

# **2005 Minerals Yearbook**

## **IRON AND STEEL SCRAP**

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In 2005, the domestic steel industry recycled or exported for recycling almost 76 million metric tons (Mt) of appliances, automobiles, cans, construction materials, and other steel products. This resulted in an overall recycling rate of nearly 76% (Steel Recycling Institute, 2006c§1). Iron and steel scrap is a vital raw material for the production of new steel and castiron 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. The Association for Iron and Steel Technology reported that 90 steel-producing plants used electric arc furnaces (EAF), which consumed ferrous scrap, and accounted for about 56% of the total raw steel produced in 2005 (Association for Iron and Steel Technology, 2005).

Steel scrap recycling conserves energy, landfill space, and raw materials. 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). 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. Every metric ton of steel recycled saves 1.134 kilograms (kg) of iron ore, 635 kg of coal, and 54 kg of limestone that would otherwise be consumed to make the iron used in that steel.

In the United States, the primary source of obsolete steel is the automobile (Rich Tavoletti, marketing manager, American Iron and Steel Institute, unpub. data, July 2002). 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, 2006a§). The steel industry recovered and recycled more than 14 Mt of iron and steel automobile scrap in 2005. The recycling rate of automobile scrap steel was 102% in 2005, about the same as that in 2004. 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 recycling rate of obsolete appliance scrap had increased to a high of 90% in 2005 from 20% in 1988 (Steel Recycling Institute, 2006c§). During 2005, about 2.75 Mt of steel was recovered from recycled appliances, an increase of nearly 6% compared with that of 2004 (Bill Heenan, president, Steel Recycling Institute, unpub. data, May 6, 2006). 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, 2006b§). The recycling rate of steel cans increased to 63% in 2005 from 16% in 1988 (Steel Recycling Institute, 2006c§). The estimated rate of recycling of structural beams and plates in 2004 and 2005 was almost 98%, and that of reinforcement bar and other materials increased to 65% from 63% in 2004. Currently, 2% of homes being built in the United States use 100% steel framing, whereas 10% use some steel framing.

Minimills, in which EAFs are used, consumed greater quantities of 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 U.S. steel industry decreased by 6.4% during 2005, and DRI production increased by 22% (American Iron and Steel Institute, 2005, p. 76; Midrex Technologies, 2005§).

#### Environment

Following programs established by Arkansas, Maine, and New Jersey, Virginia's Department of Environmental Quality joined the Virginia Vehicle Recyclers Association to distribute containers to vehicle salvagers for the collection of mercury switches removed from scrapped vehicles (American Metal Market, 2005). Collected switches will be sent to a processing facility in Allentown, PA, for recycling. Each switch contains about 1 gram of mercury, an environmental pollutant that can cause serious neurological health problems, especially in children.

#### Consumption

Domestic data for ferrous scrap were derived from voluntary monthly or annual surveys of U.S. scrap-consuming operations by the U.S. Geologiccal (USGS). About 38% of the known manufacturers of pig iron and raw steel responded to the surveys. Their responses represented about 48% of estimated total scrap consumption by this class of consumers. The remaining 52% of scrap consumption was estimated based on prior reports. Of the iron foundries, manufacturers of steel castings, and miscellaneous users, about 47% of the surveyed establishments responded to the annual survey, which represented about 57% of estimated scrap consumption. Total consumption for these two classes of consumers was estimated using statistical methods and prior reports. Actual survey data accounted for about 54% of total estimated scrap consumption by all classes of scrap consumers.

In 2005, brokers, dealers, and other outside sources supplied domestic consumers with 50.7 Mt of all types of ferrous scrap at an estimated delivered value of more than \$9.8 billion and exported 13.0 Mt (excluding used rails for rerolling and other uses and ships, boats, and other vessels for scrapping) valued at \$3.4 billion (tables 1, 8, 11). In 2004, domestic consumers received 53.0 Mt (revised) of scrap steel at an estimated

<sup>&</sup>lt;sup>1</sup>References that include a section mark (§) are found in the Internet References Cited section.

delivered value of more than \$11.1 billion (revised); exports totaled 11.8 Mt valued at \$2.9 billion. This represented a tonnage decrease during 2005 of 4% for received quantities and a tonnage increase of 10% for exported quantities. The value of received scrap grades decreased by 12% and that of exported scrap grades increased by 17% during 2005.

Raw steel production was 93.3 Mt in 2005 compared with 99.7 Mt in 2004 (American Iron and Steel Institute, 2005, p. 75). The share of raw steel produced by electric furnaces was 56% and by the basic oxygen furnaces was 44%. In 2005, continuous cast steel production represented 96% of total raw steel production; this was about the same as that of 2004. Raw steel production capability increased to 120 Mt from 116 Mt in 2004.

Steel mills accounted for 85% of all scrap received from brokers, dealers, and other outside sources; iron foundries and miscellaneous users received 13%; and steel foundries received 2% (table 1). Apparent total domestic consumption of ferrous scrap was 48 Mt of net receipts (total receipts minus shipments) and 15 Mt of home scrap (table 2). Stocks of ferrous scrap at consumer plants decreased by 5% to 5.1 Mt (table 1). Total domestic consumption was more than 65 Mt, which was a 2% decrease compared with that of 2004. The total market for U.S.produced scrap (net receipts plus exports minus imports) was 59.8 Mt compared with 60.1 (revised) in 2004. Feedstock used in electric furnaces by all iron and steel product manufacturers comprised scrap, 92%; pig iron, 6%; and DRI, 2% (table 4). Total consumption of DRI was 17% greater than that of 2004 (table 1). Net shipments of all grades of steel mill products were about 93.4 Mt, which was a decrease of more than 8% from the 101 Mt shipped in 2004 (American Iron and Steel Institute, 2005, p. 27).

#### Prices

The average composite delivered price of No. 1 heavy-melting steel scrap, calculated from prices per long ton published monthly by American Metal Market, was \$192.44 per metric ton. The price ranged from a low of \$122.95 per ton in June to a high of \$230.53 per ton in November (table 8). The average composite delivered price of No. 1 heavy-melting steel scrap, calculated from prices per long ton published weekly in Iron Age Scrap Price Bulletin, was \$188.51 per ton; the price ranged from a low of \$118.92 per ton in June to a high of \$228.46 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 was \$1,487 per ton, about the same as in 2004.

The unit value of total ferrous scrap exports (excluding used rails for rerolling and other uses, and ships, boats, and other vessels for scrapping) increased by 7% to about \$265 per ton compared with that of 2004 (table 11). The unit value of total imports, which was about \$243 per ton, was about 9% less than that of 2004 (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 2005, 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 9.0 Mt valued at \$2.49 billion (tables 11, 14). This represented an increase of 29% in quantity and an increase of 51% in value compared with the 2004 surplus of 7.0 Mt valued at \$1.65 billion.

