

# PLATINUM SUPPLY AND DEMAND



'000 oz	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
<b>SUPPLY</b>											
South Africa	2,760	2,770	2,750	3,360	3,160	3,370	3,390	3,700	3,680	<b>3,820</b>	
Russia	720	1,100	750	680	1,010	1,280	1,220	900	1,300	<b>800</b>	
North America	185	220	200	220	220	240	240	240	285	<b>275</b>	
Others	65	70	120	130	140	100	130	120	135	<b>165</b>	
<b>Total Supply</b>	<b>3,730</b>	<b>4,160</b>	<b>3,820</b>	<b>4,390</b>	<b>4,530</b>	<b>4,990</b>	<b>4,980</b>	<b>4,960</b>	<b>5,400</b>	<b>5,060</b>	
<b>DEMAND</b>											
By Application											
Autocatalyst:	gross	1,535	1,565	1,550	1,685	1,870	1,850	1,880	1,830	1,820	<b>1,750</b>
	recovery	(210)	(205)	(230)	(255)	(290)	(320)	(350)	(370)	(405)	<b>(430)</b>
Chemical		215	240	215	180	190	215	230	235	280	<b>320</b>
Electrical		205	175	165	165	185	240	275	305	320	<b>350</b>
Glass		135	120	80	80	160	225	255	265	220	<b>200</b>
Investment:	small	100	175	145	125	155	75	110	180	210	<b>120</b>
	large	100	240	110	180	240	270	130	60	105	<b>80</b>
Jewellery		1,365	1,470	1,510	1,615	1,740	1,810	1,990	2,160	2,410	<b>2,730</b>
Petroleum		140	150	120	105	90	120	185	170	125	<b>130</b>
Other		120	140	150	165	190	225	255	295	305	<b>340</b>
		3,705	4,070	3,815	4,045	4,530	4,710	4,960	5,130	5,390	<b>5,590</b>
* Western Sales											
to China		0	(20)	0	20	50	130	-	-	-	-
<b>Total Demand</b>		<b>3,705</b>	<b>4,050</b>	<b>3,815</b>	<b>4,065</b>	<b>4,580</b>	<b>4,840</b>	<b>4,960</b>	<b>5,130</b>	<b>5,390</b>	<b>5,590</b>
Movements in Stocks		25	110	5	325	(50)	150	20	(170)	10	(530)
		3,730	4,160	3,820	4,390	4,530	4,990	4,980	4,960	5,400	<b>5,060</b>

<b>DEMAND</b>											
By Region											
Europe		705	785	860	895	935	880	840	875	910	<b>955</b>
Japan		1,850	2,050	1,870	1,975	2,145	2,215	2,005	1,885	1,805	<b>1,815</b>
North America		790	815	705	760	940	1,015	1,180	1,250	1,325	<b>1,245</b>
Rest of the World		360	420	380	415	510	600	935	1,120	1,350	<b>1,575</b>
		3,705	4,070	3,815	4,045	4,530	4,710	4,960	5,130	5,390	<b>5,590</b>
* Western Sales											
to China		0	(20)	0	20	50	130	-	-	-	-
<b>Total Demand</b>		<b>3,705</b>	<b>4,050</b>	<b>3,815</b>	<b>4,065</b>	<b>4,580</b>	<b>4,840</b>	<b>4,960</b>	<b>5,130</b>	<b>5,390</b>	<b>5,590</b>

For notes see inside back cover.

\* Before 1993, estimates also included Eastern Europe; for 1993 and subsequent years, demand in this region is included in our European figures. From 1996, demand in China is incorporated in our Rest of the World estimates.

