

# Mineral Industry Surveys

#### For information, contact:

Michael D. Fenton, Iron and Steel Scrap Commodity Specialist National Minerals Information Center U.S. Geological Survey 989 National Center Reston, VA 20192

Telephone: (703) 648-4972, Fax: (703) 648-7757

Email: mfenton@usgs.gov

Hoa P. Phamdang (Data) Telephone: (703) 648-7965 Fax: (703) 648-7975 Email: hphamdan@usgs.gov

**Internet:** http://minerals.usgs.gov/minerals/

### IRON AND STEEL SCRAP IN DECEMBER 2016

On a daily average basis in December 2016, iron and steel scrap consumption increased slightly and home scrap production decreased slightly compared with those of November (table 1). Purchased scrap receipts in December 2016 decreased slightly from those of November. Stocks of purchased and home scrap at the end of December 2016 were down by 7% from those at the end of November. These observations are based upon responses from about 22% of the companies surveyed that manufacture pig iron and semi-finished steel products, which account for about 33% of the total scrap consumption in those sectors and estimates for nonrespondents to this survey.

On a daily average basis, pig iron production increased by 7% and consumption increased by 5% compared with those of November 2016 (table 1). Stocks of pig iron at the end of December 2016 decreased by 15% from those at the end of November.

Exports of iron and steel scrap in December 2016 increased by 8% from those in November (table 6). Turkey was the leading country of destination, accounting for 25% of the total tonnage of exports, followed by China with 12% and Taiwan with 11%. New York, NY, was the leading U.S. Customs district for tonnage of exports, accounting for 23% of the total, followed by Los Angeles, CA, with 20% and San Francisco, CA, with 7% (table 7).

Imports of iron and steel scrap in December 2016 increased by 5% from those in November (table 9). Canada was the

leading country of origin, accounting for 83% of the total tonnage of imports, followed by United Kingdom with 9% and Mexico with 8%. Detroit, MI, was the leading U.S. Customs district for tonnage of imports, accounting for 41% of the total, followed by Seattle, WA, with 19% and Buffalo, NY, with 14% (table 10).

The daily average domestic raw steel production for December 2016, as calculated from the American Iron and Steel Institute's (AISI) monthly production data, was 208,000 metric tons, up slightly from that in November 2016 and up by 8% from that in December 2015 (table 12). Raw steel production capability utilization (AISI data) was 68% in December 2016, up from 67% in November and up from 62% in December 2015 (table 12). The electric furnace portion of raw steel production for December 2016 was 68%, down from 69% in November, and up from 65% in December 2015.

Continuous cast steel production accounted for 99.6% of total raw steel production in December 2016and November 2016, and 99.3% in December 2015 (table 12).

List services and Web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to http://minerals.usgs.gov/minerals/.

 ${\it TABLE~1}$  IRON AND STEEL SCRAP, PIG IRON, AND DIRECT-REDUCED IRON STATISTICS FOR STEEL PRODUCERS  $^{1,\,2}$ 

|  |                        | December 2016          |                 |                     | January–December <sup>3</sup> |                 |  |  |
|--|------------------------|------------------------|-----------------|---------------------|-------------------------------|-----------------|--|--|
|  |                        | Electric               |                 |                     | Electric                      |                 |  |  |
|  | Integrated steel       | furnace<br>steel       | Total for steel | Integrated<br>steel | furnace<br>steel              | Total for steel |  |  |
|  | producers <sup>4</sup> | producers <sup>5</sup> | producers       | producers4          | producers <sup>5</sup>        | producers       |  |  |
| Scrap:                                     |                        |                        |                 |                     |                               |                 |  |  |
| Receipts from dealers and other sources    | 1,520                  | 1,660                  | 3,180           | 18,500              | 20,300                        | 38,900          |  |  |
| Receipts from other own company plants     | 37                     | 143                    | 180             | 521                 | 1,780                         | 2,300           |  |  |
| Production recirculating scrap             | 243                    | 151                    | 394             | 2,970               | 2,170                         | 5,130           |  |  |
| Production obsolete scrap                  | W                      | W                      | 7               | W                   | W                             | 105             |  |  |
| Consumption (by type of furnace):          |                        |                        |                 |                     |                               |                 |  |  |
| Blast furnace                              | W                      | W                      | 165             | W                   | $\mathbf{W}$                  | 1,940           |  |  |
| Basic oxygen process                       | W                      | W                      | 362             | W                   | W                             | 4,360           |  |  |
| Electric furnace                           | 1,320                  | 1,810                  | 3,130           | 15,300              | 21,100                        | 36,400          |  |  |
| Other (including air furnace) <sup>6</sup> | W                      | W                      | 215             | W                   | W                             | 2,550           |  |  |
| Total consumption                          | 1,840                  | 2,030                  | 3,870           | 21,400              | 23,800                        | 45,200          |  |  |
| Shipments                                  | 48                     | 7                      | 55              | 642                 | 435                           | 1,080           |  |  |
| Stocks, end of period                      | 1,990                  | 1,980                  | 3,970           | 1,990               | 1,980                         | 3,970           |  |  |
| Pig iron (includes hot metal):             |                        |                        |                 |                     |                               |                 |  |  |
| Receipts                                   | 261                    | 50                     | 311             | 2,520               | 823                           | 3,340           |  |  |
| Production                                 | 1,390                  |                        | 1,390           | 17,100              |                               | 17,100          |  |  |
| Consumption (by type of furnace):          |                        |                        |                 |                     |                               |                 |  |  |
| Basic oxygen process                       | W                      | W                      | 1,580           | W                   | W                             | 18,500          |  |  |
| Direct castings <sup>7</sup>               | W                      | W                      | 172             | W                   | W                             | 1,970           |  |  |
| Electric furnace                           | W                      | W                      | 18              | W                   | W                             | 236             |  |  |
| Total consumption                          | 1,690                  | 80                     | 1,770           | 19,800              | 859                           | 20,700          |  |  |
| Shipments                                  |                        |                        |                 | W                   |                               | W               |  |  |
| Stocks, end of period                      | 186                    | 213                    | 399             | 186                 | 213                           | 399             |  |  |
| Direct-reduced iron: <sup>8</sup>          |                        |                        |                 |                     |                               |                 |  |  |
| Receipts                                   | 131                    | 60                     | 191             | 1,250               | 651                           | 1,900           |  |  |
| Total consumption                          | 352                    | 68                     | 420             | 4,140               | 629                           | 4,770           |  |  |
| Stocks, end of period                      | 208                    | 39                     | 247             | 208                 | 39                            | 247             |  |  |

W Withheld to avoid disclosing company proprietary data; included in "Total for steel producers" and (or) "Total consumption." -- Zero.

