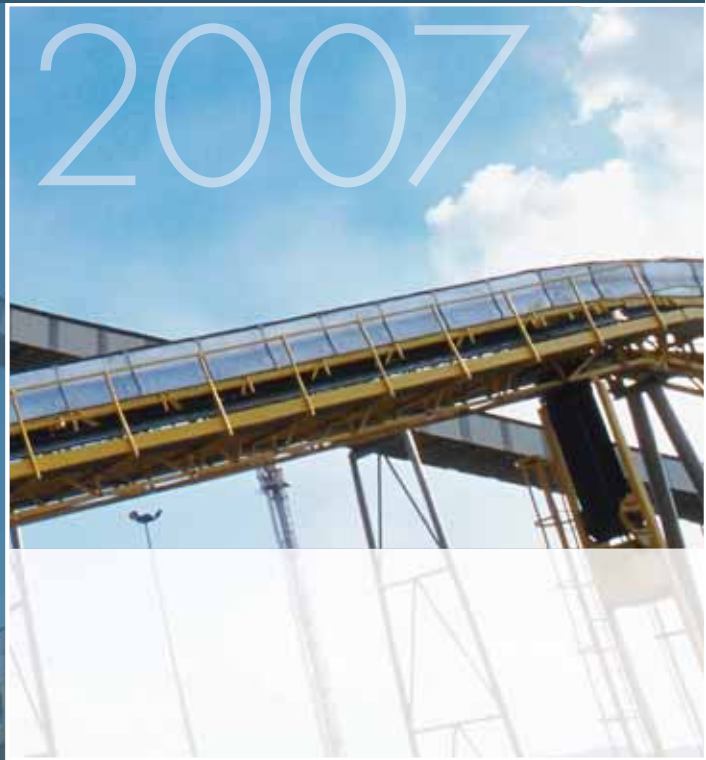




minerals & energy commodities





## 234 Summary of Australian statistics for bauxite and alumina

	Production		Alumina exports <sup>a</sup>		
	Bauxite kt	Alumina kt	Volume kt	Value \$m	Unit value <sup>b</sup> \$/t
1960	71	30	na	na	na
1961	16	30	na	na	na
1962	30	34	na	na	na
1963	360	47	na	na	na
1964	797	161	na	na	na
1965	1 186	202	na	na	na
1966	1 827	307	na	7	na
1967	4 244	854	na	29	na
1968	4 955	1 310	na	60	na
1969	7 921	1 931	na	72	na
1970	9 256	2 152	na	97	na
1971	12 733	2 713	2 148	115	53.5
1972	14 437	3 068	2 646	135	51.0
1973	17 596	4 089	3 507	181	51.6
1974	19 994	4 900	4 705	251	53.3
1975	21 033	5 129	4 514	344	76.2
1976	24 084	6 206	5 826	527	90.5
1977	26 086	6 659	6 119	629	102.8
1978	24 293	6 776	6 250	671	107.4
1979	27 583	7 415	6 476	775	119.7
1980	27 179	7 246	6 994	1 021	146.0
1981	25 441	7 079	6 510	1 082	166.2
1982	23 625	6 631	5 953	1 103	185.3
1983	24 372	7 231	6 378	1 185	185.8
1984	31 537	8 781	6 905	1 579	228.7
1985	31 839	8 792	7 169	1 433	199.9
1986	32 384	9 423	7 688	1 427	185.6
1987	34 008	10 109	8 301	1 545	186.1
1988	36 192	10 518	8 519	1 836	215.6
1989	38 579	10 800	8 636	2 725	315.5
1990	41 389	11 231	8 708	2 940	337.6
1991	40 504	11 713	9 275	2 490	268.5
1992	39 741	11 783	9 604	2 253	234.6
1993	41 320	12 598	9 753	2 383	244.3
1994	42 159	12 819	10 570	2 193	207.4
1995	42 655	13 161	10 727	2 504	233.4
1996	43 063	13 348	10 754	2 612	242.9
1997	44 464	13 384	10 902	2 735	250.8
1998	44 653	13 853	10 804	3 055	282.7
1999	48 416	14 532	11 130	2 879	258.6
2000	53 802	15 680	12 419	4 222	340.0
2001	53 799	16 313	12 972	4 430	341.5
2002	54 135	16 382	12 932	3 752	290.2
2003	55 602	16 529	13 498	3 655	270.8
2004	56 593	16 701	13 702	4 110	299.9
2005	59 959	17 704	14 358	4 647	323.7
2006	61 780	18 312	14 986	6 082	405.9

<sup>a</sup> Alumina (hydrate and oxide) only. <sup>b</sup> Average export unit value. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; International Monetary Fund, *International Financial Statistics*, Washington DC; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## aluminium

## 235 Summary of Australian statistics for aluminium

	Primary aluminium		Exports		
	Production kt	Consumption <sup>a</sup> kt	Volume <sup>b</sup> kt	Value \$m	Unit value <sup>c</sup> \$/t
1960	12	39	na	na	na
1961	13	30	na	na	na
1962	16	48	na	na	na
1963	42	49	5	2	400.0
1964	80	65	15	6	400.0
1965	88	67	22	9	409.1
1966	92	76	16	7	437.5
1967	93	82	11	5	454.5
1968	97	104	6	3	500.0
1969	126	107	21	10	476.2
1970	206	123	82	38	463.4
1971	224	138	85	35	411.8
1972	206	112	95	35	368.4
1973	207	151	57	24	421.1
1974	219	176	53	28	528.3
1975	214	138	77	46	597.4
1976	232	168	65	45	692.3
1977	248	170	78	70	897.4
1978	263	184	77	72	935.1
1979	270	198	76	86	1 131.6
1980	304	267	46	62	1 347.8
1981	379	254	79	97	1 227.8
1982	381	219	156	168	1 076.9
1983	478	245	235	333	1 417.0
1984	758	265	404	637	1 576.7
1985	851	288	564	862	1 528.4
1986	882	287	579	975	1 685.4
1987	1 004	319	711	1 423	2 001.4
1988	1 150	328	816	2 218	2 719.2
1989	1 244	324	922	2 347	2 546.4
1990	1 234	288	936	1 990	2 125.6
1991	1 235	298	954	1 771	1 857.2
1992	1 245	309	930	1 618	1 739.1
1993	1 388	338	1 056	1 822	1 725.2
1994	1 317	354	948	1 804	1 902.5
1995	1 297	343	957	2 431	2 540.7
1996	1 372	322	1 068	2 140	2 003.7
1997	1 495	352	1 156	2 527	2 186.3
1998	1 627	367	1 310	2 929	2 235.6
1999	1 718	344	1 381	2 919	2 114.2
2000	1 769	346	1 402	3 785	2 700.3
2001	1 797	317	1 489	4 233	2 842.3
2002	1 836	299	1 527	3 845	2 518.4
2003	1 857	337	1 528	3 426	2 242.4
2004	1 895	362	1 534	3 626	2 364.2
2005	1 903	380	1 585	4 024	2 539.5
2006	1 932	312	1 618	5 464	3 377.1

<sup>a</sup> Apparent primary consumption. <sup>b</sup> Aluminium ingot metal. <sup>c</sup> Average export unit value. **na** Not available.

Sources: Australian Aluminium Council, *Australian Aluminium Statistical Summary*, Canberra; ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; International Monetary Fund, *International Financial Statistics*, Washington DC; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 236 Australian supply, disposal and prices of alumina and aluminium

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Production</b>									
Bauxite	kt	51 046	54 560	53 949	54 472	56 316	57 648	60 874	62 684
Alumina	kt	15 037	16 098	16 417	16 413	16 690	17 161	17 826	18 506
Aluminium	kt	1 742	1 788	1 809	1 855	1 877	1 890	1 912	1 964
Secondary metal <b>a</b>	kt	108	110	127	127	127	127	127	na
<b>Exports</b>									
Alumina <b>b</b>	kt	11 654	12 721	13 091	13 168	13 572	14 073	14 499	15 054
- value	\$m	3 471	4 507	4 114	3 660	3 781	4 383	5 262	6 224
Aluminium <b>a</b>	kt	1 364	1 471	1 490	1 551	1 546	1 512	1 617	1 638
- value	\$m	3 302	4 229	3 965	3 696	3 441	3 726	4 788	5 648
<b>Imports</b>									
Alumina	kt	0.9	0.8	0.9	1.6	1.1	1.3	1.4	10.7
- value	\$m	1.2	1.4	1.7	2.5	1.1	1.4	1.6	12.2
Aluminium <b>a</b>	kt	5.9	6.0	6.8	4.8	6.7	5.9	6.3	2.7
- value	\$m	18.2	20.5	20.5	14.3	16.2	16.6	19.9	10.7
<b>Consumption <b>c</b></b>	kt	385.3	327.3	300.2	303.7	319.8	380.2	343.1	285.0
<b>Export unit values</b>									
Alumina	\$/t	297.80	354.29	314.25	277.97	278.60	311.47	362.90	413.41
Aluminium	\$/t	2 420.53	2 875.54	2 661.38	2 382.64	2 226.28	2 463.63	2 961.66	3 448.68

**a** Ingot metal. **b** Includes aluminium hydroxide. **c** Estimated apparent consumption (primary and secondary). **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Australian Aluminium Council, *Australian Statistical Summary*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 237 Volume of Australian exports of aluminium, by destination

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt	kt
China	4.8	17.7	18.6	20.0	46.4	72.0	75.2	59.5	37.4
Chinese Taipei	192.4	228.5	227.2	151.5	219.0	184.1	203.0	159.4	184.3
Hong Kong, China	90.4	71.8	102.1	61.6	74.3	90.0	108.8	85.5	66.0
Indonesia	31.2	52.7	51.1	47.6	51.3	56.3	57.1	88.1	83.3
Japan	562.4	528.4	610.3	610.8	577.5	569.9	551.9	581.0	578.1
Korea, Rep. of	182.3	256.3	230.5	210.2	234.8	217.2	188.5	222.4	233.0
Malaysia	39.0	41.9	24.4	52.1	53.4	61.8	75.2	81.3	82.1
Philippines	12.6	14.8	10.2	5.6	8.6	9.6	7.5	7.7	7.8
Singapore	4.9	9.0	4.1	5.3	5.4	6.0	13.5	16.0	27.9
Thailand	66.4	62.6	75.0	121.4	121.9	152.4	134.4	186.3	196.9
Other countries	123.8	97.0	48.0	203.1	133.9	108.6	118.6	97.4	121.2
Total	1 310.1	1 380.6	1 401.6	1 489.2	1 526.6	1 527.8	1 533.7	1 584.7	1 617.9

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra.