## PLATINUM DEMAND BY APPLICATION: REGIONS



'000 oz	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>EUROPE</b>										
Autocatalyst: gross	375	480	575	610	605	560	515	510	545	555
recovery	0	(5)	(5)	(5)	(10)	(15)	(20)	(25)	(30)	(35)
Chemical	60	55	50	40	50	55	60	70	60	75
Electrical	40	30	30	20	25	25	25	45	45	50
Glass	25	20	15	15	30	35	40	20	25	25
Investment: small	40	40	35	25	45	10	5	5	5	5
Jewellery	80	85	85	105	100	120	125	150	160	170
Petroleum	40	30	20	25	25	15	15	15	15	20
Other	45	50	55	60	65	75	75	85	85	90
<b>Totals</b>	<b>705</b>	<b>785</b>	<b>860</b>	<b>895</b>	<b>935</b>	<b>880</b>	<b>840</b>	<b>875</b>	<b>910</b>	<b>955</b>
<b>JAPAN</b>										
Autocatalyst: gross	400	380	350	320	290	270	245	255	240	260
recovery	(35)	(35)	(45)	(50)	(45)	(40)	(50)	(50)	(55)	(60)
Chemical	25	20	20	15	15	20	20	20	20	20
Electrical	50	50	50	45	45	45	45	65	65	70
Glass	50	35	20	30	80	105	80	85	80	65
Investment: small	40	65	40	55	40	35	25	25	25	20
large	100	240	110	180	240	270	130	60	105	80
Jewellery	1,190	1,260	1,290	1,350	1,450	1,480	1,480	1,390	1,290	1,320
Petroleum	15	15	10	10	5	5	5	5	5	5
Other	15	20	25	20	25	25	25	30	30	35
<b>Totals</b>	<b>1,850</b>	<b>2,050</b>	<b>1,870</b>	<b>1,975</b>	<b>2,145</b>	<b>2,215</b>	<b>2,005</b>	<b>1,885</b>	<b>1,805</b>	<b>1,815</b>
<b>NORTH AMERICA</b>										
Autocatalyst: gross	690	620	525	600	790	820	850	800	795	705
recovery	(175)	(165)	(180)	(200)	(230)	(260)	(275)	(290)	(310)	(320)
Chemical	50	100	90	75	65	70	80	80	80	100
Electrical	80	65	55	65	75	115	130	100	105	110
Glass	25	20	15	15	20	25	30	45	20	20
Investment: small	5	40	65	40	65	25	75	145	175	90
Jewellery	20	20	35	45	55	65	90	160	250	300
Petroleum	40	50	35	40	5	40	60	50	40	45
Other	55	65	65	80	95	115	140	160	170	195
<b>Totals</b>	<b>790</b>	<b>815</b>	<b>705</b>	<b>760</b>	<b>940</b>	<b>1,015</b>	<b>1,180</b>	<b>1,250</b>	<b>1,325</b>	<b>1,245</b>
<b>REST OF THE WORLD</b>										
Autocatalyst: gross	70	85	100	155	185	200	270	265	240	230
recovery	0	0	0	0	(5)	(5)	(5)	(5)	(10)	(15)
Chemical	80	65	55	50	60	70	70	65	120	125
Electrical	35	30	30	35	40	55	75	95	105	120
Glass	35	45	30	20	30	60	105	115	95	90
Investment: small	15	30	5	5	5	5	5	5	5	5
Jewellery	75	105	100	115	135	145	295	460	710	940
Petroleum	45	55	55	30	55	60	105	100	65	60
Other	5	5	5	5	5	10	15	20	20	20
<b>Totals</b>	<b>360</b>	<b>420</b>	<b>380</b>	<b>415</b>	<b>510</b>	<b>600</b>	<b>935</b>	<b>1,120</b>	<b>1,350</b>	<b>1,575</b>

For notes see inside back cover.

## PALLADIUM SUPPLY AND DEMAND



'000 oz	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>SUPPLY</b>										
South Africa	1,230	1,270	1,260	1,395	1,500	1,600	1,690	1,810	1,820	<b>1,890</b>
Russia	1,870	2,150	2,100	2,400	3,300	4,200	5,600	4,800	5,800	<b>5,000</b>
North America	370	420	450	415	410	470	455	545	660	<b>620</b>
Others	70	70	70	70	70	70	95	95	120	<b>160</b>
<b>Total Supply</b>	<b>3,540</b>	<b>3,910</b>	<b>3,880</b>	<b>4,280</b>	<b>5,280</b>	<b>6,340</b>	<b>7,840</b>	<b>7,250</b>	<b>8,400</b>	<b>7,670</b>

