

# Mineral Industry Surveys

**For information, contact:**

Ruth F. Schulte, PGM Commodity Specialist  
National Minerals Information Center  
Telephone: (703) 648-4963  
Email: [rschulte@usgs.gov](mailto:rschulte@usgs.gov)

Christine Pisut (Data)  
Telephone: (703) 648-7942  
Email:

**Internet:** <https://www.usgs.gov/centers/national-minerals-information-center/mineral-industry-surveys>

## PLATINUM-GROUP METALS IN AUGUST 2023

Imports for consumption of platinum-group metals (PGMs), including waste and scrap, were 18,600 kilograms (kg) in August 2023, an increase of 15% compared with imports in July 2023, and an increase of 16% compared with imports in August 2022 (table 1). The leading import sources for PGMs into the United States in August 2023 were, in descending order of quantity, South Africa, Germany, and Russia (tables 3, 4).

In August 2023, exports of PGM scrap increased by 91% compared with those in July 2023 whereas exports of rhodium decreased by 96%, platinum by 39%, and palladium by 19%. The leading destinations for PGM exports were, in descending order of quantity, Switzerland, Germany, and Italy (tables 1, 5).

The Engelhard average August 2023 prices of ruthenium were unchanged compared with the average prices in July 2023 and iridium, rhodium, and palladium were essentially unchanged, each. The average price for platinum decreased slightly compared with prices in July. Compared with average prices in August 2022, the August 2023 average prices for platinum increased slightly, but decreased by 71% for rhodium, by 41% for palladium, by 21% for ruthenium, and by 4% for iridium (fig. 1; tables 1, 2).

### Industry News

The U.S. Department of Energy (DOE) released a 2023 Critical Materials Assessment in July with a list of materials deemed to be both critical and near critical to global energy supply chains through 2035. This list included palladium and platinum and was an update to the DOE 2010 Critical Material Strategy. The 2023 assessment would also inform eligibility for tax credits under the Inflation Reduction Act as well as guide priorities in research and development (U.S. Department of Energy, 2023b). In August, the DOE published a progress report on establishing and safeguarding supply chains to support clean energy development in the United States. PGMs were listed as a priority material in the development of electrolyzers and fuel

cells, green and renewable fuels, nuclear energy, and semiconductors (U.S. Department of Energy, 2023a, p. 8).

Jubilee Metals Group Plc (United Kingdom) commissioned the expansion of its Inyoni chromite ore processing plant located on the western limb of the Bushveld Complex in August. The tailings from the chromite ore processing plant, which contain PGMs, would then be processed at its Inyoni PGM operations and add approximately 300 kg per year of PGMs to its annual production (Jubilee Metals Group Plc, 2023, undated).

### References Cited

- Jubilee Metals Group Plc, 2023, South Africa and Zambia project expansion update: London, United Kingdom, Jubilee Metals Group Plc press release, August 21. (Accessed October 4, 2023, at <https://www.londonstockexchange.com/news-article/JLP/south-africa-and-zambia-project-expansion-update/16090648>)
- Jubilee Metals Group Plc, [undated], Our projects—Inyoni Chrome: London, United Kingdom, Jubilee Metals Group Plc website. (Accessed October 4, 2023, at <https://jubileemetalsgroup.com/operations/chrome/>.)
- U.S. Department of Energy, 2023a, Supply chains progress report: Washington, DC, U.S. Department of Energy, Office of Manufacturing and Energy Supply Chains, August, 28 p. (Accessed October 4, 2023, at <https://www.energy.gov/sites/default/files/2023-08/Supply%20Chain%20Progress%20Report%20-%20August%202023.pdf>.)
- U.S. Department of Energy, 2023b, U.S. Department of Energy releases 2023 critical materials assessment to evaluate supply chain security for clean energy technologies: Washington, DC, U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy article, July 31. (Accessed October 4, 2023, at <https://www.energy.gov/eere/articles/us-department-energy-releases-2023-critical-materials-assessment-evaluate-supply>.)

