

# Mineral Industry Surveys

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## **COBALT IN NOVEMBER 2017**

On the basis of preliminary data, U.S. cobalt consumption during January through November 2017 was essentially unchanged from consumption during the same period in 2016. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals in January through November 2017 was essentially unchanged from that imported during the same period in 2016 (table 2). The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals in January through November 2017 was 37% more than that exported during the same period in 2016. Exports of cobalt waste and scrap were twice as high as those during the same period in 2016 (table 4).

### **Prices**

Cobalt prices continued the upward trend that began in early 2016 as a result of strong demand from consumers, limited availability of cobalt on the spot market, and an increase in metal purchases by investors. In November, the monthly average U.S. spot cobalt price was slightly higher than that in October 2017 and 120% higher than that in November 2016.

The monthly average LME cash mean price was 4% higher than that in October 2017 and 112% higher than that in November 2016. The following listed prices are for cobalt metal in November, in dollars per pound.

Type	Price range	Average price
U.S. spot <sup>1</sup>	29.00-32.00	29.90
LME cash mean <sup>2</sup>	27.22-30.96	28.13

<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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# $\label{eq:table 1} \textbf{TABLE 1}$ REPORTED CONSUMPTION AND STOCKS OF COBALT MATERIALS $^1$

(Metric tons, contained cobalt)

			Stocks,	end of period		
					LME <sup>3, 5</sup>	
	Consumption,	U.S.	U.S.	U.S.	Non-U.S.	
Period	U.S. industry <sup>p, 2</sup>	industry <sup>p, 2</sup>	Government3,4	warehouse	warehouse	Total
2016:	•	•				
November	703	954	301	195	429	624
December	700	936	301	195	496	691
January-November	7,980 <sup>r</sup>	954	301	195	429	624
January–December <sup>6</sup>	8,680	936	301	195	496	691
Year <sup>7</sup>	9,010	969	301	195	496	691
2017:						
January	713	938	301	195	458	653
February	725	941	301	185	533	718
March	747	932	301	193	533	726
April	740	935	301	188	601	789
May	734	937	301	188	557	745
June	731	929	301	193	548	741
July	728	939	301	191	503	694
August	732	966	302	191	553	744
September	731	978	302	183	622	805
October	724	985	302	167	583	750
November	701	977	302	163	562	725
January-November	8,010	977	302	163	562	725

<sup>&</sup>lt;sup>p</sup>Preliminary. <sup>r</sup>Revised.

<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>Data for cobalt metal, metal powder, oxide and other chemical compounds, and scrap reported by U.S. cobalt processors <sup>3</sup>Cobalt metal.

<sup>&</sup>lt;sup>4</sup>Data from Defense Logistics Agency Strategic Materials.

<sup>&</sup>lt;sup>5</sup>London Metal Exchange.

<sup>&</sup>lt;sup>6</sup>U.S. industry data based on monthly reports.

<sup>&</sup>lt;sup>7</sup>U.S. industry data include annual reports.

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

	Metals <sup>2</sup> Gross		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt	Cobalt content,
			Gross	nyuromues	Gross	inpounds	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
2016: November	1 120	¢20 000	00	\$2.210	102	\$75 <i>C</i>	1 220	11.20
	1,120	\$28,800	99	\$2,210	103	\$756	1,220	11,200
December	1,450	40,000	209	4,690	149	1,340	1,650	12,800
January-November	9,300 <sup>r</sup>	227,000	1,750	34,600	1,970 <sup>r</sup>	19,200	11,200	XX
January-December	10,800	267,000	1,960	39,300	2,120	20,500	12,800	XX
2017:	720	21 700	125	2 200	102	2 120	200	004
January	720	21,700	135	3,300	183	2,130	880	880
February	1,130	37,600	180	4,260	237	2,720	1,350	2,230
March	793	25,500	207	5,570	234	2,630	1,020	3,250
April	980	45,500	222	7,050	211	2,040	1,200	4,440
May	535	25,600	227	7,890	215	2,370	764	5,210
June	977	49,800	106	3,930	316	3,750	1,160	6,360
July	756	38,900	141	5,540	175	2,770	917	7,280
August	569	31,300	202	8,180	297	3,660	800	8,080
September	789	45,300	139	5,970	234	2,500	963	9,040
October	875	51,900	104	4,670	187	2,730	1,000	10,000
November:								
Australia								186
Belgium	(7)	6	83	3,980			60	365
Bolivia								199
Brazil	7	715			(7)	5	7	80
Canada	106	4,330					106	1,480
China	61	3,800	43	2,050	68	1,420	116	1,250
Finland	27	1,680	44	1,760	55	1,170	78	1,160
France	(7)	20					(7)	34
Germany	3	154					3	39
Hong Kong	20	1,120					20	89
India								
Italy								4
Japan	200	12,200					200	1,270
Korea, Republic of			20	576			14	22
Madagascar	42	2,680					42	960
Morocco								158
Norway	537	33,000					537	2,560
Peru								4
Russia	18	804					18	408
South Africa	20	147					20	234
Switzerland	(7)	25					(7)	30
United Kingdom	(7)	10	59	2,560	58	744	63	501
Zambia	52	3,160					52	31:
Other								
Total	1,090	63,800	250	10,900	182	3,340	1,340	11,400
January-November	9,220	437,000	1,910	67,300	2,470	30,600	11,400	XX