### DEMAND

#### By Application

Autocatalyst:	gross	315	355	490	705	975	1,800	2,360	3,200	4,390	<b>4,890</b>
	recovery	(85)	(85)	(95)	(100)	(105)	(110)	(145)	(160)	(175)	<b>(200)</b>
Chemical		215	225	205	190	185	210	240	240	230	<b>245</b>
Dental		1,020	1,165	1,195	1,210	1,265	1,290	1,320	1,350	1,230	<b>1,160</b>
Electronics		1,675	1,855	1,830	2,015	2,230	2,620	2,020	2,550	2,070	<b>1,840</b>
Jewellery		195	210	205	210	205	200	215	260	235	<b>255</b>
Other		80	65	60	35	115	110	140	140	115	<b>110</b>
<b>Total Demand</b>		<b>3,415</b>	<b>3,790</b>	<b>3,890</b>	<b>4,265</b>	<b>4,870</b>	<b>6,120</b>	<b>6,150</b>	<b>7,580</b>	<b>8,095</b>	<b>8,300</b>
Movements in Stocks		125	120	(10)	15	410	220	1,690	(330)	305	<b>(630)</b>
		3,540	3,910	3,880	4,280	5,280	6,340	7,840	7,250	8,400	<b>7,670</b>

### DEMAND

#### By Region

Europe	590	620	675	680	885	1,340	1,525	1,840	1,985	<b>2,080</b>
Japan	1,530	1,800	1,780	1,990	2,200	2,445	1,885	2,350	2,085	<b>1,910</b>
North America	1,080	1,095	1,155	1,295	1,430	1,960	2,185	2,675	3,360	<b>3,640</b>
Rest of the World	215	275	280	300	355	375	555	715	665	<b>670</b>
<b>Total Demand</b>	<b>3,415</b>	<b>3,790</b>	<b>3,890</b>	<b>4,265</b>	<b>4,870</b>	<b>6,120</b>	<b>6,150</b>	<b>7,580</b>	<b>8,095</b>	<b>8,300</b>

For notes see inside back cover.

## PALLADIUM DEMAND BY APPLICATION: REGIONS



'000 oz	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>EUROPE</b>										
Autocatalyst: gross	5	5	40	115	260	650	860	1,100	1,370	1,510
recovery	0	0	0	0	0	0	(5)	(5)	(5)	(10)
Chemical	75	70	75	65	60	65	65	70	65	65
Dental	260	300	300	265	255	250	255	260	210	200
Electronics	200	200	210	210	255	325	300	340	270	240
Jewellery	35	35	35	35	30	30	30	50	50	50
Other	15	10	15	(10)	25	20	20	25	25	25
<b>Totals</b>	<b>590</b>	<b>620</b>	<b>675</b>	<b>680</b>	<b>885</b>	<b>1,340</b>	<b>1,525</b>	<b>1,840</b>	<b>1,985</b>	<b>2,080</b>
<b>JAPAN</b>										
Autocatalyst: gross	90	95	85	90	125	145	180	245	330	350
recovery	(25)	(30)	(35)	(30)	(30)	(25)	(30)	(45)	(50)	(60)
Chemical	25	25	20	20	20	20	20	20	20	20
Dental	320	420	450	500	550	580	600	620	590	555
Electronics	990	1,160	1,130	1,280	1,400	1,600	990	1,390	1,080	925
Jewellery	115	120	120	120	120	115	115	110	105	110
Other	15	10	10	10	15	10	10	10	10	10
<b>Totals</b>	<b>1,530</b>	<b>1,800</b>	<b>1,780</b>	<b>1,990</b>	<b>2,200</b>	<b>2,445</b>	<b>1,885</b>	<b>2,350</b>	<b>2,085</b>	<b>1,910</b>
<b>NORTH AMERICA</b>										
Autocatalyst: gross	200	220	320	450	525	950	1,230	1,680	2,470	2,810
recovery	(60)	(55)	(60)	(70)	(75)	(85)	(110)	(105)	(115)	(125)
Chemical	75	80	65	65	60	70	70	70	70	80
Dental	400	400	400	400	410	410	410	415	390	360
Electronics	420	425	405	420	450	545	490	550	480	450
Jewellery	5	5	0	5	5	5	5	10	10	10
Other	40	20	25	25	55	65	90	55	55	55
<b>Totals</b>	<b>1,080</b>	<b>1,095</b>	<b>1,155</b>	<b>1,295</b>	<b>1,430</b>	<b>1,960</b>	<b>2,185</b>	<b>2,675</b>	<b>3,360</b>	<b>3,640</b>
<b>REST OF THE WORLD</b>										
Autocatalyst: gross	20	35	45	50	65	55	90	175	220	220
recovery	0	0	0	0	0	0	0	(5)	(5)	(5)
Chemical	40	50	45	40	45	55	85	80	75	80
Dental	40	45	45	45	50	50	55	55	40	45
Electronics	65	70	85	105	125	150	240	270	240	225
Jewellery	40	50	50	50	50	50	65	90	70	85
Other	10	25	10	10	20	15	20	50	25	20
<b>Totals</b>	<b>215</b>	<b>275</b>	<b>280</b>	<b>300</b>	<b>355</b>	<b>375</b>	<b>555</b>	<b>715</b>	<b>665</b>	<b>670</b>

For notes see inside back cover.

