

Palladium Supply and Demand

'000 oz	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply																		
South Africa	870	910	820	790	980	1,010	1,040	1,090	1,105	1,150	1,230	1,270	1,260	1,395	1,500	1,600	1,690	1,810
Russia	1,240	1,430	1,550	1,560	1,700	1,440	1,600	1,790	1,770	1,650	1,870	2,150	2,100	2,400	3,300	4,200	5,600	4,800
North America	170	160	160	110	190	190	190	190	370	375	370	420	450	415	410	470	455	545
Others	60	70	70	80	90	90	90	90	70	60	70	70	70	70	70	70	95	95
Total Supply	2,340	2,570	2,600	2,540	2,960	2,730	2,920	3,160	3,315	3,235	3,540	3,910	3,880	4,280	5,280	6,340	7,840	7,250
Demand by Application																		
Autocatalyst: gross	300	270	290	300	340	320	265	270	260	265	315	355	490	705	975	1,800	2,360	3,200
recovery	0	0	0	0	-20	-30	-40	-50	-65	-70	-85	-85	-95	-100	-105	-110	-145	-160
Chemical *							155	170	175	185	215	225	205	190	185	210	240	240
Dental	520	480	590	820	900	870	925	955	995	995	1,020	1,165	1,195	1,210	1,265	1,290	1,320	1,350
Electronics	590	800	840	1,110	1,230	1,100	1,320	1,575	1,705	1,655	1,675	1,855	1,830	2,015	2,230	2,620	2,020	2,550
Jewellery	180	210	220	180	210	210	170	165	180	180	195	210	205	210	205	200	215	260
Other	440	330	330	290	300	270	115	100	85	130	80	65	60	35	115	110	140	140
Total Demand	2,030	2,090	2,270	2,700	2,960	2,740	2,910	3,185	3,335	3,340	3,415	3,790	3,890	4,265	4,870	6,120	6,150	7,580
Movements in stocks	310	480	330	-160	0	-10	10	-25	-20	-105	125	120	-10	15	410	220	1,690	-330
Demand by Region																		
Europe	330	300	350	470	520	520	540	550	605	585	590	620	675	680	885	1,340	1,525	1,840
Japan	690	820	890	1,220	1,250	1,080	1,230	1,430	1,535	1,515	1,530	1,800	1,780	1,990	2,200	2,445	1,885	2,350
North America	840	820	850	830	990	930	965	1,035	1,020	1,070	1,080	1,095	1,155	1,295	1,430	1,960	2,185	2,675
Rest of the World	170	150	180	180	200	210	175	170	175	170	215	275	280	300	355	375	555	715
Total Demand	2,030	2,090	2,270	2,700	2,960	2,740	2,910	3,185	3,335	3,340	3,415	3,790	3,890	4,265	4,870	6,120	6,150	7,580

* Before 1986, Chemical demand is included in our Other estimates.



