

# Mineral Industry Surveys

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## PLATINUM-GROUP METALS IN NOVEMBER 2018

Imports for consumption of platinum-group metals (PGMs), including waste and scrap, were 19,600 kilograms (kg) in November 2018, representing decreases of 5% each compared with imports in October 2018 and November 2017. The leading import sources for PGMs into the United States were, in descending order, South Africa, Russia, and Germany (tables 3, 4). For January through November 2018, imports of palladium, platinum, and PGM scrap were 85,400 kg, 54,100 kg, and 36,900 kg, increases of 15%, 12%, and a decrease of 90%, respectively, compared with imports in the similar period in 2017.

### Prices

Compared with the prior month, the Engelhard average November prices increased by 5% for palladium, increased slightly for platinum, remained essentially unchanged for iridium and ruthenium, and decreased slightly for rhodium. Compared with November 2017, the November 2018 average prices increased by 103%, 74%, 50%, and 14% for ruthenium, rhodium, iridium, and palladium, respectively. The price of platinum decreased by 9% (figs. 1, 2; tables 1, 2). On November 30, palladium reached its highest price in decades, continuing an increasing trend since mid-August.

### Industry News

On November 1, PolyMet Mining, Inc. (PolyMet) announced that it had received a mining permit from the State of Minnesota for its NorthMet copper-nickel-PGM project in the Duluth Complex. The permit would allow PolyMet to construct and run open pit mines with an expected 20-year mine production of nearly 50,000 kg of precious metals (PolyMet Mining, Inc., 2018).

Also on November 1, Anglo American Platinum Ltd. announced the acquisition of its joint-venture partners' shares of the Mototolo operations in South Africa (Anglo American Platinum Ltd., 2018).

On November 2, Republic Metals Corp., a domestic precious metals refinery based in Florida which produced PGMs, filed for Chapter 11 bankruptcy protection (Bullion Exchanges, 2018).

### Government and Legislation

In a budget statement, the Government of Zimbabwe announced plans to construct a base and precious metals refinery that would process platinum material mined within the country. To promote refining within Zimbabwe, the Government will place a 5% tax on exported platinum concentrates beginning in 2019 (Thomson Reuters Corp., 2018).

### References Cited

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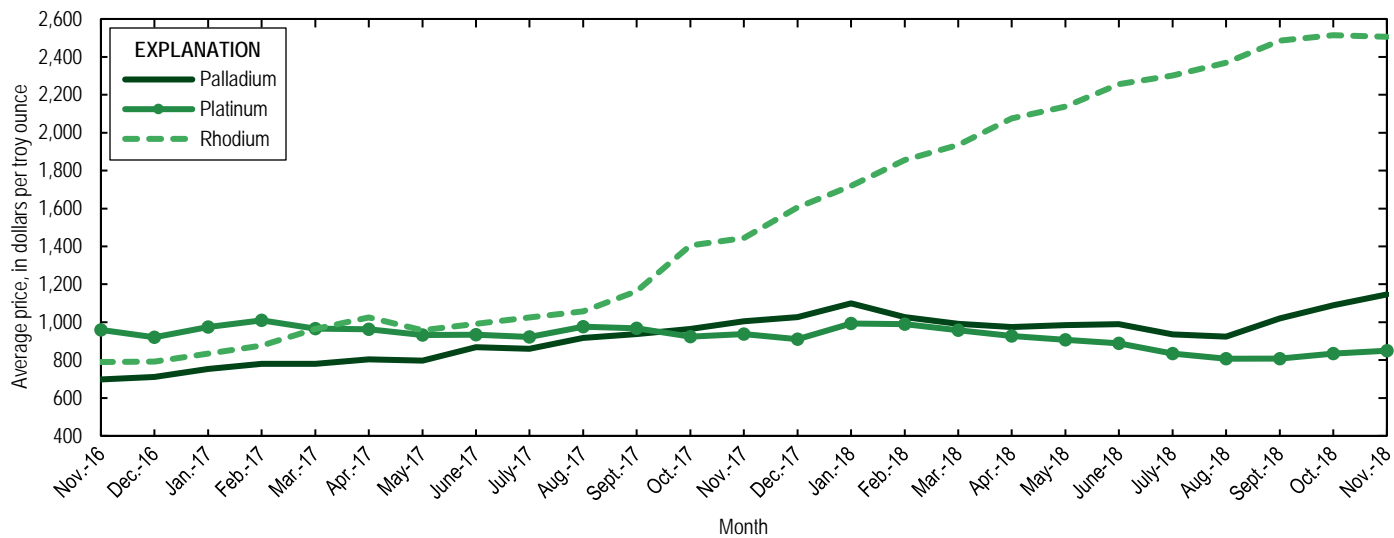


Figure 1. Engelhard unfabricated average monthly prices for palladium, platinum, and rhodium from November 2016 through November 2018. Source: Platts Metals Week.

