

# Mineral Industry Surveys

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### PLATINUM-GROUP METALS IN OCTOBER 2021

Imports for consumption of platinum-group metals (PGMs), including waste and scrap, were 21,600 kilograms (kg) in October 2021, an increase of 15% compared with imports in September 2021 and a decrease of 69% compared with imports in October 2020. Year-to-date imports through October 2021 decreased by 8% for all PGMs compared with year-to-date imports through October 2020 (table 1). The leading import sources for PGMs into the United States in October 2021 were, in descending order of quantity, the United Kingdom, South Africa, and Canada (tables 3, 4).

In October 2021, exports of platinum increased by 3%, PGM scrap by 5%, rhodium by 67%, and palladium by 99% compared with those in September 2021. The leading destinations for PGM exports were, in descending order of quantity, Switzerland, Japan, and Canada (tables 1, 5).

The Engelhard average October 2021 prices increased by 4% for platinum, and decreased by 5% for palladium, by 5% for rhodium, by 5% for ruthenium, and by 8% for iridium compared with average prices in the previous month. Compared with average prices in October 2020, the October 2021 average prices increased by 16% for platinum and more than doubled for iridium and ruthenium, each. The average price of rhodium was essentially unchanged and the average price of palladium decreased by 15% (fig. 1; tables 1, 2).

#### **Industry News**

Anglo American Platinum Ltd. (Amplats) (South Africa) entered discussions with African Rainbow Minerals Ltd. (South Africa) for the purchase of its Bokoni platinum mine, located in the eastern limb of the Bushveld Complex in South Africa. Amplats ceased mining operations at the Bokoni Mine in 2017 (Mining Review Africa, 2021; Thomson Reuters News Agency, 2021).

#### **References Cited**

Mining Review Africa, 2021, Acquisition of Bokoni not a done deal for ARM: Western Cape, South Africa, Spintelligent (Pty) Ltd., October 28. (Accessed January 7, 2022, at https://www.miningreview.com/platinum-group-metals/acquisition-of-bokoni-not-a-done-deal-for-arm/.)

Thomson Reuters News Agency, 2021, Amplats in talks to sell Bokoni mine to African Rainbow Minerals: Johannesburg, South Africa, Thomson Reuters News Agency, October 28. (Accessed December 9, 2021, at https://www.reuters.com/article/anglo-platinum-m-a-african-rainbow-idUSKBN2HI194.)

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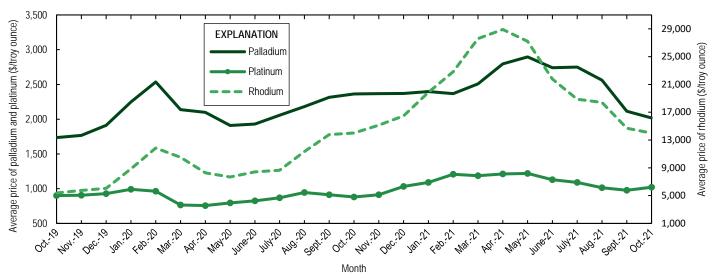


Figure 1. Engelhard unfabricated average monthly prices for palladium, platinum, and rhodium in dollars per troy ounce from October 2019 through October 2021. Source: S&P Global Platts Metals Week.

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

	2020		2021				
	January-				January-		
	December	August	September	October	October		
Mine production: <sup>2</sup>							
Palladium	14,600	1,160	1,160	1,160	11,800		
Platinum	4,200	337	337	337	3,450		
Total	18,800	1,500	1,500	1,500	15,300		
Imports for consumption: <sup>3</sup>							
Palladium	76,400	4,690	6,630	5,010	62,400		
Platinum	64,800	3,800	5,200	6,020	48,800		
Iridium	1,620	134	213	105	1,960		
Osmium	1				1		
Rhodium	20,700	1,180	1,090	1,580	13,700		
Ruthenium	13,900	1,340	633	837	16,700		
Waste and scrap <sup>4</sup>	188,000	9,510	5,070	8,030	156,000		
Total	365,000	20,600	18,800	21,600	299,000		
Exports: <sup>3</sup>							
Palladium	48,600	4,780	1,930	3,860	34,300		
Platinum	28,900	3,570	1,680	1,720	23,700		
Iridium, osmium, ruthenium	1,440	42	62	39	1,990		
Rhodium	1,470	223	118	197	1,170		
Waste and scrap <sup>4</sup>	33,200	2,760	3,150	3,310	34,200		
Total	114,000	11,400	6,940	9,120	95,300		
Price, average (dollars per troy ounce): <sup>5</sup>	_						
Palladium	2,205.27	2,561.09	2,114.76	2,018.33	2,517.14		
Platinum	886.02	1,012.55	977.05	1,020.86	1,113.62		
Iridium	1,633.51	5,404.55	5,142.86	4,714.29	5,316.03		
Rhodium	11,205.06	18,410.23	14,700.00	13,990.48	21,433.13		
Ruthenium	271.83	742.05	691.67	655.95	569.16		