Total U.S. exports of carbon steel and cast-iron scrap (excluding alloy steel; ships, boats, and other vessels for scrapping; stainless steel; and used rails for rerolling and other uses) went to 72 countries (2 less than in 2004) and totaled 10.8 Mt (a 13% increase) valued at \$2.31 billion (a 17% increase) for an average of \$213 per ton (a 3% increase) (U.S. Census Bureau, unpub. data, 2005). The largest tonnages went to China, 3.0 Mt; the Republic of Korea, 1.8 Mt; Mexico, 1.5 Mt; Turkey, 1.5 Mt; and Canada, 1.2 Mt. These five countries received 75% of the total quantity, valued at \$1.7 billion, which accounted for 74% of the total value.

Total U.S. exports of stainless steel scrap went to 55 countries (5 more than in 2004) and consisted of 602,466 metric tons (t) (20% more than in 2004) valued at \$697 million (a 20% increase) for an average of \$1,156 per ton (about the same as that in 2004) (U.S. Census Bureau, unpub. data, 2005). The largest tonnages went to China, 241,801 t; Finland, 70,466 t; Taiwan, 70,454 t, and the Republic of Korea, 55,885 t. These countries received 73% of the total quantity valued at \$536 million, which was 77% of the total value.

U.S. exports of alloy steel scrap (excluding stainless steel) were shipped to 43 countries (9 less than in 2004) and consisted of 1.6 Mt (a 13% decrease) valued at \$459 million (a 15% increase) for an average of \$291 per ton (a 32% increase) (U.S. Census Bureau, unpub. data, 2005). The largest tonnages went to Canada, 916,878 t, and China, 347,498 t. These countries received 80% of the total quantity, valued at \$343 million, which accounted for 75% of the total value.

#### 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 the most iron and steel scrap in 2004, followed by Germany, the United Kingdom, Japan, France, and the Netherlands (International Iron and Steel Institute, 2005, p. 72). The six leading significant importing nations were, in decreasing order of importance, Turkey, China, Belgium and Luxembourg, the Republic of Korea, Spain, and Italy (International Iron and Steel Institute, 2005, p. 97).

#### Outlook

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

Growth of the world economy is expected to slow, owing primarily to increasing oil and energy prices. The U.S. gross domestic product (GDP) growth was estimated to be less than 3.5% in 2006, down from about 4% in 2005 (Institute for International Economics, 2005§). The International Monetary Fund (IMF) was more optimistic with its world GDP forecast of 4.2% in 2006, down slightly from 4.3% in 2005 (Scrap, 2006).

U.S. GDP growth reported by the U.S. Department of Commerce, Bureau of Economic Analysis (2006§), for 2003, 2004, and 2005 was 2.7%, 4.2%, and 3.5%, respectively. The Council of Economic Advisers, Office of Management and Budget, and the Department of the Treasury forecast faster-than-expected U.S. economic growth in the beginning of 2006, with growth projected to moderate somewhat in the future), owing in part to the rising costs of gasoline and natural gas, and rising interest rates (Lazear, 2006§). GDP growth for 2006 is projected to be 3.6%, and economic strength is broadening, with stronger growth in business investment and exports. The Congressional Budget Office (2006§) projected healthy growth of the U.S. economy during 2006 and 2007. Real GDP was expected to grow by 3.6% in 2006, 3.4% in 2007, an average of 3.1% from 2008 through 2011, and 2.6% from 2012 through 2016. ThyssenKrupp AG (2004§) forecast U.S. GDP growth for 2006 to be 4%. The Organisation for Economic Co-operation and Development (OECD) and the European Confederation of Iron and Steel Industries (Eurofer) forecast the U.S. GDP growth rate to be 3.5% for 2006 (Newratings, 2005§; Metal Center News Online, 2006§). The OECD forecast 3.3% GDP growth in the United States for 2007 (Newratings, 2005§). GDP growth in the United States was expected by the Institute for International Economics (2005§) to decrease to about 2.5% in 2006, down from 3.5% in 2005.

World raw steel production exceeded 1 billion metric tons (Gt) for the first time ever in 2004 and reached 1.13 Gt in 2005 (International Iron and Steel Institute, 2006b§). Global steel production may reach 1.18 Gt in 2007 (MEPS Steel News, 2006§). According to the OECD, global raw steelmaking capacity would increase to more than 1.31 billion metric tons per year (Gt/yr) in 2006 from 1.18 Gt/yr in 2004 (Organisation for Economic Cooperation and Development, 2005§).

The steel market continued strong in 2005, and global apparent steel consumption was forecast to grow to between 1,040 and 1,053 Mt in 2006 from 972 Mt in 2004 (International Iron and Steel Institute, 2005§). Later, the International Iron and Steel Institute (IISI) revised the 2006 figure to 1,087 Mt, and forecast consumption to be 1,150 Mt for 2007 (International Iron and Steel Institute, 2006a§). The IISI forecast steel demand in the United States to grow by 5% in 2006 and by an additional 1.7% in 2007 (International Iron and Steel Institute, 2006a§).

Economic activity in China continued to be an important influence on the world economy and steel markets. With a projected GDP growth in China far greater than that of all other world economies, China is by far the fastest growing economy. However, the explosive growth of China may decrease somewhat after 2005. The IMF forecast growth of 7.5% to 8% in 2005 after 9% to 10% growth in 2004 (Scrap, 2006). The Eurofer projected China's GDP to grow by about 8% in 2006 (Metal Center News Online, 2006§). However, the Chinese Academy of Social Sciences expected the gross national product for 2006 to be 8.9%, down from 9.4% in 2005 (Scrap, 2006); ThyssenKrupp (2004§) forecast growth of 8.5%. China crude steel production was estimated to be about 349 Mt in 2005 and was expected to be about 386 Mt in 2006 (MEPS Steel News, 2006§). The IISI forecast steel demand in China to grow by 13% to 356 Mt in 2006, accounting for 32% of total world steel demand, and 12.1% in 2007 (International Iron and Steel Institute, 2006a§).

The Eurofer forecast 1.9% growth in the European Union's (EU) GDP for 2006, up from 1.4% in 2005 (Metal Center News Online, 2006§). The IISI forecast increases of 3.9% in 2006 and 1.5% in 2007 for the EU; increases of 8.0% during 2006 and 2007 for India; and increases of 3.2% in 2006 and 1.6% in 2007 for in Russia and Ukraine (International Iron and Steel Institute, 2006a§).