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

<sup>&</sup>lt;sup>2</sup>Includes manufacturers of raw steel that also produce steel castings. December 2016 data are based on returns from 22% of consumer surveys, representing 33% of scrap consumption during this month, and estimates for nonrespondents of this survey.

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Includes data for electric furnaces operated by integrated steel producers.

<sup>&</sup>lt;sup>5</sup>Includes minimill and specialty steel producers; includes data for other furnaces operated by these steel producers.

<sup>&</sup>lt;sup>6</sup>Includes vacuum melting furnaces and miscellaneous uses.

<sup>&</sup>lt;sup>7</sup>Includes ingot molds and stools.

<sup>&</sup>lt;sup>8</sup>Includes direct-reduced iron, hot-briquetted iron, and iron carbide. Domestic production data are included in "Receipts."

 ${\it TABLE~2}$  RECEIPTS FROM OUTSIDE SOURCES, PRODUCTION, CONSUMPTION, AND STOCKS OF IRON AND STEEL SCRAP, BY GRADE, FOR STEEL PRODUCERS  $^{1,\,2}$ 

| -                              |                    | December 2016        |                         |              |                    | January–December <sup>3</sup> |                         |
|--------------------------------|--------------------|----------------------|-------------------------|--------------|--------------------|-------------------------------|-------------------------|
|                                | Receipts of scrap  | Production of home   |                         |              | Receipts of scrap  | Production of home            |                         |
|                                | from brokers,      | scrap (recirculating | Consumption of          |              | from brokers,      | scrap (recirculating          | Consumption of          |
|                                | dealers, and other | scrap resulting from | purchased and           | Ending       | dealers, and other | scrap resulting from          | purchased and           |
| Item                           | outside sources    | current operations)  | home scrap <sup>4</sup> | stocks       | outside sources    | current operations)           | home scrap <sup>4</sup> |
| Carbon steel:                  |                    |                      |                         |              |                    |                               |                         |
| Low-phosphorus plate and       | -                  |                      |                         |              |                    |                               |                         |
| punchings                      | 42                 | W                    | 44                      | W            | 507                | W                             | 536                     |
| Cut structural and plate       | 277                | 25                   | 308                     | 269          | 3,370              | 281                           | 3,710                   |
| No. 1 heavy melting steel      | 298                | 48                   | 357                     | 248          | 3,570              | 572                           | 4,260                   |
| No. 2 heavy melting steel      | 349                | 28                   | 399                     | 212          | 4,250              | 335                           | 4,670                   |
| No. 1 and electric furnace     | -                  |                      |                         |              |                    |                               |                         |
| bundles                        | 145                | W                    | 172                     | 200          | 1,970              | W                             | 1,960                   |
| No. 2 and all other bundles    | 63                 |                      | 69                      | 35           | 775                |                               | 780                     |
| Electric furnace 1 foot and    | -                  |                      |                         |              |                    |                               |                         |
| under (not bundles)            | W                  | W                    | W                       | $\mathbf{W}$ | 5                  | $\mathbf{W}$                  | W                       |
| Railroad rails                 | 15                 | W                    | 16                      | 7            | 180                | W                             | 186                     |
| Turnings and borings           | 173                | 4                    | 182                     | 140          | 2,080              | 51                            | 2,130                   |
| Slag scrap                     | 39                 | 63                   | 74                      | 143          | 504                | 808                           | 841                     |
| Shredded and fragmentized      | 892                | W                    | 1,040                   | 1,410        | 11,200             | W                             | 12,200                  |
| No. 1 busheling                | 394                | 22                   | 470                     | 325          | 4,660              | 221                           | 4,990                   |
| Steel cans (post consumer)     | 6                  |                      | 6                       | 1            | 73                 |                               | 73                      |
| All other carbon steel scrap   | 212                | 84                   | 297                     | 373          | 2,460              | 1,330                         | 3,520                   |
| Stainless steel scrap          | 73                 | 27                   | 107                     | 62           | 891                | 319                           | 1,340                   |
| Alloy steel scrap              | 26                 | 19                   | 48                      | 180          | 314                | 232                           | 553                     |
| Ingot mold and stool scrap     | W                  | W                    | 8                       | 3            | W                  | W                             | 104                     |
| Machinery and cupola cast iron | W                  |                      | W                       | W            | W                  |                               | W                       |
| Cast iron borings              | 13                 | W                    | 14                      | 3            | 159                | W                             | 160                     |
| Motor blocks                   | W                  |                      | W                       | $\mathbf{W}$ | W                  |                               | W                       |
| Other iron scrap               | 111                | 22                   | 136                     | 106          | 1,300              | 318                           | 1,630                   |
| Other mixed scrap              | 45                 | 30                   | 123                     | 111          | 564                | 370                           | 1,460                   |
| Total                          | 3,180              | 394                  | 3,870                   | 3,970        | 38,900             | 5,130                         | 45,200                  |

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

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

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

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Includes recirculating scrap and home-generated obsolete scrap.

