	35	W	--
Stainless steel scrap	16	W	20	W	35	--	71
Alloy steel (except stainless)	29	W	32	W	64	--	31
Ingot mold and stool scrap	W	--	W	--	W	W	W
Machinery and cupola cast iron	--	--	--	--	--	--	--
Cast-iron borings	W	--	W	--	W	--	W
Motor blocks	--	--	--	--	--	--	--
Other iron scrap	2	--	--	--	2	--	--
Other mixed scrap	31	--	W	W	45	--	3
Total	586	2	257	14	838	2	397

See footnotes at end of table.

TABLE 2—Continued

U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2009, BY GRADE<sup>1</sup>

(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 <sup>2</sup>			
<b>Iron foundries and miscellaneous users:</b>							
Carbon steel:							
Low-phosphorus plate and punchings	577	1	141	W	720	--	5
Cut structural and plate	536	12	44	W	545	--	96
No. 1 heavy-melting steel	64	W	W	--	100	--	4
No. 2 heavy-melting steel	93	--	W	--	102	--	3
No. 1 and electric furnace bundles	47	--	--	--	46	--	1
No. 2 and all other bundles	W	--	W	--	W	W	--
Electric furnace, 1 foot and under (not bundles)	91	--	--	--	91	--	1
Railroad rails	27	W	W	--	25	W	4
Turnings and borings	46	--	--	--	46	W	1
Slag scrap	W	W	W	--	W	W	W
Shredded or fragmentized	540	--	W	--	548	--	14
No. 1 busheling	287	W	7	2	295	W	8
Steel cans, post consumer	4	--	W	--	4	--	W
All other carbon steel scrap	33	--	56	W	88	1	2
Stainless steel scrap	2	--	--	W	2	--	--
Alloy steel (except stainless)	2	--	1	--	3	W	--
Ingot mold and stool scrap	25	W	W	--	30	W	10
Machinery and cupola cast iron	288	W	125	W	413	10	26
Cast-iron borings	27	19	9	--	54	1	1
Motor blocks	116	W	482	--	601	W	4
Other iron scrap	92	20	728	3	839	6	13
Other mixed scrap	30	W	53	W	84	5	3
Total	2,930	68	1,700	24	4,640	30	197
<b>Grand total, all manufacturing types:</b>							
Carbon steel:							
Low-phosphorus plate and punchings	1,470	8	307	--	1,800	1	203
Cut structural and plate	3,690	157	553	W	4,410	15	288
No. 1 heavy-melting steel	3,800	278	1,690	W	5,650	132	300
No. 2 heavy-melting steel	5,110	67	261	W	5,490	14	313
No. 1 and electric furnace bundles	2,870	179	W	48	3,730	173	244
No. 2 and all other bundles	791	W	10	--	806	W	36
Electric furnace, 1 foot and under (not bundles)	116	--	75	--	165	W	1
Railroad rails	174	23	W	--	234	5	7
Turnings and borings	1,870	203	59	--	2,150	--	94
Slag scrap	867	85	837	W	1,260	513	154
Shredded or fragmentized	9,370	1,250	339	--	10,800	51	643
No. 1 busheling	4,400	80	197	2	4,740	2	178
Steel cans, post consumer	112	2	W	W	112	W	5
All other carbon steel scrap	3,260	196	1,600	3	4,820	259	255
Stainless steel scrap	850	56	386	--	1,300	4	116
Alloy steel (except stainless)	120	65	432	W	584	33	75
Ingot mold and stool scrap	71	W	84	80	93	100	222
Machinery and cupola cast iron	303	4	126	W	431	11	28
Cast-iron borings	139	20	10	--	172	1	9
Motor blocks	116	W	482	W	601	W	4
Other iron scrap	858	103	853	3	1,780	41	142
Other mixed scrap	1,330	342	230	14	1,930	51	98
Total	41,600	3,140	9,400	173	53,100	1,440	3,410

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

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.<sup>2</sup>Obsolete 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 2009<sup>1</sup>

(Thousand metric tons)

	Receipts	Production	Consumption	Shipments	Stocks, December 31
Manufacturers of pig iron, raw steel, and castings:					
Pig iron	7,260 <sup>2</sup>	21,400	28,300	76	480
Direct-reduced iron (DRI)	1,110 <sup>3</sup>	W	1,340	W	232
Manufacturers of steel castings:					
Pig iron	9	(4)	17	(4)	(4)
DRI	13	--	14	--	2
Iron foundries and miscellaneous users:					
Pig iron	1,850	11	1,850	24	27
DRI	3	--	3	--	(4)
Total, all manufacturing types:					
Pig iron	9,120	21,400	30,200	100	507
DRI	1,130	W	1,360	W	234

W Withheld to avoid disclosing company proprietary data. -- Zero.