World Steel Dynamics (WSD) reported a global shortage of steelmaking metallics, with 2004 requirements up by more than 200 Mt to 1.3 Gt from those of 2000 (American Metal Market, 2004). These metallics comprised pig iron, 713 Mt; obsolete scrap, 315 Mt; new and recirculated scrap, 263 Mt; and scrap substitutes, 58 Mt. WSD predicted that the global metallics requirement could grow to as much as 1.8 Gt/yr by 2015 based on an annual increase of 5.7% in China and 2.3% in the rest of the world. WSD also reported that recovery rates for obsolete scrap outside China were a record 95% in 2004. Thus, the obsolete scrap reservoir is likely to grow by only 1.6% per year through 2015. Yayan (2005§) reported that the IISI had determined that global ferrous scrap production was only 367 Mt, slightly less than consumption of 370 Mt, suggesting that scrap availability would barely meet the steelmaking industry's demand. Nevertheless, as crude steel demand and iron ore prices and shipping costs increase, ferrous scrap prices should remain high, which will be an inducement to collect scrap from new sources in Africa, Asia, Eastern Europe, and the Eastern Mediterranean region.

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

#### (Thousand metric tons and thousand dollars)

	2001	2002	2003	2004	2005
Manufacturers of pig iron and raw steel and castings: <sup>2</sup>	_				
Ferrous scrap consumption	56,700 <sup>r</sup>	56,400 <sup>r</sup>	55,200 <sup>r</sup>	57,100 <sup>r</sup>	54,600
Pig iron consumption	46,900	42,500	39,700	38,000	36,900
Direct-reduced iron consumption	1,780	2,230	1,790	1,490	1,740
Net receipts of ferrous scrap <sup>3</sup>	42,900 <sup>r</sup>	43,600	42,700 r	45,700 <sup>r</sup>	43,300
Home scrap production <sup>4</sup>	13,400 r	12,700 <sup>r</sup>	12,600 r	11,600 <sup>r</sup>	11,200
Ending stocks of ferrous scrap, December 31	– 4,330 <sup>r</sup>	4,360 <sup>r</sup>	4,070 <sup>r</sup>	4,880 <sup>r</sup>	4,440
Manufacturers of steel castings: <sup>5</sup>	_				
Ferrous scrap consumption	1,560 <sup>r</sup>	1,900 <sup>r</sup>	1,130 <sup>r</sup>	1,310 <sup>r</sup>	1,810
Pig iron consumption	32	34	31	94	89
Net receipts of ferrous scrap <sup>3</sup>		1,160 <sup>r</sup>	761 <sup>r</sup>	972 <sup>r</sup>	1,060
Home scrap production <sup>4</sup>	519 <sup>r</sup>	717 <sup>r</sup>	361 <sup>r</sup>	326 <sup>r</sup>	743
Ending stocks of ferrous scrap, December 31	110 <sup>r</sup>	173 <sup>r</sup>	88 <sup>r</sup>	80 <sup>r</sup>	85
Iron foundries and miscellaneous users: <sup>5</sup>	-				
Ferrous scrap consumption	- 11,900	11,200	8,720	8,490	9,020
Pig iron consumption	1,120	1,280	1,030	1,020	1,090
Direct-reduced iron consumption	13	13	4	4	3
Net receipts of ferrous scrap <sup>3</sup>	- 7,640	7,270	6,300	6,320 <sup>r</sup>	6,390
Home scrap production <sup>4</sup>	4,250	3,760	2,430	2,370	2,960
Ending stocks of ferrous scrap, December 31	440	401	251	459	605
Total, all manufacturing types:		-			
Ferrous scrap consumption	– 70,100 <sup>r</sup>	69,500 <sup>r</sup>	65,000 <sup>r</sup>	66,900 <sup>r</sup>	65,400
Pig iron consumption	48,000	43,800	40,800	39,100	38,000
Direct-reduced iron consumption	- 1,800	2,250	1,790	1,500	1,750
Net receipts of ferrous scrap <sup>3</sup>	51,500 <sup>r</sup>	52,100 <sup>r</sup>	49.800 <sup>r</sup>	53,000 <sup>r</sup>	50,700
Home scrap production <sup>4</sup>	18,200 <sup>r</sup>	17,200 <sup>r</sup>	15,400 <sup>r</sup>	14,300	14,900
Ending stocks, December 31:		17,200	15,100	11,500	11,000
Ferrous scrap at consumer plants	– 4,880 <sup>r</sup>	4,930 <sup>r</sup>	4,410 <sup>r</sup>	5,420 <sup>r</sup>	5,130
Pig iron at consumer and supplier plants		754	381	722	665
Direct-reduced iron at consumer plants	- 318	269	345	136	263
Exports: <sup>6</sup>		20)	515	150	203
Ferrous scrap (includes tinplate and terneplate): <sup>7</sup>	-				
Quantity	- 7,440	8,950	10,800	11,800	13,000
Value	1,130,000	1,290,000	1,940,000	2,910,000	3,430,000
Pig iron, all grades:		1,290,000	1,940,000	2,910,000	5,450,000
Quantity	- 44	34	86	48	51
Value	- 5,580	4,910	8,850	6,690	8,110
Direct-reduced iron, steelmaking grade:		4,910	8,850	0,090	8,110
	- 1	1	5	13	(8)
Quantity Value	- 83	100	525	1,360	
		100	525	1,500	16
Imports for consumption: <sup>6</sup>	_				
Ferrous scrap (includes tinplate and terneplate): <sup>7</sup>	- 2 (20	2 120	2 490	4.660	2.940
Quantity	_ 2,630	3,130	3,480	4,660	3,840
Value	274,000	376,000	511,000	1,230,000	909,000
Pig iron, all grades:	- 4.270	1 (20)	2 000	6 100	6.020
Quantity	4,370	4,620	3,890	6,400	6,030
Value	479,000	527,000	571,000	1,360,000	1,580,000
Direct-reduced iron, steelmaking grade:	-			<i>~</i> · - ^	<b>-</b>
Quantity	1,650	2,010	1,940	2,450	2,170
Value	145,000	195,000	242,000	463,000	361,000

<sup>&</sup>lt;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>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. 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 <sup>1</sup>/<sub>2</sub> unit.