*List services and web feed subscribers are the first to receive notification of USGS minerals information publications and data releases. For information on how to subscribe, go to <https://www.usgs.gov/centers/national-minerals-information-center/minerals-information-publication-list-services>.*

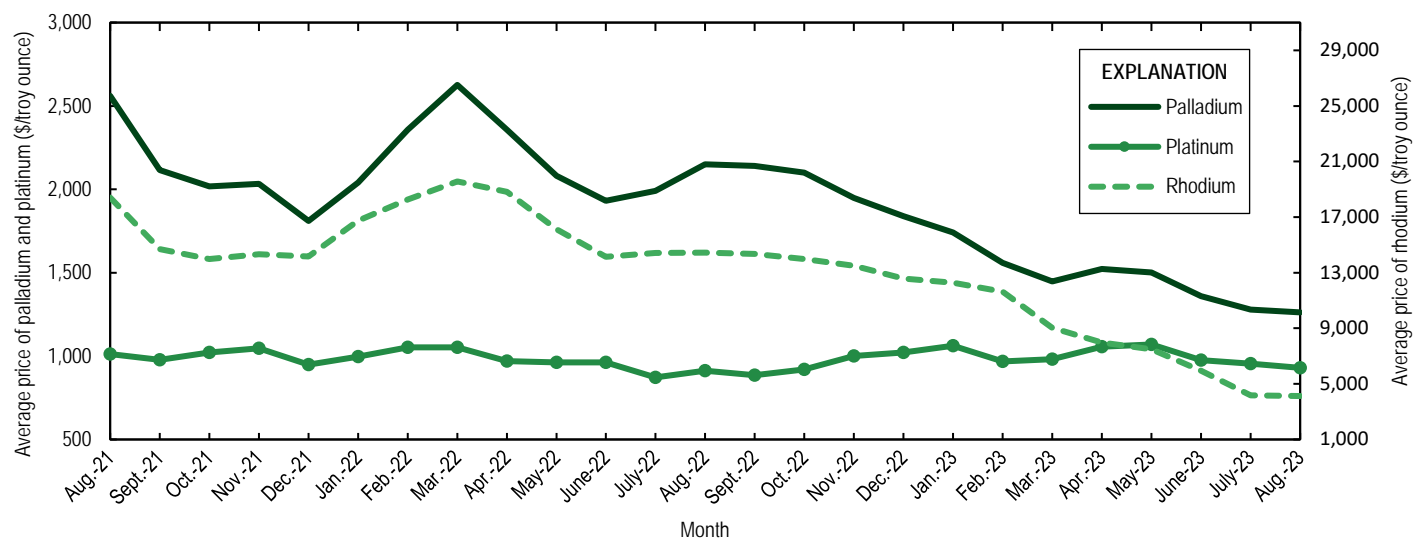


Figure 1. Engelhard unfabricated average monthly prices for palladium, platinum, and rhodium in dollars per troy ounce from August 2021 through August 2023.  
Source: S&P Global Platts Metals Week.

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

(Kilograms metal content, unless otherwise specified)

	2022	2023			
	January– December	June	July	August	January– August
Mine production: <sup>2</sup>					
Palladium	10,100	843	843	843	6,610
Platinum	3,000	243	243	243	1,960
Total	13,100	1,090	1,090	1,090	8,570
Imports for consumption: <sup>3</sup>					
Palladium	65,200	6,550	4,960	6,860	42,900
Platinum	64,200	7,670	7,540	6,370	46,400
Iridium	1,610	112	111	112	1,260
Osmium	1	--	--	--	--
Rhodium	13,200	725	818	1,410	7,560
Ruthenium	13,300	722	706	761	7,200
Waste and scrap <sup>4</sup>	41,500	3,130	2,000	3,100	21,500
Total	199,000	18,900	16,100	18,600	127,000
Exports: <sup>3</sup>					
Palladium	42,200	3,200	4,840	3,930	22,600
Platinum	23,100	2,120	835	511	8,130
Iridium, osmium, ruthenium	906	17	92	65	414
Rhodium	677	9	23	1	117
Waste and scrap <sup>4</sup>	35,200	1,940	580	1,110	8,430
Total	102,000	7,290	6,370	5,620	39,700
Price, average (dollars per troy ounce): <sup>5</sup>					
Palladium	2,133.81	1,359.57	1,278.30	1,262.22	1,454.29
Platinum	966.54	975.29	953.80	930.57	998.57
Iridium	4,581.93	4,600.00	4,600.00	4,552.17	4,595.21
Rhodium	15,585.00	5,940.48	4,172.50	4,126.09	7,748.80
Ruthenium	577.02	465.00	465.00	465.00	467.40

-- Zero.

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

<sup>2</sup>Annual data are based on publicly available annual reports. Monthly and year-to-date data are estimated based on publicly reported quarterly data.