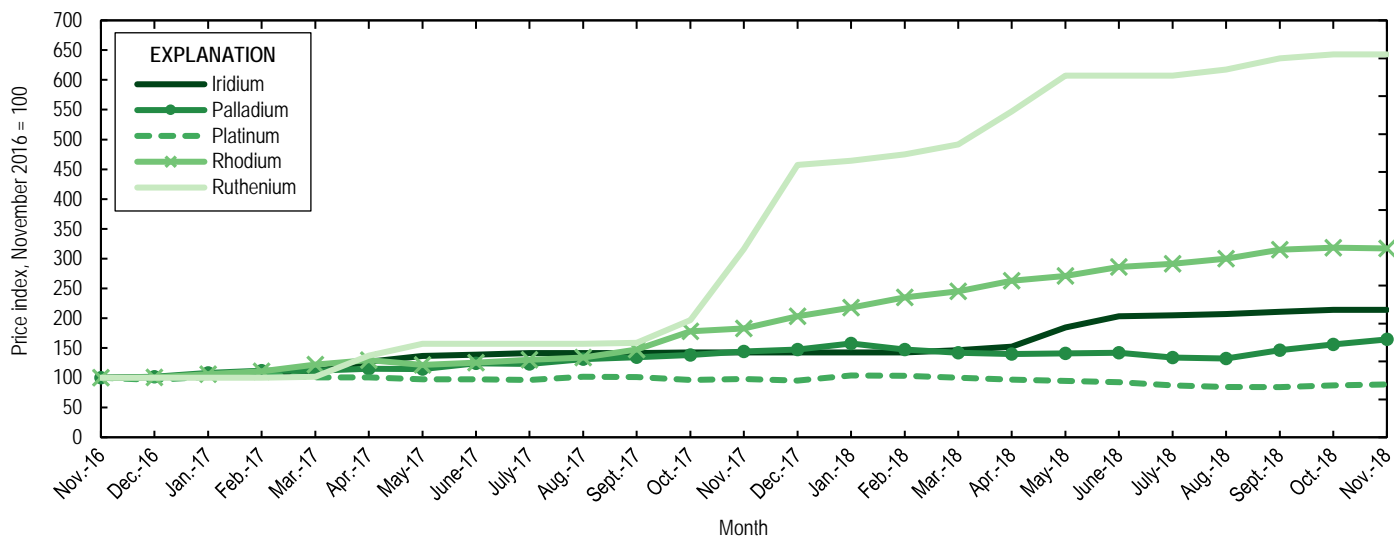


Figure 2. Indexed Engelhard unfabricated average monthly prices for iridium, palladium, platinum, rhodium, and ruthenium from November 2016 through November 2018. Prices are indexed to November 2016. Source: Platts Metals Week.

TABLE 1  
U.S. SALIENT PLATINUM-GROUP METALS STATISTICS<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

	2017		2018		
	January– December	September	October	November	January– November
<b>Mine production:<sup>2</sup></b>					
Platinum	3,980	330	330	330	3,370
Palladium	13,600	1,110	1,110	1,110	11,500
Total	17,600	1,440	1,440	1,440	14,900
<b>Imports for consumption:<sup>3</sup></b>					
Platinum	416,000 <sup>4</sup>	7,200	8,600	7,360	91,000
Palladium	86,000	7,640	8,950	9,670	85,400
Iridium	1,420	129	96	78	928
Osmium	856	--	--	--	25
Ruthenium	14,500	1,570	1,910	1,270	16,000
Rhodium	11,600	1,320	1,100	1,270	13,300
Total	530,000	17,900	20,700	19,600	207,000
<b>Exports:<sup>3</sup></b>					
Platinum	211,000	3,460	6,100	5,670	50,100
Palladium	52,300	3,640	1,880	2,410	48,900
Iridium, osmium, ruthenium	939	403	209	261	2,540
Rhodium	844	118	571	46	3,430
Total	266,000	7,620	8,770	8,380	105,000
<b>Price, average (dollars per troy ounce):<sup>5</sup></b>					
Palladium	874.30	1,019.68	1,089.52	1,146.45	1,016.58
Platinum	951.23	807.84	833.57	849.50	890.75
Iridium	908.35	1,463.42	1,485.00	1,485.00	1,275.84
Rhodium	1,112.59	2,486.32	2,514.35	2,505.75	2,196.21
Ruthenium	76.86	267.11	270.00	270.00	242.01

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Data estimated based on publicly reported quarterly data.

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

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>5</sup>Source: Platts Metals Week.