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

<sup>2</sup>Includes 1.33 million metric tons (Mt) purchased by electric furnace steel producers.

<sup>3</sup>Includes 1.33 million Mt purchased by integrated steel producers.

<sup>4</sup>Less than ½ unit.

TABLE 4  
U.S. CONSUMPTION OF IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON IN 2009, BY TYPE OF FURNACE OR OTHER USE<sup>1</sup>

(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 <sup>2</sup>	Scrap	Pig iron	DRI <sup>2</sup>	Scrap	Pig iron	DRI <sup>2</sup>	Scrap	Pig iron	DRI <sup>2</sup>
Blast furnace	1,270	--	192	--	--	--	--	--	--	1,270	--	192
Basic oxygen process	7,110	25,900	341	--	--	--	--	--	--	7,110	25,900	341
Electric furnace	39,200	2,430	809	837	17	14	3,130	1,700	1	43,200	4,140	824
Cupola furnace	3	--	--	--	--	--	1,510	148	3	1,510	148	3
Other <sup>3</sup>	2	--	--	1	--	--	2	--	--	5	--	--
Direct castings <sup>4</sup>	--	36	--	--	--	--	--	--	--	--	36	--
Total	47,600	28,300	1,340	838	17	14	4,640	1,850	4	53,100	30,200	1,360

-- Zero.

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

<sup>2</sup>Direct-reduced iron.

<sup>3</sup>Includes air furnaces.

<sup>4</sup>Includes ingot molds and stools.



TABLE 5  
IRON AND STEEL SCRAP SUPPLY AVAILABLE FOR CONSUMPTION IN 2009, BY REGION AND STATE<sup>1,2</sup>

(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 <sup>3</sup>	Shipments of scrap <sup>4</sup>	
<b>New England and Middle Atlantic:</b>						
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	19	(5)	13	W	(5)	32
New Jersey and New York	1,770	--	98	W	W	1,830
Pennsylvania	3,020	820	1,800	63	51	5,640
Total	4,800	820	1,910	63	87	7,510
<b>North Central:</b>						
Illinois	1,340	32	107	10	5	1,490
Indiana	3,660	179	1,720	(5)	354	5,200
Iowa, Nebraska, South Dakota	1,700	16	119	2	W	1,840
Kansas and Missouri	12	5	19	--	(5)	36
Michigan	1,400	(5)	754	--	471	1,680
Minnesota	367	142	17	--	22	504
Ohio	5,160	210	948	21	217	6,120
Wisconsin	1,340	2	909	(5)	5	2,250
Total	15,000	589	4,590	34	1,070	19,100
<b>South Atlantic:</b>						
Delaware and Maryland	962	W	385	--	W	1,300
Florida and Georgia	567	--	6	--	W	573
North Carolina and South Carolina	2,500	W	244	--	--	2,920
Virginia and West Virginia	1,610	W	361	W	13	2,250
Total	5,640	482	996	W	74	7,040
<b>South Central:</b>						
Alabama and Mississippi	3,330	W	189	W	W	3,520
Arkansas, Louisiana, Oklahoma	3,670	W	369	W	W	4,170
Kentucky and Tennessee	2,950	206	248	--	W	3,400
Texas	2,850	545	358	4	20	3,740
Total	12,800	912	1,160	14	54	14,800
<b>Mountain and Pacific:</b>						
Arizona, Colorado, Idaho, Utah	1,300	W	354	W	33	1,710
California, Oregon, Washington	2,160	W	380	W	120	2,730
Total	3,460	338	734	61	153	4,440
Grand total	41,600	3,140	9,400	173	1,440	52,900

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

<sup>1</sup>Supply 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.

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

<sup>3</sup>Obsolete scrap includes ingot molds, stools, and scrap from old equipment, buildings, etc.

<sup>4</sup>Includes scrap shipped, transferred, or otherwise disposed of during the year.