<sup>--</sup> Zero.

 $<sup>^{1}\</sup>mathrm{Data}$  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	Platinum Iridium		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:						
August:	=					
Low:	-					
Price	2,316.00	976.00	5,200.00	17,000.00	725.00	
Date	Aug. 20	Aug. 19	Aug. <sup>2</sup>	Aug. 24	Aug. <sup>2</sup>	
High:						
Price	2,701.00	1,065.00	5,500.00	19,300.00	750.00	
Date	Aug. 2 and 3	Aug. 2	Aug. <sup>2</sup>	Aug. 4	Aug. <sup>2</sup>	
Price, average	2,561.09	1,012.55	5,404.55	18,410.23	742.05	
September:						
Low:	-					
Price	1,912.00	935.00	5,000.00	12,000.00	675.00	
Date	Sep. 29	Sep. 20	Sep. <sup>2</sup>	Sep. 15 and 16	Sep. <sup>2</sup>	
High:						
Price	2,490.00	1,016.00	5,200.00	17,400.00	725.00	
Date	Sep. 1	Sep. 1	Sep. <sup>2</sup>	Sep. 1	Sep. <sup>2</sup>	
Price, average	2,114.76	977.05	5,142.86	14,700.00	691.67	
October:						
Low:	-					
Price	1,880.00	954.00	4,500.00	13,400.00	650.00	
Date	Oct. 6	Oct. 4	Oct. <sup>2</sup>	Oct. 4	Oct. <sup>2</sup>	
High:	_					
Price	2,170.00	1,066.00	5,000.00	14,300.00	675.00	
Date	Oct. 14	Oct. 22	Oct. <sup>2</sup>	Oct. 7	Oct. <sup>2</sup>	
Price, average	2,018.33	1,020.86	4,714.29	13,990.48	655.95	
January-October:						
Low:	-					
Price	1,880.00	935.00	3,000.00	12,000.00	280.00	
Date	Oct. 6	Sep. 20	Jan. <sup>2</sup>	Sep. 15 and 16	Jan. <sup>2</sup>	
High:						
Price	3,020.00	1,298.00	6,400.00	30,000.00	825.00	
Date	May 4	Feb. 19	Apr.–May <sup>2</sup>	Mar. 22	May 21 and 24	
Price, average	2,517.14	1,113.62	5,316.03	21,433.13	569.16	
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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.

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

		inum			Oti	her					
	grain and	d nuggets	Platinun	Platinum sponge		unwrought platinum		Platinum, 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:											
August	61	2,010	2,660	90,800	234	8,990	694	37,100	146	5,260	
September	20	649	4,270	139,000	371	15,300	508	19,200	34	1,190	
October:	`										
Australia									63	2,260	
Belgium			231	7,150							
Canada	18	598					49	1,590	28	929	
Colombia					36	1,160					
Costa Rica							82	3,110			
Czechia							2	60			
France			16	502			8	280			
Germany	100	3,190	411	14,000	88	3,030	606	39,400	(2)	8	
Hong Kong	(2)	3									
Italy			260	8,500			(2)	20			
Japan					13	489	9	170			
Niue									(2)	7	
Portugal							(2)	6			
Russia			100	3,180							
Singapore					290	12,900	7	303			
South Africa			2,770	88,100	55	2,630			6	161	
Switzerland					78	2,530	222	6,960	10	347	
Taiwan							318	2,600			
United Kingdom			86	3,310	16	525	42	1,550	7	224	
Total	118	3,800	3,870	125,000	576	23,200	1,350	56,000	114	3,930	
January-October	477	17,200	31,400	1,120,000	4,700	219,000	10,900	480,000	1,250	43,800	

<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.

