# Mineral Industry Surveys 

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## SULFUR IN JANUARY 2012

During January 2012, production of recovered elemental sulfur was 680,000 metric tons ( t ), which was $10 \%$ lower than that of December 2011 and 7\% lower than that of January 2011. Shipments were $694,000 \mathrm{t}$, which was $6 \%$ lower than those of December 2011. Producers’ ending stocks for January 2012 were $161,000 \mathrm{t}$.

Imports of recovered sulfur for January 2012 were estimated to be $259,000 \mathrm{t}$; exports were $155,000 \mathrm{t}$. Imports of sulfuric acid for January 2012 were 291,000 t; exports were 15,000 t.
U.S. sulfur consumption, calculated as shipments minus
exports plus imports, was 798,000 t in January 2012. This was $14 \%$ lower than that of December 2011 and about 13\% lower than that of January 2011.

Significant adjustments have been made to the sulfur import data. The U.S. Census Bureau appears to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

TABLE 1
SALIENT SULFUR STATISTICS ${ }^{1}$
(Thousand metric tons)

| Period | Production |  |  | Shipments, all sources | Stocks, end of period ${ }^{3}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | Petroleum ${ }^{2}$ | Natural gas | Total |  |  |
| 2010, January-December | 7,120 | 1,170 | 8,290 | 8,350 | 167 |
| 2011: |  |  |  |  |  |
| January | 624 | 104 | $729{ }^{\text {r }}$ | 732 | 148 |
| February | 474 | 93 | 568 | 577 | 137 |
| March | 564 | 96 | 659 | 647 | 150 |
| April | 545 | 98 | 644 | 650 | 144 |
| May | 585 | 96 | 681 | 682 | 143 |
| June | 620 | 76 | 697 | 698 | 140 |
| July | 614 | 92 | 705 | 681 | 164 |
| August | 623 | 98 | 720 | 731 | 159 |
| September | 586 | 93 | 678 | 676 | 156 |
| October | 602 | 86 | 688 | 687 | 161 |
| November | 590 | 94 | 684 | 689 | 157 |
| December ${ }^{\text {r }}$ | 656 | 101 | 756 | 738 | 176 |
| Total | 7,080 | 1,130 | 8,210 ${ }^{\text {r }}$ | 8,190 ${ }^{\text {r }}$ | 176 |
| 2012, January ${ }^{\text {p }}$ | 582 | 98 | 680 | 694 | 161 |

${ }^{\mathrm{p}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Includes a small quantity from coking operations.
${ }^{3}$ Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR ${ }^{1}$
(Thousand metric tons and thousand dollars)

| Period | Canada |  | Mexico |  | Venezuela |  | Total, all countries ${ }^{2}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity ${ }^{\text {e }}$ | Value ${ }^{3}$ | Quantity | Value ${ }^{3}$ | Quantity ${ }^{\text {e }}$ | Value ${ }^{3}$ | Quantity ${ }^{\text {e }}$ | Value ${ }^{3}$ |
| 2010, January-December | 2,320 | 122,000 | 379 | 37,400 | 41 | 4,200 | 2,950 | 214,000 |
| 2011: |  |  |  |  |  |  |  |  |
| January | 220 | 10,000 | 29 | 3,620 | 13 | 1,600 | 272 | 17,600 |
| February | 200 | 10,700 | 14 | 2,750 | -- | -- | 252 | 21,400 |
| March | 220 | 25,100 | 44 | 5,940 | -- | -- | 275 | 33,500 |
| April | 220 | 13,800 | 29 | 4,940 | 18 | 3,430 | 268 | 22,700 |
| May | 230 | 14,700 | 29 | 6,190 | -- | -- | 260 | 21,600 |
| June | 220 | 14,400 | 14 | 2,760 | 15 | 2,750 | 315 | 37,300 |
| July | 240 | 18,100 | 29 | 5,910 | -- | -- | 270 | 24,500 |
| August | 240 | 17,800 | 14 | 3,330 | 15 | 2,720 | 308 | 33,500 |
| September | 230 | 15,600 | 29 | 5,400 | 8 | 1,510 | 267 | 22,900 |
| October | 230 | 16,300 | 14 | 3,240 | -- | -- | 245 | 19,800 |
| November | 220 | 13,700 | 29 | 5,420 | 10 | 1,370 | 259 | 20,800 |
| December | 230 | 17,600 | 29 | 5,010 | 20 | 2,970 | 279 | 25,800 |
| Total | 2,700 | 188,000 | 303 | 54,500 | 99 | 16,400 | 3,270 | 301,000 |
| 2012, January | 230 | 13,700 | 29 | 5,230 | -- | -- | 259 | 19,200 |