Palladium Demand by Application: Regions

'000 oz	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Europe **																		
Autocatalyst: gross	0	0	0	0	0	0	0	5	5	5	5	5	40	115	260	650	860	1,100
recovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-5	-5
Chemical *							60	60	65	65	75	70	75	65	60	65	65	70
Dental	100	110	140	250	290	260	245	240	265	250	260	300	300	265	255	250	255	260
Electronics	110	110	130	150	190	200	180	200	220	210	200	200	210	210	255	325	300	340
Jewellery	130	140	150	140	140	140	35	30	35	35	35	35	35	35	30	30	30	50
Other	160	90	100	110	130	120	20	15	15	20	15	10	15	-10	25	20	20	25
Totals	500	450	520	650	750	720	540	550	605	585	590	620	675	680	885	1,340	1,525	1,840
Japan																		
Autocatalyst: gross	150	140	160	150	140	105	90	90	85	85	90	95	85	90	125	145	180	245
recovery	0	0	0	0	0	-5	-10	-10	-15	-15	-25	-30	-35	-30	-30	-25	-30	-45
Chemical *							20	25	20	25	25	25	20	20	20	20	20	20
Dental	220	160	190	290	290	270	280	290	300	310	320	420	450	500	550	580	600	620
Electronics	160	360	390	650	680	600	750	920	1,020	980	990	1,160	1,130	1,280	1,400	1,600	990	1,390
Jewellery	40	60	60	50	60	60	70	80	105	110	115	120	120	120	120	115	115	110
Other	120	100	90	80	80	50	30	35	20	20	15	10	10	10	15	10	10	10
Totals	690	820	890	1220	1250	1080	1230	1430	1535	1515	1530	1800	1780	1990	2200	2445	1885	2350
North America																		
Autocatalyst: gross	150	130	130	150	200	215	160	160	155	160	200	220	320	450	525	950	1,230	1,680
recovery	0	0	0	0	-20	-25	-30	-40	-50	-55	-60	-55	-60	-70	-75	-85	-110	-105
Chemical *							60	70	70	75	75	80	65	65	60	70	70	70
Dental	200	210	260	280	330	340	375	390	390	395	400	400	400	400	410	410	410	415
Electronics	320	330	320	290	370	300	330	400	405	410	420	425	405	420	450	545	490	550
Jewellery	10	10	10	10	10	10	10	10	10	5	5	5	0	5	5	5	5	10
Other	160	140	140	100	100	100	60	45	40	80	40	20	25	25	55	65	90	55
Totals	840	820	860	830	990	940	965	1035	1020	1070	1080	1095	1155	1295	1430	1960	2185	2675
Rest of the World **																		
Autocatalyst: gross							15	15	15	15	20	35	45	50	65	55	90	175
recovery							0	0	0	0	0	0	0	0	0	0	0	-5
Chemical *							15	15	20	20	40	50	45	40	45	55	85	80
Dental							25	35	40	40	40	45	45	45	50	50	55	55
Electronics							60	55	60	55	65	70	85	105	125	150	240	270
Jewellery							55	45	30	30	40	50	50	50	50	65	65	90
Other							5	5	10	10	10	25	10	10	20	15	20	50
Totals							175	170	175	170	215	275	280	300	355	375	555	715

* Before 1986, Chemical demand is included in our Other estimates.

** Before 1986, estimates for the Rest of the World region are included in our European figures.

Palladium Supply and Demand

Tonnes **	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Supply																		
South Africa	27	28	26	25	31	31	32	34	34	36	38	40	39	43	47	50	53	56
Russia	39	45	48	49	53	45	50	56	55	51	58	67	65	75	103	131	174	149
North America	5.3	5	5	3.4	5.9	5.9	5.9	6	12	12	12	13	14	13	13	15	14	17
Others	1.9	2.2	2.2	2.5	2.8	2.8	2.8	3	2	2	2	2	2	2	2	2	3	3
Total Supply	73	80	81	79	92	85	91	98	103	101	110	122	121	133	164	197	244	226
Demand by Application																		
Autocatalyst: gross	9	8	9	9	11	10	8	8	8	8	10	11	15	22	30	56	73	100
recovery	0	0	0	0	-1	-1	-1	-2	-2	-2	-3	-3	-3	-3	-3	-3	-5	-5
Chemical *							4.8	5	5	6	7	7	6	6	6	7	8	7
Dental	16.2	14.9	18.4	25.5	28	27.1	28.8	30	31	31	32	36	37	38	39	40	41	42
Electronics	18	25	26	35	38	34	41	49	53	52	52	58	57	63	69	82	63	79
Jewellery	5.6	6.5	6.8	5.6	6.5	6.5	5.3	5	6	6	6	7	6	7	6	6	7	8
Other	13.7	10.3	10.3	9	9.3	8.4	3.6	3	3	4	3	2	2	1	4	3	4	4
Total Demand	63	65	71	84	92	85	91	99	104	104	106	118	121	133	152	190	191	236
Movements in stocks	10	15	10	-5	0	0	0	-1	-1	-3	4	4	0	1	13	7	53	-10
Demand by Region																		
Europe	10	9	11	15	16	16	17	17	19	18	18	19	21	21	28	42	47	57
Japan	22	26	28	38	39	34	38	45	48	47	48	56	55	62	68	76	59	73
North America	26.1	25.5	26.4	25.8	30.8	28.9	30	32	32	33	34	34	36	40	45	61	68	83
Rest of the World	5.3	4.7	5.6	5.6	6.2	6.5	5.4	5	5	5	7	9	9	9	11	12	17	22
Total Demand	63	65	71	84	92	85	91	99	104	104	106	118	121	133	152	190	191	236

* Before 1986, Chemical demand is included in our Other estimates.