#### U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2005, BY GRADE<sup>1</sup>

#### (Thousand metric tons)

	Receipts		Production of hor	ne scrap			
	From brokers,	From other	Recirculating		Consumption		Ending
	dealers, and other	company-owned	scrap from current	Obsolete	of purchased	Shipments	stocks,
Grade	outside sources	plants	operations	scrap <sup>2</sup>	and home scrap	of scrap	December 31
Manufacturers of pig iron and raw steel							
and castings:							
Carbon steel:							
Low-phosphorus plate and punchings	305		520		653	71	134
Cut structural and plate	4,150	132	650	57	4,810	124	266
No. 1 heavy-melting steel	4,160	147	2,080	11	6,320	234	442
No. 2 heavy-melting steel	5,570	66	373	1	6,020	5	420
No. 1 and electric furnace bundles	4,260	63	1,670	30	5,750	112	283
No. 2 and all other bundles	787	13	2		828	(3)	42
Electric furnace, 1 foot and under							
(not bundles)	80		83		135	47	3
Railroad rails	262	22	42		320		16
Turnings and borings	2,020	50	44		2,200	(3)	100
Slag scrap	853	82	1,460	6	1,990	577	174
Shredded or fragmentized	9,530	1,130	332	112	11,100	70	681
No. 1 busheling	5,150	92	208	72	5,300	(3)	366
Steel cans, post consumer	260		44		313		85
All other carbon steel scrap	1,490	193	1,650	49	3,190	106	305
Stainless steel scrap	731	59	216		1,060	1	31
Alloy steel (except stainless)	137	1	498	18	617	7	32
Ingot mold and stool scrap	1		80	81	58	82	15
Machinery and cupola cast iron	3		2		5		(3)
Cast-iron borings	298		(3)	(3)	302	(3)	18
Motor blocks	8				8		1
Other iron scrap	620	81	398		1,140	68	380
Other mixed scrap	1,970	72	466		2,430	40	643
Total	42,600	2,200	10,800	436	54,600	1,540	4,440
Manufacturers of steel castings:							
Carbon steel:							
Low-phosphorus plate and punchings	283	3	74	(3)	373	(3)	32
Cut structural and plate	154	2	42	(3)	196	(3)	3
No. 1 heavy-melting steel	36		4		43		3
No. 2 heavy-melting steel	17				17		(3)
No. 1 and electric furnace bundles	1				1		(3)
No. 2 and all other bundles							
Electric furnace, 1 foot and under							
(not bundles)	38		37		75		(3)
Railroad rails	19		57		76	(3)	2
Turnings and borings	34		14	(3)	48	(3)	1
Slag scrap	1		4		5		(3)
Shredded or fragmentized	97		24		121		1
No. 1 busheling	75		34		109		2
Steel cans, post consumer							
All other carbon steel scrap	51		97	(3)	146	(3)	4
Stainless steel scrap	20	(3)	30	(3)	52	2	25
Alloy steel (except stainless)	30	2	32		62	(3)	7
Ingot mold and stool scrap	(3)		(3)		(3)	(3)	(3)
Machinery and cupola cast iron							
Cast-iron borings			(3)		(3)		(3)
Motor blocks							
Other iron scrap	27		178		206		(3)
Other mixed scrap	168		101	14	282	1	3
Total	1,050	7	729	14	1,810	3	85

See footnotes at end of table.

#### TABLE 2-Continued

#### U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF IRON AND STEEL SCRAP IN 2005, BY GRADE<sup>1</sup>

#### (Thousand metric tons)

	Receipts		Production of hor	ne scrap			
	From brokers,	From other	Recirculating		Consumption		Ending
	dealers, and other	company-owned	scrap from current	Obsolete	of purchased	Shipments	stocks,
Grade	outside sources	plants	operations	scrap <sup>2</sup>	and home scrap	of scrap	December 31
Iron foundries and miscellaneous users:							
Carbon steel:							
Low-phosphorus plate and punchings	919	2	163	3	969	23	116
Cut structural and plate	1,160	37	38	(3)	1,240	9	40
No. 1 heavy-melting steel	198	2	16		164	(3)	55
No. 2 heavy-melting steel	222	1			224	(3)	2
No. 1 and electric furnace bundles	90				88		4
No. 2 and all other bundles	91		24		115	3	5
Electric furnace, 1 foot and under							
(not bundles)	24		(3)		24		1
Railroad rails	65		32		100		3
Turnings and borings	135		(3)		135	1	2
Slag scrap			14		10	3	1
Shredded or fragmentized	1,310		7		1,310	8	48
No. 1 busheling	511	(3)	31	(3)	541	1	11
Steel cans, post consumer	12		(3)		12		(3)
All other carbon steel scrap	61		2	(3)	63	(3)	3
Stainless steel scrap	2		(3)		2	(3)	(3)
Alloy steel (except stainless)	. 1		(3)		1	(3)	(3)
Ingot mold and stool scrap	56		15		71		10
Machinery and cupola cast iron	617	(3)	251	2	674	32	221
Cast-iron borings	73	37	11		118	2	2
Motor blocks	283	3	575		855	1	13
Other iron scrap	417	4	1,710	1	2,090	11	64
Other mixed scrap	125	21	59	(3)	204	1	5
Total	6,380	108	2,950	6	9,020	96	605
Grand total, all manufacturing types:			_,, - • •		,,		
Carbon steel:							
Low-phosphorus plate and punchings	1,510	5	756	3	2,000	95	282
Cut structural and plate	5,470	171	730	57	6,250	133	310
No. 1 heavy-melting steel	4,390	149	2,100	11	6,520	234	501
No. 2 heavy-melting steel	5,810	68	373	1	6,260	5	422
No. 1 and electric furnace bundles	4,350	63	1,670	30	5,840	112	287
No. 2 and all other bundles	878	13	26		944	3	47
Electric furnace, 1 foot and under	0/0	15	20		211	5	.,
(not bundles)	142		120		234	47	4
Railroad rails	345	22	132		496	(3)	20
Turnings and borings	2,190	50	59	(3)	2,380	1	102
Slag scrap	854	82	1,470	6	2,010	580	102
Shredded or fragmentized	10,900	1,130	363	112	12,600	78	729
No. 1 busheling	5,730	92	273	72	5,950	1	380
Steel cans, post consumer	272		44		325		85
All other carbon steel scrap	1,600	193	1,740	49	3,400	106	312
Stainless steel scrap	753	59	246				56
Alloy steel (except stainless)	167	59 2	246 531	(3) 18	1,110 680	2 7	30
Ingot mold and stool scrap	57		96	81	129	82	25
Machinery and cupola cast iron	620	(3)	253	2	679		25 221
Cast-iron borings	371	(3)	255 11	(3)	421	32 2	221
Motor blocks	291		575			2	
		3			863		13
Other iron scrap	1,060	85	2,290	1	3,440	79 42	444
Other mixed scrap	2,270	93	626	14	2,920	42	<u>651</u>
Total	50,100	2,310	14,500	457	65,400	1,640	5,130

<sup>--</sup> 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.

<sup>3</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

#### TABLE 3 U.S. CONSUMER RECEIPTS, PRODUCTION, CONSUMPTION, SHIPMENTS, AND STOCKS OF PIG IRON AND DIRECT-REDUCED IRON IN 2005<sup>1</sup>

(Thousand metric tons)							
	Receipts	Production	Consumption				

					Stocks,
	Receipts	Production	Consumption	Shipments	December 31
Manufacturers of pig iron, raw steel, and castings:					
Pig iron	6,910 <sup>2</sup>	1,070	36,900	493	614
Direct-reduced iron (DRI)	1,590 <sup>3</sup>	W	1,740		262
Manufacturers of steel castings:					
Pig iron	88	(4)	89	(5)	2
DRI	. (5)		(5)		(5)
Iron foundries and miscellaneous users:					
Pig iron	1,080	(4)	1,090	65	49
DRI	3	1	3		1
Total, all manufacturing types:					
Pig iron	8,080	31,100	38,000	558	665
DRI	1,590	W	1,750		263

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 1.81 million metric tons (Mt) purchased by electric furnace steel producers.

