

# Mineral Industry Surveys

#### For information, contact:

Ruth F. Schulte, PGM Commodity Specialist National Minerals Information Center U.S. Geological Survey 989 National Center Reston, VA 20192

Telephone: (703) 648-4963, Fax: (703) 648-7757

Email: rschulte@usgs.gov

(Data)
Telephone: (703) 648-7942
Fax: (703) 648-7975
Email:

**Internet:** https://www.usgs.gov/centers/nmic

## PLATINUM-GROUP METALS IN APRIL 2021

Imports for consumption of platinum-group metals (PGMs), including waste and scrap, were 25,300 kilograms (kg) in April 2021, a decrease of 58% compared with imports in March 2021 and more than double PGM imports in April 2020 (table 1). The leading import sources for PGMs into the United States in April 2021 were, in descending order, South Africa, Belgium, and Canada (tables 3, 4). In April 2021, exports of palladium decreased by 26%, by 54% for platinum, by 63% for PGM waste and scrap, and by 47% for rhodium compared with those in March 2021 (table 5).

The Engelhard average April prices increased by 11% for palladium, slightly for platinum, by 12% for iridium, by 5% for rhodium, and by 15% for ruthenium compared with average prices in the previous month. Compared with average prices in April 2020, the April 2021 average prices increased by 67% for ruthenium, by 33% for palladium, by 60% for platinum, more than tripled for rhodium, and quadrupled for iridium (fig. 1; tables 1, 2). The price increases in rhodium and iridium were largely attributed to a temporary lack of liquidity that resulted from outages at one of the largest iridium refiners, Anglo American Platinum Ltd. (South Africa), and Covid-related mining interruptions. The introduction of higher emissions standards in Europe was also a driving factor in the price increase for rhodium, as it is used specifically in three-way automobile catalysts to reduce emissions of oxides of nitrogen. Investors have also taken a keen interest in iridium for it's potential use in the production of green hydrogen, which can be used to store renewable electricity (Cowley, 2021).

## **Industry News**

Platinum Group Metals Ltd. (Canada) received further notice that the mining right for the Waterburg Project, a PGM and gold mine located in the northern limb of the Bushveld Complex in South Africa, was being appealed. The Department of Mineral Resources had 130 days to consider the appeal; however, the mining right would remain active with Waterberg JV Resources (Pty) Ltd. and was notarized as effective on April 13th (Platinum Group Metals Ltd., 2021).

#### **References Cited**

Cowley, Alison, 2021, PGM market report May 2021: London, United Kingdom, Johnson Matthey Plc, May, 59 p. (Accessed July 2, 2021, at https://matthey.com/-/media/files/pgm-market-report/jm-pgm-market-report-may-2021.pdf.)

Platinum Group Metals Ltd., 2021, Platinum Group Metals Ltd. reports further appeal: Vancouver, British Columbia, Canada, and Johannesburg, South Africa, Platinum Group Metals Ltd. press release, April 14. (Accessed June 23, 2021, at https://www.platinumgroupmetals.net/investor-relations/news/press-releases/press-releases-details/2021/Platinum-Group-Metals-Ltd.-Reports-Further-Appeal/default.aspx.)

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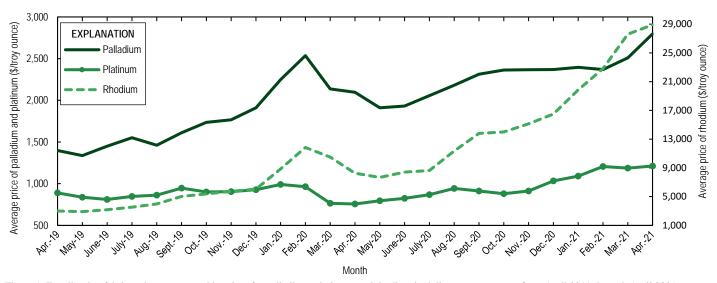


Figure 1. Engelhard unfabricated average monthly prices for palladium, platinum, and rhodium in dollars per troy ounce from April 2019 through April 2021. Source: S&P Global Platts Metals Week.