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

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

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

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

(Dollars per troy ounce)

	Palladium	Platinum	Iridium	Rhodium	Ruthenium
2022:					
Low:					
Price	1,690.00	834.00	3,750.00	12,250.00	475.00
Date	Dec. 20	Jul. 14	Nov. <sup>2</sup> –Dec. <sup>2</sup>	Dec. <sup>2</sup>	Dec. 21
High:					
Price	3,050.00	1,155.00	5,000.00	20,250.00	625.00
Date	Mar. 8	Mar. 8	Mar.–Jul. <sup>2</sup>	Feb. <sup>2</sup>	Mar.–Jul. <sup>2</sup>
Price, average	2,133.81	966.54	4,581.93	15,585.00	577.02
2023:					
June:					
Low:					
Price	1,241.00	904.00	4,600.00	4,400.00	465.00
Date	Jun. 29	Jun. 29	Jun. <sup>2</sup>	Jun. 30	Jun. <sup>2</sup>
High:					
Price	1,430.00	1,040.00	4,600.00	7,000.00	465.00
Date	Jun. 2	Jun. 7	Jun. <sup>2</sup>	Jun. 1	Jun. <sup>2</sup>
Price, average	1,359.57	975.29	4,600.00	5,940.48	465.00
July:					
Low:					
Price	1,215.00	910.00	4,600.00	4,000.00	465.00
Date	Jul. 10	Jul. 6	Jul. <sup>2</sup>	Jul. <sup>2</sup>	Jul. <sup>2</sup>
High:					
Price	1,330.00	990.00	4,600.00	4,400.00	465.00
Date	Jul. 18	Jul. 19	Jul. <sup>2</sup>	Jul. 12 and 13	Jul. <sup>2</sup>
Price, average	1,278.30	953.80	4,600.00	4,172.50	465.00
August:					
Low:					
Price	1,230.00	895.00	4,500.00	4,100.00	465.00
Date	Aug. 8	Aug. 15 and 16	Aug. <sup>2</sup>	Aug. <sup>2</sup>	Aug. <sup>2</sup>
High:					
Price	1,340.00	988.00	4,600.00	4,200.00	465.00
Date	Aug. 11	Aug. 30	Aug. <sup>2</sup>	Aug. <sup>2</sup>	Aug. <sup>2</sup>
Price, average	1,262.22	930.57	4,552.17	4,126.09	465.00
January–August:					
Low:					
Price	1,215.00	895.00	4,500.00	4,000.00	465.00
Date	Jul. 10	Aug. 15 and 16	Aug. <sup>2</sup>	Jul. <sup>2</sup>	Jan.–Aug. <sup>2</sup>
High:					
Price	1,820.00	1,135.00	4,700.00	12,400.00	485.00
Date	Jan. 10	Apr. 21	Jan. 3–5	Jan. <sup>2</sup>	Jan. <sup>2</sup> and Feb. 2
Price, average	1,454.29	998.57	4,595.21	7,748.80	467.40

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

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

Source: S&P Global 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 coins	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2022, January–December	1,320	\$42,000	47,800	\$1,500,000	2,350	\$146,000	12,100	\$529,000	642	\$21,000
2023:										
June	25	820	6,210	199,000	643	27,500	722	29,500	77	2,350
July:	41	1,280	6,710	208,000	112	4,140	591	20,900	81	2,690
August:										
Australia	--	--	--	--	--	--	(2)	9	(2)	3
Belgium	--	--	426	13,000	--	--	--	--	--	--
Canada	16	489	--	--	1	29	50	1,670	63	1,960
Colombia	--	--	--	--	17	529	--	--	--	--
Costa Rica	--	--	--	--	--	--	170	7,120	--	--
Czechia	--	--	--	--	--	--	5	192	--	--
France	--	--	8	243	--	--	16	496	--	--
Germany	--	--	474	14,300	64	2,110	351	13,700	1	30
Italy	--	--	387	11,800	(2)	7	--	--	--	--
Japan	--	--	153	4,470	--	--	101	3,070	--	--
Korea, Republic of	--	--	280	8,290	--	--	--	--	--	--
Mexico	--	--	--	--	--	--	3	83	--	--
Singapore	--	--	--	--	(2)	10	(2)	8	--	--
South Africa	--	--	2,810	83,800	--	--	--	--	--	--
Switzerland	62	1,860	86	2,620	--	--	216	5,880	--	--
Taiwan	--	--	--	--	--	--	12	151	--	--
United Kingdom	--	--	580	17,500	1	32	9	319	6	199
Total	78	2,350	5,200	156,000	82	2,720	933	32,700	70	2,190
January–August	522	16,900	36,500	1,160,000	1,460	61,000	7,300	278,000	551	18,300

-- Zero.

