

## Mineral Industry Surveys

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## **COBALT IN DECEMBER 2020**

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in December 2020 was 51% less than that imported in December 2019. In 2020, the amount of cobalt contained in imports was 30% less than that imported during the same period in 2019 (table 2). The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in December 2020 was 41% less than that exported in December 2019. In 2020, the amount exported was 16% less than that exported in 2019 (table 4).

## **Prices**

In December, the monthly average U.S. spot cobalt price was essentially unchanged from that in November and 4% lower than that in December 2019. The monthly average LME cash mean price was slightly lower than that in November and 5%

lower than that in December 2019. The following listed prices are for cobalt metal in December, in dollars per pound.

| Type                       | Price range | Average price |
|----------------------------|-------------|---------------|
| U.S. spot <sup>1</sup>     | 15.50-16.00 | 15.78         |
| LME cash mean <sup>2</sup> | 14.32-14.51 | 14.47         |

<sup>1</sup>Source: Platts Metals Week, minimum 99.8% cobalt cathode.
<sup>2</sup>London Metal Exchange, mean of the cash buyer and cash seller price, minimum 99.3% cobalt briquettes, cathode, ingot, or rounds (converted from dollars per metric ton and rounded to the nearest cent).

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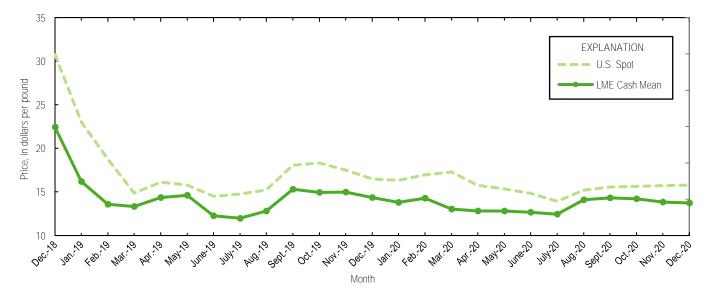


Figure 1. Average U.S. spot prices and LME cash mean prices for December 2018 through December 2020. Sources: Platts Metals Week and London Metal Exchange.

 $\label{table 1} \textbf{TABLE 1}$  REPORTED STOCKS OF COBALT METAL, END OF PERIOD

(Metric tons, contained cobalt)

|           | LME <sup>1</sup>        |           |           |       |  |  |
|-----------|-------------------------|-----------|-----------|-------|--|--|
|           | U.S.                    | U.S.      | Non-U.S.  |       |  |  |
| Period    | Government <sup>2</sup> | warehouse | warehouse | Total |  |  |
| 2019:     |                         |           |           |       |  |  |
| December  | 302                     | 102       | 583       | 685   |  |  |
| 2020:     |                         |           |           |       |  |  |
| January   | 302                     | 95        | 555       | 650   |  |  |
| February  | 302                     | 94        | 551       | 645   |  |  |
| March     | 302                     | 92        | 551       | 643   |  |  |
| April     | 302                     | 91        | 513       | 604   |  |  |
| May       | 302                     | 89        | 513       | 602   |  |  |
| June      | 302                     | 89        | 513       | 602   |  |  |
| July      | 302                     | 82        | 513       | 595   |  |  |
| August    | 302                     | 82        | 373       | 455   |  |  |
| September | 302                     | 82        | 369       | 451   |  |  |
| October   | 302                     | 82        | 369       | 451   |  |  |
| November  | 302                     | 82        | 369       | 451   |  |  |
| December  | 302                     | 82        | 369       | 451   |  |  |

<sup>&</sup>lt;sup>1</sup>London Metal Exchange.

 $<sup>^2\</sup>mathrm{Data}$  from Defense Logistics Agency Strategic Materials.

 $\label{eq:table 2} \textbf{U.s. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY OR LOCALITY}^1$ 