TABLE 3 RECEIPTS FROM OUTSIDE SOURCES, PRODUCTION, AND CONSUMPTION OF IRON AND STEEL SCRAP, BY REGION AND STATE, FOR STEEL PRODUCERS  $^{1,2}$ 

|                               |                    | December 2016        |                         | January–December <sup>3</sup> |                      |                         |  |
|-------------------------------|--------------------|----------------------|-------------------------|-------------------------------|----------------------|-------------------------|--|
|                               | Receipts of scrap  | Production of home   |                         | Receipts of scrap             | Production of home   |                         |  |
|                               | from brokers,      | scrap (recirculating | Consumption of          | from brokers,                 | scrap (recirculating | Consumption of          |  |
|                               | dealers, and other | scrap resulting from | purchased and           | dealers, and other            | scrap resulting from | purchased and           |  |
| Region and State              | outside sources    | current operations)  | home scrap <sup>4</sup> | outside sources               | current operations)  | home scrap <sup>4</sup> |  |
| Mid-Atlantic and New England: | _                  |                      |                         |                               |                      |                         |  |
| New Jersey, New York,         |                    |                      |                         |                               |                      |                         |  |
| Pennsylvania                  | 341                | 59                   | 399                     | 3,890                         | 689                  | 4,640                   |  |
| North Central:                | <u></u>            |                      |                         |                               |                      |                         |  |
| Illinois and Indiana          | 390                | 31                   | 437                     | 4,750                         | 354                  | 5,270                   |  |
| Iowa, Minnesota, Nebraska,    |                    |                      |                         |                               |                      |                         |  |
| Wisconsin                     | 213                | 18                   | 234                     | 2,500                         | 256                  | 2,790                   |  |
| Michigan                      | 107                | 75                   | 184                     | 1,690                         | 953                  | 2,270                   |  |
| Ohio                          | 448                | 84                   | 539                     | 5,090                         | 1,400                | 6,280                   |  |
| Total                         | 1,160              | 207                  | 1,390                   | 14,000                        | 2,960                | 16,600                  |  |
| South Atlantic:               |                    |                      |                         |                               |                      |                         |  |
| Virginia, West Virginia       | 69                 | 5                    | 105                     | 801                           | 66                   | 1,290                   |  |
| Georgia, North Carolina,      |                    |                      |                         |                               |                      |                         |  |
| South Carolina                | 247                | 18                   | 277                     | 3,100                         | 203                  | 3,290                   |  |
| Total                         | 315                | 23                   | 382                     | 3,900                         | 270                  | 4,580                   |  |
| South Central:                |                    |                      |                         |                               |                      |                         |  |
| Alabama, Kentucky,            | <del></del>        |                      |                         |                               |                      |                         |  |
| Mississippi, Tennessee        | 608                | 43                   | 731                     | 7,500                         | 472                  | 8,190                   |  |
| Arkansas, Louisiana,          | _                  |                      |                         |                               |                      |                         |  |
| Oklahoma, Texas               | 502                | 45                   | 658                     | 6,560                         | 537                  | 7,530                   |  |
| Total                         | 1,110              | 88                   | 1,390                   | 14,100                        | 1,010                | 15,700                  |  |
| Mountain and Pacific:         |                    |                      |                         |                               |                      |                         |  |
| California, Colorado,         | <del></del>        |                      |                         |                               |                      |                         |  |
| Oregon, Utah, Washington      | 250                | 18                   | 310                     | 3,000                         | 207                  | 3,670                   |  |
| Grand total                   | 3,180              | 394                  | 3,870                   | 38,900                        | 5,130                | 45,200                  |  |

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

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

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Includes recirculating scrap and home-generated obsolete scrap.

 ${\it TABLE~4}$  RECEIPTS OF IRON AND STEEL SCRAP, BY REGION AND GRADE, FOR STEEL PRODUCERS  $^{1,2,3,4}$ 

|                                |              | De      | cember 2016 |         |          |              | Janu    | ary–December | .5      |          |
|--------------------------------|--------------|---------|-------------|---------|----------|--------------|---------|--------------|---------|----------|
|                                | Mid-Atlantic |         |             |         | Mountain | Mid-Atlantic |         |              |         | Mountain |
|                                | and          | North   | South       | South   | and      | and          | North   | South        | South   | and      |
| Item                           | New England  | Central | Atlantic    | Central | Pacific  | New England  | Central | Atlantic     | Central | Pacific  |
| Carbon steel:                  |              |         |             |         |          |              |         |              |         |          |
| Low-phosphorus plate and       | <del>_</del> |         |             |         |          |              |         |              |         |          |
| punchings                      | 10           | W       |             | W       | W        | 129          | W       | W            | W       | W        |
| Cut structural and plate       | 36           | 87      | 30          | 104     | W        | 379          | 1,110   | 334          | 1,310   | W        |
| No. 1 heavy melting steel      | 57           | 76      | 16          | 124     | 25       | 639          | 944     | 189          | 1,490   | 302      |
| No. 2 heavy melting steel      | 6            | 95      | 36          | 180     | 33       | 76           | 1,100   | 477          | 2,210   | 393      |
| No. 1 and electric furnace     |              |         |             |         |          |              |         |              |         |          |
| bundles                        | 8            | 95      | 5           | 34      | W        | 89           | 1,270   | 54           | 513     | W        |
| No. 2 and all other bundles    | 10           | 33      | W           | W       | W        | 121          | 418     | W            | W       | W        |
| Electric furnace 1 foot and    |              |         |             |         |          |              |         |              |         |          |
| under (not bundles)            |              |         |             | W       |          |              | W       |              | W       | -        |
| Railroad rails                 | W            | W       | W           | 3       | W        | W            | W       | W            | 34      | W        |
| Turnings and borings           | 18           | 55      | 25          | 67      | 7        | 210          | 691     | 304          | 792     | 81       |
| Slag scrap                     |              | 16      | 2           | 15      | W        | 61           | 224     | 22           | 184     | W        |
| Shredded and fragmentized      | 68           | 274     | 142         | 325     | 82       | 710          | 3,220   | 1,820        | 4,460   | 986      |
| No. 1 busheling                | 45           | 152     | 35          | 1,660   | 2        | 532          | 1,820   | 367          | 1,910   | 25       |
| Steel cans (post consumer)     | W            | W       | W           |         |          | W            | W       | W            |         | -        |
| All other carbon steel scrap   | 27           | 139     | W           | 40      | 3        | 339          | 1,590   | W            | 464     | 31       |
| Stainless steel scrap          | 35           | 12      |             | W       |          | 424          | 162     |              | W       |          |
| Alloy steel scrap              |              | 22      | W           | W       |          | 17           | 269     | W            | W       | -        |
| Ingot mold and stool scrap     | W            | W       |             |         |          | W            | W       |              |         | -        |
| Machinery and cupola cast iron |              | W       | W           | W       |          |              | W       | W            | W       | -        |
| Cast iron borings              | W            | W       | W           | 1       | W        | W            | W       | W            | 12      | W        |
| Other iron scrap               | 5            | 33      | W           | 6       | W        | 61           | 367     | W            | 76      | W        |
| Other mixed scrap              | W            | 20      | W           | 5       | W        | W            | 246     | W            | 48      | W        |
| Total                          | 341          | 1,160   | 315         | 1,110   | 250      | 3,890        | 14,000  | 3,900        | 14,100  | 3,000    |