<sup>3</sup>Includes 1.16 Mt purchased by integrated steel producers.

<sup>4</sup>Withheld to avoid disclosing company proprietary data; included in "Total, all manufacturing types." <sup>5</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

#### TABLE 4

#### U.S. CONSUMPTION OF IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON IN 2005, BY TYPE OF FURNACE OR OTHER USE<sup>1</sup>

(Thousand	metric	tons)
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	Manufactu	urers of pig	iron and	Ma	nufacturer	s	Iron f	oundries a	and		Total, all	
	raw ste	eel and cast	ings	of s	teel casting	gs	miscel	laneous u	sers	manufacturing types		
		Pig			Pig		Pig				Pig	
	Scrap	iron	DRI <sup>2</sup>	Scrap	iron	DRI <sup>2</sup>	Scrap	iron	$DRI^2$	Scrap	iron	DRI <sup>2</sup>
Blast furnace	1,380		445				3			1,390		445
Basic oxygen process	11,400	34,400	341					2		11,400	34,400	341
Electric furnace	41,700	2,400	958	1,460	60	(3)	3,390	588	3	46,600	3,040	962
Cupola furnace	40			353	29		5,610	498		6,000	528	
Other <sup>4</sup>	W			1	(3)		W	W		W	W	
Direct castings <sup>5</sup>		36									36	
Total	54,600	36,900	1,740	1,810	89	(3)	9,010	1,090	3	65,400	38,000	1,750

W Withheld to avoid disclosing company proprietary data; included with "Electric furnace." -- 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.

 $^{3}$ Less than  $\frac{1}{2}$  unit.

<sup>4</sup>Includes air furnaces.

<sup>5</sup>Includes ingot molds and stools.

#### IRON AND STEEL SCRAP SUPPLY AVAILABLE FOR CONSUMPTION IN 2005, BY REGION AND STATE $^{\rm l,\,2}$

#### (Thousand metric tons)

	Receipt	s of scrap	Production of h	ome scrap		
	From brokers,		Recirculating			
	dealers, and	From other	scrap resulting			New supply
	other outside	company-owned	from current	Obsolete	Shipments	available for
Region and State	sources	plants	operations	scrap <sup>3</sup>	of scrap <sup>4</sup>	consumption
New England and Middle Atlantic:						
Connecticut, Maine, Massachusetts,						
New Hampshire, Rhode Island, Vermont	28		10	(5)	(5)	39
New Jersey and New York	2,180		118	1		2,300
Pennsylvania	3,570	116	2,050	74	24	5,790
Total	5,780	116	2,170	75	24	8,120
North Central:						
Illinois	1,590	53	198	(5)	(5)	1,840
Indiana	3,550	162	3,690	33	497	6,940
Iowa, Nebraska, South Dakota	2,390	13	170	(5)	(6)	2,570
Kansas and Missouri	78	7	61	(5)	(5)	146
Michigan	2,730	13	1,260	295	519	3,780
Minnesota	448	142	41		1	630
Ohio	6,370	333	1,870	23	243	8,350
Wisconsin	1,780	2	1,450	1	7	3,230
Total	18,900	725	8,740	352	1,270	27,500
South Atlantic:						
Delaware and Maryland	602	14	385		9	992
Florida and Georgia	1,030		38	(5)	(5)	1,070
North Carolina and South Carolina	2,470	(6)	220		(6)	2,950
Virginia and West Virginia	2,130	(6)	364	(6)	(6)	2,460
Total	6,230	389	1,010	(5)	157	7,470
South Central:						
Alabama and Mississippi	4,560	(6)	752	(6)	19	5,300
Arkansas, Louisiana, Oklahoma	4,530	(6)	334	(6)	(6)	5,010
Kentucky and Tennessee	2,580	95	215		(6)	2,870
Texas	3,160	795	508	4	9	4,460
Total	14,800	1,020	1,810	20	45	17,600
Mountain and Pacific:						
Arizona, Colorado, Idaho, Utah	2,320	55	9	(6)	(6)	2,840
California, Oregon, Washington	1,980	W	(5)	(5)	(6)	2,120
Total	4,300	W	9	9	150	4,960
Grand total	50,100	2,260	13,700	451	1,640	65,700

W Withheld to avoid disclosing company proprietary data. -- 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 <sup>1</sup>/<sub>2</sub> unit.

<sup>6</sup>Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total."

#### U.S. CONSUMPTION OF IRON AND STEEL SCRAP AND PIG IRON IN 2005, BY REGION AND STATE<sup>1, 2, 3</sup>

#### (Thousand metric tons)

	Manufa	cturers of					Total,	all
	pig iron	pig iron and raw steel and castings		Manufacturers of steel castings		ndries and	manufac	turing
	steel and					eous users	types	
Region and State	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	1,780	22	11		652	155	2,440	177
Pennsylvania	5,510	2,860	170	1	340	31	6,020	2,900
Total	7,290	2,890	181	1	992	186	8,460	3,070
North Central:								
Illinois	1,360	2,020	68	1	308	14	1,740	2,040
Indiana	5,900	12,100	64	1	861	86	6,830	12,200
Iowa, Kansas, Minnesota, Missouri, Nebraska, South								
Dakota, Wisconsin	2,850	1	1,080	62	2,370	419	6,310	481
Michigan	1,660	4,670	27		1,360	95	3,040	4,770
Ohio	7,250	6,860	184	(4)	626	144	8,060	7,010
Total	19,000	25,700	1,430	64	5,520	758	26,000	26,500
South Atlantic:								
Delaware, Maryland, Virginia, West Virginia	3,490	W	W	W	304	16	3,790	1,600
Florida, Georgia, North Carolina, South Carolina	4,020	W	W	W	155	2	4,170	182
Total	7,500	1,760	2	(4)	459	18	7,960	1,780
South Central:								
Alabama, Kentucky, Mississippi, Tennessee	6,650	W	85	W	1,610	W	8,350	4,260
Arkansas, Louisiana, Oklahoma	5,070	W	12	W	18	W	5,100	804
Texas	4,320	52	10	W	185	24	4,520	101
Total	16,000	5,010	107	24	1,820	129	18,000	5,170
Mountain and Pacific:								
Arizona, Colorado, Idaho, Utah	2,760	W	6	(4)	106	W	2,880	1,500
California, Oregon, Washington	1,970	W	89	(4)	120	W	2,180	3
Total	4,740	1,500	94	(4)	226	4	5,060	1,510
Grand total	54,600	36,900	1,810	89	9,020	1,090	65,400	38,000

W Withheld to avoid disclosing company proprietary data; included in "Total" or "Grand total." -- 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 <sup>1</sup>/<sub>2</sub> unit.