 $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{U.S. SALIENT PLATINUM-GROUP METALS STATISTICS}^1$ 

	2020	2021					
	January-				January-		
	December	February	March	April	April		
Mine production: <sup>2</sup>		-					
Palladium	14,600	1,240	1,240	1,240	4,950		
Platinum	4,200	363	363	363	1,450		
Total	18,800	1,600	1,600	1,600	6,400		
Imports for consumption: <sup>3</sup>							
Palladium	76,400	8,310	6,920	9,010	31,100		
Platinum	64,800	7,910	5,850	5,170	22,000		
Iridium	1,620	180	103	266	742		
Osmium	1						
Rhodium	20,700	1,590	1,510	1,550	6,470		
Ruthenium	13,900	2,270	4,490	2,260	10,400		
Waste and scrap <sup>4</sup>	188,000 <sup>r</sup>	29,100	41,200	7,070	106,000		
Total	365,000 r	49,400	60,100	25,300	177,000		
Exports: <sup>3</sup>							
Palladium	48,600 <sup>r</sup>	2,980	3,040	2,240	11,600		
Platinum	28,900 <sup>r</sup>	2,640	1,930	895	6,580		
Iridium, osmium, ruthenium	1,440	177	130	74	642		
Rhodium	1,470	123	87	46	377		
Waste and scrap <sup>4</sup>	33,200	1,310	7,990	2,930	15,400		
Total	114,000 <sup>r</sup>	7,220	13,200	6,180	34,600		
Price, average (dollars per troy ounce): <sup>5</sup>	_						
Palladium	2,205.27	2,368.26	2,508.83	2,796.76	2,523.99		
Platinum	886.02	1,206.79	1,187.48	1,212.19	1,175.77		
Iridium	1,633.51	4,384.21	5,676.09	6,342.86	5,045.73		
Rhodium	11,205.06	22,823.68	27,597.83	28,907.14	25,034.15		
Ruthenium	271.83	324.74	380.65	435.95	359.70		

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>Data estimated based on publicly reported quarterly data.

<sup>&</sup>lt;sup>3</sup>Source: U.S. Census Bureau.

<sup>&</sup>lt;sup>4</sup>Includes waste and scrap for all platinum-group elements. Previously included within platinum.

<sup>&</sup>lt;sup>5</sup>Source: S&P Global Platts Metals Week.

## TABLE 2 PLATINUM-GROUP METALS PRICES $^{\rm 1}$

# (Dollars per troy ounce)

	Palladium	Platinum	Iridium	Rhodium	Ruthenium
2020:					
Low:					
Price	1,585.00	610.00	1,490.00	6,000.00	255.00
Date	Mar. 17	Mar. 19	Jan.–Feb. <sup>2</sup>	Mar. <sup>2</sup>	Jan.–Apr. <sup>2</sup>
High:					•
Price	2,790.00	1,085.00	2,600.00	17,150.00	280.00
Date	Feb. 19	Dec. 31	Dec. 30 and 31	Dec. 31	May-Dec. <sup>2</sup>
Price, average	2,205.27	886.02	1,633.51	11,205.06	271.83
2021:					
February:					
Low:					
Price	2,283.00	1,088.00	4,000.00	20,250.00	300.00
Date	Feb. 2 and 4	Feb. 4	Feb. 1 and 2	Feb. 1	Feb. 1 and 2
High:					
Price	2,490.00	1,298.00	4,800.00	27,250.00	340.00
Date	Feb. 25	Feb. 19	Feb. 26	Feb. 26	Feb. <sup>2</sup>
Price, average	2,368.26	1,206.79	4,384.21	22,823.68	324.74
March:					
Low:					
Price	2,321.00	1,127.00	4,800.00	24,500.00	340.00
Date	Mar. 10	Mar. 5	Mar. 1	Mar. 12 and 15	Mar. 1
High:					
Price	2,710.00	1,225.00	6,250.00	30,000.00	415.00
Date	Mar. 18	Mar. 15 and 16	Mar. 31	Mar. 22	Mar. 31
Price, average	2,508.83	1,187.48	5,676.09	27,597.83	380.65
April:					
Low:					
Price	2,652.00	1,171.00	6,250.00	27,500.00	415.00
Date	Apr. 7	Apr. 13	Apr. <sup>2</sup>	Apr. 1	Apr. <sup>2</sup>
High:			•		
Price	3,001.00	1,248.00	6,400.00	29,500.00	450.00
Date	Apr. 30	Apr. 23	Apr. <sup>2</sup>	Apr. <sup>2</sup>	Apr. <sup>2</sup>
Price, average	2,796.76	1,212.19	6,342.86	28,907.14	435.95
January–April:					
Low:					
Price	2,283.00	1,009.00	3,000.00	17,650.00	280.00
Date	Feb. 2 and 4	Jan. 26	Jan. <sup>2</sup>	Jan. 4	Jan. <sup>2</sup>
High:					
Price	3,001.00	1,298.00	6,400.00	30,000.00	450.00
Date	Apr. 30	Feb. 19	Apr. <sup>2</sup>	Mar. 22	Apr. <sup>2</sup>
Price, average	2,523.99	1,175.77	5,045.73	25,034.15	359.70
Ouotos from Engelbard					