<sup>5</sup>Less than ½ unit.

TABLE 6  
U.S. CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN 2009, BY REGION AND STATE<sup>1,2,3</sup>

(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
<b>New England and Middle Atlantic:</b>								
Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, Vermont	1,730	22	9	--	124	4	1,870	25
Pennsylvania	5,350	3,210	136	1	184	17	5,670	3,230
Total	7,090	3,230	145	1	308	21	7,540	3,260
<b>North Central:</b>								
Illinois	1,260	710	24	1	200	20	1,480	731
Indiana	4,910	11,700	36	(4)	235	47	5,180	11,700
Iowa, Kansas, Minnesota, Missouri, Nebraska, South Dakota, Wisconsin	2,540	78	73	(4)	2,020	1,630	4,640	1,710
Michigan	1,260	1,960	28	--	391	32	1,680	1,990
Ohio	5,330	3,330	66	(4)	595	35	5,990	3,360
Total	15,300	17,700	227	1	3,440	1,760	19,000	19,500
<b>South Atlantic:</b>								
Delaware, Maryland, Virginia, West Virginia	3,300	1,580	(4)	(4)	273	9	3,570	1,590
Florida, Georgia, North Carolina, South Carolina	3,180	71	238	--	107	2	3,520	71
Total	6,480	1,650	239	(4)	380	11	7,090	1,660
<b>South Central:</b>								
Alabama, Kentucky, Mississippi, Tennessee	6,510	3,730	129	8	198	20	6,840	3,760
Arkansas, Louisiana, Oklahoma	4,440	483	11	--	5	2	4,450	486
Texas	3,570	37	29	7	135	19	3,740	62
Total	14,500	4,250	169	15	338	41	15,000	4,310
<b>Mountain and Pacific:</b>								
Arizona, Colorado, Idaho, Utah	1,680	1,400	2	(4)	51	(4)	1,740	1,400
California, Oregon, Washington	2,550	49	56	(4)	124	9	2,730	59
Total	4,230	1,450	58	(4)	175	10	4,460	1,460
Grand total	47,600	28,300	838	17	4,640	1,850	53,100	30,200

-- Zero.

<sup>1</sup>Includes recirculating scrap resulting from current operations and home-generated obsolete scrap.

<sup>2</sup>Includes molten pig iron used for ingot molds and direct castings.

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

<sup>4</sup>Less than ½ unit.

TABLE 7  
U.S. CONSUMER STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, DECEMBER 31, 2009, BY REGION AND STATE<sup>1</sup>

(Thousand metric tons)

Region and State	Carbon steel <sup>2</sup>	Stainless steel	Alloy steel <sup>3</sup>	Cast iron <sup>4</sup>	Other grades of scrap	Total scrap	Pig iron
<b>New England and Middle Atlantic:</b>							
Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont	1	W	--	1	W	1	(5)
New Jersey and New York	51	W	1	1	W	54	1
Pennsylvania	217	12	14	11	3	259	3
Total	269	13	15	13	4	314	4
<b>North Central:</b>							
Illinois	75	(5)	(6)	2	3	80	6
Indiana	390	3	1	12	(6)	413	159
Iowa, Kansas, Missouri, Nebraska, South Dakota	72	(6)	(6)	4	--	75	3
Michigan	91	(6)	(6)	4	(6)	96	1
Minnesota and Wisconsin	52	2	--	3	(6)	57	6
Ohio	389	27	24	54	2	496	47
Total	1,070	36	26	79	13	1,220	222
<b>South Atlantic:</b>							
Delaware, Maryland, Virginia, West Virginia	113	W	(5)	W	W	197	54
Florida, Georgia, North Carolina, South Carolina	243	W	W	W	W	545	10
Total	356	48	29	294	16	742	64
<b>South Central:</b>							
Alabama, Kentucky, Mississippi, Tennessee	435	W	W	4	W	475	134
Arkansas, Louisiana, Oklahoma	207	W	W	W	--	211	66
Texas	161	W	W	W	W	168	2
Total	803	23	3	10	13	854	202
<b>Mountain and Pacific:</b>							
Arizona, Colorado, Idaho, Utah	28	(5)	(5)	(5)	W	69	W
California, Oregon, Washington	196	(5)	2	9	W	218	W
Total	224	(5)	2	9	52	287	15
Grand total	2,720	116	75	405	98	3,410	507

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

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

<sup>2</sup>Excludes rerolling rails.