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

<sup>&</sup>lt;sup>1</sup>Scrap received from brokers, dealers, and other outside sources.

<sup>&</sup>lt;sup>2</sup>A breakout of the States within each region is provided in Table 3.

<sup>&</sup>lt;sup>3</sup>Includes manufacturers of raw steel that also produce steel castings.

<sup>&</sup>lt;sup>4</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>5</sup>May include revisions to previously published data.

 ${\it TABLE 5}$  CONSUMPTION OF IRON AND STEEL SCRAP BY REGION AND GRADE, FOR STEEL PRODUCERS  $^{1,2,3}$ 

|                                |              | De      | cember 2016 |         |          |              | January–December <sup>4</sup> |          |              |          |
|--------------------------------|--------------|---------|-------------|---------|----------|--------------|-------------------------------|----------|--------------|----------|
|                                | Mid-Atlantic |         |             |         | Mountain | Mid-Atlantic |                               |          |              | Mountain |
|                                | and          | North   | South       | South   | and      | and          | North                         | South    | South        | and      |
| Item                           | New England  | Central | Atlantic    | Central | Pacific  | New England  | Central                       | Atlantic | Central      | Pacific  |
| Carbon steel:                  |              |         |             |         |          |              |                               |          |              |          |
| Low-phosphorus plate and       | <u> </u>     |         |             |         |          |              |                               |          |              |          |
| punchings                      | 10           | W       | W           | W       | W        | 128          | W                             | W        | W            | W        |
| Cut structural and plate       | 41           | 101     | 41          | 106     | W        | 412          | 1,220                         | 531      | 1,310        | 239      |
| No. 1 heavy melting steel      | 59           | 106     | 17          | 148     | 26       | 686          | 1,260                         | 221      | 1,770        | 317      |
| No. 2 heavy melting steel      | 11           | 104     | 45          | 202     | W        | 126          | 1,160                         | 551      | 2,390        | W        |
| No. 1 and electric furnace     |              |         |             |         |          |              |                               |          |              |          |
| bundles                        | 8            | 105     | 5           | 51      | W        | 90           | 1,300                         | 54       | 476          | W        |
| No. 2 and all other bundles    | 9            | 32      | 8           | 17      | W        | 116          | 417                           | W        | W            | W        |
| Electric furnace 1 foot and    |              |         |             |         |          |              |                               |          |              |          |
| under (not bundles)            |              | W       |             | W       |          |              | W                             |          | W            |          |
| Railroad rails                 | W            | W       |             | 3       | W        | W            | W                             |          | 34           | W        |
| Turnings and borings           | 20           | 58      | 26          | 71      | 7        | 23           | 717                           | 310      | 788          | 81       |
| Slag scrap                     | 10           | 36      | 2           | 24      | W        | 115          | 374                           | 26       | 301          | W        |
| Shredded and fragmentized      | 64           | 295     | 176         | 419     | 82       | 702          | 3,480                         | 2,090    | 4,960        | 986      |
| No. 1 busheling                | 45           | 163     | 30          | 230     | 2        | 532          | 1,950                         | 369      | 2,120        | 25       |
| Steel cans (post consumer)     | W            | W       | W           |         |          | W            | W                             | W        |              |          |
| All other carbon steel scrap   | 44           | 187     | 6           | 56      | 3        | 555          | 2,230                         | 76       | 630          | 33       |
| Stainless steel scrap          | 53           | 18      |             | W       |          | 632          | 268                           |          | W            |          |
| Alloy steel scrap              | 10           | 30      |             | W       |          | 116          | 333                           |          | $\mathbf{W}$ |          |
| Ingot mold and stool scrap     | W            | W       |             | W       |          | W            | W                             | W        | W            |          |
| Machinery and cupola cast iron | W            | W       | W           | W       | W        |              | W                             | W        | W            |          |
| Cast iron borings              | W            | W       | W           | 1       | W        | W            | W                             | W        | 19           | W        |
| Motor blocks                   |              | W       |             |         |          |              | W                             |          |              |          |
| Other iron scrap               | 7            | 45      | W           | 7       | W        | 76           | 538                           | W        | 86           | W        |
| Other mixed scrap              | W            | 53      | W           | 4       | W        | W            | 653                           | W        | 47           | W        |
| Total                          | 399          | 1,390   | 382         | 1,390   | 310      | 4,640        | 16,600                        | 4,580    | 15,700       | 3,670    |

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

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

<sup>&</sup>lt;sup>2</sup>A breakout of the States within each region is provided in Table 3.