## aluminium

## 238 World production, consumption, stocks and prices for aluminium

	Production					Primary consumption	Stocks	Price <sup>b</sup>
	Bauxite	Alumina <sup>a</sup>	Aluminium		Total			
			Primary	Secondary				
	kt	kt	kt	kt	kt	kt	US\$/t	
1961	29 279	na	na	797	na	na	na	511.5
1962	31 220	na	0	948	948	3 237	na	498.0
1963	30 456	na	3 523	1 061	4 584	3 458	na	498.9
1964	33 185	na	3 865	1 178	5 043	3 893	na	526.0
1965	37 233	na	4 253	1 311	5 564	4 322	na	540.1
1966	41 070	11 510	4 800	1 657	6 457	4 809	na	540.1
1967	45 087	13 118	5 098	1 700	6 798	5 226	na	540.1
1968	46 571	13 983	5 592	1 946	7 538	6 137	na	552.9
1969	54 475	16 175	6 160	2 256	8 416	6 088	na	588.4
1970	59 490	20 003	6 583	2 181	8 764	7 035	na	614.2
1971	66 663	22 719	7 439	2 295	9 734	7 732	na	627.9
1972	69 215	24 539	8 056	2 451	10 507	7 935	1 687	590.2
1973	75 208	21 908	8 621	2 817	11 438	8 471	1 352	599.2
1974	84 176	22 878	9 205	2 887	12 092	9 450	2 012	764.8
1975	77 380	22 093	10 129	2 542	12 671	11 350	3 129	868.4
1976	80 662	22 663	12 863	2 781	15 644	14 077	2 321	890.0
1977	84 480	25 186	14 322	3 052	17 374	14 511	2 505	1 143.8
1978	83 927	25 146	14 776	3 240	18 016	15 329	2 052	1 325.0
1979	89 131	26 034	15 175	3 316	18 491	15 981	1 513	1 602.8
1980	93 061	28 106	16 035	3 318	19 353	15 298	2 078	1 774.9
1981	88 552	26 648	15 698	3 618	19 316	14 516	3 275	1 262.8
1982	77 896	22 230	13 990	3 583	17 573	14 161	3 185	991.6
1983	78 585	23 342	14 334	3 960	18 294	15 361	2 249	1 438.3
1984	92 299	27 055	15 941	3 950	19 891	15 574	2 775	1 251.6
1985	89 609	25 543	15 555	4 022	19 577	15 858	2 444	1 042.8
1986	92 842	26 114	15 619	4 196	19 815	16 071	1 964	1 150.0
1987	96 499	28 053	16 483	4 511	20 994	17 053	1 474	1 580.0
1988	102 588	29 155	18 575	4 943	23 518	18 867	1 619	2 603.0
1989	107 584	31 537	19 135	4 943	24 078	19 253	1 634	1 953.0
1990	114 750	40 500	19 348	5 062	24 410	19 227	1 847	1 639.0
1991	114 977	40 890	19 653	5 336	24 988	18 743	2 741	1 303.5
1992	109 468	40 783	19 459	5 476	24 935	18 558	3 244	1 254.6
1993	114 124	42 978	19 715	6 058	25 773	18 134	4 497	1 139.4
1994	112 230	41 953	19 112	6 447	25 559	19 715	3 733	1 477.1
1995	118 231	43 809	19 668	6 876	26 544	20 552	2 576	1 806.0
1996	123 965	40 841	20 848	6 914	27 762	20 684	3 135	1 506.0
1997	126 381	43 297	21 798	7 484	29 282	21 870	2 749	1 599.8
1998	123 034	45 043	22 654	7 594	30 248	21 889	2 837	1 357.9
1999	130 158	45 784	23 707	8 132	31 839	23 356	3 020	1 361.1
2000	138 915	48 119	24 418	8 197	32 615	25 059	2 623	1 549.5
2001	139 044	48 488	24 436	7 264	31 700	23 722	3 103	1 443.8
2002	147 312	49 785	26 076	7 649	33 725	25 371	3 444	1 350.3
2003	158 315	52 591	28 001	7 656	35 657	27 607	3 672	1 431.6
2004	168 032	54 872	29 922	7 636	37 558	29 959	3 033	1 715.9
2005	176 363	56 157	32 021	7 763	39 784	31 709	3 010	1 898.8
2006	182 447	58 395	33 967	7 841	41 808	33 970	2 764	2 569.8

<sup>a</sup> Western world production to 1989, total world production from 1990. <sup>b</sup> London Metal Exchange, 99.5 per cent purity, spot cash settlement until 1988; 99.7 per cent purity from 1989. Before 1979, UK producer price. **na** Not available.

Sources: International Monetary Fund, *International Financial Statistics*, Washington DC; Metallgesellschaft AG, *Metallstatistik*, Frankfurt; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 239 World primary aluminium production, by region and country

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt	kt
<b>Africa</b>									
Cameroon	82	92	95	81	67	77	86	90	87
Egypt	187	187	189	191	195	195	216	244	252
Ghana	56	114	156	162	132	16	0	13	76
Nigeria	26	16	0	0	0	0	0	0	0
South Africa	693	687	683	654	704	733	864	851	887
<b>Americas</b>									
Argentina	187	206	262	245	269	272	272	271	273
Brazil	1 208	1 250	1 271	1 132	1 318	1 381	1 457	1 498	1 604
Canada	2 374	2 390	2 374	2 583	2 709	2 792	2 592	2 894	3 051
Mexico	62	63	61	52	38	18	0	0	0
Surinam	27	7	0	0	0	0	0	0	0
United States	3 713	3 779	3 668	2 637	2 705	2 705	2 517	2 480	2 281
Venezuela	584	567	569	572	605	606	631	624	617
<b>Asia</b>									
China	2 336	2 599	2 794	3 371	4 321	5 547	6 689	7 806	9 349
India	545	621	649	624	671	799	861	942	1 105
Japan	16	11	7	7	6	7	7	6	6
Tajikistan	196	229	269	289	308	319	358	380	414
<b>Europe</b>									
France	424	455	441	461	463	443	451	442	442
Germany	612	634	644	652	653	661	668	648	516
Greece	146	160	163	162	164	165	167	165	165
Hungary	34	34	34	35	35	35	34	31	0
Iceland	173	222	226	243	264	266	271	272	325
Italy	187	187	190	188	190	191	195	193	194
Netherlands	264	287	302	293	284	283	326	341	312
Norway	996	1 020	1 026	1 068	1 096	1 192	1 322	1 377	1 427
Poland	52	52	52	55	59	53	54	54	52
Romania	174	174	181	182	187	196	219	244	258
Russian Federation	3 010	3 149	3 247	3 302	3 348	3 478	3 594	3 647	3 718
Slovakia	117	109	110	110	112	131	157	158	157
Slovenia	71	77	76	77	88	110	121	139	140
Spain	360	364	366	376	380	389	398	394	367
Sweden	96	99	100	102	101	101	101	103	101
Switzerland	32	34	36	36	40	44	45	45	12
Ukraine	107	112	104	106	113	114	113	114	113
United Kingdom	258	270	305	341	344	343	360	369	360
Yugoslavia	77	81	96	108	117	120	121	120	122
<b>Middle East</b>									
Bahrain	501	503	509	522	517	526	524	708	844
Iran	111	138	140	145	166	172	203	232	240
Turkey	62	62	62	62	63	63	62	59	60
United Arab Emirates	387	441	536	536	536	536	683	850	789
<b>Oceania</b>									
Australia	1 627	1 718	1 769	1 797	1 836	1 857	1 895	1 903	1 932
New Zealand	318	327	328	322	334	334	350	349	338
<b>Total</b>	<b>22 654</b>	<b>23 707</b>	<b>24 418</b>	<b>24 436</b>	<b>26 076</b>	<b>28 001</b>	<b>29 922</b>	<b>32 021</b>	<b>33 967</b>

Sources: ABARE, *Australian Mineral Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## aluminium

## 240 World primary aluminium consumption, by region and country

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt	kt
Africa									
Cameroon	25	22	24	25	27	27	19	19	19
Egypt	92	83	82	97	91	101	98	98	110
Ghana	16	16	16	16	16	16	16	16	16
South Africa	143	125	186	198	180	180	222	240	264
Other Africa	10	6	8	8	9	9	19	14	14
Total	302	268	339	366	347	357	399	414	452
Americas									
Argentina	108	83	81	54	51	81	116	113	133
Brazil	521	463	514	553	578	589	651	759	773
Canada	721	777	800	743	747	736	755	801	846
Mexico	92	88	88	113	113	113	130	158	164
United States	5 814	6 158	6 161	5 230	5 509	5 667	5 800	6 114	6 150
Venezuela	206	155	183	165	173	181	208	179	160
Other Americas	27	24	38	39	44	47	54	56	58
Total	7 536	7 789	7 912	6 942	7 270	7 467	7 777	8 254	8 385
Asia									
China <sup>a</sup>	2 425	2 926	3 499	3 492	4 115	5 178	6 043	7 119	8 648
Chinese Taipei	301	464	502	321	407	431	497	412	422
Hong Kong, China	42	48	50	50	42	28	25	30	30
India	567	570	602	589	604	798	861	958	1 080
Indonesia	75	139	146	163	127	211	249	268	288
Japan	2 082	2 112	2 225	2 014	2 010	2 235	2 319	2 276	2 323
Korea, Rep. of	506	814	823	850	921	982	1 118	1 201	1 153
Malaysia	104	147	150	153	149	126	140	150	193
Philippines	24	34	33	25	30	26	29	28	26
Singapore	43	4	15	48	48	56	63	60	60
Thailand	129	156	195	227	250	323	378	374	407
Other Asia	84	77	86	96	104	109	121	121	121
Total	7 025	8 177	9 075	8 802	9 661	11 448	12 967	14 216	15 996
Europe									
Austria	163	143	168	201	208	241	234	218	269
Belgium	370	350	341	327	333	322	402	442	467
Croatia	24	30	29	38	41	28	56	71	71
Czech Republic	79	66	78	88	105	103	114	134	130
Denmark	39	39	41	44	56	60	66	63	69
Finland	33	37	39	37	32	29	33	37	39
France	734	774	782	746	762	754	749	719	713
Germany	1 519	1 439	1 491	1 580	1 690	1 916	1 795	1 759	1 823
Greece	213	213	231	218	220	243	266	281	281
Hungary	164	171	210	223	240	244	226	226	225
Italy	674	735	780	756	851	956	987	977	1 021
Netherlands	155	155	155	155	155	153	146	146	146
Norway	160	231	253	233	246	246	246	246	246
Poland	108	133	150	149	133	152	160	160	227
Portugal	68	82	78	67	78	72	90	88	94
Romania	80	98	128	113	112	163	163	213	247
Russian Federation	489	563	748	786	990	803	1 020	1 020	1 047
Slovakia	22	25	36	39	28	24	20	25	26
Slovenia	75	62	81	116	76	87	119	115	112
Spain	136	494	526	508	533	596	603	624	620