<sup>3</sup>Excludes stainless steel.

<sup>4</sup>Includes borings.

<sup>5</sup>Less than ½ unit.

<sup>6</sup>Withheld 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 AVERAGES<sup>1</sup>

(Dollars per metric ton)

Period	Chicago, IL	Philadelphia, PA	Pittsburgh, PA	Composite price
2008, average	349.48	336.05	357.71	348.86
2009:				
January	183.00	210.00	209.50	200.83
February	176.68	200.53	188.16	188.46
March	157.73	176.14	153.64	162.50
April	150.00	158.33	131.90	146.74
May	179.25	184.25	172.50	178.67
June	185.00	189.09	180.00	184.70
July	230.00	217.27	216.82	221.36
August	244.29	243.24	233.57	240.37
September	257.86	256.43	256.90	257.06
October	244.76	241.90	244.14	243.60
November	216.32	213.89	213.37	214.53
December	251.05	249.32	256.05	252.14
Average	206.33	211.70	204.71	207.58

<sup>1</sup>Calculated 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<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Country	2008		2009	
	Quantity	Value	Quantity	Value
Argentina	1	519	1	369
Australia	1	3,130	(3)	1,520
Austria	2	2,020	(3)	1,480
Bahamas, The	7	1,580	(3)	119
Bangladesh	112	44,000	91	25,100
Belgium	6	11,800	6	5,690
Brazil	2	1,440	64	19,000
Canada	1,670	648,000	971	235,000
Chile	(3)	159	1	393
China	2,810	1,840,000	6,210	2,500,000
Colombia	59	25,300	(3)	233
Dominican Republic	3	968	2	642
Egypt	870	400,000	361	90,500
Finland	57	111,000	30	41,600
France	4	9,700	1	1,490
Germany	7	5,080	12	2,530
Greece	276	117,000	224	53,900
Hong Kong	167	96,100	100	65,800
India	883	365,000	1,580	419,000
Indonesia	371	179,000	369	101,000
Italy	82	44,000	48	17,300
Japan	435	324,000	69	104,000
Korea, Republic of	2,620	1,200,000	3,110	939,000
Malaysia	1,260	512,000	689	189,000
Mexico	847	341,000	668	159,000
Netherlands	21	42,600	5	5,610
Netherlands Antilles	2	1,060	1	127
New Caledonia	1	5,330	(3)	2,980
Pakistan	190	64,800	333	83,900

See footnotes at end of table.

TABLE 9—Continued  
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY COUNTRY<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Country	2008		2009	
	Quantity	Value	Quantity	Value
Peru	140	63,500	155	42,400
Portugal	1 <sup>r</sup>	216	25	4,460
Saudi Arabia	1 <sup>r</sup>	479	1	538
Singapore	47	13,200	38	9,970
Spain	107	77,400	41	29,100
Sweden	1 <sup>r</sup>	2,210	13	6,160
Switzerland	94 <sup>r</sup>	28,400	55	15,700
Taiwan	2,480	1,170,000	2,230	722,000
Thailand	1,060	451,000	459	120,000
Trinidad and Tobago	8	1,890	12	4,640
Turkey	4,480	2,010,000	3,680	894,000
United Arab Emirates	1	938	1	493
United Kingdom	7	15,600	4	6,260
Vietnam	310	111,000	750	193,000
Other	50 <sup>r</sup>	28,700 <sup>r</sup>	9	4,380
Total	21,500	10,400,000	22,400	7,120,000

<sup>r</sup>Revised.

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

<sup>2</sup>Excludes 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 94 countries (revised) in 2008 and 92 countries in 2009.