<sup>&</sup>lt;sup>3</sup>Includes manufacturers of raw steel that also produce steel castings.

<sup>&</sup>lt;sup>4</sup>May include revisions to previously published data.

 ${\it TABLE~6}$  U.S. EXPORTS OF IRON AND STEEL SCRAP BY SELECTED REGION AND COUNTRY  $^{1,\,2}$ 

### (Thousand metric tons and thousand dollars)

|                                  | Decembe  | r 2016  | January-De | ecember <sup>3</sup> |
|----------------------------------|----------|---------|------------|----------------------|
| Region and country               | Quantity | Value   | Quantity   | Value                |
| North America and South America: |          |         |            |                      |
| Brazil                           |          |         | 22         | 5,910                |
| Canada                           | 41       | 9,750   | 714        | 131,000              |
| Ecuador                          | 32       | 7,970   | 40         | 9,210                |
| Mexico                           | 125      | 28,000  | 1,490      | 341,000              |
| Peru                             | 30       | 7,360   | 394        | 85,800               |
| Other <sup>4</sup>               | (5)      | 92      | 5          | 2,310                |
| Total                            | 228      | 53,200  | 2,660      | 575,000              |
| Africa, Europe, Middle East:     |          |         |            |                      |
| Belgium                          | 1        | 700     | 9          | 10,800               |
| Egypt                            |          |         | 122        | 29,600               |
| France                           | (5)      | 17      | 1          | 929                  |
| Germany                          | (5)      | 84      | 3          | 2,900                |
| Greece                           | 34       | 7,950   | 203        | 42,100               |
| Italy                            | (5)      | 100     | 2          | 1,720                |
| Kuwait                           | 128      | 28,900  | 442        | 104,000              |
| Netherland                       | (5)      | 222     | 8          | 6,410                |
| Saudi Arabia                     | (5)      | 28      | 50         | 10,600               |
| Sweden                           | (5)      | 220     | 3          | 3,780                |
| Turkey                           | 299      | 71,600  | 3,170      | 687,000              |
| United Arab Emirates             | 1        | 535     | 15         | 5,250                |
| Other <sup>4</sup>               | (5)      | 483     | 7          | 4,190                |
| Total                            | 464      | 111,000 | 4,030      | 909,000              |
| Asia, Australia, Oceania:        |          |         |            |                      |
| Bangladesh                       | 1        | 376     | 296        | 64,500               |
| China                            | 143      | 88,800  | 886        | 661,000              |
| Hong Kong                        | 3        | 2,020   | 43         | 29,900               |
| India                            | 39       | 12,700  | 1,110      | 318,000              |
| Indonesia                        | 8        | 2,490   | 61         | 17,700               |
| Japan                            | _ 2      | 2,640   | 54         | 35,200               |
| Korea, Republic of               | 59       | 17,400  | 848        | 211,000              |
| Malaysia                         | 5        | 1,620   | 34         | 12,000               |
| Pakistan                         | 49       | 18,400  | 451        | 166,000              |
| Taiwan                           | 135      | 43,000  | 1,370      | 382,000              |
| Thailand                         | 34       | 8,600   | 427        | 95,800               |
| Vietnam                          | 47       | 12,300  | 380        | 88,000               |
| Other <sup>4</sup>               | (5)      | 26      | 2          | 1,410                |
| Total                            | 525      | 210,000 | 5,960      | 2,080,000            |
| Grand total                      | 1,220    | 374,000 | 12,700     | 3,570,000            |

<sup>--</sup> Zero

<sup>&</sup>lt;sup>1</sup>Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is on a free-alongside-ship basis.

 $<sup>^2\</sup>mathrm{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Includes countries with January–December 2016 quantities of less than 500 metric tons.

 $<sup>^5</sup>Less$  than  $^{1}\!\!/_{\!2}$  unit.

# TABLE 7 U.S. EXPORTS OF IRON AND STEEL SCRAP BY REGION AND SELECTED CUSTOMS DISTRICT $^{\!1,2}$

(Thousand metric tons and thousand dollars)