${ }^{\mathrm{e}}$ Estimated. -- Zero.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ May include other countries not listed.
${ }^{3}$ Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and ICIS PentaSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID ${ }^{1}$
(Thousand metric tons and thousand dollars)

| Period | Canada |  |  | Mexico |  |  | Total, all countries ${ }^{2}$ |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Quantity | Sulfur content | Value ${ }^{3}$ | Quantity | Sulfur content | Value ${ }^{3}$ | Quantity | Sulfur content | Value ${ }^{3}$ |
| 2010, January-December | 1,150 | 378 | 79,100 | 198 | 65 | 11,100 | 2,110 | 690 | 139,000 |
| 2011: |  |  |  |  |  |  |  |  |  |
| January | 150 | 49 | 11,500 | 27 | 9 | 1,620 | 206 | 67 | 17,500 |
| February | 152 | 50 | 11,400 | 14 | 5 | 989 | 234 | 76 | 19,800 |
| March | 146 | 48 | 11,700 | 58 | 19 | 3,310 | 254 | 83 | 22,200 |
| April | 145 | 47 | 8,780 | 47 | 15 | 3,400 | 229 | 75 | 18,100 |
| May | 135 | 44 | 7,460 | 40 | 13 | 2,950 | 229 | 75 | 17,000 |
| June | 116 | 38 | 7,670 | 39 | 13 | 2,750 | 221 | 72 | 18,100 |
| July | 157 | 51 | 16,000 | 23 | 8 | 1,570 | 205 | 68 | 23,800 |
| August | 169 | 55 | 18,500 | 46 | 15 | 3,250 | 237 | 78 | 25,600 |
| September | 141 | 46 | 15,600 | 30 | 10 | 2,130 | 175 | 57 | 19,600 |
| October | 179 | 59 | 17,600 | 35 | 11 | 2,440 | 230 | 75 | 21,600 |
| November | 155 | 51 | 14,600 | 31 | 10 | 2,180 | 188 | 61 | 17,100 |
| December | 178 | 58 | 16,900 | 43 | 14 | 2,860 | 257 | 84 | 23,200 |
| Total | 1,820 | 596 | 158,000 | 433 | 142 | 29,400 | 2,670 | 871 | 244,000 |
| 2012, January | 192 | 63 | 16,600 | 32 | 10 | 2,320 | 291 | 95 | 26,500 |

${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ May include other countries not listed.
${ }^{3}$ Declared customs valuation.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID ${ }^{1}$
(Thousand metric tons and thousand dollars)

| Period | Sulfur |  | Sulfuric acid |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  | Quantity | Sulfur content | Value ${ }^{2}$ |
|  | Quantity | Value ${ }^{2}$ |  |  |  |
| 2010, January-December | 1,450 | 171,000 | 216 | 71 | 26,400 |
| 2011: |  |  |  |  |  |
| January | 86 | 13,900 | 20 | 7 | 2,320 |
| February | 122 | 20,900 | 28 | 9 | 3,470 |
| March | 114 | 20,500 | 22 | 7 | 3,220 |
| April | 123 | 26,100 | 40 | 13 | 3,840 |
| May | 52 | 11,400 | 27 | 9 | 3,180 |
| June | 189 | 34,500 | 26 | 8 | 3,410 |
| July | 61 | 15,600 | 30 | 10 | 3,790 |
| August | 116 | 24,900 | 68 | 22 | 5,100 |
| September | 160 | 30,100 | 24 | 8 | 3,740 |
| October | 79 | 17,900 | 11 | 4 | 1,830 |
| November | 117 | 26,500 | 23 | 8 | 5,510 |
| December | 90 | 23,400 | 13 | 4 | 2,080 |
| Total | 1,310 | 266,000 | 332 | 109 | 41,500 |
| 2012, January | 155 | 32,900 | 15 | 5 | 2,760 |

${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR ${ }^{1}$
(Thousand metric tons)

| Period | Domestic sources ${ }^{2}$ | Imports ${ }^{\text {e }}$ | Consumption |
| :---: | :---: | :---: | :---: |
| 2010, January-December | 6,900 | 2,950 | 9,850 |
| 2011: |  |  |  |
| January | 646 | 272 | 918 |
| February | 455 | 252 | 707 |
| March | 533 | 275 | 808 |
| April | 527 | 268 | 795 |
| May | 630 | 260 | 890 |
| June | 509 | 315 | 824 |
| July | 620 | 270 | 890 |
| August | 615 | 308 | 923 |
| September | 516 | 267 | 783 |
| October | 608 | 245 | 853 |
| November | 572 | 259 | 831 |
| December | $648{ }^{\text {r }}$ | 279 | $927{ }^{\text {r }}$ |
| Total | 6,880 ${ }^{\text {r }}$ | 3,270 | 10,100 |
| 2012, January | $539{ }^{\text {p }}$ | 259 | 798 |