|                        | Mata          | Metals <sup>2</sup> |               | Oxides and hydroxides |               | Salts and compounds <sup>3</sup> |                          | Cobalt content,      |
|------------------------|---------------|---------------------|---------------|-----------------------|---------------|----------------------------------|--------------------------|----------------------|
|                        | Gross         | iis                 | Gross         | iyuloxides            | Gross         | mpounds                          | Total cobalt content for | year to              |
| Period and country or  | weight        | Value <sup>4</sup>  | weight        | Value <sup>4</sup>    | weight        | Value <sup>4</sup>               | the period <sup>5</sup>  | date <sup>5, 6</sup> |
| locality of origin     | (metric tons) | (thousands)         | (metric tons) | (thousands)           | (metric tons) | (thousands)                      | (metric tons)            | (metric tons)        |
| 2019:                  | (metric tons) | (tilousalius)       | (metric tons) | (tilousalius)         | (metric tons) | (tilousands)                     | (metric tons)            | (metric tons)        |
| December               | 1,210         | \$42,500            | 102           | \$2,740               | 103           | \$1,370                          | 1,320                    | 13,900               |
|                        | 11,900        | 453,000             | 1,710         | 44,300                |               | 27,900                           |                          | 13,900<br>XX         |
| January–December 2020: | 11,900        | 455,000             | 1,/10         | 44,300                | 2,110         | 27,900                           | 13,900                   | AA                   |
|                        | 1.670         | 62.200              | 141           | 2.560                 | 147           | 1 220                            | 1.920                    | 1 920                |
| January                | 1,670<br>803  | 62,300              |               | 3,560                 |               | 1,330                            | 1,820                    | 1,820                |
| February               |               | 27,300              | 112           | 2,850                 | 76            | 768                              | 906                      | 2,720                |
| March                  | 1,080         | 40,600              | 160           | 3,810                 | 203           | 2,360                            | 1,260                    | 3,980                |
| April                  | 927           | 32,200              | 103           | 2,780                 | 279           | 2,880                            | 1,090                    | 5,070                |
| May                    | 459           | 15,000              | 128           | 3,310                 | 317           | 4,010                            | 665                      | 5,740                |
| June                   | 446           | 13,400              | 60            | 1,460                 | 164           | 1,770                            | 539                      | 6,280                |
| July                   | 725           | 22,800              | 103           | 2,530                 | 112           | 1,410                            | 838                      | 7,120                |
| August                 | 450           | 13,100              | 30            | 737                   | 168           | 2,220                            | 536                      | 7,650                |
| September              | 325           | 10,100              | 175           | 3,570                 | 244           | 2,960                            | 537                      | 8,190                |
| October                | 263           | 9,130               | 61            | 1,320                 | 157           | 1,610                            | 357                      | 8,550                |
| November               | 446           | 14,100              | 91            | 2,270                 | 129           | 1,370                            | 552                      | 9,100                |
| December:              |               |                     |               |                       |               |                                  |                          |                      |
| Australia              |               |                     |               |                       |               |                                  |                          | 737                  |
| Belgium                | (7)           | 19                  | 32            | 789                   |               |                                  | 23                       | 210                  |
| Brazil                 |               |                     |               |                       | 9             | 135                              | 3                        | 70                   |
| Canada                 | 137           | 4,210               |               |                       | (7)           | 4                                | 137                      | 1,950                |
| China                  | 6             | 133                 |               |                       | 19            | 205                              | 11                       | 107                  |
| Finland                | 16            | 549                 | 28            | 591                   | 23            | 215                              | 44                       | 1,120                |
| France                 |               |                     |               |                       |               |                                  |                          | 7                    |
| Germany                | 6             | 297                 | 2             | 45                    |               |                                  | 7                        | 58                   |
| Japan                  | 91            | 3,040               |               |                       |               |                                  | 91                       | 1,350                |
| Korea, Republic of     |               |                     |               |                       |               |                                  |                          | 29                   |
| Madagascar             |               |                     |               |                       |               |                                  |                          | 397                  |
| Mexico                 |               |                     |               |                       | (7)           | 5                                | (7)                      | 62                   |
| Morocco                | 20            | 521                 |               |                       |               |                                  | 20                       | 356                  |
| Netherlands            |               |                     |               |                       |               |                                  |                          | 14                   |
| Norway                 | 232           | 12,400              |               |                       |               |                                  | 232                      | 1,910                |
| Russia                 | 20            | 598                 |               |                       |               |                                  | 20                       | 713                  |
| South Africa           | 14            | 107                 |               |                       |               |                                  | 14                       | 205                  |
| Taiwan                 |               |                     |               |                       |               |                                  |                          | 61                   |
| United Kingdom         | 4             | 230                 | 38            | 938                   | 32            | 299                              | 39                       | 380                  |
| Other                  |               |                     | (7)           | 3                     | 1             | 13                               | (7)                      | 9                    |
| Total                  | 546           | 22,100              | 100           | 2,370                 | 84            | 875                              | 642                      | 9,740                |
| January-December       | 8,140         | 282,000             | 1,260         | 30,600                | 2,080         | 23,600                           | 9,740                    | XX                   |

XX Not applicable. -- 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>Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

<sup>&</sup>lt;sup>3</sup>Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

<sup>&</sup>lt;sup>4</sup>Customs value.