Continued



## 240 World primary aluminium consumption, by region and country continued

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt	kt
Europe (continued)									
Sweden	177	133	147	119	127	126	124	113	106
Switzerland	166	157	165	161	152	168	169	162	193
Ukraine	50	50	50	50	50	30	33	37	40
United Kingdom	579	497	576	433	428	302	439	353	362
Yugoslavia	19	16	16	18	23	38	45	62	96
Total	6 625	6 736	7 341	7 249	7 721	7 925	8 379	8 373	8 762
Middle East									
Bahrain	200	226	239	261	248	255	353	355	328
Iran	103	123	117	117	126	126	161	154	158
Saudi Arabia	50	55	60	65	70	77	77	80	80
Turkey	181	169	211	176	231	308	351	390	433
Total	634	618	707	698	778	869	1 045	1 113	1 134
Oceania									
Australia	367	344	346	317	299	337	362	380	312
New Zealand	34	43	46	46	74	73	75	71	62
Total	401	387	392	363	373	410	437	451	374
Total	21 889	23 356	25 059	23 722	25 371	27 607	29 959	31 709	33 970

<sup>a</sup> Excludes Hong Kong.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## aluminium

241 Volume of world aluminium trade, by country <sup>a</sup>

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt	kt
<b>Exports</b>									
Argentina	87.7	123.4	187.0	182.5	203.4	199.9	163.1	168.5	131.1
Australia	1 310.1	1 380.6	1 401.6	1 489.2	1 526.6	1 527.8	1 533.7	1 584.7	1 617.9
Austria	87.3	88.0	91.8	102.2	108.9	103.7	136.0	132.8	126.5
Bahrain	300.4	276.5	269.8	261.1	268.8	270.9	na	na	na
Belgium	111.1	66.7	61.6	184.4	287.3	198.7	308.7	306.7	240.4
Brazil	692.4	788.6	760.0	587.9	749.4	798.8	818.4	753.1	842.1
Cameroon	111.7	72.0	69.8	56.8	39.8	51.4	72.9	65.0	na
Canada	1 856.4	1 862.6	1 837.3	2 046.1	2 133.3	2 233.2	1 996.9	2 239.6	2 359.9
Chinese Taipei	148.9	94.4	103.1	96.1	113.6	121.1	125.8	111.3	117.5
Denmark	28.8	25.7	23.3	26.1	23.4	17.7	14.1	23.6	31.9
Egypt	86.1	109.7	114.4	95.1	108.7	99.2	119.8	144.6	140.7
Finland	37.1	39.6	38.9	33.7	23.5	18.6	17.3	14.1	11.4
France	139.8	153.3	157.4	151.0	156.7	139.0	148.1	172.8	214.2
Germany	236.7	300.3	374.8	366.7	387.6	389.3	413.4	391.6	432.3
Ghana	17.0	39.4	na	68.7	na	na	na	na	na
Greece	58.5	60.8	94.5	15.8	62.9	67.6	70.4	76.0	83.3
Hong Kong, China	249.6	215.0	193.0	134.4	145.9	183.4	203.3	118.1	80.2
Hungary	21.7	12.7	12.2	10.9	10.6	16.2	10.0	22.6	28.9
Iceland	162.1	221.4	209.7	258.0	282.5	286.0	278.0	283.6	303.3
India	22.9	100.3	91.4	101.5	135.7	71.4	76.2	108.3	119.9
Indonesia	148.1	79.9	172.2	149.6	142.7	119.9	167.7	166.1	186.1
Ireland	na	na	na	na	na	na	na	na	na
Italy	35.7	29.6	33.8	31.5	42.0	34.5	47.8	66.3	93.5
Japan	7.1	10.5	10.0	12.6	12.4	18.2	36.3	34.4	24.3
Korea, Rep. of	70.4	31.8	11.8	8.0	24.3	49.9	56.1	48.6	50.8
Mexico	6.4	7.1	10.3	7.5	5.5	4.7	13.6	14.7	22.2
Netherlands	468.7	480.5	450.5	470.0	581.7	635.6	609.6	482.3	608.8
New Zealand	294.0	287.2	296.1	293.5	298.5	289.7	316.1	319.5	308.9
Norway	989.1	988.0	1 041.8	1 187.6	1 127.8	1 362.5	1 485.0	1 513.2	1 539.4
Russian Federation	2 790.4	3 115.7	3 177.2	3 074.4	2 782.0	3 107.9	3 700.2	2 740.3	3 183.1
Singapore	58.4	77.8	75.0	88.8	127.5	127.9	101.6	103.9	107.2
South Africa	557.0	630.6	504.4	461.0	584.6	625.8	646.4	671.2	601.3
Spain	107.7	80.4	82.1	92.2	70.9	88.3	103.2	115.0	136.5
Surinam	26.8	6.8	na	na	na	na	na	na	na
Sweden	47.6	64.8	53.3	66.2	81.2	76.0	127.8	97.7	113.5
Switzerland	8.4	11.6	15.7	5.5	7.1	0.8	8.2	14.5	21.3
Tajikistan	186.6	224.3	288.0	287.0	304.0	316.7	342.6	374.9	408.9
United Arab Emirates	372.0	441.2	515.9	452.8	377.3	341.0	327.2	301.0	287.4
United Kingdom	225.8	233.6	347.7	263.3	250.4	271.2	335.9	379.1	350.2
United States	373.4	425.0	451.4	339.3	305.2	241.6	344.1	379.0	419.5
Venezuela	378.7	429.4	388.3	398.0	437.4	392.1	389.7	403.3	443.6
Yugoslavia	61.4	69.5	92.5	95.8	116.5	35.0	1.7	1.3	4.2
<b>Total</b>	<b>13 792.0</b>	<b>14 794.2</b>	<b>15 285.4</b>	<b>15 176.3</b>	<b>15 911.5</b>	<b>16 852.3</b>	<b>18 090.7</b>	<b>17 017.6</b>	<b>17 735.9</b>

Continued

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## Volume of world aluminium trade, by country <sup>a</sup> continued

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt	kt
<b>Imports</b>									
Argentina	na	na	na	na	na	na	na	na	na
Australia	5.9	5.6	6.0	7.6	4.4	6.1	6.9	5.1	4.7
Austria	253.2	223.7	251.5	293.0	307.3	326.3	336.0	297.1	350.3
Belgium	496.7	413.2	431.9	599.8	669.7	599.6	749.6	763.0	737.7
Brazil	5.8	2.1	2.3	8.7	8.9	6.8	12.0	18.6	11.6
Canada	201.9	246.5	276.3	223.0	196.1	137.9	165.5	163.2	155.3
China	307.0	534.0	914.1	529.6	581.8	880.8	1 033.3	637.0	512.0
Chinese Taipei	449.6	558.5	604.7	417.4	520.8	552.1	622.5	523.5	540.0
Denmark	45.6	43.6	45.4	48.7	61.5	65.4	75.2	70.6	79.6
Finland	37.8	43.2	52.0	50.5	37.5	36.7	41.3	44.6	40.9
France	403.3	464.7	527.8	506.9	474.3	490.5	513.8	517.2	593.0
Germany	1 471.9	1 333.2	1 586.2	1 602.0	1 666.6	1 895.6	1 798.9	1 770.5	2 073.0
Greece	125.8	113.2	135.6	122.4	118.9	144.3	167.6	190.2	188.4
Hong Kong, China	401.3	262.4	242.8	162.9	188.1	211.2	228.5	148.8	114.9
Hungary	157.0	154.1	193.0	203.3	209.3	227.9	366.6	163.7	182.1
India	131.1	49.4	44.7	66.6	68.3	70.6	76.4	123.8	109.7
Ireland	13.5	16.4	12.2	11.5	6.8	6.5	6.6	4.1	2.8
Italy	608.0	652.8	704.8	670.2	781.2	871.5	903.3	890.1	986.1
Japan	2 551.8	2 657.4	2 905.2	2 611.6	2 575.1	2 941.3	3 021.4	2 976.7	3 036.1
Korea, Rep. of	584.1	880.4	889.7	880.6	973.3	1 080.2	1 197.1	1 230.6	1 204.4
Mexico	180.1	198.6	231.7	229.4	292.1	325.3	403.9	406.8	439.7
Netherlands	522.9	584.1	615.6	520.6	526.0	583.5	594.3	656.3	971.4
New Zealand	10.8	12.8	9.7	5.7	10.7	17.3	22.1	19.1	17.1
Norway	147.9	186.0	252.5	224.1	282.2	301.6	355.5	370.8	387.1
Portugal	109.2	159.7	194.9	175.0	172.9	193.2	211.2	238.6	253.9
Singapore	82.1	76.7	81.0	229.9	271.7	85.0	188.7	234.2	292.9
South Africa	7.3	6.0	8.2	5.4	4.8	7.7	3.9	18.1	29.3
Spain	177.0	220.7	231.0	216.1	222.7	283.3	326.5	333.9	399.0
Sweden	138.5	104.6	109.1	97.2	120.2	118.9	150.2	135.1	143.2
Switzerland	141.2	123.6	136.3	130.5	119.4	125.1	132.5	132.0	191.7
Thailand	196.3	159.6	356.1	232.2	259.3	330.3	390.7	386.9	418.4
Turkey	143.2	132.8	169.6	125.5	185.5	274.0	327.0	382.9	414.4
United Kingdom	496.0	444.0	277.1	346.9	371.1	294.7	234.2	200.8	294.2
United States	2 484.6	2 835.9	2 687.6	2 677.1	2 918.2	2 982.7	3 297.7	3 690.7	3 461.1
Yugoslavia	3.9	1.7	3.0	4.2	11.0	20.1	24.5	39.7	63.2
<b>Total</b>	<b>13 382.5</b>	<b>14 308.7</b>	<b>15 720.8</b>	<b>14 686.3</b>	<b>15 642.8</b>	<b>17 008.3</b>	<b>18 551.3</b>	<b>18 318.2</b>	<b>19 251.7</b>

<sup>a</sup> Covers principal imports and exports of aluminium and aluminium alloys. **na** Not available or not applicable.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