## RHODIUM SUPPLY AND DEMAND



'000 oz	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
<b>SUPPLY</b>										
South Africa	198	220	278	278	330	342	359	377	400	394
Russia	155	110	80	80	80	80	110	240	110	80
North America	17	18	19	17	15	13	5	16	16	18
Others	0	0	1	1	1	1	2	3	4	8
<b>Total Supply</b>	<b>370</b>	<b>348</b>	<b>378</b>	<b>376</b>	<b>426</b>	<b>436</b>	<b>476</b>	<b>636</b>	<b>530</b>	<b>500</b>
<b>DEMAND</b>										
By Application										
Autocatalyst: gross	334	301	305	356	379	464	424	418	483	508
recovery	(13)	(16)	(22)	(25)	(34)	(37)	(45)	(49)	(57)	(66)
Chemical	26	25	18	11	10	13	21	36	31	34
Electrical	12	10	7	9	8	8	9	9	8	8
Glass	17	12	7	3	14	17	53	43	34	30
Other	15	14	13	12	11	9	9	10	10	11
<b>Total Demand</b>	<b>391</b>	<b>346</b>	<b>328</b>	<b>366</b>	<b>388</b>	<b>474</b>	<b>471</b>	<b>467</b>	<b>509</b>	<b>525</b>
Movements in Stocks	(21)	2	50	10	38	(38)	5	169	21	(25)
	370	348	378	376	426	436	476	636	530	500
<b>DEMAND</b>										
By Region										
Europe	97	101	119	127	129	139	154	165	176	178
Japan	115	99	63	68	68	59	64	70	75	87
North America	152	111	110	127	139	224	170	137	177	174
Rest of the World	27	35	36	44	52	52	83	95	81	86
<b>Total Demand</b>	<b>391</b>	<b>346</b>	<b>328</b>	<b>366</b>	<b>388</b>	<b>474</b>	<b>471</b>	<b>467</b>	<b>509</b>	<b>525</b>

For notes see inside back cover.

## GLOSSARY

g	grams
kg	kilograms
tonne	1,000 kg
oz	ounces troy
pgm	platinum group metals
prices	all prices quoted are per oz unless otherwise stated
\$	US dollars
R	South African rands
¥	Japanese yen
Almaz	Almazjuvelirexport, the pgm marketing agency of the Russian Federation
CO	carbon monoxide
HC	hydrocarbons
NO <sub>x</sub>	oxides of nitrogen
LCD	liquid crystal display
LEV	Low Emission Vehicle
GDI	gasoline direct injection
MLCC	multi-layer ceramic capacitor
Merensky	} platinumiferous orebodies in South Africa
UG2	
Platreef	
NYMEX	New York Mercantile Exchange
TOCOM	Tokyo Commodity Exchange

## NOTES TO TABLES

**Supply** figures are estimates of sales by the mines of primary pgm.

With the exception of the autocatalyst sector, **demand** estimates are net figures, demand in each sector being total purchases by consumers less any sales back to the market. Thus, annual totals represent the amount of primary metal that is acquired by consumers in a particular year.

From 1993, demand numbers for **Europe** include an estimate of net consumption in the former COMECON countries of eastern Europe. From 1996, consumption in China is incorporated into our figures for the **Rest of the World** region. We continue to exclude the CIS from our demand estimates.

**Movements in stocks** in a given year reflect changes in stocks held by fabricators, dealers, banks and depositories but excluding stocks held by primary refiners and final consumers. A positive figure indicates an increase in stocks; a negative figure indicates a rundown in stocks.

**Gross autocatalyst demand** is purchases of pgm by the auto industry for manufacture of catalytic converters. **Autocatalyst recovery** is pgm recovered from scrapped catalytic converters and is allocated to the region in which the converter was scrapped.

**Investment: small** refers to the long-term holding of metal in the form of coins, and bars weighing 10 oz or less. **Investment: large** is in the form of 500 g and 1 kg bars in Japan and includes platinum held on account for subscribers to accumulation plans.

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