<sup>&</sup>lt;sup>5</sup>Estimated from gross weights.

<sup>&</sup>lt;sup>6</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>7</sup>Less than ½ unit.

 ${\it TABLE~3}$  U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY OR LOCALITY  $^1$ 

|  | Unwrought c          | abolt allava       | Cobalt waste         | a and savan        | Wrought cobalt and cobalt articles |                                |
|--|----------------------|--------------------|----------------------|--------------------|------------------------------------|--------------------------------|
|  | Gross                | obait alloys       | Gross                | e and scrap        | Gross                              | iticies                        |
| D : 1 1 4                                |                      | Value <sup>2</sup> |                      | Value <sup>2</sup> |                                    | 2                              |
| Period and country or locality of origin | weight (metric tons) | (thousands)        | weight (metric tons) | (thousands)        | weight (metric tons)               | Value <sup>2</sup> (thousands) |
| 2019:                                    | (metric tons)        | (thousands)        | (metric tons)        | (mousands)         | (metric tons)                      | (thousands)                    |
| December                                 | 40                   | \$2,280            | 152                  | \$2,170            | 52                                 | \$5,320                        |
|  |                      |                    |                      |                    |                                    |                                |
| January–December                         | 369                  | 23,600             | 2,100                | 28,900             | 491                                | 53,800                         |
| 2020:                                    | 10                   | 720                | 100                  | 1.620              | 27                                 | 4.260                          |
| January                                  | 12                   | 738                | 180                  | 1,620              | 37                                 | 4,360                          |
| February                                 | 36                   | 1,650              | 69                   | 769                | 30                                 | 3,570                          |
| March                                    | 40                   | 1,890              | 248                  | 2,240              | 49                                 | 5,880                          |
| April                                    | 49                   | 2,570              | 167                  | 1,830              | 31                                 | 4,230                          |
| May                                      | 30                   | 1,390              | 146                  | 1,640              | 22                                 | 3,660                          |
| June                                     | 3                    | 146                | 65                   | 288                | 20                                 | 3,230                          |
| July                                     | 10                   | 460                | 88                   | 1,250              | 21                                 | 3,430                          |
| August                                   | 12                   | 472                | 128                  | 1,800              | 14                                 | 2,150                          |
| September                                | 22                   | 937                | 39                   | 509                | 31                                 | 3,640                          |
| October                                  | 1                    | 46                 | 52                   | 544                | 22                                 | 3,210                          |
| November                                 | 10                   | 421                | 116                  | 1,620              | 23                                 | 3,380                          |
| December:                                |                      |                    |                      |                    |                                    |                                |
| Belgium                                  | 6                    | 210                | 4                    | 77                 | (3)                                | 5                              |
| Canada                                   |                      |                    | 17                   | 124                | 1                                  | 395                            |
| France                                   |                      |                    | 11                   | 262                | 1                                  | 1,140                          |
| Ireland                                  |                      |                    | 42                   | 81                 |                                    |                                |
| Japan                                    |                      |                    | 13                   | 99                 | 1                                  | 194                            |
| Tunisia                                  |                      |                    | 20                   | 215                |                                    |                                |
| United Kingdom                           | 40                   | 1,880              | 22                   | 213                | 12                                 | 1,060                          |
| Other                                    | (3)                  | 5                  | 2                    | 24                 | 3                                  | 881                            |
| Total                                    | 46                   | 2,100              | 132                  | 1,100              | 18                                 | 3,670                          |
| January-December                         | 272                  | 12,800             | 1,430                | 15,200             | 319                                | 44,400                         |

<sup>--</sup> 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>Customs value.

<sup>&</sup>lt;sup>3</sup>Less than ½ unit.