242 Australian exports of clays, by destination <sup>a</sup>

	Japan	New Zealand	United Kingdom	Other	Total	
					Volume	Value
	†	†	†	†	†	\$'000
1961	na	759	na	na	840	36
1962	na	775	na	na	874	26
1963	na	634	na	na	801	36
1964	na	2 193	na	na	2 756	77
1965	na	552	na	na	2 560	56
1966	na	714	na	na	3 514	120
1967	na	650	na	na	4 890	223
1968	na	657	na	na	4 544	224
1969	na	614	na	na	6 145	182
1970	2 894	973	2 433	1 004	7 304	324
1971	2 271	681	2 827	598	6 377	299
1972	1 554	703	1 998	489	4 744	211
1973	2 038	1 011	3 249	332	6 630	286
1974	1 198	895	3 953	201	6 247	278
1975	1 732	175	4 816	126	6 849	294
1976	1 500	101	3 025	326	4 952	228
1977	2 115	462	5 400	1 950	9 927	679
1978	1 609	600	5 001	6 198	13 408	1 054
1979	1 939	1 175	2 597	381	6 092	525
1980	735	125	1 206	327	2 393	281
1981	1 539	313	596	577	3 025	364
1982	1 364	463	1 376	2 133	5 336	983
1983	927	365	1 601	5 025	7 918	1 041
1984	2 878	829	2 234	11 074	17 015	1 683
1985	1 549	719	1 877	4 259	8 404	1 021
1986	9 670	1 241	2 106	4 428	17 445	1 980
1987	14 990	3 908	1 059	11 401	31 358	4 743
1988	40 983	9 003	1 965	16 133	68 084	10 480
1988-89	71 466	10 044	1 808	27 281	110 599	16 315
1989-90	94 507	6 779	2 303	39 601	143 190	19 953
1990-91	119 979	7 528	1 175	32 203	160 885	24 557
1991-92	97 614	5 260	135	46 424	149 433	23 408
1992-93	115 735	5 009	100	43 774	164 618	28 090
1993-94	122 866	5 495	0	43 209	171 570	30 926
1994-95	85 853	4 987	844	60 509	152 193	24 656
1995-96	103 848	5 226	1 224	68 504	178 802	33 523
1996-97	52 775	5 671	43	47 208	105 697	20 801
1997-98	2 797	6 036	1 321	34 068	44 222	10 609
1998-99	4 886	6 237	2 320	30 059	43 502	10 570
1999-00	4 039	11 760	3 474	60 069	79 342	10 203
2000-01	6 152	4 768	266	21 539	32 725	7 924
2001-02	31 119	7 963	332	100 828	140 242	11 109
2002-03	12 137	11 346	231	87 538	111 252	15 862
2003-04	18 364	7 869	232	33 132	59 597	13 738
2004-05	2 893	19 366	308	37 147	59 714	12 420
2005-06	2 875	25 084	82	27 530	55 571	9 976
2006-07	2 407	17 603	122	44 151	64 283	10 933

<sup>a</sup> Excludes activated clays. na Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; ABARE.

## 243 Australian imports of clays

	Bentonite a		Kaolin b		Refractory clays c		Other clays d	
	t	\$'000	t	\$'000	t	\$'000	t	\$'000
1960	7 387	255	9 902	214	1 065	70	6 537	213
1961	7 006	239	15 789	278	298	23	5 684	232
1962	9 353	357	15 131	280	1 491	47	6 321	303
1963	10 938	492	24 589	448	1 649	65	5 960	250
1964	14 286	569	25 089	496	4 380	171	9 578	354
1965	16 312	644	26 128	517	3 524	182	14 793	271
1966	15 346	494	31 991	686	3 705	148	9 939	406
1967	21 263	615	37 908	878	2 391	101	14 270	519
1968	44 513	984	44 603	1 030	5 071	173	12 578	548
1969	54 597	1 134	43 606	1 075	4 825	112	13 177	590
1970	66 484	1 474	56 571	1 458	7 720	285	20 245	686
1971	88 803	1 887	42 579	1 268	10 565	267	12 178	726
1972	49 861	1 540	33 314	991	5 949	174	12 442	504
1973	57 965	1 390	38 344	1 130	2 154	70	16 920	665
1974	85 363	1 649	37 535	1 028	4 880	106	25 616	1 207
1975	54 736	1 142	5 572	387	16 139	561	26 654	1 286
1976	22 204	708	8 620	426	5 054	231	25 711	1 679
1977	13 191	558	7 488	521	6 665	367	29 342	2 051
1978	30 355	1 375	11 773	750	3 652	350	57 957	3 872
1979	57 241	2 028	6 751	537	2 610	198	45 635	3 842
1980	55 917	2 424	3 624	404	15 119	1 125	25 097	2 505
1981	43 034	1 828	11 737	1 113	16 564	1 431	36 658	2 720
1982	32 571	2 067	15 668	1 780	10 874	1 141	8 649	1 836
1983	17 767	1 611	9 829	1 663	3 327	461	9 261	1 373
1984	24 419	2 617	7 652	1 580	13 408	1 485	16 216	2 606
1985	30 531	3 474	2 586	870	904	209	29 166	5 412
1986	24 942	2 643	4 785	2 892	2 719	431	21 776	4 400
1987	8 654	1 822	12 641	6 002	17 367	2 079	14 021	3 773
1988	22 269	3 530	12 487	3 113	17 324	2 253	5 217	1 946
1988-89	21 344	2 553	17 174	3 927	30 795	3 793	9 441	4 410
1989-90	28 476	4 427	11 896	3 204	10 953	1 653	24 462	5 070
1990-91	28 348	3 858	11 331	3 172	4 979	813	18 574	4 146
1991-92	12 529	2 596	7 119	3 413	13 752	1 834	8 330	2 950
1992-93	21 004	4 078	11 965	6 104	1 442	371	10 569	3 806
1993-94	16 227	3 537	12 476	4 774	2 016	464	6 875	3 155
1994-95	29 151	3 290	17 686	7 450	6 038	1 717	26 312	5 524
1995-96	4 202	2 864	17 167	5 284	5 192	927	44 704	8 194
1996-97	9 633	2 481	19 535	6 919	1 910	473	23 648	5 340
1997-98	12 124	3 872	16 298	7 500	5 220	1 021	26 641	7 427
1998-99	7 035	3 179	13 525	8 510	1 539	443	19 873	6 553
1999-00	15 291	4 353	9 410	6 235	3 414	819	19 988	6 875
2000-01	25 611	5 524	11 629	9 321	8 985	1 559	23 333	9 563
2001-02	28 900	6 636	10 239	9 113	2 794	754	19 963	8 068
2002-03	26 841	4 870	6 957	4 097	10 402	2 176	12 086	5 702
2003-04	26 629	5 854	13 379	8 293	12 819	2 231	14 846	5 322
2004-05	22 009	5 130	13 376	6 714	6 417	1 071	11 856	4 755
2005-06	36 930	4 751	18 772	8 477	9 469	1 748	5 728	2 970
2006-07	37 945	4 617	16 861	7 573	5 090	1 036	7 813	4 372

a Includes bentonitic clay. b Includes ball and china clay. c Includes fireclay and chamotte. d Includes andalusite, mullite, kyanite, sillimanite and other clays.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; ABARE.

# 244 Summary of Australian statistics for black coal

	Production		Domestic consumption	Exports		Closing stocks <sup>b</sup>
	Raw Mt	Net <sup>a</sup> Mt		Volume Mt	Unit value \$/t	
1962-63	25.25	23.40	20.26	2.71	8.21	na
1963-64	27.86	25.49	21.32	3.86	8.39	na
1964-65	30.11	27.54	22.02	5.94	8.31	na
1965-66	34.23	31.22	22.85	8.87	8.12	na
1966-67	35.95	32.29	23.15	8.04	8.03	na
1967-68	39.06	34.71	24.04	10.48	8.21	na
1968-69	44.86	39.81	24.71	14.41	8.33	na
1969-70	50.41	44.30	25.57	17.97	9.32	na
1970-71	52.97	45.00	24.96	18.96	10.50	7.59
1971-72	58.86	49.02	25.49	21.85	10.89	9.27
1972-73	66.19	54.63	27.39	25.83	11.28	10.68
1973-74	66.58	54.74	27.68	28.39	12.50	9.35
1974-75	72.21	63.78	30.19	32.42	22.10	10.52
1975-76	77.13	62.33	29.45	30.43	34.96	12.97
1976-77	85.96	69.55	32.19	35.37	37.23	14.95
1977-78	87.79	71.01	32.56	37.91	39.14	15.50
1978-79	91.90	73.37	33.43	38.28	38.99	17.17
1979-80	90.20	73.59	35.62	43.16	39.35	11.97
1980-81	106.20	87.39	37.71	47.25	41.64	14.22
1981-82	110.20	91.08	36.79	46.12	49.64	21.34
1982-83	120.34	99.59	37.29	54.65	56.21	28.02
1983-84	129.44	105.55	38.64	64.33	51.77	27.98
1984-85	145.14	118.26	40.67	86.10	54.09	21.95
1985-86	163.62	134.31	42.56	90.30	57.49	23.93
1986-87	182.43	148.73	44.07	97.70	55.46	32.71
1987-88	167.69	136.35	46.01	102.10	46.61	20.59
1988-89	184.05	149.35	49.87	97.66	48.04	20.91
1989-90	196.85	160.41	50.68	104.58	55.74	27.37
1990-91	204.68	166.56	50.92	113.37	56.08	29.10
1991-92	218.20	176.47	52.81	123.30	55.38	29.61
1992-93	222.50	177.99	52.94	129.18	58.28	26.23
1993-94	221.50	177.98	54.18	129.06	55.49	21.81
1994-95	237.23	192.35	55.36	136.24	50.45	23.30
1995-96	243.02	194.53	57.41	138.55	56.00	21.29
1996-97	261.34	207.50	57.88	145.75	54.42	24.91
1997-98	278.64	222.37	61.26	162.61	58.62	25.77
1998-99	284.29	225.01	61.64	169.41	54.54	19.92
1999-00	298.66	239.43	61.30	175.78	47.20	20.03
2000-01	321.48	258.22	64.13	193.50	55.81	21.48
2001-02	345.14	272.59	66.16	197.87	67.37	27.39
2002-03	348.92	274.85	66.34	207.74	57.26	27.14
2003-04	360.41	286.03	69.24	218.43	49.82	21.87
2004-05	393.36	305.01	71.29	231.31	73.90	23.66
2005-06	398.37	307.19	71.58	231.30	104.67	25.92
2006-07	409.82	323.02	69.00	243.59	89.48	na

<sup>a</sup> Before 1980-81, net production referred to raw coal production less rejects removed at coal industry washeries plus/less unexplained stock adjustments at mines and ports. From 1980-81, net production refers to raw coal production less rejects removed at coal industry washeries plus/less unexplained stock adjustments at mines only. Thus, from 1980-81, net production is identical to salable production. <sup>b</sup> Calendar year basis before 1984-85. **na** Not available.