${ }^{e}$ Estimated. ${ }^{\mathrm{P}}$ Preliminary. ${ }^{\mathrm{F}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES, BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT ${ }^{1}$
(Thousand metric tons)

| District and source | January 2011 ${ }^{2}$ |  | December 2011 |  | January 2012 ${ }^{\text {p }}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Production | Shipments | Production | Shipments | Production | Shipments |
| PAD 1: |  |  |  |  |  |  |
| Petroleum and coke | 8 | 3 | 7 | 2 | 7 | 8 |
| Natural gas | 1 | 1 | 1 | 1 | 1 | 1 |
| Total | 9 | 4 | 8 | 3 | 8 | 9 |
| PAD 2: |  |  |  |  |  |  |
| Petroleum and coke | 86 | 88 | $91^{\text {r }}$ | $92^{\text {r }}$ | 86 | 87 |
| Natural gas | 2 | 2 | 2 | 1 | 2 | 1 |
| Total | 87 | 90 | $92^{\text {r }}$ | $93{ }^{\text {r }}$ | 87 | 88 |
| PAD 3: ${ }^{3}$ |  |  |  |  |  |  |
| Petroleum and coke | 426 | 432 | 448 | 437 | 389 | 399 |
| Natural gas | 39 | 38 | 40 | 40 | 39 | 39 |
| Total | 465 | 470 | 489 | 477 | 429 | 438 |
| PAD 4 and 5 |  |  |  |  |  |  |
| Petroleum and coke | 105 | 103 | $109{ }^{\text {r }}$ | $106{ }^{\text {r }}$ | 100 | 104 |
| Natural gas | 63 | 63 | 58 | 58 | 56 | 56 |
| Total | 167 | 167 | 167 | $164{ }^{\text {r }}$ | 156 | 160 |
| Grand total | 729 | 732 | $756{ }^{\text {r }}$ | $738{ }^{\text {r }}$ | 680 | 694 |

${ }^{\mathrm{P}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ May include revisions to previously published data.
${ }^{3}$ Includes the U.S. Virgin Islands.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS ${ }^{1}$

Million metric tons per year [annualized basis] and dollars per metric ton for period shown

|  | 2011 |  | $\begin{gathered} 2012 \\ \text { January } \end{gathered}$ |
| :---: | :---: | :---: | :---: |
|  | December | Total |  |
| Production | $8.90{ }^{\text {r }}$ | $8.21{ }^{\text {r }}$ | $8.01{ }^{\text {p }}$ |
| Shipments | $8.69{ }^{\text {r }}$ | $8.19{ }^{\text {r }}$ | $8.17{ }^{\text {p }}$ |
| Exports of sulfur | 1.06 | 1.31 | 1.83 |
| Imports of sulfur: |  |  |  |
| Canada ${ }^{\text {e }}$ | 2.71 | 2.70 | 2.71 |
| Mexico | 0.34 | 0.30 | 0.34 |
| Venezuela ${ }^{\text {e }}$ | 0.24 | 0.10 | -- |
| Total ${ }^{\text {e, } 2}$ | 3.29 | 3.27 | 3.05 |
| Exports of $\mathrm{H}_{2} \mathrm{SO}_{4}$ | 0.15 | 0.33 | 0.18 |
| Imports of $\mathrm{H}_{2} \mathrm{SO}_{4}$ : |  |  |  |
| Canada | 2.10 | 1.82 | 2.26 |
| Mexico | 0.51 | 0.43 | 0.38 |
| Total ${ }^{2}$ | 3.03 | 2.67 | 3.43 |
| Consumption: |  |  |  |
| Domestic sources | $7.63{ }^{\text {r }}$ | $6.88{ }^{\text {r }}$ | 6.35 |
| Imports ${ }^{\text {e }}$ | 3.29 | 3.27 | 3.05 |
| Total | $10.90{ }^{\text {r }}$ | $10.20{ }^{\text {r }}$ | 9.40 |
| Sulfur export values ${ }^{3}$ | 260 | 203 | 212 |
| Sulfur import values: ${ }^{3}$ |  |  |  |
| Canada | 76 | 70 | 60 |
| Mexico | 173 | 180 | 180 |
| Venezuela | 149 | 165 | XX |
| Average ${ }^{2}$ | 92 | 92 | 74 |
| $\mathrm{H}_{2} \mathrm{SO}_{4}$ export values ${ }^{3}$ | 160 | 125 | 184 |
| $\mathrm{H}_{2} \mathrm{SO}_{4}$ import values: ${ }^{3}$ |  |  |  |
| Canada | 95 | 86 | 86 |
| Mexico | 67 | 68 | 72 |
| Average ${ }^{2}$ | 90 | 91 | 91 |

${ }^{e}$ Estimated. ${ }^{\mathrm{P}}$ Preliminary. ${ }^{\mathrm{r}}$ Revised. XX Not applicable. -- Zero.
${ }^{1}$ Data are rounded to no more than three significant digits; may not add to totals shown.
${ }^{2}$ Includes other countries not listed.
${ }^{3}$ Average value per ton.