Source: S&P Global Platts Metals Week.

<sup>&</sup>lt;sup>1</sup>Quotes from Engelhard. <sup>2</sup>Occurred multiple days in month(s) listed.

 $\label{eq:table 3} \text{U.s. IMPORTS FOR CONSUMPTION OF PLATINUM METAL, BY COUNTRY OR LOCALITY}^1$ 

		num			Otl	ner				
	grain and nuggets		Platinum	Platinum sponge unwrought platinum			Platinur	n, other	Platinum coins	
		Value		Value		Value		Value		Value
Country or locality	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2020, January–December	162	\$4,780	30,900	\$874,000	5,370	\$255,000	25,900	\$853,000	2,510	\$75,300
2021:										
February	77	3,140	5,340	198,000	803	39,300	1,360	68,500	334	8,650
March	90	3,510	2,520	95,700	1,090	53,600	2,080	80,200	77	3,020
April:										
Australia									56	2,290
Austria							32	2,800	34	1,340
Belgium			576	20,700						
Canada	15	601					55	2,180	48	2,540
China									(2)	3
Colombia					44	1,670				
Costa Rica							69	2,400		
Czechia							1	39		
France							11	343		
Germany			237	8,850	119	5,210	280	20,000	3	73
Hong Kong	(2)	8								
Italy			271	10,700			(2)	3		
Japan			13	506	(2)	13	6	278		
Korea, Republic of			127	3,910						
Singapore					3	646	15	582		
South Africa			1,960	73,600	63	4,150				
Switzerland	23	905	5	180	260	10,100	653	25,700	9	368
Taiwan							121	4,590		
United Kingdom	1	11	38	2,160	1	43	22	782	(2)	5
Total	40	1,530	3,230	121,000	489	21,900	1,260	59,700	150	6,630
January-April	223	8,720	12,800	470,000	2,640	124,000	5,570	233,000	782	26,100

<sup>--</sup> Zero.

Source: U.S. Census Bureau.

<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>Less than ½ unit.

 ${\it TABLE~4} \\ {\it U.S.~IMPORTS~FOR~CONSUMPTION~OF~PLATINUM-GROUP~METALS,~BY~COUNTRY~OR~LOCALITY}^1$ 

	Palladium <sup>2</sup>		Palladium <sup>2</sup> Iridium <sup>2</sup>		Os	Osmium <sup>2</sup> F		Rhodium <sup>2</sup>		Ruthenium <sup>2</sup>		Waste and scrap <sup>3</sup>	
		Value		Value		Value		Value		Value		Value	
Country or locality	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	
2020, January–December	76,400	\$4,490,000	1,620	\$70,100	1	\$17	20,700	\$4,590,000	13,900	\$117,000	188,000 <sup>r</sup>	\$1,500,000	
2021:													
February	8,310	633,000	180	19,700			1,590	812,000	2,270	20,600	29,100	144,000	
March	6,920	527,000	103	11,900			1,510	1,120,000	4,490	45,600	41,200	226,000	
April: <sup>4</sup>													
Belgium	3,180	30,300					131	104,000					
Canada	343	29,400					2	96			2,390	40,300	
Germany	36	2,380	39	7,580			378	335,000	130	1,590	532	17,300	
Hungary											263	19,200	
India							36	31,200					
Italy	205	18,300	30	1,950			92	74,600			274	8,930	
Japan	(5)	18	27	965							656	21,100	
Jordan											65	2,090	
Korea, Republic of	388	33,000					40	35,400					
Mexico											1,580	43,000	
New Zealand											105	3,470	
Nigeria											374	12,200	
Norway	47	3,960											
Russia	2,430	206,000	4	104			59	45,300					
South Africa	2,220	203,000	134	21,100			667	566,000	1,190	12,900			
Switzerland	133	10,800					18	16,400					
Taiwan											34	2,810	
Thailand											232	8,800	
Trinidad and Tobago											69	2,820	
United Kingdom	17	262	32	4,150			114	81,800	935	12,300	339	12,200	
Other	10	140					7	332			167	8,190	
Total	9,010	538,000	266	35,800			1,550	1,290,000	2,260	26,800	7,070	202,000	
January-April	31,100	2,150,000	742	76,000			6,470	3,950,000	10,400	103,000	106,000	703,000	