<sup>3</sup>Less 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<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Customs district	2008		2009	
	Quantity	Value	Quantity	Value
Baltimore, MD	116	56,500	494	158,000
Boston, MA	1,560	690,000	1,270	324,000
Buffalo, NY	282	161,000	168	45,200
Charleston, SC	166	86,400	167	79,800
Charlotte, NC	55	32,000	51	26,200
Chicago, IL	39	15,900	22	6,230
Cleveland, OH	1	1,060	2	702
Columbia-Snake, OR	937	454,000	1,220	346,000
Detroit, MI	502	199,000	210	71,800
Duluth, MN	59	19,300	55	14,500
El Paso, TX	5	664	14	3,110
Great Falls, MT	22	6,490	9	1,990
Honolulu, HI	170	67,100	140	38,800
Houston-Galveston, TX	500	246,000	914	278,000
Laredo, TX	306	87,400	418	99,200
Los Angeles, CA	5,860	3,030,000	4,330	1,730,000
Miami, FL	246	167,000	404	129,000
Mobile, AL	75	39,300	112	49,000
New Orleans, LA	955	473,000	2,230	549,000
New York, NY	3,230	1,700,000	3,110	1,040,000
Nogales, AZ	9	3,960	15	4,340
Norfolk, VA	372	161,000	439	176,000

See footnotes at end of table.

TABLE 10—Continued  
U.S. EXPORTS OF IRON AND STEEL SCRAP, BY CUSTOMS DISTRICT<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Customs district	2008		2009	
	Quantity	Value	Quantity	Value
Ogdensburg, NY	82	37,900	100	19,900
Pembina, ND	529	205,000	295	83,100
Philadelphia, PA	993	437,000	1,400	356,000
Portland, ME	115	63,700	129	35,600
Providence, RI	442	206,000	374	90,900
San Diego, CA	19	6,200	17	3,360
San Francisco, CA	1,440	618,000	1,760	542,000
San Juan, PR	177	49,700	294	69,500
Savannah, GA	370	224,000	507	237,000
Seattle, WA	1,180	541,000	1,020	317,000
St. Albans, VT	94	36,400	35	8,750
Tampa, FL	519	220,000	583	168,000
Other	101	20,300	116	15,900
Total	21,500	10,400,000	22,400	7,120,000

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

<sup>2</sup>Data 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<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Grade	2008		2009	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	5,240	2,360,000	5,840	1,520,000
No. 2 heavy-melting scrap	382	113,000	903	230,000
No. 1 bundles	248	62,800	311	79,300
No. 2 bundles	23	6,400	55	14,600
Shredded steel scrap	8,410	3,330,000	8,500	2,190,000
Borings, shovelings, and turnings	152	17,700	106	19,800
Cut plate and structural	859	332,000	1,320	359,000
Tinned iron or steel	140	64,300	112	54,000
Remelting scrap ingots	77	101,000	27	35,000
Stainless steel scrap	1,000	1,190,000	1,130	777,000
Other alloy steel scrap	1,680	1,330,000	1,280	900,000
Other steel scrap <sup>3</sup>	2,740	1,200,000	2,170	718,000
Iron scrap	589	262,000	668	223,000
Total	21,500	10,400,000	22,400	7,120,000
Ships, boats, and other vessels for scrapping	4	354	4	773
Used rails for rerolling and other uses <sup>4</sup>	76	54,900	59	38,700
Grand total	21,600	10,400,000	22,500	7,160,000

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

<sup>2</sup>Export valuation is free alongside ship.

<sup>3</sup>Includes tinplate and terneplate.

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

Source: U.S. Census Bureau.

TABLE 12  
U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY COUNTRY<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Country	2008		2009	
	Quantity	Value	Quantity	Value
Argentina	1	2,270	4	737
Bahamas, The	4	1,240	3	599
Belgium	(3)	61	--	--
Brazil	3	1,930	3	2,670
Canada	2,790	1,020,000	2,400	611,000
China	1	405	(3)	281
Colombia	(3)	1,220	(3)	1,120
Denmark	15	11,300	26	6,290
Dominican Republic	(3)	411	(3)	222
Egypt	(3)	502	1	637
Finland	17	4,780	--	--
Germany	5	5,430	54	14,400
Guadeloupe	9	2,150	3	182
Guatemala	1	1,340	(3)	255
Japan	28	2,870	2	695
Malaysia	(3)	258	(3)	103
Mexico	333	151,000	207	83,900
Netherlands	61	36,800	76	21,100
Netherlands Antilles	6	2,400	1	89
Spain	1	1,890	(3)	281
Sweden	88	44,100	100	27,300
Taiwan	(3)	225	1	2,690
Trinidad and Tobago	1	1,630	(3)	164
United Kingdom	223	153,000	101	33,500
Other	6 <sup>r</sup>	6,580 <sup>r</sup>	9	5,150
Total	3,600	1,450,000	2,990	814,000

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping.