Sources: Joint Coal Board, *Black Coal in Australia 1987-88*, Sydney; Coal Services Pty Ltd, *Australian Black Coal Statistics*, Sydney; Queensland Department of Natural Resources, Mines and Energy; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABARE.

## 245 Australian raw coal production, by state

	New South Wales Mt	Victoria <sup>a</sup> Mt	Queensland Mt	Western Australia Mt	South Australia Mt	Tasmania Mt
1960-61	18.45	15.98	3.07	0.75	1.02	0.29
1961-62	19.39	17.00	3.47	0.95	1.25	0.26
1962-63	19.03	18.05	3.48	0.95	1.50	0.24
1963-64	20.56	18.98	4.50	0.93	1.63	0.18
1964-65	22.16	19.87	4.86	0.97	1.94	0.13
1965-66	25.41	21.90	5.56	1.08	2.04	0.10
1966-67	26.63	22.87	6.06	1.10	2.05	0.08
1967-68	28.57	23.43	7.19	1.08	2.02	0.09
1968-69	32.24	23.50	9.20	1.12	2.18	0.11
1969-70	35.32	24.31	11.65	1.17	2.15	0.12
1970-71	35.72	23.18	14.32	1.18	1.62	0.12
1971-72	36.96	23.63	19.01	1.21	1.56	0.12
1972-73	38.66	24.12	25.27	1.15	1.58	0.13
1973-74	36.63	26.44	27.15	1.20	1.49	0.12
1974-75	42.31	27.54	32.10	1.88	1.79	0.14
1975-76	40.59	29.21	32.40	2.14	1.82	0.18
1976-77	46.79	30.99	34.66	2.38	1.95	0.20
1977-78	49.25	30.47	34.14	2.42	1.78	0.19
1978-79	50.52	32.10	37.26	2.41	1.47	0.25
1979-80	48.71	32.90	36.53	3.03	1.72	0.21
1980-81	58.29	32.10	42.76	3.12	1.73	0.30
1981-82	59.82	37.57	45.14	3.42	1.44	0.39
1982-83	67.46	34.71	46.91	3.96	1.45	0.56
1983-84	66.53	33.20	57.20	3.93	1.33	0.45
1984-85	70.03	38.38	69.21	3.65	1.75	0.49
1985-86	77.19	36.08	80.01	3.75	2.17	0.50
1986-87	88.51	41.81	87.09	3.78	2.43	0.62
1987-88	76.27	44.29	84.61	3.69	2.52	0.60
1988-89	81.27	48.65	95.48	3.89	2.76	0.65
1989-90	93.89	45.96	95.30	4.13	2.94	0.60
1990-91	96.70	49.39	99.67	5.21	2.53	0.59
1991-92	101.17	50.72	108.32	5.29	2.88	0.54
1992-93	102.91	47.90	110.93	5.40	2.79	0.48
1993-94	101.95	49.68	111.12	5.15	2.69	0.57
1994-95	107.78	49.92	119.97	5.82	3.04	0.61
1995-96	113.09	54.28	120.93	5.97	2.45	0.58
1996-97	123.68	60.79	128.92	5.59	2.59	0.56
1997-98	134.01	65.27	135.56	5.80	2.70	0.58
1998-99	131.38	66.65	143.79	5.74	2.80	0.57
1999-00	132.90	67.36	155.72	6.63	2.87	0.55
2000-01	138.78	64.96	172.88	6.19	3.16	0.47
2001-02	145.23	66.66	190.07	6.25	3.06	0.54
2002-03	143.07	66.81	195.96	6.14	3.24	0.52
2003-04	147.05	66.34	203.70	5.98	3.21	0.48
2004-05	156.31	67.15	226.62	6.22	3.64	0.58
2005-06	161.14	67.72	226.53	6.30	3.80	0.60
2006-07	170.10	na	228.80	6.44	3.84	0.64

<sup>a</sup> Brown coal. Between 1960-61 and 1968-69, Victoria produced small quantities of black coal which are not included in this table. **na** Not available.  
Sources: Joint Coal Board, *Black Coal in Australia 1987-88*, Sydney; Joint Coal Board and the Queensland Department of Mines and Energy, *Australian Black Coal Statistics*, Sydney; Victorian Department of Natural Resources and Environment; ABARE.

## 246 Australian consumption of coal, by major end use

	Black coal					Brown coal
	Electricity generation	Iron and steel <sup>a</sup>	Cement Industry	Other consumers	Total	Electricity generation
	Mt	Mt	Mt	Mt	Mt	Mt
1982-83	26.91	6.46	1.02	2.89	37.29	33.42
1983-84	28.06	6.22	0.92	3.44	38.64	32.05
1984-85	29.74	6.25	1.02	3.67	40.67	37.09
1985-86	31.48	6.20	0.93	3.95	42.56	34.89
1986-87	32.76	6.44	0.70	4.18	44.07	40.49
1987-88	33.91	7.22	0.69	4.20	46.01	43.07
1988-89	36.82	7.92	0.79	4.34	49.87	47.35
1989-90	38.17	7.43	0.85	4.23	50.68	44.87
1990-91	38.41	7.40	0.86	4.25	50.92	49.39
1991-92	39.88	7.35	0.85	4.72	52.81	50.72
1992-93	40.68	7.11	0.87	4.28	52.94	47.65
1993-94	41.83	7.09	0.90	4.37	54.18	48.75
1994-95	42.82	7.55	0.74	4.26	55.36	50.75
1995-96	45.60	6.39	0.82	4.60	57.41	53.71
1996-97	46.15	6.24	0.80	4.68	57.88	58.16
1997-98	48.16	7.55	0.86	4.69	61.26	66.26
1998-99	49.68	6.48	0.87	4.61	61.64	69.55
1999-00	50.16	5.63	0.85	4.66	61.30	69.96
2000-01	53.54	5.20	0.74	4.66	64.13	67.96
2001-02	55.46	5.46	0.78	4.46	66.16	68.71
2002-03	55.55	5.41	0.85	4.52	66.34	68.81
2003-04	58.51	5.28	0.90	4.55	69.24	69.83
2004-05	60.43	4.99	0.90	4.97	71.29	70.27
2005-06	61.48	4.26	0.94	4.90	71.58	na

<sup>a</sup> As received basis. **na** Not available.

Sources: Joint Coal Board, *Black Coal in Australia 1987-88*, Sydney; Joint Coal Board and the Queensland Department of Mines and Energy, *Australian Black Coal Statistics*, Sydney; Victorian Department of Natural Resources and Environment; ABARE.

## 247 Australian exports of coal, by coal type

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Metallurgical coal</b>									
<b>High quality</b>									
Volume	Mt	62.78	61.96	65.46	66.45	67.55	80.73	77.48	82.84
Value	\$m	3 587	4 241	5 353	5 122	4 340	7 692	12 203	11 012
Unit value	\$/t	57.14	68.44	81.77	77.08	64.26	95.28	157.49	132.94
<b>Excluding high quality</b>									
Volume	Mt	34.03	43.56	40.37	41.34	44.19	44.19	42.99	49.07
Value	\$m	1 596	2 356	2 685	2 325	2 169	3 067	4 800	4 023
Unit value	\$/t	46.92	54.07	66.51	56.25	49.10	69.40	111.65	81.98
<b>Total</b>									
Volume	Mt	96.81	105.53	105.83	107.79	111.73	124.92	120.48	131.91
Value	\$m	5 184	6 597	8 038	7 448	6 510	10 758	17 003	15 035
Unit value	\$/t	53.54	62.51	75.95	69.09	58.26	86.12	141.13	113.98
<b>Thermal coal</b>									
Volume	Mt	78.97	87.98	92.04	99.95	106.69	106.40	110.82	111.68
Value	\$m	3 114	4 204	5 294	4 448	4 372	6 336	7 206	6 762
Unit value	\$/t	39.43	47.78	57.51	44.50	40.98	59.55	65.02	60.55

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Department of Foreign Affairs and Trade, computer database compiled from trade data supplied by the ABS.



## 248 Volume of Australian exports of thermal coal, by destination

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Asia								
ASEAN <b>a</b>	3.86	2.24	2.48	2.62	2.61	3.79	4.12	7.22
China <b>b</b>	0.88	0.60	2.95	3.99	2.45	1.75	3.99	3.22
Chinese Taipei	9.29	8.65	10.24	10.82	9.89	14.33	13.21	16.23
Hong Kong, China	0.73	0.42	0.26	0.73	1.20	0.37	0.08	0.01
Japan	43.01	49.99	49.62	52.44	58.78	57.28	59.33	58.64
Korea, Rep. of	11.38	12.80	13.40	14.20	16.22	17.95	20.24	15.06
Other Asia	3.31	4.92	3.45	2.79	3.51	2.42	1.59	1.22
Total	72.47	79.63	82.40	87.59	94.66	97.89	102.55	101.61
Europe								
European Union <b>c</b>	5.14	6.54	6.30	7.49	7.86	3.48	2.32	3.73
Denmark	0.32	0.16	0.19	0.41	0.79	0.00	0.28	0.16
Germany	0.00	0.00	0.17	0.00	0.26	0.12	0.00	0.13
Netherlands	1.88	1.39	1.51	1.82	1.59	0.73	0.30	0.74
United Kingdom	1.22	1.75	0.97	1.28	1.88	0.99	0.43	0.60
Other Europe	1.44	1.86	3.38	4.98	4.29	5.19	6.77	6.43
Total all countries	78.97	87.98	92.04	99.95	106.69	106.40	110.82	111.68

**a** Includes Brunei Darrusalam, Indonesia, Malaysia, the Philippines, Thailand and Viet Nam. **b** Excludes Hong Kong. **c** Regarded as twenty five countries for all years.

Sources: ABS, *International Trade*, Australia, cat. no. 5465.0, Canberra; Department of Foreign Affairs and Trade, computer database compiled from trade data provided by the ABS.