|  | Decembe  | er 2016                               | January-De | ecember <sup>3</sup> |
|--|----------|---------------------------------------|------------|----------------------|
| Region and customs district              | Quantity | Value                                 | Quantity   | Value                |
| Canada–United States border:             |          |                                       |            |                      |
| Buffalo, NY                              | 4        | 1,700                                 | 191        | 35,600               |
| Detroit, MI                              | 16       | 3,600                                 | 188        | 40,100               |
| Duluth, MN                               | (4)      | 244                                   | 7          | 3,330                |
| Great Falls, MT                          | 5        | 1,320                                 | 11         | 2,620                |
| Ogdensburg, NY                           | 1        | 208                                   | 14         | 1,850                |
| Pembina, ND                              | 9        | 2,290                                 | 94         | 20,700               |
| Other                                    | 4        | 770                                   | 74         | 10,800               |
| Total                                    | 39       | 10,100                                | 578        | 115,000              |
| East coast:                              |          |                                       |            |                      |
| Baltimore, MD                            | 78       | 21,600                                | 341        | 106,000              |
| Boston, MA                               | 49       | 11,900                                | 863        | 195,000              |
| Charleston, SC                           | 6        | 3,580                                 | 68         | 40,300               |
| Miami, FL                                | 32       | 10,000                                | 316        | 97,400               |
| New York City, NY                        | 283      | 85,400                                | 2,090      | 597,000              |
| Norfolk, VA                              | 23       | 13,700                                | 211        | 121,000              |
| Philadelphia, PA                         | 47       | 11,700                                | 918        | 206,000              |
| Portland, ME                             | 3        | 854                                   | 135        | 28,000               |
| Providence, RI                           | 63       | 14,000                                | 535        | 118,000              |
| Savannah, GA                             | 15       | 6,880                                 | 136        | 76,700               |
| St. Albans, VT                           | 1        | 214                                   | 64         | 7,000                |
| Washington, DC                           | (4)      | 40                                    | (4)        | 68                   |
| Wilmington, NC                           | (4)      | 110                                   | 4          | 3,660                |
| Total                                    | 600      | 180,000                               | 5,680      | 1,600,000            |
| Gulf coast and Mexico-United States      |          | · · · · · · · · · · · · · · · · · · · | •          |                      |
| border (includes Caribbean territories): | -        |                                       |            |                      |
| El Paso, TX                              | 10       | 2,350                                 | 92         | 21,100               |
| Houston-Galveston, TX                    | 21       | 11,100                                | 343        | 130,000              |
| Laredo, TX                               | 30       | 5,850                                 | 448        | 109,000              |
| Mobile, AL                               | (4)      | 182                                   | 54         | 13,900               |
| New Orleans, LA                          | (4)      | 164                                   | 35         | 14,600               |
| San Juan, PR                             | 4        | 1,360                                 | 111        | 26,000               |
| Tampa, FL                                | 62       | 16,700                                | 282        | 77,500               |
| Other                                    | (4)      | 50                                    | (4)        | 162                  |
| Total                                    | 128      | 37,800                                | 1,370      | 392,000              |
| West coast and Hawaii:                   |          | 2.,000                                | -,-,-      | ,                    |
| Columbia-Snake, OR                       | 74       | 17,000                                | 566        | 125,000              |
| Honolulu, HI, and Anchorage, AK          | 2        | 389                                   | 102        | 20,400               |
| Los Angeles, CA                          | 238      | 89,200                                | 2,200      | 773,000              |
| San Diego, CA                            | 25       | 5,100                                 | 284        | 58,300               |
| San Francisco, CA                        | 86       | 23,700                                | 1,330      | 322,000              |
| Seattle, WA                              | 26       | 11,100                                | 551        | 165,000              |
| Total                                    | 451      | 147,000                               | 5,030      | 1,460,000            |
| Grand total                              | 1,220    | 374,000                               | 12,700     | 3,570,000            |

Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats, and other vessels for scrapping. Export valuation is on a free-alongside-ship basis.

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

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.

TABLE 8 U.S. EXPORTS OF IRON AND STEEL SCRAP AND OTHER FERROUS PRODUCTS BY GRADE  $^{\rm 1,2}$ 

### (Thousand metric tons and thousand dollars)

|  | Decemb   | er 2016 | January–December <sup>3</sup> |           |
|--|----------|---------|-------------------------------|-----------|
| Item   | Quantity | Value   | Quantity                      | Value     |
| No. 1 heavy melting steel                          | 321      | 82,500  | 3,640                         | 830,000   |
| No. 2 heavy melting steel                          | 49       | 11,900  | 529                           | 120,000   |
| No. 1 bundles                                      | 4        | 952     | 89                            | 20,800    |
| No. 2 bundles                                      | 1        | 125     | 7                             | 1,430     |
| Shredded steel scrap                               | 449      | 112,000 | 4,370                         | 990,000   |
| Borings, shovelings and turnings                   | (4)      | 86      | 6                             | 1,330     |
| Cut plate and structural                           | 63       | 15,900  | 562                           | 146,000   |
| Tinned iron or steel                               |          | 1,560   | 59                            | 16,200    |
| Remelting scrap ingots                             | (4)      | 102     | 8                             | 5,830     |
| Cast iron  | 14       | 5,300   | 159                           | 58,700    |
| Other iron and steel                               | 176      | 60,100  | 1,800                         | 582,000   |
| Total carbon steel and cast iron                   | 1,080    | 290,000 | 11,200                        | 2,770,000 |
| Stainless steel                                    | 49       | 46,900  | 654                           | 442,000   |
| Other alloy steel                                  | 86       | 37,300  | 766                           | 354,000   |
| Total stainless and alloy steel                    | 135      | 84,200  | 1,420                         | 796,000   |
| Total carbon, stainless, alloy steel and cast iron | 1,220    | 374,000 | 12,700                        | 3,570,000 |
| Ships, boats, and other vessels for                |          |         |                               |           |
| breaking up (for scrapping)                        |          |         | 3                             | 435       |
| Used rails for rerolling and other uses            |          | 2,320   | 16                            | 18,600    |
| Total scrap exports                                | 1,220    | 377,000 | 12,700                        | 3,590,000 |
| Exports of manufactured ferrous products:          |          |         |                               |           |
| Pig iron < or = 0.5% phosphorus                    |          | 576     | 14                            | 3,770     |
| Pig iron $>$ or $= 0.5\%$ phosphorus               |          |         | 2                             | 312       |
| Alloy pig iron                                     |          |         | 21                            | 130       |
| Total pig iron                                     | 2        | 576     | 37                            | 4,210     |
| Direct-reduced iron (DRI)                          |          |         | 178                           | 21,600    |
| Spongy iron products, not DRI                      | 1        | 5,120   | 17                            | 12,500    |
| Granules for abrasive cleaning and other uses      |          | 2,340   | 29                            | 35,700    |
| Powders of alloy steel                             |          | 5,840   | 22                            | 57,400    |
| Other ferrous powders                              | 7        | 7,330   | 91                            | 99,700    |
| Total DRI, granules, powders                       | 11       | 20,600  | 337                           | 227,000   |
| Grand total  | 1,230    | 398,000 | 13,000                        | 3,820,000 |

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Export valuation is on a free-alongside-ship basis.

 $<sup>^2\</sup>mbox{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.