TABLE 2  
PLATINUM-GROUP METALS PRICES<sup>1</sup>

(Dollars per troy ounce)

	Palladium	Platinum	Iridium	Rhodium	Ruthenium
2017:					
Low:					
Price	710.00	880.00	700.00	765.00	42.00
Date	Jan. 3	Dec. 13	Jan. <sup>2</sup>	Jan. 3	Jan.–Mar. <sup>2</sup>
High:					
Price	1,062.00	1,035.00	990.00	1,725.00	195.00
Date	Dec. 28	Feb. 27	Aug. <sup>2</sup> and Oct.–Dec. <sup>2</sup>	Dec. <sup>2</sup>	Dec. <sup>2</sup>
Average	874.30	951.23	908.35	1,112.59	76.86
2018:					
October:					
Low:					
Price	1,055.00	817.00	1,485.00	2,425.00	270.00
Date	Oct. 3	Oct. 8	(2)	(2)	(2)
High:					
Price	1,147.00	848.00	1,485.00	2,590.00	270.00
Date	Oct. 23	Oct. 15	(2)	(2)	(2)
Average	1,089.52	833.57	1,485.00	2,514.35	270.00
November:					
Low:					
Price	1,099.00	808.00	1,485.00	2,250.00	270.00
Date	Nov. 1	Nov. 30	(2)	Nov. 7	(2)
High:					
Price	1,212.00	877.00	1,485.00	2,600.00	270.00
Date	Nov. 30	Nov. 6	(2)	Nov. 28 and 29	(2)
Average	1,146.45	849.50	1,485.00	2,505.75	270.00
January–November:					
Low:					
Price	854.00	775.00	990.00	1,700.00	195.00
Date	Aug. 15	Sep. 4	Jan.–Feb. <sup>2</sup>	Jan. <sup>2</sup>	Jan. <sup>2</sup> , Feb. 1 and 2
High:					
Price	1,212.00	1,023.00	1,485.00	2,600.00	270.00
Date	Nov. 30	Jan. 25	Sep.–Oct. <sup>2</sup>	Nov. 28 and 29	Sep.–Oct. <sup>2</sup>
Average	1,016.58	890.75	1,275.84	2,196.21	242.01

<sup>1</sup>Quotes from Engelhard.

<sup>2</sup>Occurred multiple days in month(s) listed.

Source: Platts Metals Week.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM METAL, BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Country or locality	Platinum grain and nuggets		Platinum sponge		Other unwrought platinum		Platinum, other		Platinum waste and scrap		Platinum coins	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)		(thousands)
2017:												
January–December	1,580	\$49,000	39,300	\$1,200,000	3,530	\$113,000	8,040	\$255,000	363,000 <sup>2</sup>	\$1,050,000 <sup>2</sup>	837	\$27,600
2018:												
September	27	808	3,620	94,800	235	6,560	1,330	38,100	1,830	53,300	150	4,360
October	29	811	3,270	87,400	396	14,300	1,140	32,800	3,620	73,000	149	4,580
November: <sup>3</sup>												
Australia	--	--	--	--	--	--	--	--	110	2,530	4	117
Austria	--	--	--	--	--	--	88	2,440	--	--	11	329
Belgium	--	--	35	955	--	--	--	--	8	294	--	--
Canada	15	449	--	--	2	43	49	1,410	602	20,100	71	2,110
Colombia	--	--	--	--	21	550	--	--	5	91	--	--
France	--	--	9	218	--	--	5	144	43	1,060	--	--
Germany	--	--	540	15,300	140	4,200	319	10,800	176	7,170	2	44
Italy	--	--	356	10,100	--	--	(4)	13	37	1,220	--	--
Japan	--	--	--	--	1	16	9	224	186	7,280	--	--
Malaysia	--	--	--	--	--	--	--	--	58	1,290	--	--
Mexico	1	43	--	--	--	--	--	--	155	5,260	--	--
Norway	--	--	70	1,900	--	--	--	--	--	--	--	--
Poland	--	--	--	--	--	--	--	--	135	3,670	--	--
Russia	--	--	350	9,400	--	--	--	--	--	--	--	--
Saudi Arabia	--	--	--	--	--	--	--	--	25	672	--	--
Singapore	--	--	--	--	30	1,070	5	186	24	908	--	--
South Africa	--	--	1,670	44,700	--	--	--	--	7	242	--	--
Sweden	--	--	--	--	--	--	--	--	25	2,780	--	--
Switzerland	--	--	48	1,290	--	--	426	11,900	--	--	--	--
United Kingdom	--	--	231	6,320	--	--	42	1,450	1,130	27,300	15	465
Other	--	--	--	--	3	92	4	103	59	1,360	(4)	9
Total	16	492	3,310	90,200	195	5,970	945	28,700	2,790	83,100	103	3,070
January–November	995	26,600	40,100	1,170,000	2,910	94,600	9,060	284,000	36,900	953,000	993	30,500