## 249 Volume of Australian exports of high quality metallurgical coal, by destination

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Asia								
China <b>a</b>	1.42	0.43	0.04	0.68	3.07	3.73	2.22	2.41
Chinese Taipei	2.93	3.90	4.01	3.82	3.43	3.51	3.31	3.47
India	8.57	9.09	9.67	11.08	10.09	13.41	13.63	16.30
Japan	18.54	16.76	17.37	18.22	17.78	22.87	23.87	25.45
Korea, Rep. of	5.10	6.43	6.63	7.44	6.80	8.01	6.58	6.25
Pakistan	0.41	0.42	0.49	0.44	0.43	0.59	0.05	0.20
Other Asia	1.44	1.55	2.11	1.80	1.20	1.18	1.34	1.48
Total Asia	38.40	38.57	40.33	43.50	42.82	53.32	51.00	55.56
Europe								
European Union <b>b</b>	17.60	17.31	18.43	16.60	17.77	19.49	19.32	20.20
France	3.12	3.22	2.94	2.54	2.32	2.47	2.20	2.26
Germany	1.74	1.40	1.24	1.46	1.37	1.58	1.78	2.16
Italy	2.23	2.24	2.34	1.63	1.93	2.53	2.26	2.29
United Kingdom	4.85	4.31	3.97	3.72	3.67	4.01	3.52	3.65
Other Europe	7.62	7.28	8.19	7.76	8.43	9.52	13.23	7.08
Total all countries	62.78	61.96	65.46	66.45	67.55	80.73	77.48	82.84

**a** Excludes Hong Kong. **b** Regarded as twenty five countries for all years.

Sources: ABS, *International Trade*, Australia, cat. no. 5465.0, Canberra; Department of Foreign Affairs and Trade, computer database compiled from trade data provided by the ABS.

## coal

## 250 Volume of Australian exports of metallurgical coal other than high quality, by destination

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Asia								
India	1.16	1.64	2.27	3.02	3.49	4.03	2.77	3.27
Japan	21.45	26.72	23.02	23.09	23.60	22.09	20.35	23.41
Europe								
European Union <sup>a</sup>	2.43	4.76	4.24	3.42	4.04	4.76	4.73	4.34
Americas								
Brazil	1.29	2.20	1.62	2.30	0.77	0.00	0.00	0.00
Total all countries	34.03	43.56	40.37	41.34	44.19	44.19	42.99	49.07

<sup>a</sup> Regarded as twenty five countries for all years.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Department of Foreign Affairs and Trade, computer database compiled from trade data provided by the ABS.

## 251 Volume of world exports of coal, by coal type and major exporters

	1999	2000	2001	2002	2003	2004	2005	2006 <sup>s</sup>
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
<b>Metallurgical coal</b>								
Australia <sup>a</sup>	85.3	96.8	105.5	105.8	107.8	111.7	124.9	120.5
Canada	28.9	28.4	26.9	23.0	23.7	23.8	27.8	27.4
China	5.2	6.5	11.4	13.3	13.1	5.8	5.3	4.8
Poland	6.6	5.3	3.8	3.5	2.7	3.0	3.2	3.1
Russian Federation	6.4	7.3	14.4	9.2	9.5	11.9	12.1	15.8
United States	29.1	29.8	23.1	19.5	20.0	24.3	26.0	25.8
World <sup>a</sup>	175.2	184.5	193.3	181.3	192.5	205.9	211.4	219.4
Total seaborne	168.8	177.8	183.6	174.4	177.1	179.6	196.0	209.9
<b>Thermal coal</b>								
Australia	78.7	85.5	86.7	98.5	103.1	106.9	107.6	111.6
Canada	5.0	4.1	2.7	2.1	1.3	1.9	1.5	3.2
China <sup>a</sup>	32.2	48.6	78.7	70.6	80.9	80.9	65.7	58.9
Colombia	29.9	35.6	39.1	35.5	45.5	50.9	54.6	59.7
Indonesia	55.3	57.4	65.3	74.2	84.9	96.2	125.4	170.0
Poland	17.5	18.0	19.2	19.1	17.4	16.6	16.2	13.1
Russian Federation	21.3	29.4	27.1	34.3	45.2	56.7	69.7	81.7
South Africa	66.2	69.9	68.2	68.5	70.9	67.0	71.9	67.7
United States	23.9	23.2	21.0	16.3	18.9	19.0	19.1	19.9
World	374.5	431.3	478.4	492.7	534.8	573.4	578.0	635.2
Total seaborne	302.8	356.9	385.1	407.7	448.9	473.6	492.7	545.7

<sup>a</sup> Includes pulverised coal injection - coal used for metallurgical purposes. <sup>s</sup> ABARE estimate.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; International Energy Agency, *Coal Information*, OECD, Paris; Joint Coal Board and Queensland Department of Mines and Energy, *Australian Black Coal Statistics*, Sydney; ABARE.

## 252 Volume of Japanese imports of coal, by source

	Total imports Mt	Australia %	Canada %	China %	Indonesia %	Russian Federation %	South Africa %	United States %	Other %
<b>Thermal coal</b>									
1998	55.08	66.0	3.5	14.4	5.0	2.4	4.0	4.8	0.0
1999	60.32	64.9	2.2	14.5	6.1	4.1	3.7	4.5	0.1
2000	65.29	64.0	2.1	17.0	5.4	4.8	2.5	4.2	0.0
2001	71.14	63.3	0.8	21.1	6.6	4.6	1.5	2.1	0.0
2002	72.83	62.2	1.2	21.5	7.4	5.2	1.2	1.2	0.1
2003	79.60	65.1	1.2	20.8	7.7	4.9	0.2	0.0	0.0
2004	91.52	65.0	1.0	19.3	9.0	5.4	0.0	0.1	0.1
2005	86.67	67.3	1.8	15.7	9.1	6.1	0.0	0.0	0.0
2006 <sup>s</sup>	86.67	67.3	1.8	15.7	9.1	6.1	0.0	0.0	0.0
<b>Metallurgical coal</b>									
1998	73.42	47.8	20.9	4.8	13.0	3.4	2.6	6.4	1.2
1999	74.10	54.9	19.2	4.2	13.6	3.1	0.8	2.8	1.5
2000	76.30	57.9	15.7	5.6	13.8	3.1	0.4	1.9	1.7
2001	79.52	57.2	13.8	9.3	14.5	3.0	0.1	1.0	1.1
2002	80.81	55.7	10.4	12.7	16.4	3.2	0.0	0.4	1.2
2003	82.43	51.9	9.9	13.9	18.7	4.4	0.0	0.1	1.1
2004	82.62	51.9	6.4	10.6	20.1	5.0	0.0	4.7	1.3
2005	83.94	52.3	7.9	6.8	25.8	3.9	0.0	2.5	0.9
2006 <sup>s</sup>	84.58	52.1	8.5	5.8	28.0	3.8	0.0	0.5	1.3

<sup>s</sup> ABARE estimate.

Source: ABS; International Energy Agency, *Energy Prices and Taxes*, OECD, Paris.

## 253 Volume of European Union imports of coal, by source <sup>a</sup>

	Total imports Mt	Australia %	Canada %	Columbia %	Poland %	South Africa %	United States %	Other %
<b>Thermal coal</b>								
1998	101.23	6.3	0.2	14.7	14.9	27.7	7.6	25.8
1999	105.05	8.2	0.2	14.8	14.7	30.1	5.4	23.6
2000	115.50	6.4	0.2	15.9	14.7	31.5	5.3	23.2
2001	134.21	6.0	0.2	13.5	12.8	30.1	6.5	27.6
2002	129.54	6.1	0.1	13.9	13.1	33.5	2.9	26.0
2003	144.18	6.5	0.0	14.6	10.8	34.5	1.9	27.8
2004	159.05	5.3	0.0	13.1	8.4	31.1	2.4	37.3
2005	158.17	3.5	0.1	13.5	8.4	30.8	2.0	31.9
2006	169.99	3.4	0.1	12.5	na	27.4	2.0	na
<b>Metallurgical coal</b>								
1998	43.87	28.8	10.3	0.1	6.8	6.8	41.9	3.5
1999	40.87	37.4	12.9	0.6	4.9	2.7	35.0	4.2
2000	41.85	41.3	12.7	0.4	3.2	1.8	31.0	2.8
2001	39.63	43.9	13.5	0.2	2.6	4.3	25.3	3.3
2002	35.66	44.8	13.4	0.0	4.3	2.7	23.9	4.4
2003	37.12	42.8	12.1	0.4	2.2	6.6	24.9	5.6
2004	45.22	39.8	12.5	1.1	1.6	6.1	23.3	12.7
2005	46.43	39.8	12.7	0.7	1.0	4.0	22.7	10.3
2006	50.98	39.5	11.0	0.0	na	2.4	21.1	na

<sup>a</sup> Imports from non-EU countries only. Regarded as fifteen countries. **na** Not available.

Source: International Energy Agency, *Energy Prices and Taxes*, OECD, Paris.

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254 Japanese and European Union coal import unit values, by country of origin <sup>a</sup>

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t
<b>Japan</b>									
<b>Thermal coal</b>									
Australia	40.80	36.12	34.59	38.32	37.38	35.13	50.20	61.90	63.90
Canada	38.25	33.50	34.72	36.94	37.34	33.82	52.60	63.79	56.32
China	39.96	34.89	33.69	36.95	36.25	35.28	55.06	65.65	63.88
Indonesia	36.58	32.40	31.85	35.17	34.52	32.72	46.98	59.65	60.31
South Africa	41.50	37.34	35.82	38.05	40.30	35.21	na	80.64	na
United States	47.52	45.37	45.49	45.99	48.63	na	na	na	na
All sources <b>b</b>	40.68	35.87	34.59	37.95	36.95	34.93	51.48	62.73	63.33
<b>Metallurgical coal</b>									
Australia	49.47	41.83	39.01	40.96	43.32	43.56	56.85	96.44	106.20
Canada	59.73	51.05	45.46	47.30	50.50	51.64	62.04	106.05	125.68
China	46.78	40.01	37.12	39.35	38.97	39.09	72.57	100.45	91.98
Indonesia	39.73	34.07	32.36	35.13	34.12	31.94	40.78	53.51	53.73
South Africa	47.06	39.74	39.99	47.09	na	na	na	na	na
United States	59.53	55.79	52.69	47.81	52.07	42.93	163.61	159.01	125.68
All sources <b>b</b>	50.98	42.95	39.46	41.13	42.14	41.73	61.40	88.80	93.10
<b>European Union <sup>c</sup></b>									
<b>Thermal coal</b>									
Australia	40.03	36.68	39.04	44.13	43.28	46.83	69.05	106.40	109.71
Indonesia	30.79	29.35	30.05	36.08	36.48	39.29	52.56	61.27	61.85
Poland	39.61	35.03	35.30	44.41	40.75	43.26	68.95	78.34	na
South Africa	36.30	31.78	33.83	42.32	36.65	39.10	58.00	67.64	66.24
United States	46.99	40.67	41.07	46.52	43.48	47.37	61.50	86.75	82.08
All sources <b>d</b>	39.72	34.43	35.22	42.96	38.69	41.94	61.91	71.27	69.80
<b>Metallurgical coal</b>									
Australia	55.00	47.33	45.45	51.24	55.52	58.03	73.63	114.89	135.52
Poland	52.52	47.48	50.43	51.58	50.15	62.24	108.71	138.92	na
South Africa	35.83	36.21	39.09	42.10	38.69	39.20	61.31	71.77	66.18
United States	58.53	54.14	52.91	58.54	61.48	64.18	84.75	110.91	123.44
All sources <b>d</b>	54.53	48.97	47.88	53.56	56.63	59.61	78.12	109.61	125.86

<sup>a</sup> Average unit value cif. <sup>b</sup> Average includes countries not listed separately. <sup>c</sup> Fifteen countries for all years. <sup>d</sup> Average includes non-EU countries not listed separately. **na** Not available.