## TABLE 9 $\label{eq:u.s.} \text{U.s. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP BY SELECTED COUNTRY}^{1,\,2}$

### (Thousand metric tons and thousand dollars)

|                    | Decembe  | r 2016 | January–I | December <sup>3</sup> |  |
|--------------------|----------|--------|-----------|-----------------------|--|
| Country            | Quantity | Value  | Quantity  | Value                 |  |
| Canada             | 235      | 57,100 | 2,800     | 656,000               |  |
| China              | (4)      | 79     | 4         | 1,250                 |  |
| France             | (4)      | 132    | 1         | 581                   |  |
| Germany            | (4)      | 37     | 29        | 6,320                 |  |
| India              | (4)      | 10     | 1         | 502                   |  |
| Japan              | (4)      | 176    | 2         | 914                   |  |
| Mexico             | 22       | 10,400 | 229       | 95,900                |  |
| Netherlands        |          |        | 180       | 39,700                |  |
| Sweden             | (4)      | 11     | 261       | 63,100                |  |
| United Kingdom     | 26       | 7,080  | 355       | 83,200                |  |
| Other <sup>5</sup> | 2        | 630    | 11        | 5,190                 |  |
| Total              | 285      | 75,700 | 3,870     | 953,000               |  |

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ship, boats, and other vessels for scrapping. Import valuation is on a Customs basis.

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

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.

<sup>&</sup>lt;sup>5</sup>Includes countries with January–December 2016 quantities of less than 500 metric tons.

TABLE 10  $\mbox{U.s. IMPORTS FOR CONSUMPTION OF IRON AND STEEL SCRAP BY SELECTED CUSTOMS DISTRICT } ^{1,2}$ 

(Thousand metric tons and thousand dollars)

|                  | Decembe  | r 2016 | January–De | cember <sup>3</sup> |
|------------------|----------|--------|------------|---------------------|
| Customs district | Quantity | Value  | Quantity   | Value               |
| Baltimore, MD    |          |        | 1          | 234                 |
| Buffalo, NY      | 41       | 12,900 | 453        | 147,000             |
| Charleston, SC   | (4)      | 28     | 280        | 62,500              |
| Cleveland, OH    | (4)      | 19     | 20         | 1,360               |
| Detroit, MI      | 118      | 30,200 | 1,370      | 334,000             |
| Duluth, MN       | 7        | 1,450  | 96         | 20,800              |
| El Paso, TX      | 3        | 1,180  | 29         | 9,860               |
| Galveston, TX    | (4)      | 915    | 2          | 2,470               |
| Great Falls, MT  | _ 2      | 312    | 29         | 5,920               |
| Laredo, TX       | -<br>11  | 5,350  | 136        | 60,000              |
| Los Angeles, LA  | (4)      | 36     | 1          | 861                 |
| Miami, FL        | 1        | 102    | 4          | 816                 |
| Mobile, AL       | 30       | 9,070  | 164        | 46,600              |
| New Orleans, LA  | (4)      | 19     | 417        | 99,000              |
| Nogales, AZ      | 1        | 221    | 8          | 2,500               |
| Ogdensburg, NY   | 1        | 329    | 18         | 5,310               |
| Pembina, ND      | 9        | 2,230  | 160        | 33,100              |
| Philadelphia, PA | 1        | 257    | 1          | 375                 |
| Portland, ME     | (4)      | 73     | 5          | 1,710               |
| San Diego, CA    | 3        | 799    | 22         | 7,640               |
| Seattle, WA      | 53       | 8,750  | 610        | 100,000             |
| St. Albans, VT   | 4        | 858    | 39         | 7,450               |
| Other            | (4)      | 599    | 6          | 2,930               |
| Total            | 285      | 75,700 | 3,870      | 953,000             |

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Includes tinplate and terneplate; excludes used rails for rerolling and other uses and ships, boats and other vessels for scrapping. Import valuation is on a Customs basis.

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

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.

# TABLE 11 U.S. IMPORTS OF IRON AND STEEL SCRAP AND OTHER FERROUS PRODUCTS BY $\mathsf{GRADE}^{1,2}$

(Thousand metric tons and thousand dollars)

|  | Decemb   | er 2016 | January–December <sup>3</sup> |           |
|--|----------|---------|-------------------------------|-----------|
| Item   | Quantity | Value   | Quantity                      | Value     |
| No. 1 heavy melting steel                          | 11       | 2,450   | 147                           | 28,200    |
| No. 2 heavy melting steel                          | 7        | 1,540   | 95                            | 19,300    |
| No. 1 bundles                                      | 73       | 19,200  | 1,030                         | 243,000   |
| No. 2 bundles                                      | 4        | 799     | 69                            | 15,200    |
| Shredded steel scrap                               | 52       | 10,100  | 715                           | 146,000   |
| Borings, shovelings and turnings                   |          | 885     | 45                            | 7,540     |
| Cut plate and structural                           | 17       | 3,970   | 185                           | 37,600    |
| Tinned iron or steel                               | 9        | 1,750   | 89                            | 16,700    |
| Remelting scrap ingots                             |          |         | (4)                           | 80        |
| Cast iron  | 9        | 2,370   | 146                           | 27,200    |
| Other iron and steel                               | 36       | 7,400   | 469                           | 89,400    |
| Total carbon steel and cast iron                   | 222      | 50,400  | 3,000                         | 630,000   |
| Stainless steel                                    | 18       | 15,100  | 263                           | 182,000   |
| Other alloy steel                                  | 46       | 10,100  | 615                           | 141,000   |
| Total stainless and alloy steel                    | 63       | 25,300  | 878                           | 323,000   |
| Total carbon, stainless, alloy steel and cast iron | 285      | 75,700  | 3,870                         | 953,000   |
| Ships, boats, and other vessels for                |          |         |                               |           |
| breaking up (for scrapping)                        |          |         | (4)                           | 509       |
| Used rails for rerolling and other uses            | 10       | 2,430   | 95                            | 22,800    |
| Total scrap imports                                | 295      | 78,100  | 3,970                         | 976,000   |
| Imports of manufactured ferrous products:          |          |         |                               |           |
| Pig iron < or = 0.5% phosphorus                    | 236      | 66,800  | 3,870                         | 947,000   |
| Pig iron > or = 0.5% phosphorus                    |          |         | (4)                           | 21        |
| Alloy pig iron                                     | (4)      | 10      | (4)                           | 418       |
| Total pig iron                                     | 236      | 66,800  | 3,870                         | 948,000   |
| Direct-reduced iron (DRI)                          | 173      | 36,900  | 1,710                         | 347,000   |
| Spongy iron products, not DRI                      | (4)      | 296     | 2                             | 4,440     |
| Granules for abrasive cleaning and other uses      | 2        | 2,060   | 54                            | 29,300    |
| Powders of alloy steel                             | 5        | 6,800   | 65                            | 87,200    |
| Other ferrous powders                              | 3        | 6,000   | 47                            | 71,800    |
| Total DRI, granules, powders                       | 184      | 52,100  | 1,880                         | 539,000   |
| Grand total  | 715      | 197,000 | 9,710                         | 2,460,000 |
| Zero   |          |         |                               |           |

<sup>--</sup> Zero.