Import valuation is customs value. The United States imported scrap from 59 countries (revised) in 2008 and 46 countries in 2009.

<sup>3</sup>Less 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<sup>1, 2</sup>

(Thousand metric tons and thousand dollars)

Customs district	2008		2009	
	Quantity	Value	Quantity	Value
Baltimore, MD	3	7,150	2	1,240
Buffalo, NY	496	258,000	596	185,000
Charleston, SC	284	154,000	178	44,300
Charlotte, NC	1	847	(3)	46
Chicago, IL	35	3,990	15	1,290
Cleveland, OH	(3)	292	(3)	427
Columbia-Snake, OR	97	29,000	36	6,570
Detroit, MI	1,060	391,000	644	157,000
Duluth, MN	69	23,500	52	13,700
El Paso, TX	53	26,600	35	10,200
Great Falls, MT	59	23,200	93	19,700
Houston-Galveston, TX	30	36,000	3	7,680
Laredo, TX	85	48,300	84	46,700
Los Angeles, CA	24	5,820	2	3,430
Miami, FL	(3)	546	5	1,210
Mobile, AL	47	21,900	65	21,200
New Orleans, LA	141	99,300	138	41,300
New York, NY	4	1,390	(3)	641
Nogales, AZ	8	3,070	11	3,730
Norfolk, VA	(3)	10	(3)	109
Ogdensburg, NY	19	22,500	38	15,600
Pembina, ND	72	35,700	25	11,400
Portland, ME	4	3,160	7	2,570
San Diego, CA	177	49,400	79	21,900
Seattle, WA	820	201,000	878	195,000
Tampa, FL	3	2,080	3	552
Other	4	705	3	986
Total	3,600	1,450,000	2,990	814,000

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

<sup>2</sup>Excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Import valuation is customs value.

<sup>3</sup>Less 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<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Class	2008		2009	
	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	166	56,300	185	37,900
No. 2 heavy-melting scrap	36	11,600	28	5,510
No. 1 bundles	865	458,000	715	186,000
No. 2 bundles	36	8,150	37	5,430
Shredded steel scrap	444	129,000	452	78,500
Borings, shovelings, and turnings	76	19,300	53	10,100
Cut plate and structural	162	42,600	149	29,600
Tinned iron or steel	26	7,040	27	5,190
Remelting scrap ingots	(3) <sup>r</sup>	9	(3)	327
Stainless steel scrap	140	217,000	124	138,000
Other alloy steel scrap	629	186,000	558	193,000
Other steel scrap <sup>4</sup>	666	219,000	479	90,300
Iron scrap	349	95,100	184	34,400
Total	3,600	1,450,000	2,990	814,000
Ships, boats, and other vessels for scrapping	(3) <sup>r</sup>	18	(3)	79
Used rails for rerolling and other uses <sup>5</sup>	151	80,600	57	17,700
Grand total	3,750	1,530,000	3,050	831,000

<sup>r</sup>Revised.

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

<sup>2</sup>Import valuation is customs value.

<sup>3</sup>Less than ½ unit.

<sup>4</sup>Includes tinplate and terneplate.

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

Source: U.S. Census Bureau.