#### TABLE 7

#### U.S. CONSUMER STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, DECEMBER 31, 2005, BY REGION AND STATE<sup>1</sup>

#### (Thousand metric tons)

					Other		
	Carbon	Stainless	Alloy	Cast	grades of	Total	Pig
Region and State	steel <sup>2</sup>	steel	steel <sup>3</sup>	iron <sup>4</sup>	scrap	scrap	iron
New England and Middle Atlantic:							
Connecticut, Maine, Massachusetts, New Hampshire, Rhode							
Island, Vermont	(5)	(5)		(5)	W	1	(5)
New Jersey and New York	56	1	1	2	W	59	(5)
Pennsylvania	241	15	16	16	5	293	10
Total	297	16	17	18	5	353	10

See footnotes at end of table.

#### TABLE 7-Continued

#### U.S. CONSUMER STOCKS OF IRON AND STEEL SCRAP AND PIG IRON, DECEMBER 31, 2005, BY REGION AND STATE<sup>1</sup>

(Thousand metric tons)

					Other		
Region and State	Carbon steel <sup>2</sup>	Stainless steel	Alloy steel <sup>3</sup>	Cast iron <sup>4</sup>	grades of scrap	Total scrap	Pig iron
North Central:	steel	steel	steel	Iron	scrap	scrap	
Illinois	122	(5)	W	81	2	205	18
Indiana	421	5	W	16	22	465	153
Iowa, Kansas, Missouri, Nebraska, South Dakota	101	(5)	(5)	8		109	5
Michigan	122	(5)	1	12	17	152	9
Minnesota and Wisconsin	54	2	3	4	(5)	64	3
Ohio	564	31	8	182		784	30
Total	1,380	39	13	303	41	1,780	219
South Atlantic:							
Delaware, Maryland, Virginia, West Virginia	174	(5)	W	92	14	280	54
Florida, Georgia, North Carolina, South Carolina	263	(5)	W	14	1	278	41
Total	437	(5)	(5)	106	15	558	94
South Central:							
Alabama, Kentucky, Mississippi, Tennessee	635	W	W	277	W	1,410	170
Arkansas, Louisiana, Oklahoma	437	W	W	1	W	439	129
Texas	246	W	W	6	W	254	32
Total	1,320	(5)	6	284	494	2,100	331
Mountain and Pacific:							
Arizona, Colorado, Idaho, Utah	149	(5)	W	5	64	218	W
California, Oregon, Washington	72	2	W	7	31	114	W
Total	220	2	3	12	95	332	10
Grand total	3,660	56	39	724	651	5,130	665

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 <sup>1</sup>/<sub>2</sub> unit.

## TABLE 8 U.S. AVERAGE MONTHLY PRICE AND COMPOSITE PRICE FOR NO. 1 HEAVY-MELTING STEEL, WITH ANNUAL AVERAGES $^{\rm l}$

(Dollars per metric t	ton)
-----------------------	------

Period	Chicago, IL	Philadelphia, PA	Pittsburgh, PA	Composite price
2004, average	216.80	197.02	217.51	210.45
2005:				
January	199.79	197.38	208.16	201.78
February	187.00	197.41	204.09	196.17
March	187.00	200.01	197.06	194.69
April	213.71	214.23	214.66	214.20
May	178.09	176.78	177.16	177.34
June	122.36	127.95	118.55	122.95
July	133.36	138.03	134.84	135.41
August	186.78	183.02	185.54	185.12
September	237.38	212.45	228.90	226.24
October	201.06	195.86	200.49	199.14
November	242.36	203.44	245.81	230.53
December	238.60	196.84	241.60	225.68
Average	193.96	186.95	196.40	192.44

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

#### U.S. EXPORTS OF IRON AND STEEL SCRAP, BY COUNTRY<sup>1, 2</sup>

#### (Thousand metric tons and thousand dollars)

	2	2004	2005		
Country	Quantity	Value	Quantity	Value	
Bahamas, The	2	387	2	462	
Bangladesh	6	1,150	28	7,320	
Belgium	23	3,020	13	3,710	
Brazil	2	757	10	2,410	
Canada	2,170	236,000	2,160	264,000	
Chile	2	245	1	177	
China	2,970	923,000	3,530	1,260,000	
Colombia	4	463	51	11,900	
Dominican Republic	2	1,370	1	192	
Egypt	55	12,100	208	52,500	
Finland	72	99,800	65	97,900	
France	1	1,050	4	4,610	
Germany	17	7,620	7	3,260	
Greece	1	115	23	4,310	
Guatemala	30	5,660	(3)	202	
Hong Kong	72	41,400	49	31,200	
India	295	90,800	806	221,000	
Indonesia	41	11,700	188	46,200	
Ireland	1	565	1	549	
Italy	150	40,400	137	36,900	
Japan	93	41,100	41	28,700	
Kenya	59	24,700	71	12,800	
Korea, Republic of	1,880	490,000	1,130	316,000	
Malaysia	399	80,700	457	109,000	
Mexico	1,510	305,000	1,500	287,000	
Netherlands	15	16,100	21	18,300	
Pakistan	4	770	39	10,300	
Panama	3	789	(3)	43	
Peru	186	39,500	44	10,000	
Portugal	25	4,750	21	4,120	
Qatar	(3)	22	31	6,560	
Saudi Arabia	(3)	116	32	7,220	
Singapore	15	4,610	75	2,130	
Slovenia	21	5,160			
Spain	10	13,200	18	15,100	
Sweden	1	2,280	7	5,640	
Switzerland	3	1,120	(3)	283	
Taiwan	191 <sup>r</sup>	93,700	283	153,000	
Thailand	751	150,000	337	77,500	
Turkey	631	136,000	1,500	299,000	
Turks and Caicos Islands	7	780	2	176	
United Arab Emirates	5	1,440	3	688	
United Kingdom	24	8,240	9	6,080	
Venezuela	4	694	6	1,540	
Vietnam	13	3,830	26	7,570	
Other	10 <sup>r</sup>	3,040 <sup>r</sup>	17	5,670	
Total	11,800	2,910,000	13,000	3,430,000	

<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. Export valuation is free alongside ship. The United States exported scrap to 87 countries in 2004 and 101 countries in 2005.