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<sup>3</sup>The 20 countries and (or) localities with the greatest total platinum imports are listed. All others are included in the "Other" category.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS, BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Country or locality	Unwrought palladium		Palladium, other		Iridium <sup>2</sup>		Osmium <sup>2</sup>		Ruthenium <sup>2</sup>		Rhodium <sup>2</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2017:												
January–December	75,000	\$2,080,000	11,000	\$320,000	1,420	\$38,100	856	\$1,740	14,500	\$34,200	11,600	\$386,000
2018:												
September	6,730	208,000	915	31,400	129	5,680	--	--	1,570	12,900	1,320	99,800
October	8,350	281,000	603	22,800	96	4,450	--	--	1,910	16,200	1,100	88,000
November:												
Belgium	81	3,090	--	--	--	--	--	--	--	--	78	5,680
Canada	--	--	572	20,100	--	--	--	--	--	--	1	39
Germany	1,150	43,000	109	3,830	--	--	--	--	123	1,040	347	27,900
Italy	307	11,200	100	3,400	1	46	--	--	--	--	13	1,100
Japan	60	389	--	--	--	--	--	--	--	--	--	--
Norway	156	5,490	--	--	--	--	--	--	--	--	--	--
Russia	3,700	132,000	202	7,680	4	112	--	--	218	1,890	132	10,200
South Africa	2,790	93,300	--	--	70	3,150	--	--	814	6,990	664	52,000
Switzerland	--	--	363	13,600	--	--	--	--	--	--	--	--
United Kingdom	60	2,140	22	891	3	59	--	--	112	968	32	2,560
Other <sup>3</sup>	--	--	(4)	9	--	--	--	--	--	--	--	--
Total	8,300	290,000	1,370	49,500	78	3,370	--	--	1,270	10,900	1,270	99,500
January–November	74,600	2,450,000	10,800	381,000	928	34,100	25	136	16,000	116,000	13,300	884,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Includes countries and (or) localities with total exports of platinum-group metals of less than 1 kilogram.

<sup>4</sup>Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY OR LOCALITY<sup>1</sup>

(Kilograms metal content, unless otherwise specified)

Country or locality	Platinum <sup>2</sup>		Platinum waste and scrap		Palladium <sup>2</sup>		Iridium, osmium and ruthenium <sup>2,3</sup>		Rhodium <sup>2</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2017:										
January–December	16,700	\$494,000	195,000 <sup>4</sup>	\$679,000 <sup>4</sup>	52,300	\$888,000	939	\$11,700	844	\$30,700
2018:										
September	1,940	60,700	1,520	28,000	3,640	59,700	403	3,760	118	8,950
October	1,880	61,200	4,220	68,200	1,880	40,400	209	3,490	571	16,700
November: <sup>5</sup>										
Australia	7	241	--	--	7	178	16	183	--	--
Belgium	16	436	287	8,410	32	339	--	--	5	194
Brazil	2	52	--	--	10	21	--	--	--	--
Canada	12	351	10	296	146	3,030	--	--	(6)	9
China	61	1,630	--	--	15	330	--	--	(6)	82
Costa Rica	42	588	--	--	16	184	--	--	--	--
France	4	133	--	--	18	201	--	--	--	--
Germany	637	18,900	252	5,480	1,470	32,500	159	1,260	19	1,490
Hong Kong	5	185	--	--	54	511	--	--	--	--
India	34	1,060	--	--	3	58	20	201	--	--
Ireland	19	553	--	--	22	188	--	--	--	--
Italy	1	25	222	8,280	283	10,300	--	--	--	--
Japan	3	109	380	13,100	31	278	37	333	16	1,290
Korea, Republic of	2	37	--	--	32	428	--	--	--	--
Mexico	9	312	--	--	8	217	--	--	3	312
South Africa	1	14	9	287	--	--	--	--	--	--
Switzerland	1	27	2,320	21,600	148	5,300	1	8	--	--
Taiwan	1	14	--	--	25	841	10	92	--	--
Thailand	2	68	3	70	40	345	--	--	--	--
United Kingdom	216	6,630	1,110	41,200	30	895	14	566	3	529
Other	4	172	--	--	15	334	4	85	(6)	18
Total	1,080	31,500	4,590	98,700	2,410	56,500	261	2,730	46	3,920
January–November	16,800	509,000	33,300	662,000	48,900	993,000	2,540	41,800	3,430	123,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought and other forms.

<sup>3</sup>Gross weight.

<sup>4</sup>All or part of these data have been referred to the U.S. Census Bureau for verification.

<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>6</sup>Less than ½ unit.

Source: U.S. Census Bureau.