Source: International Energy Agency, *Energy Prices and Taxes*, OECD, Paris.

## 255 Selected Australian-Japanese prices for metallurgical and thermal coal <sup>a</sup>

	2000	2001	2002	2003	2004	2005	2006	2007
<b>Metallurgical coal</b>								
Hard <sup>b</sup>								
US\$/t	39.75	42.75	48.10	46.20	57.00	125.00	115.00	98.00
A\$/t	71.25	83.07	85.53	66.59	77.20	166.43	150.65	117.27
Real A\$/t	87.88	98.15	98.12	74.33	84.20	176.80	154.56	117.27
Other <sup>c</sup>								
US\$/t	30.60	36.00	33.05	31.05	41.00	80.00	56.00	64.00
A\$/t	54.85	69.95	58.77	44.76	58.24	106.52	73.36	76.59
Real A\$/t	67.65	82.66	67.42	49.96	63.52	113.15	75.27	76.59
<b>Thermal coal <sup>d</sup></b>								
US\$/t	28.75	34.50	28.75	26.75	45.00	52.50	52.50	55.50
A\$/t	51.52	66.99	51.17	38.54	60.98	69.91	68.81	66.39
Real A\$/t	63.41	78.98	58.56	42.93	66.36	74.10	70.44	66.39

<sup>a</sup> Japanese fiscal year beginning 1 April. Prices are fob; real prices are in 2007 Australian dollar terms. <sup>b</sup> For example, Goonyella export coal. <sup>c</sup> Non-hard coking coal price based on Australian/Japanese contract settlements. <sup>d</sup> For steaming coal with a calorific value of 6700 kcal/kg (gross air dried).

Sources: International Energy Agency, *Coal Information*, OECD, Paris; ABARE.

## coal

256 Australian and US coal export unit values, by destination <sup>a</sup>

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t	US\$/t
<b>Australia</b>									
<b>Thermal coal</b>									
France	25.88	22.37	19.14	31.38	22.62	24.05	29.77	45.88	46.28
Italy	24.50	22.27	21.30	31.07	25.26	24.77	31.26	na	na
Japan	31.50	27.02	24.72	29.69	29.20	26.00	38.45	49.42	50.59
Netherlands	23.89	20.49	20.65	26.45	24.65	26.69	42.90	60.71	50.50
All destinations <b>b</b>	30.10	26.49	24.27	28.71	28.01	25.41	37.65	48.86	47.05
<b>Metallurgical coal</b>									
France	42.37	36.49	33.37	37.32	41.41	39.06	46.79	96.94	100.91
Italy	44.48	40.38	34.97	42.68	45.90	45.51	51.40	102.14	116.96
Japan	42.47	34.60	31.64	34.46	36.79	36.18	45.51	83.74	94.04
Netherlands	44.03	37.73	34.10	41.09	46.17	45.45	52.07	98.18	102.32
All destinations <b>b</b>	43.97	35.99	32.85	36.93	40.16	39.75	48.84	88.94	98.27
<b>United States</b>									
<b>Thermal coal</b>									
France	39.16	42.14	28.96	30.50	na	na	na	40.17	64.19
Italy	40.12	51.13	30.67	42.50	42.91	46.67	46.90	89.78	51.04
Japan	37.00	35.40	34.90	37.70	40.41	na	na	na	na
Netherlands	32.78	28.44	28.90	35.71	36.88	33.13	43.79	76.28	69.91
All destinations <b>b</b>	32.24	32.02	31.84	34.51	37.70	37.00	53.93	67.09	55.66
<b>Metallurgical coal</b>									
France	50.64	47.10	44.19	48.54	54.96	55.56	71.81	99.69	102.30
Italy	52.63	51.02	49.45	53.11	56.41	54.49	66.99	86.21	104.96
Japan	45.98	44.46	41.99	na	na	na	98.14	100.61	89.80
Netherlands	51.25	47.90	45.46	48.90	55.39	52.13	72.20	93.04	95.44
All destinations <b>b</b>	48.55	46.19	42.98	45.88	50.06	49.11	70.14	89.91	111.72

<sup>a</sup> Average unit value, fob. <sup>b</sup> Average for all countries. <sup>na</sup> Not available.

Source: International Energy Agency, *Energy Prices and Taxes*, OECD, Paris.

257 World hard coal production, by country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Australia	223.7	239.4	264.2	273.2	274.9	285.9	304.9	309.4
Brazil	0.1	0.2	0.1	0.2	0.2	0.3	0.5	0.7
Canada	39.2	33.8	34.1	29.7	26.6	29.3	28.6	26.3
China <b>b</b>	1 187.6	1 178.8	1 218.6	1 343.6	1 587.7	1 867.6	2 066.6	2 381.7
Colombia	32.7	38.1	43.8	40.1	50.5	54.2	59.1	63.7
Former Soviet Union <b>c</b>	152.4	152.5	164.8	163.5	177.4	189.8	202.9	233.2
Germany	43.8	37.4	30.7	29.2	28.8	29.2	28.0	23.8
India	295.1	304.9	319.7	332.9	353.5	376.9	397.4	421.3
Indonesia	73.8	76.6	92.5	103.4	115.3	132.4	152.2	169.0
Poland	109.3	102.2	103.3	102.7	101.7	100.5	97.1	94.4
South Africa	223.5	224.2	223.6	220.2	238.8	242.8	245.0	244.4
United Kingdom	36.2	30.6	31.5	29.5	27.8	24.5	20.0	17.3
United States	916.9	894.0	948.8	917.0	892.9	932.2	949.7	976.6
World total <b>d</b>	3 561.4	3 557.5	3 731.2	3 833.5	4 133.1	4 524.6	4 821.3	5 249.5

<sup>a</sup> Hard coal includes anthracite and bituminous coal, and for the United States and New Zealand, sub-bituminous coal. <sup>b</sup> Excludes Hong Kong. <sup>c</sup> Total of fifteen countries. <sup>d</sup> Includes countries not listed separately.

Sources: International Energy Agency, *Coal Information*, OECD, Paris; Joint Coal Board and the Queensland Department of Mines and Energy, *Australian Black Coal Statistics*, Sydney.

258 Summary of Australian statistics for dimension stone

	Production <sup>a</sup>	Exports		Imports
	Volume kt	Volume t	Value \$'000	Value \$'000
1965	474	na	12	562
1966	245	1 629	32	440
1967	290	280	16	408
1968	280	657	32	407
1969	269	792	44	427
1970	90	1 821	84	466
1971	81 <b>b</b>	1 209	57	569
1972	318 <b>b</b>	731	42	708
1973	144 <b>b</b>	1 621	105	395
1974	143 <b>b</b>	2 347	155	440
1975	255 <b>b</b>	379	na	606
1976	112	112	na	489
1977	84	757	180	832
1978	115	387	133	2 371
1979	122 <b>c</b>	1 086	83	2 224
1980	116 <b>c</b>	2 762	220	4 472
1981	125 <b>c</b>	205	46	5 450
1982	129 <b>d</b>	84	33	7 768
1983	97 <b>d</b>	1 224	367	6 619
1984	102 <b>d</b>	4 244	1 861	9 980
1985	190 <b>e</b>	2 537	782	14 025
1986	106 <b>e</b>	5 226	1 893	12 097
1987	99 <b>f</b>	2 974	1 119	15 231
1988	149 <b>g</b>	1 659	776	16 295
1988-89	92 <b>f</b>	2 913	1 441	19 732
1989-90	198	1 665	1 520	17 455
1990-91	na	3 393	4 417	11 237
1991-92	na	11 672	2 963	11 466
1992-93	553	8 721	4 501	11 173
1993-94	na	10 007	5 829	10 604
1994-95	na	14 605	5 531	9 811
1995-96	na	17 372	6 220	8 411
1996-97	na	15 364	5 519	7 828
1997-98	na	10 107	5 804	9 560
1998-99	na	16 766	6 509	12 327
1999-00	119	21 747	6 249	14 818
2000-01	104	18 029	7 725	11 958
2001-02	132	39 651	8 716	6 902
2002-03	143	16 851	6 074	9 111
2003-04	147	27 067	8 606	8 875
2004-05	266	28 099	9 263	9 321
2005-06	227	28 823	9 096	9 872
2006-07	na	31 466	9 681	7 439

**a** Data incomplete because coverage differs between states. **b** Excludes the Australian Capital Territory, the Northern Territory and Queensland. **c** Excludes the Australian Capital Territory and the Northern Territory. **d** Excludes the Australian Capital Territory. **e** Excludes the Australian Capital Territory and Queensland. **f** Excludes the Australian Capital Territory, Queensland and Western Australia. **g** Excludes the Australian Capital Territory, Queensland and Tasmania. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, BMR, Canberra; state mines departments and their equivalents; ABARE.

## 259 Australian production of dimension stone, by state <sup>a</sup>

	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Australia
	kt	kt	kt	kt	kt	kt	kt
1965	225	15	4	189	32	1	474
1966	45	10	2	149	31	1	245
1967	45	11	2	129	47	2	290
1968	42	7	5	148	42	4	280
1969	31	9	3	167	49	2	269
1970	23	8	na	4	51	2	90
1971	13	10	na	7	50	1	81 <b>b</b>
1972	27	13	na	228	47	1	318 <b>c</b>
1973	14	15	na	67	46	2	144 <b>c</b>
1974	14	11	na	67	49	2	143 <b>c</b>
1975	12	12	na	187	40	2	255 <b>c</b>
1976	15	11	na	30	36	2	112 <b>c</b>
1977	13	8	4	22	27	3	84 <b>b</b>
1978	14	13	2	45	29	4	115 <b>b</b>
1979	16	7	8	56	28	6	122 <b>b</b>
1980	14	26	12	31	32	3	116 <b>d</b>
1981	24	29	24	20	27	1	125 <b>d</b>
1982	16	20	44	24	24	1	129 <b>e</b>
1983	21	35	na	11	29	1	97 <b>e</b>
1984	22	18	na	25	35	1	102 <b>e</b>
1985	22	28	na	101	34	4	190 <b>f</b>
1986	21	19	na	32	31	2	106 <b>f</b>
1987	21	46	na	na	31	1	99 <b>g</b>
1988	32	31	na	50	34	2	149 <b>h</b>
1988-89	34	17	na	na	40	1	92 <b>g</b>
1989-90	32	52	9	72	31	2	198
1990-91	40	6	na	na	42	2	na
1991-92	35	na	na	na	61	2	na
1992-93	33	12	31	414	61	2	553
1993-94	na	na	25	na	na	na	na
1994-95	na	na	na	na	na	na	na
1995-96	29	na	na	na	31	na	na
1996-97	25	na	20	1	28	na	na
1997-98	25	na	17	3	37	na	na
1998-99	34	5	25	4	41	na	na
1999-00	32	4	20	3	52	7	119
2000-01	27	2	30	1	38	6	104
2001-02	28	21	39	2	36	5	132 <b>i</b>
2002-03	32	15	43	2	42	3	143 <b>i</b>
2003-04	29	16	49	3	40	5	147 <b>i</b>
2004-05	27	18	126	5	79	9	266 <b>i</b>
2005-06	62	28	74	2	46	14	227 <b>i</b>

<sup>a</sup> Data incomplete because coverage differs between states. Australian totals may include estimates for states for which data are not available separately.