<sup>&</sup>lt;sup>r</sup>Revised. 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 (	Unwrought cobalt alloys Cobalt waste and scrap			Wrought cobalt and cobalt articles		
Period and country or	Gross weight	Value <sup>2</sup>	Gross weight	Value <sup>2</sup>	Gross weight	Value <sup>2</sup>	
locality of origin	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(thousands)	
2016:							
November	67	\$2,450	94	\$1,230	25	\$2,390	
December	43	1,540	108	1,540	8	1,950	
January-November	777	25,500	918	12,300	159	19,900 <sup>r</sup>	
January-December	820	27,000	1,030	13,800	167	21,900	
2017:							
January	68	3,080	100	1,620	11	1,920	
February	33	1,550	111	1,470	12	2,050	
March	44	1,600	119	1,780	29	3,240	
April	45	1,960	134	1,830	26	3,080	
May	26	1,150	158	2,420	19	2,210	
June	31	1,300	139	1,980	13	2,570	
July	12	530	153	2,820	6	1,570	
August	12	484	102	1,580	24	2,510	
September	24	1,140	119	1,750	20	2,680	
October	45	2,110	181	2,790	13	2,780	
November:							
Austria					(3)	3	
Belgium	3	160			(3)	26	
Canada			2	4	4	991	
China			2	109	1	243	
Finland	(3)	18					
France			(3)	5	2	822	
Germany	1	70			1	135	
Hungary					(3)	6	
India			2	42			
Ireland	8	156	60	432	(3)	65	
Japan	(3)	4	3	51	(3)	108	
Mexico			6	90	(3)	13	
Netherlands			3	34			
Switzerland					(3)	14	
Taiwan			3	64			
Tunisia			10	88			
United Arab Emirates			2	13			
United Kingdom	15	849	10	169	12	593	
Vietnam					(3)	18	
Total	27	1,260	103	1,100	20	3,040	
January-November	368	16,200	1,420	21,100	191	27,700	

<sup>&</sup>lt;sup>r</sup>Revised. -- Zero.

 $<sup>^{1}\</sup>mbox{Data}$  are rounded to no more than three significant digits; may not add to totals shown.

<sup>&</sup>lt;sup>2</sup>Customs value.

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

TABLE 4
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

	Unwrought co	balt, powders,						Cobalt
	matte, waste and scrap <sup>2</sup>		Oxides and	Oxides and hydroxides		Salts and compounds <sup>3</sup>		content,
	Gross		Gross		Gross		content for	year to
	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>
Period	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(thousands)	(metric tons)	(metric tons)
2016:								
November	360	\$6,160	1	\$52	24	\$102	367	3,790
December	361	7,430	2	100	9	86	365	4,160
January-November	3,620	70,700	132	1,280	305	1,520	3,790	XX
January-December	3,990	78,100	134	1,380	314	1,600	4,160	XX
2017:								
January	356	6,380			31	213	364	364
February	376	6,590			18	212	381	745
March	471	10,900	97	434			541	1,290
April	312	9,180	10	269	(7)	7	319	1,600
May	589	12,000	40	305	36	532	626	2,230
June	398	7,520	5	139	19	281	405	2,640
July	486	9,650	9	313	4	66	494	3,130
August	347	8,490	4	138	19	277	354	3,480
September	368	10,100	13	576	19	20	382	3,870
October	485	13,600	7	235	19	281	494	4,360
November	841	11,200	4	169	20	295	849	5,210
January-November	5,030	106,000	189	2,580	186	2,180	5,210	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.

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

	Wrought o		Cobalt ore and concentrates		
	Gross	<del></del>	Gross		
	weight	Value <sup>2</sup>	weight	Value <sup>2</sup> (thousands)	
Period	(metric tons)	(thousands)	(metric tons)		
2016:					
November	90	\$7,910			
December	103	8,490			
January-November	1,280	88,000 r	2	\$65	
January-December	1,390	96,500	2	65	
2017:					
January	153	8,520			
February	84	6,430	2	26	
March	104	8,090	4	20	
April	93	8,180	105	415	
May	70	7,590	132	533	
June	104	8,610			
July	79	7,860	1	5	
August	115	9,010	6	30	
September	98	8,990	1	5	
October	107	8,350			
November	85	10,200			
January-November	1,090	91,800	250	1,030	

<sup>&</sup>lt;sup>r</sup>Revised. -- 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.