TABLE 15  
U.S. EXPORTS OF USED RAILS FOR REROLLING AND OTHER USES, BY COUNTRY<sup>1,2</sup>

Country	2008		2009	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Anguilla	53	\$106	121	\$127
Antigua and Barbuda	5	11	23	51
Argentina	80	205	5	13
Aruba	15	15	34	33
Australia	1,370	2,590	534	759
Bahamas, The	173	216	57	89
Barbados	336	349	88	74
Brazil	11	45	26	34
British Virgin Islands	1	6	70	109
Canada	32,900	19,000	17,000	15,100
Cayman Islands	173	317	53	58
Chile	51	139	781	956
China	52	30	4,970	1,570
Colombia	226	283	342	588
Costa Rica	--	--	4	4
Dominican Republic	803	1,120	561	633
France	<sup>(3)</sup>	4	--	--
Germany	441	1,110	--	--
Guatemala	321	267	--	--
Honduras	86	82	27	46
Hungary	52	370	--	--
India	326	231	10	9
Ireland	59	50	128	114
Israel	27	112	--	--
Italy	86	186	3	11
Jamaica	2,900	2,820	--	--
Japan	--	--	37	36
Korea, Republic of	13	11	4	3
Malaysia	--	--	13	11
Mexico	28,100	17,900	29,300	15,700
Netherland Antilles	328	318	36	36
New Zealand	--	--	11	20
Nicaragua	20	53	15	27
Pakistan	16	18	45	9
Panama	28	57	33	48
Peru	124	139	65	147
Philippines	4	12	--	--
Singapore	8	31	--	--
South Africa	486	504	87	80
Spain	--	--	3	3
Taiwan	2,830	1,320	2,920	1,210
Thailand	74	62	124	83
Trinidad and Tobago	561	2,700	25	35
Turkey	8	15	7	10
Turks and Caicos Islands	28	72	10	17
United Arab Emirates	37	93	446	373
United Kingdom	216	408	25	32
Venezuela	187	265	88	184
Vietnam	1,940	878	--	--
Other	314 <sup>r</sup>	329 <sup>r</sup>	374	356
Total	75,800	54,900	58,600	38,700

<sup>r</sup>Revised. -- Zero.

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

<sup>2</sup>Export valuation is free alongside ship.

<sup>3</sup>Less than ½ unit.

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<sup>1,2</sup>

Country	2008		2009	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Austria	7	\$14	--	--
Canada	95,800	45,300	31,300	\$7,950
Czech Republic	4	9	7	9
Germany	6	11	2	7
Japan	9	17	17	40
Mexico	196	267	830	238
Russia	53,500	33,700	25,200	9,310
Spain	--	--	13	116
Switzerland	1	3	--	--
Taiwan	9	27	--	--
United Kingdom	1,780	1,320	--	--
Total	151,000	80,600	57,400	17,700

-- Zero.

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

<sup>2</sup>Import valuation is customs value.

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

TABLE 18  
U.S. IMPORTS FOR CONSUMPTION OF DIRECT-REDUCED IRON, BY COUNTRY<sup>1,2</sup>

Country	2008		2009	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Brazil	5,000	\$1,500	--	--
Trinidad and Tobago	1,380,000	493,000	807,000	\$244,000
Venezuela	954,000	477,000	209,000	59,600
Total	2,340,000	971,000	1,020,000	304,000

-- Zero.

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

<sup>2</sup>Data 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<sup>1,2</sup>

Country	2008		2009	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Bolivia	--	--	1	\$4
Brazil	30	\$20	11	12
Canada	22,600	8,600	5,220	1,890
China	156	167	361	119
Denmark	1	4	--	--
Dominican Republic	189	201	--	--
Finland	10	5	--	--
France	37	6	62	18
French Polynesia	--	--	82	27
Guatemala	261	15	--	--
Hong Kong	35	37	--	--
India	47	28	--	--
Israel	43	25	--	--
Italy	--	--	11	4
Japan	--	--	59	19
Korea, Republic of	152	163	248	244
Kuwait	81	87	--	--
Mexico	4,630	1,900	4,400	1,640
Netherland	--	--	2	3
New Zealand	--	--	11	4
Peru	--	--	103	34
Romania	--	--	14	15
Singapore	55	55	--	--
Taiwan	15	14	--	--
Tunisia	--	--	147	157
United Kingdom	22,800	38	2	6
Total	51,100	11,400	10,700	4,200

-- Zero.

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

<sup>2</sup>Includes 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.

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

TABLE 20  
U.S. IMPORTS FOR CONSUMPTION OF PIG IRON, BY COUNTRY<sup>1, 2</sup>

Country	2008		2009	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Brazil	3,610,000	\$1,990,000	1,260,000	\$478,000
Canada	182,000	102,000	90,700	27,300
Denmark	--	--	9	9
India	2	6	6	13
Italy	--	--	4	2
Russia	711,000	413,000	751,000	275,000
Singapore	3	6	--	--
South Africa	92,900	52,300	120,000	37,400
Sweden	33,400	19,400	43,000	12,000
Trinidad and Tobago	12,000	5,990	--	--
Ukraine	310,000	207,000	156,000	47,000
United Kingdom	35	61	--	--
Venezuela	29,200	8,460	--	--
Total	4,980,000	2,800,000	2,420,000	877,000

-- Zero.

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

<sup>2</sup>Includes 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.