<sup>3</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

#### U.S. EXPORTS OF IRON AND STEEL SCRAP, BY CUSTOMS DISTRICT<sup>1, 2</sup>

#### (Thousand metric tons and thousand dollars)

	2	004	20	)05
Customs district	Quantity	Value	Quantity	Value
Baltimore, MD	18	9,430	37	18,900
Boston, MA	794	176,000	682	154,000
Buffalo, NY	111	29,700	114	33,200
Charleston, SC	83	22,200	53	32,500
Charlotte, NC	24	6,380	28	8,970
Chicago, IL	9	4,510	3	1,800
Cleveland, OH	1	713	1	366
Columbia-Snake River, OR/WA	403	98,200	325	78,700
Detroit, MI	329	61,000	411	78,000
Duluth, MN	44	8,650	52	6,530
El Paso, TX	3	691	6	1,390
Great Falls, MT	23	3,280	28	4,650
Honolulu, HI	125	29,300	147	35,900
Houston-Galveston, TX	127	83,600	101	48,500
Laredo, TX	417	88,700	898	162,000
Los Angeles, CA	2,100	653,000	2,820	934,000
Miami, FL	46	18,900	50	41,100
Mobile, AL	4	4,320	24	9,730
New Orleans, LA	69	97,800	304	125,000
New York, NY	1,730	480,000	1,920	545,000
Nogales, AZ	20	2,970	1	217
Norfolk, VA	137	41,500	116	61,200
Ogdensburg, NY	63	12,600	69	14,900
Pembina, ND	510	78,800	596	93,600
Philadelphia, PA	418	91,600	592	124,000
Portland, ME	288	61,000	185	42,300
Providence, RI	252	48,800	215	44,500
San Diego, CA	200	27,200	114	16,400
San Francisco, CA	1,220	306,000	1,110	326,000
San Juan, PR	80	15,300	55	11,700
Savannah, GA	66	36,400	83	47,100
Seattle, WA	632	192,000	712	237,000
St. Albans, VT	51	9,840	59	12,300
Tampa, FL	321	65,400	222	46,600
Other	1,050	39,900	817	33,600
Total	11,800	2,910,000	13,000	3,430,000

<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.

#### U.S. EXPORTS OF IRON AND STEEL SCRAP, BY GRADE<sup>1, 2</sup>

	20	004	20	005
Grade	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	1,970	406,000	3,180	617,000
No. 2 heavy-melting scrap	406	79,900	325	65,900
No. 1 bundles	301	38,100	330	35,500
No. 2 bundles	45	7,790	91	21,300
Shredded steel scrap	3,710	778,000	3,800	834,000
Borings, shovelings, and turnings	207	20,000	241	27,200
Cut plate and structural	547	115,000	387	87,700
Tinned iron or steel	82	19,200	77	24,900
Remelting scrap ingots	7	6,270	10	8,900
Stainless steel scrap	478	548,000	585	670,000
Other alloy steel scrap	1,740	387,000	1,570	455,000
Other steel scrap <sup>3</sup>	1,260	300,000	1,240	328,000
Iron scrap	1,030	201,000	1,120	255,000
Total	11,800	2,910,000	13,000	3,430,000
Ships, boats, and other vessels for scrapping	16	2,680	3	476
Used rails for rerolling and other uses <sup>4</sup>	42	18,100	55	25,600
Grand total	11,800	2,930,000	13,000	3,460,000

#### (Thousand metric tons and thousand dollars)

<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)

	20	04	2005		
Country	Quantity	Value	Quantity	Value	
Argentina	(3)	681	(3)	201	
Aruba	7	1,610			
Bahamas, The	5	275	3	351	
Belgium	3	14,700	36	9,780	
Brazil	5	1,540	1	774	
Canada	2,550	591,000	2,750	570,000	
China	2	1,100	2	978	
Colombia	1	1,160	1	118	
Denmark	138	31,600			
Dominican Republic	76	16,400	31	6,900	
Ecuador	1	712	(3)	102	
Egypt	1	1,070	1	732	
Finland	2	5,250	1	93	
France	(3)	60	(3)	358	
Germany	7	1,130	2	148	
Italy	(3)	29	(3)	72	
Japan	2	807	1	1,540	
Malaysia			2	264	
Mexico	126	57,700	145	61,000	
Netherlands	247	79,100	222	72,300	
Netherlands Antilles	17	1,630			
Russia	86	30,700	35	10,500	
South Africa	3	2,070	4	35	
Suriname	3	445			
Sweden	313	76,300	261	71,500	
Taiwan	30	419	1	396	

See footnotes at end of table.

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

#### (Thousand metric tons and thousand dollars)

	20	004	20	2005	
Country	Quantity	Value	Quantity	Value	
Trinidad and Tobago	10	2,630	1	647	
United Arab Emirates	(3)	16	(3)	170	
United Kingdom	1,020	300,000	338	97,200	
Venezuela	9	8,360	1	1,560	
Other	3	1,970	2	1,700	
Total	4,660	1,230,000	3,840	909,000	

-- 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 50 countries in 2004 and 43 countries in 2005.

 $^{3}$ Less than  $\frac{1}{2}$  unit.

Source: U.S. Census Bureau.

## 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)

	20	04	2005		
Customs district	Quantity	Value	Quantity	Value	
Baltimore, MD	1	365	(3)	213	
Buffalo, NY	454	179,000	423	152,000	
Charleston, SC	1,110	309,000	869	253,000	
Charlotte, NC	21	5,500			
Chicago, IL	45	2,720	20	1,880	
Cleveland, OH	23	350	11	665	
Detroit, MI	1,220	272,000	1,450	280,000	
Duluth, MN	26	6,920	39	8,640	
El Paso, TX	31	8,410	32	6,970	
Great Falls, MT	18	3,350	12	2,120	
Houston-Galveston, TX	27	18,500	18	17,900	
Laredo, TX	34	27,400	34	23,600	
Los Angeles, CA	2	1,770	2	1,580	
Miami, FL	2	236	(3)	112	
Mobile, AL	195	49,100	56	12,000	
New Orleans, LA	741	229,000	95	23,300	
New York, NY	3	1,500	3	552	
Nogales, AZ	9	2,860	11	3,640	
Ogdensburg, NY	28	15,100	16	9,520	
Pembina, ND	78	23,300	72	20,700	
Philadelphia, PA	(3)	86	1	348	
Portland, ME	1	105	(3)	11	
San Diego, CA	46	10,200	55	13,200	
Savannah, GA	30	414	1	322	
Seattle, WA	514	62,200	618	75,700	
Tampa, FL	4	261	3	324	
Other	1	1,020	2	1,280	
Total	4,660	1,230,000	3,840	909,000	

-- 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.

<sup>3</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

#### U.S. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP, BY ${\rm CLASS}^{1,\,2}$

	20	004	20	05
Class	Quantity	Value	Quantity	Value
No. 1 heavy-melting scrap	118	20,300	55	7,010
No. 2 heavy-melting scrap	27	3,880	46	7,160
No. 1 bundles	910	251,000	879	228,000
No. 2 bundles	1	105	10	3,340
Shredded steel scrap	1,340	299,000	841	187,000
Borings, shovelings, and turnings	58	5,680	95	8,340
Cut plate and structural	125	19,600	193	35,300
Tinned iron or steel	10	2,020	17	3,160
Remelting scrap ingots	31	1,230	2	1,080
Stainless steel scrap	146	160,000	111	124,000
Other alloy steel scrap	291	77,500	425	81,200
Other steel scrap <sup>3</sup>	1,270	327,000	780	161,000
Iron scrap	338	63,300	385	62,700
Total	4,660	1,230,000	3,840	909,000
Ships, boats, and other vessels for scrapping	(4)	128	(4)	208
Used rails for rerolling and other uses <sup>5</sup>	131	44,100	164	62,800
Grand total	4,790	1,280,000	4,000	972,000

#### (Thousand metric tons and thousand dollars)

<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>Includes tinplate and terneplate.