 ${\it TABLE~4}$  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>		Osmium <sup>2</sup>		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	\$1,500,000
2021:												
August	4,690	410,000	134	22,600			1,180	731,000	1,340	29,700	9,510	271,000
September	6,630	509,000	213	28,800			1,090	644,000	633	12,500	5,070	156,000
October: <sup>4</sup>												
Australia											23	1,050
Belgium	800	58,500					167	87,700				
Brazil											25	1,840
Canada	202	15,200					1	76			4,150	39,800
Colombia											15	397
Czechia											49	146
France											121	3,970
Germany	199	12,500	1	59			266	148,000	311	6,600	1,530	49,900
India											12	216
Italy	61	3,920	3	405			216	32,900			159	7,680
Japan	(5)	21	4	544			7	2,780	54	1,190		
Korea, Republic of	373	23,600					37	22,800				
Malaysia											14	424
Mexico	2	33									1,410	45,600
Russia	651	43,200					119	39,000	15	332		
South Africa	2,720	192,000	73	11,200			770	366,000	456	8,900	13	2,550
Spain											37	1,200
Thailand											15	664
United Arab Emirates											189	6,140
United Kingdom	3	340	24	4,120			3	374	(5)	3	211	6,880
Other	3	227					(5)	4			47	2,120
Total	5,010	350,000	105	16,300			1,580	700,000	837	17,000	8,030	171,000
January-October	62,400	4,710,000	1,960	240,000	1	17	13,700	8,540,000	16,700	223,000	156,000	2,120,000

<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>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.

 $\label{eq:table 5} \text{U.S. EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY OR LOCALITY}^1$ 

	D-11-	<b>4</b> : <sup>2</sup>	Dl-4	Iridium, osmium Platinum <sup>2</sup> and ruthenium <sup>2,3</sup>			DI	a:2	Waste and scrap <sup>4</sup>	
	Palladium <sup>2</sup> Value		Plat	Value		Value		Rhodium <sup>2</sup> Value		na scrap Value
Country or locality	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2020, January–December	48,600	\$2,900,000	28,900	\$930,000	1,440	\$24,900	1,470	\$426,000	33,200	\$1,400,000
2020; January—December 2021:	48,000	\$2,900,000	28,900	\$930,000	1,440	\$24,900	1,470	\$420,000	33,200	\$1,400,000
August	4,780	404,000	3,570	122,000	42	1,190	223	141,000	2,760	305,000
September	1,930	143,000	1,680	64,100	62	1,940	118	65,300	3,150	215,000
	1,930	143,000	1,000	04,100	02	1,940	110	05,500	3,130	213,000
October:5	2	102	0	210	21	202				
Australia	3	182	9	318	21	303		2.000		24.000
Belgium	76	5,040	33	1,050	1	4	9	3,860	570	34,000
Canada	375	24,500	10	375			(6)	16	3	86
China	4	249	20	719	2	32				
Costa Rica	3	219	47	1,620						
Germany	424	25,200	235	8,230	(6)	10	10	4,190	870	92,200
Hong Kong	108	7,020	18	620			17	5,760		
India	1	59	18	582			(6)	6		
Ireland	1	72	23	812						
Israel	36	2,320	(6)	5						
Japan	12	755	224	6,430	1	12			1,350	78,300
Korea, Republic of	187	12,600	303	10,100	(6)	3	75	33,300		
Mexico	9	570	41	1,360						
Singapore	1	34	201	6,430						
South Africa			78	2,680			82	37,000	115	4,370
Sweden									140	4,490
Switzerland	2,420	152,000	(6)	3					16	500
Taiwan	110	7,150	25	860						
United Arab Emirates			(6)	4					65	2,090
United Kingdom	74	4,860	407	13,300	1	19	3	1,300	170	48,600
Other	13	859	29	1,050	13	204	(6)	30	16	500
Total	3,860	244,000	1,720	56,600	39	587	197	85,400	3,310	265,000
January-October	34,300	2,830,000	23,700	923,000	1,990	49,800	1,170	731,000	34,200	2,950,000

<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>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.