** Totals may not add due to rounding

Palladium Demand by Application: Regions

Tonnes ***	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Europe																		
Autocatalyst: gross	0	0	0	0	0	0	0	0	0	0	0	0	1	4	8	20	27	34
recovery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical *							1.9	2	2	2	2	2	2	2	2	2	2	2
Dental	3.1	3.4	4.4	7.8	9	8.1	7.6	8	8	8	8	9	9	8	8	8	8	8
Electronics	3.4	3.4	4	4.7	5.9	6.2	5.6	6	7	7	6	6	7	7	8	10	9	11
Jewellery	4	4.4	4.7	4.4	4.4	4.4	1.1	1	1	1	1	1	1	1	1	1	1	2
Other	5	2.8	3.1	3.4	4	3.7	0.6	0	1	1	1	0	1	0	1	1	1	1
Totals	16	14	16	20	23	22	17	17	19	18	18	19	21	21	28	42	47	57
Japan																		
Autocatalyst: gross	5	4	5	5	4	3	3	3	3	3	3	3	3	3	4	5	6	8
recovery	0	0	0	0	0	0	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
Chemical *							0.6	1	1	1	1	1	1	1	1	1	1	1
Dental	6.8	5	5.9	9	9	8.4	8.7	9	9	10	10	13	14	16	17	18	19	19
Electronics	5	11.2	12.1	20.2	21.2	18.7	23.3	29	32	31	31	36	35	40	44	50	31	43
Jewellery	1.2	1.9	1.9	1.6	1.9	1.9	2.2	3	3	3	4	4	4	4	4	4	4	3
Other	3.7	3.1	2.8	2.5	2.5	1.6	1	1	1	1	1	0	0	0	1	0	0	0
Totals	21.5	25.5	27.7	37.9	38.9	33.6	38.3	44.5	47.7	47.1	47.6	56	55.4	61.9	68.4	76	58.6	73
North America																		
Autocatalyst: gross	5	4	4	5	6	7	5	5	5	5	6	7	10	14	16	30	38	52
recovery	0	0	0	0	-1	-1	-1	-1	-2	-2	-2	-2	-2	-2	-2	-3	-3	-3
Chemical *							1.9	2	2	2	2	3	2	2	2	2	2	2
Dental	6.2	6.5	8.1	8.7	10.3	10.6	11.7	12	12	12	12	12	12	12	13	13	13	13
Electronics	10	10.3	10	9	11.5	9.3	10.3	12	13	13	13	13	13	13	14	17	15	17
Jewellery	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0
Other	5	4.4	4.4	3.1	3.1	3.1	1.8	1	1	3	1	1	1	1	2	2	3	2
Totals	26.1	25.5	26.7	25.8	30.8	29.2	30	32.2	31.7	33.3	33.6	34.1	35.9	40.3	44.5	61	68	83.2
Rest of World **																		
Autocatalyst: gross							1	1	1	1	1	1	1	2	2	2	3	5
recovery							0	0	0	0	0	0	0	0	0	0	0	0
Chemical *							0.5	1	1	1	1	2	1	1	1	2	3	3
Dental							0.8	1	1	1	1	1	1	1	2	2	2	2
Electronics							1.9	2	2	2	2	2	3	3	4	5	8	8
Jewellery							1.7	1	1	1	1	2	2	2	2	2	2	3
Other							0.1	0	0	0	0	1	0	0	1	1	1	2
Totals							5.4	5.3	5.4	5.3	6.7	8.6	8.7	9.3	11	11.7	17.3	22.2

* Before 1986, Chemical demand is included in our Other estimates.

** Before 1986, estimates for the Rest of the World region are included in our European figures.

*** Totals may not add due to rounding