<sup>4</sup>Less than <sup>1</sup>/<sub>2</sub> unit.

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

#### U.S. EXPORTS OF USED RAILS FOR REROLLING AND OTHER USES, BY COUNTRY $^{\rm l,\,2}$

	20	004	20	05
	Quantity	Value	Quantity	Value
Country	(metric tons)	(thousands)	(metric tons)	(thousands)
Argentina	1	\$13	1	\$3
Aruba			3	47
Australia	559	859	470	1,040
Austria	12	61	8	35
Bahamas, The	24	98	268	202
Brazil		29	679	531
Canada	17,600	5,890	20,200	9,100
Cayman Islands	49	36	102	120
Chile	88	104	21	43
China	1,020	300	612	205
Colombia	192	74	264	76
Dominican Republic	472	256	519	573
Egypt			2,120	1,020
El Salvador	5	8	1	11
France	28	114	42	19
Georgia	6	19		
Germany		252	50	10
Grenada	41	59		
Guatemala			93	34
Hong Kong		149	16	297
Ireland			1	119
Italy		13	1	24
Japan	3	44	11	167
Korea, Republic of		69	65	148
Malaysia	23	41		
Mexico	19,500	8,320	26,900	10,100
New Caledonia		15	·	·
New Zealand	(3)	5	44	120
Peru	10	3	228	170
Philippines	1	4	2	3
Portugal		29		
Saudi Arabia	36	99	1	24
Singapore	1	7	5	27
Slovakia			17	5
Spain			54	11
Suriname			14	8
Sweden	2	14		
Taiwan	1,750	552	2,420	978
Thailand	5	56	2,120	17
Turks and Caicos Islands		163	21	157
United Arab Emirates		154		
United Kingdom	59	118	33	30
Venezuela	7	30	22	87
Other	4 <sup>r</sup>		13	69
Total	41,900	18,100	55,300	25,600
	11,700	10,100	55,500	25,500

<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>Exports contain mixed (used plus new) rails totaling 13,500 metric tons (t) valued at \$10,100,000 in 2004 and 21,500 t valued at \$15,600,000 in 2005. Export valuation is free alongside ship value.

 $^{3}$ Less than  $\frac{1}{2}$  unit.

#### TABLE 16 U.S. IMPORTS FOR CONSUMPTION OF USED RAILS FOR REROLLING AND OTHER USES, BY COUNTRY<sup>1, 2</sup>

	200	)4	20	05
	Quantity	Value	Quantity	Value
Country	(metric tons)	(thousands)	(metric tons)	(thousands)
Austria	3	\$3	447	\$500
Brazil	1 <sup>r</sup>	6		
Canada	29,000	7,210	29,000	8,700
Czech Republic			6	12
Germany	341	455	531	837
Italy			2	6
Japan	2	4	72	15
Korea, Republic of	9	8	110	74
Mexico	2	5	619	410
Netherlands	17	22		
Philippines	2	6		
Russia	85,700	33,400	109,000	46,100
Spain	99	46		
Switzerland			(3)	3
Taiwan	18	27	2	5
Ukraine	15,500	2,950	23,700	6,190
United Kingdom	2	4	21	34
Total	131,000 <sup>r</sup>	44,100	164,000	62,800

<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>Import valuation is customs value.

 $^{3}$ Less than  $\frac{1}{2}$  unit.

Source: U.S. Census Bureau.

TABLE 17
U.S. EXPORTS OF DIRECT-REDUCED IRON, BY COUNTRY <sup>1,2</sup>

	200	04	200	)5
	Quantity	Value	Quantity	Value
Country	(metric tons)	(thousands)	(metric tons)	(thousands)
Brazil	47	\$5		
Canada	116	13		
China	12,000	1,280		
Colombia	43	4		
Mexico	503	53	87	\$9
Spain	33	3	68	7
Turkey	36	4		
Total	12,800	1,360	155	16

-- 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.

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

	2004		2005	
	Quantity	Value	Quantity	Value
Country	(metric tons)	(thousands)	(metric tons)	(thousands)
Brazil			238,000	\$17,900
Canada	435,000	\$45,300	532,000	50,300
China			425	53
Italy	709	75		
Russia	64,000	16,100		
Trinidad and Tobago	220,000	58,100	92,100	20,300
United Kingdom	62,500	15,600		
Venezuela	1,670,000	328,000	1,310,000	272,000
Total	2,450,000	463,000	2,170,000	361,000

-- 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.

Source: U.S. Census Bureau.

TABLE 19					
U.S. EXPORTS OF PIG IRON, BY COUNTRY <sup>1, 2</sup>					

	2004		2005	
	Quantity	Value	Quantity	Value
Country	(metric tons)	(thousands)	(metric tons)	(thousands)
Brazil			13	\$6
Canada	5,910	\$1,240	9,010	1,430
Cayman Islands			907	80
China	479	48	5	9
Colombia	18,400	1,620	21,000	1,850
Costa Rica			472	42
Czech Republic	47	4		
Dominican Republic			154	65
France			1,660	151
Germany	36	17	31	14
Italy	- 77	19		
Jamaica	270	24		
Korea, Republic of	631	109	895	94
Malaysia			322	28
Mexico	15,200	1,800	13,900	4,100
Netherlands	30	3	14	7
Singapore	42	8		
Switzerland	. 15	7		
Taiwan	101	12	956	84
Trinidad and Tobago			271	24
Turkey	6,690	1,780		
United Arab Emirates			948	83
United Kingdom	20	9	59	31
Venezuela			19	9
Total	48,000	6,690	50,700	8,110

-- Zero.

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

 $^{2}$ 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.

#### U.S. IMPORTS FOR CONSUMPTION OF PIG IRON, BY COUNTRY $^{\rm l,\,2}$

	2004		2005	
	Quantity	Value	Quantity	Value
Country	(metric tons)	(thousands)	(metric tons)	(thousands)
Argentina			27,200	\$7,210
Australia			204	214
Brazil	4,770,000	\$914,000	4,460,000	1,180,000
Canada	95,200	25,000	105,000	34,000
China	132,000	31,200	57,200	13,900
Colombia			238	147
Germany			10	3
Hong Kong			3	5
Italy			498	236
Japan	1	3		
Mexico			27	15
Russia	1,110,000	314,000	918,000	218,000
South Africa	118,000	23,900	141,000	44,000
Trinidad and Tobago	48,400	14,300	26,200	816
Ukraine	80,200	18,700	274,000	76,700
United Kingdom	15,300	4,520		
Venezuela	28,300	10,100	22,400	988
Total	6,400,000	1,360,000	6,030,000	1,580,000
7.000				

-- 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.