 $\label{eq:table 4} TABLE\,4$  U.S. EXPORTS OF COBALT MATERIALS  $^1$ 

|                  | Unwrought col                       | alt, powders,                  |                            |                                |                                  |                                |   | Cobalt                                     |
|------------------|-------------------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------------|--------------------------------|---|--|
|                  | matte, waste and scrap <sup>2</sup> |                                | Oxides and hydroxides      |                                | Salts and compounds <sup>3</sup> |                                | Total cobalt  | content,                                   |
| Period           | Gross weight (metric tons)          | Value <sup>4</sup> (thousands) | Gross weight (metric tons) | Value <sup>4</sup> (thousands) | Gross weight (metric tons)       | Value <sup>4</sup> (thousands) | content for<br>the period <sup>5</sup><br>(metric tons) | year to date <sup>5, 6</sup> (metric tons) |
| 2019:            | ,                                   | /                              |                            |                                |                                  |                                | /   | ,  |
| December         | 361                                 | \$11,000                       | 1                          | \$25                           | (7)                              | \$4                            | 361   | 4,070                                      |
| January-December | 3,970                               | 128,000                        | 79                         | 1,710                          | 203                              | 2,370                          | 4,070   | XX   |
| 2020:            |                                     |                                |                            |                                |                                  |                                |   |  |
| January          | 335                                 | 11,900                         | 8                          | 326                            | 32                               | 93                             | 349   | 349  |
| February         | 301                                 | 8,930                          | 14                         | 489                            | 3                                | 39                             | 311   | 660  |
| March            | 248                                 | 8,320                          | 7                          | 249                            | 65                               | 292                            | 268   | 928  |
| April            | 351                                 | 8,700                          | 3                          | 109                            | 39                               | 340                            | 363   | 1,290                                      |
| May              | 260                                 | 9,310                          | 9                          | 380                            | 51                               | 2,060                          | 279   | 1,570                                      |
| June             | 398                                 | 8,350                          | 8                          | 329                            | 29                               | 174                            | 411   | 1,980                                      |
| July             | 248                                 | 7,250                          | 8                          | 230                            | 59                               | 266                            | 268   | 2,250                                      |
| August           | 271                                 | 6,610                          | 11                         | 262                            | 9                                | 23                             | 281   | 2,530                                      |
| September        | 231                                 | 6,300                          | 3                          | 131                            | 31                               | 232                            | 240   | 2,770                                      |
| October          | 269                                 | 8,650                          | 2                          | 86                             | 20                               | 52                             | 275   | 3,050                                      |
| November         | 157                                 | 6,680                          | (7)                        | 11                             | 38                               | 254                            | 166   | 3,210                                      |
| December         | 213                                 | 6,090                          | 1                          | 31                             |                                  |                                | 213   | 3,420                                      |
| January-December | 3,280                               | 97,100                         | 74                         | 2,630                          | 376                              | 3,830                          | 3,420   | XX   |

XX Not applicable. -- 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>May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

<sup>&</sup>lt;sup>3</sup>Cobalt acetates and cobalt chlorides.

<sup>&</sup>lt;sup>4</sup>Free alongside ship (f.a.s.) value.

<sup>&</sup>lt;sup>5</sup>Estimated from gross weights.

<sup>&</sup>lt;sup>6</sup>May include revisions to previously published data.

<sup>&</sup>lt;sup>7</sup>Less than ½ unit.

 $\label{eq:table 5} \mbox{U.s. EXPORTS OF WROUGHT COBALT, COBALT ORE,} \\ \mbox{AND CONCENTRATES}^1$ 

|                  | Wrought cobalt a |                    | Cobalt ore and concentrates |                    |  |
|------------------|------------------|--------------------|-----------------------------|--------------------|--|
|                  | Gross<br>weight  | Value <sup>2</sup> | Gross<br>weight             | Value <sup>2</sup> |  |
| Period           | (metric tons)    | (thousands)        | (metric tons)               | (thousands)        |  |
| 2019:            |                  |                    |                             |                    |  |
| December         | 208              | \$16,700           | 77                          | \$211              |  |
| January-December | 1,750            | 164,000            | 102                         | 603                |  |
| 2020:            |                  |                    |                             |                    |  |
| January          | 107              | 11,800             | 150                         | 515                |  |
| February         | 128              | 14,900             |                             |                    |  |
| March            | 123              | 13,700             |                             |                    |  |
| April            | 100              | 10,600             | (3)                         | 6                  |  |
| May              | 109              | 11,500             |                             |                    |  |
| June             | 97               | 11,000             |                             |                    |  |
| July             | 96               | 11,200             |                             |                    |  |
| August           | 100              | 9,650              |                             |                    |  |
| September        | 108              | 10,400             |                             |                    |  |
| October          | 167              | 14,300             |                             |                    |  |
| November         | 112              | 10,700             |                             |                    |  |
| December         | 135              | 12,600             |                             |                    |  |
| January-December | 1,380            | 143,000            | 150                         | 521                |  |

<sup>--</sup> 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>Free alongside ship (f.a.s.) value.

<sup>&</sup>lt;sup>3</sup>Less than ½ unit.