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

Source: U.S. Census Bureau.

<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 and other forms.

<sup>&</sup>lt;sup>3</sup>Includes waste and scrap for all platinum-group elements.

<sup>&</sup>lt;sup>4</sup>The 20 countries and (or) localities with the greatest total platinum-group metal imports are listed. All others are included in the "Other" category.

<sup>&</sup>lt;sup>5</sup>Less than ½ unit.

 ${\bf TABLE~5} \\ {\bf U.S.~EXPORTS~OF~PLATINUM-GROUP~METALS,~BY~COUNTRY~OR~LOCALITY}^1$ 

	Pallac	1:2	Plati	2		, osmium nenium <sup>2, 3</sup>	DI	dium <sup>2</sup>	Waste and scrap <sup>4</sup>	
	Pallac	Value	Platii	num Value	and rutr	Value	Kno	Value	waste a	na scrap Value
Country or locality	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2020, January–December	48.600 <sup>r</sup>	\$2,900,000 r	28,900 r	\$930,000	1,440	\$24,900	1,470	\$426,000 r	33,200	\$1,400,000
2021:	,	+-,, ,,,,,,	,	******	-,	7-1,	-,	4,	,	4-,,
February	2,980	235,000	2,640	100,000	177	4,010	123	78,600	1,310	197,000
March	3,040	252,000	1,930	112,000	130	3,920	87	50,100	7,990	492,000
April: <sup>5</sup>		, , , , , , , , , , , , , , , , , , , ,	7	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,						,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Australia	3	253	17	518	13	386				
Belgium	70	5,770	19	714			5	4,280	1	19
Canada	276	25,900	98	3,890			(6)	28	30	898
China	18	1,470	23	636	1	11				
Costa Rica			56	1,160	5	159				
Germany	475	43,500	112	4,520			10	8,910	972	177,000
India	(6)	17	30	1,140	15	150				
Ireland	2	223	36	1,120						
Italy	389	34,100	1	12	3	16	(6)	80		
Japan	358	30,800	72	2,700	21	1,500			1,150	73,000
Korea, Republic of	12	948	2	62			26	23,500		
Mexico	(6)	37	163	5,800						
Norway	(6)	6	42	1,250						
Singapore	2	117	126	4,930						
South Africa									47	4,580
Sweden			(6)	5					83	3,810
Switzerland	380	33,400	3	53	1	36	1	712	34	1,460
Taiwan	191	16,500	9	386	3	33				
United Kingdom	33	2,850	33	1,160	12	339	4	3,280	562	44,500
Uruguay			(6)	20					39	2,820
Other	31	2,530	51	1,850	(6)	10	(6)	3	8	253
Total	2,240	198,000	895	31,900	74	2,640	46	40,800	2,930	309,000
January-April	11,600	941,000	6,580	287,000	642	15,100	377	243,000	15,400	1,130,000

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

Source: U.S. Census Bureau.

<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 and other forms.

<sup>&</sup>lt;sup>3</sup>Gross weight.

<sup>&</sup>lt;sup>4</sup>Includes waste and scrap for all platinum-group elements. Previously categorized as "Platinum waste and scrap."

<sup>&</sup>lt;sup>5</sup>The 20 countries and (or) localities with the greatest total platinum-group metal exports are listed. All others are included in the "Other" category.

<sup>&</sup>lt;sup>6</sup>Less than ½ unit.