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

<sup>2</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	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>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2022, January–December	65,200	\$4,370,000	1,610	\$194,000	1	\$3	13,200	\$6,780,000	13,300	\$226,000	41,500	\$1,350,000
2023:												
June	6,550	317,000	112	13,300	--	--	725	191,000	722	10,000	3,130	87,100
July	4,960	217,000	111	17,200	--	--	818	214,000	706	9,810	2,000	74,700
August: <sup>4</sup>												
Belgium	741	30,100	--	--	--	--	215	45,900	--	--	44	1,420
Brazil	--	--	--	--	--	--	--	--	--	--	46	1,920
Canada	533	24,700	--	--	--	--	--	--	--	--	1,110	6,250
France	--	--	--	--	--	--	--	--	--	--	55	1,370
Germany	251	10,400	--	--	--	--	362	66,100	499	7,490	246	7,980
Guatemala	--	--	--	--	--	--	--	--	--	--	20	653
Italy	115	4,610	3	386	--	--	17	5,460	--	--	129	4,970
Japan	64	4,280	12	1,100	--	--	(5)	124	29	532	--	--
Korea, Republic of	373	15,100	--	--	--	--	31	7,210	--	--	--	--
Malaysia	--	--	--	--	--	--	--	--	--	--	15	414
Mexico	22	188	--	--	--	--	--	--	--	--	131	5,390
Philippines	--	--	--	--	--	--	--	--	--	--	11	226
Qatar	--	--	--	--	--	--	--	--	--	--	45	1,400
Russia	2,100	84,100	--	--	--	--	--	--	--	--	--	--
Singapore	--	--	--	--	--	--	--	--	--	--	742	23,000
South Africa	2,600	107,000	57	7,090	--	--	538	124,000	232	3,200	37	3,230
Switzerland	51	2,040	--	--	--	--	--	--	--	--	--	--
Thailand	--	--	--	--	--	--	--	--	--	--	12	2,100
United Arab Emirates	--	--	--	--	--	--	--	--	--	--	47	1,520
United Kingdom	7	526	40	6,030	--	--	243	56,200	--	--	374	17,600
Other	2	119	--	--	--	--	(5)	8	--	--	40	2,590
Total	6,860	283,000	112	14,600	--	--	1,410	305,000	761	11,200	3,100	82,000
January–August	42,900	2,090,000	1,260	153,000	--	--	7,560	2,390,000	7,200	99,800	21,500	685,000

-- 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 waste and scrap for all platinum-group elements.

<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>5</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	Palladium <sup>2</sup>		Platinum <sup>2</sup>		Iridium, osmium and ruthenium <sup>2,3</sup>		Rhodium <sup>2</sup>		Waste and scrap <sup>4</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
2022, January–December	42,200	\$2,770,000	23,100	\$885,000	906	\$36,500	677	\$355,000	35,200	\$2,990,000
2023:										
June	3,200	122,000	2,120	97,100	17	1,980	9	3,900	1,940	105,000
July	4,840	158,000	835	44,000	92	13,200	23	9,010	580	36,600
August: <sup>5</sup>										
Australia	2	147	6	294	6	634	--	--	--	--
Austria	--	--	(6)	7	--	--	--	--	13	464
Belgium	--	--	--	--	(6)	7	--	--	108	3,470
Brazil	82	4,530	1	105	--	--	--	--	--	--
Canada	342	15,200	10	389	--	--	1	235	85	2,890
China	4	248	23	967	1	109	--	--	--	--
Costa Rica	(6)	26	48	3,360	(6)	4	--	--	--	--
France	18	834	1	56	--	--	--	--	--	--
Germany	346	15,000	122	5,070	2	198	--	--	482	40,800
Hong Kong	6	420	2	320	5	698	--	--	27	1,340
Ireland	1	56	62	2,280	(6)	14	--	--	--	--
Israel	7	381	1	26	--	--	(6)	107	--	--
Italy	638	26,400	51	3,570	--	--	--	--	--	--
Japan	316	13,000	(6)	42	1	197	(6)	7	286	13,000
Korea, Republic of	6	355	10	308	--	--	--	--	--	--
Mexico	8	491	20	810	(6)	26	--	--	--	--
Switzerland	2,130	46,100	(6)	3	(6)	21	--	--	--	--
Taiwan	5	304	3	97	(6)	3	--	--	--	--
United Arab Emirates	--	--	--	--	1	113	--	--	18	625
United Kingdom	2	159	142	4,630	48	7,000	--	--	90	3,240
Other	13	801	7	466	(6)	70	--	--	--	--
Total	3,930	124,000	511	22,800	65	9,100	1	350	1,110	65,800
January–August	22,600	943,000	8,130	421,000	414	51,800	117	46,600	8,430	657,000

-- 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>Includes waste and scrap for all platinum-group elements. Previously categorized as “Platinum waste and scrap.”

<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.