<sup>&</sup>lt;sup>1</sup>Import valuation is on a Customs basis.

 $<sup>^2\</sup>mbox{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>3</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>4</sup>Less than ½ unit.

 $\label{thm:table 12} \mbox{U.S. RAW STEEL PRODUCTION, RAW STEEL CAPABILITY UTILIZATION,} \\ \mbox{AND CONTINUOUS CAST STEEL PRODUCTION}^{\mbox{\scriptsize 1}}$ 

|           | Raw steel p |                      | Raw steel of utilization |                      | Continuous<br>production |                      |
|-----------|-------------|----------------------|--------------------------|----------------------|--------------------------|----------------------|
|           |             | Year                 |                          | Year                 |                          | Year                 |
| Period    | Monthly     | to date <sup>2</sup> | Monthly                  | to date <sup>2</sup> | Monthly                  | to date <sup>2</sup> |
| 2015:     |             |                      |                          |                      |                          |                      |
| December  | 5,960       | 78,800               | 62.1                     | 70.1                 | 99.3                     | 99.0                 |
| 2016:     |             |                      |                          |                      |                          |                      |
| January   | 6,460       | 6,460                | 68.7                     | 68.7                 | 99.2                     | 99.2                 |
| February  | 6,420       | 12,900               | 73.1                     | 70.8                 | 99.2                     | 99.2                 |
| March     | 6,770       | 19,700               | 72.1                     | 71.3                 | 99.2                     | 99.2                 |
| April     | 6,600       | 26,300               | 72.6                     | 71.6                 | 99.2                     | 99.2                 |
| May       | 6,980       | 33,200               | 74.3                     | 72.1                 | 99.6                     | 99.3                 |
| June      | 6,820       | 40,100               | 75.1                     | 72.6                 | 99.2                     | 99.3                 |
| July      | 6,700       | 46,800               | 71.3                     | 72.4                 | 99.5                     | 99.3                 |
| August    | 6,650       | 53,400               | 70.8                     | 72.2                 | 99.7                     | 99.3                 |
| September | 6,190       | 59,600               | 68.0                     | 71.8                 | 99.4                     | 99.4                 |
| October   | 6,230       | 65,800               | 65.4                     | 71.1                 | 99.6                     | 99.4                 |
| November  | 6,190       | 72,000               | 67.1                     | 70.8                 | 99.6                     | 99.4                 |
| December  | 6,460       | 78,500               | 67.8                     | 70.5                 | 99.6                     | 99.4                 |

<sup>&</sup>lt;sup>1</sup>Data are rounded to no more than three significant digits.

Source: American Iron and Steel Institute.

 ${\it TABLE~13}$  COMPOSITE PRICES FOR NO. 1 HEAVY MELTING STEEL SCRAP AND PIG IRON

| Period                    | American Metal Market<br>No. 1 HMS |        | Scrap Price Bulletin |        |                       |        |
|---------------------------|------------------------------------|--------|----------------------|--------|-----------------------|--------|
|                           |                                    |        | No. 1 HMS            |        | Pig Iron <sup>1</sup> |        |
|                           | \$/lt                              | \$/t   | \$/1t                | \$/t   | \$/1t                 | \$/t   |
| 2015:                     |                                    |        |                      |        |                       |        |
| December                  | 142.03                             | 139.79 | 149.75               | 147.38 | 276.86                | 272.49 |
| Average, January–December | 216.90                             | 213.47 | 221.44               | 217.94 | 321.31                | 316.21 |
| 2016:                     | _                                  |        |                      |        |                       |        |
| January                   | 154.87                             | 152.42 | 160.17               | 157.64 | 237.54                | 233.79 |
| February                  | 157.33                             | 154.85 | 163.50               | 160.92 | 218.54                | 215.09 |
| March                     | 169.00                             | 166.33 | 173.25               | 170.51 | 218.54                | 215.09 |
| April                     | 210.01                             | 206.69 | 209.75               | 206.44 | 254.00                | 249.99 |
| May                       | 241.27                             | 237.46 | 245.83               | 241.95 | 299.72                | 294.99 |
| June                      | 223.21                             | 219.68 | 221.42               | 217.92 | 299.72                | 294.99 |
| July                      | 208.40                             | 205.11 | 211.42               | 208.08 | 295.91                | 291.24 |
| August                    | 208.90                             | 205.60 | 209.84               | 206.53 | 292.10                | 287.49 |
| September                 | 196.64                             | 193.53 | 197.67               | 194.55 | 275.59                | 271.24 |
| October                   | 179.20                             | 176.37 | 178.84               | 176.01 | 268.22                | 263.99 |
| November                  | 200.45                             | 197.28 | 206.42               | 203.16 | 274.32                | 269.99 |
| December                  | 238.49                             | 234.72 | 245.72               | 241.84 | 321.73                | 316.65 |

<sup>&</sup>lt;sup>1</sup>Prices are Brazilian basic pig iron, f.o.b. New Orleans, LA.

Note: Long tons = lt; metric tons = t.

<sup>&</sup>lt;sup>2</sup>May include revisions to previously published data.