<sup>b</sup> Includes the Australian Capital Territory, the Northern Territory and Queensland. <sup>c</sup> Excludes the Australian Capital Territory, the Northern Territory and Queensland. <sup>d</sup> Excludes the Australian Capital Territory and the Northern Territory. <sup>e</sup> Excludes the Australian Capital Territory. <sup>f</sup> Excludes the Australian Capital Territory and Queensland. <sup>g</sup> Excludes the Australian Capital Territory, Queensland and Western Australia. <sup>h</sup> Excludes the Australian Capital Territory, Queensland and Tasmania. <sup>i</sup> Includes Northern Territory. **na** Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; state mines departments and their equivalents; ABARE.



260 Australian exports of dimension stone, by destination

	Italy	New		Total	
		Zealand	Other	Volume	Value
	t	t	t	t	\$'000
1960	na	na	na	na	15
1961	na	na	na	na	9
1962	na	na	na	na	8
1963	na	na	na	na	24
1964	na	na	na	na	7
1965	na	na	na	na	12
1966	na	na	na	1 629	32
1967	na	na	na	280	16
1968	na	na	na	657	32
1969	na	na	na	792	44
1970	na	na	na	1 821	84
1971	na	na	na	1 209	57
1972	na	na	na	731	42
1973	na	na	na	1 621	105
1974	na	na	na	2 347	155
1975	na	na	na	379	na
1976	na	na	na	112	na
1977	na	na	na	757	180
1978	na	na	na	387	133
1979	na	na	na	1 086	83
1980	1 973	40	749	2 762	220
1981	0	4	201	205	46
1982	0	31	53	84	33
1983	1 178	6	40	1 224	367
1984	3 290	26	928	4 244	1 861
1985	2 364	133	40	2 537	782
1986	4 831	259	136	5 226	1 893
1987	1 903	324	747	2 974	1 119
1988	634	272	753	1 659	776
1988-89	530	290	2 092	2 913	1 441
1989-90	249	158	1 258	1 665	1 520
1990-91	910	110	2 373	3 393	4 417
1991-92	490	57	11 125	11 672	2 963
1992-93	1 324	54	7 343	8 721	4 501
1993-94	203	199	9 604	10 007	5 829
1994-95	136	178	14 292	14 605	5 531
1995-96	2 168	23	15 180	17 372	6 220
1996-97	2 546	148	12 670	15 364	5 519
1997-98	1 962	75	8 070	10 107	5 804
1998-99	220	186	16 359	16 766	6 509
1999-00	1 015	106	20 626	21 747	6 249
2000-01	2 565	25	15 439	18 029	7 725
2001-02	3 400	268	35 983	39 651	8 716
2002-03	6 715	21	10 115	16 851	6 074
2003-04	6 339	80	20 648	27 067	8 606
2004-05	6 958	81	21 060	28 099	9 263
2005-06	5 996	90	22 736	28 823	9 096
2006-07	3 384	278	27 804	31 466	9 681

na Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; ABARE.

## 261 Australian imports of dimension stone

	Slate		Marble <sup>a</sup>		Crystalline rock <sup>b</sup>		Quartzite <sup>c</sup>		Total
	Volume '000 m <sup>2</sup>	Value \$'000	Volume t	Value \$'000	Volume t	Value \$'000	Volume t	Value \$'000	Value \$'000
1970	na	na	1 910	246	1 591	77	na	na	466
1971	na	na	3 372	330	2 007	110	na	na	569
1972	na	na	2 711	407	1 468	85	na	na	708
1973	na	na	1 309	206	1 898	118	na	na	395
1974	na	na	1 376	204	1 267	73	na	na	440
1975	na	na	1 634	289	1 610	133	na	na	606
1976	na	na	1 183	218	2 791	177	na	na	489
1977	na	na	1 706	397	1 862	215	na	na	832
1978	na	na	1 578	457	1 658	160	na	na	2 371
1979	na	na	1 752	507	2 479	287	na	na	2 224
1980	na	2 109	2 707	995	2 026	391	na	na	4 472
1981	na	3 728	2 800	1 205	1 982	369	207	94	5 450
1982	na	5 510	3 631	1 516	3 277	572	659	170	7 768
1983	689	4 535	3 049	1 493	1 993	420	3 521	171	6 619
1984	988	6 521	3 569	1 964	3 517	1 170	5 703	325	9 980
1985	1 266	8 911	4 449	2 999	3 859	1 956	222	159	14 025
1986	1 062	7 717	3 001	2 354	2 685	1 698	357	328	12 097
1987	1 343	9 105	3 221	2 982	8 873	2 663	349	481	15 231
1988	1 674	11 414	2 300	1 903	17 122	2 552	580	426	16 295
1988-89	2 139	14 023	2 688	2 058	28 732	3 120	905	530	19 732
1989-90	1 687	11 584	1 975	2 087	15 232	3 348	744	436	17 455
1990-91	1 255	7 598	960	784	5 291	2 598	483	257	11 237
1991-92	1 659	8 330	694	663	3 688	2 110	463	363	11 466
1992-93	1 410	7 406	557	499	4 181	2 613	1 071	655	11 173
1993-94	1 200	6 401	702	618	4 824	3 241	659	343	10 604
1994-95	1 044	5 475	689	718	6 172	3 273	364	346	9 811
1995-96	608	3 098	700	750	7 350	4 211	217	352	8 411
1996-97	509	2 778	702	675	7 915	4 160	128	215	7 828
1997-98	401	2 316	1 330	1 238	10 435	5 743	200	264	9 560
1998-99	333	2 350	1 809	2 659	10 323	7 114	112	204	12 327
1999-00	370	3 452	1 654	2 000	14 576	8 967	248	398	14 818
2000-01	269	1 406	1 368	1 648	12 018	8 660	152	244	11 958
2001-02	215	1 373	406	273	10 283	4 827	434	429	6 902
2002-03	177	1 381	947	975	13 324	6 114	880	641	9 111
2003-04	123	898	1 398	1 173	15 929	6 527	316	277	8 875
2004-05	250	948	1 315	1 069	16 530	6 855	695	450	9 321
2005-06	94	863	1 468	1 092	15 376	7 129	1 085	788	9 872
2006-07	56	585	1 281	1 277	11 635	4 685	1 055	891	7 439

<sup>a</sup> Includes calcareous stone. <sup>b</sup> Includes sandstone. <sup>c</sup> Predominantly quartzite. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; ABARE.

## 262 Australian production of sand, by state <sup>a</sup>

	New South Wales	Victoria	Queensland	Western Australia	South Australia	Tasmania	Northern Territory	Australia
	kt	kt	kt	kt	kt	kt	kt	kt
1963	3 729	3 048	na	na	2 026	113	na	9 196
1964	5 209	3 352	na	na	1 884	163	na	10 929
1965	5 045	3 989	na	na	1 823	280	na	11 628
1966	4 246	4 356	na	na	1 611	232	na	10 838
1967	4 598	4 278	na	na	1 784	234	na	11 328
1968	6 718	5 075	na	na	2 110	281	na	14 637
1969	6 686	6 680	1 022	na	2 930	265	na	18 199
1970	6 174	5 242	2 282	na	2 627	271	na	16 973
1971	6 353	5 747	3 031	na	2 707	185	371	18 394 <b>b</b>
1972	7 603	5 619	3 619	na	2 387	185	471 <b>c</b>	19 884 <b>b</b>
1973	8 798	6 660	4 182	na	2 525	179	581 <b>c</b>	22 925 <b>b</b>
1974	8 797	7 788	4 733	na	2 476	252	474 <b>c</b>	24 520 <b>b</b>
1975	8 415	7 541	4 933	na	2 567	190	766 <b>c</b>	24 412 <b>b</b>
1976	7 793	7 766	5 172	na	2 575	391	568 <b>c</b>	24 264 <b>b</b>
1977	7 676	9 040	4 137	na	3 919	439	389 <b>c</b>	25 600 <b>b</b>
1978	7 077	8 951	3 768	na	2 808	349	310 <b>c</b>	23 264 <b>b</b>
1979	8 263	8 357	4 410	na	2 526	448	285 <b>c</b>	24 290 <b>b</b>
1980	9 553	8 400	4 800	na	2 287	361	293 <b>c</b>	25 694 <b>b</b>
1981	10 738	7 929	5 787	na	2 753	334	460 <b>c</b>	28 002 <b>b</b>
1982	10 767	7 449	6 337	na	2 564	332	1 268 <b>c</b>	28 718 <b>b</b>
1983	8 403	6 884	5 583	na	2 094	388	192	23 543 <b>d</b>
1984	8 401	6 951	5 876	na	2 542	450	455	24 675 <b>d</b>
1985	8 989	7 437	6 386	na	2 852	576	399	26 640 <b>d</b>
1986	10 239	6 653	5 949	na	4 145	510	396	27 892 <b>d</b>
1987	9 501	8 476	6 179	na	2 961	572	377	28 067 <b>d</b>
1988	10 176	7 339	7 596	na	3 435	713	75	29 334 <b>d</b>
1988-89	11 188	7 339	6 970	na	3 195	518	154	30 121 <b>e</b>
1989-90	11 605	6 633	7 561	na	3 646	498	146	33 856 <b>e</b>
1990-91	10 098	5 693	na	na	2 694	426	na	18 912 <b>f</b>
1991-92	10 035	na	na	na	2 745	448	na	na
1992-93	10 647	9 984	5 733	na	3 129	495	186	32 970
1993-94	na	na	na	na	3 185	na	na	na
1994-95	na	na	na	na	na	na	na	na
1995-96	8 902	na	na	na	2 225	na	na	na
1996-97	7 109	na	na	na	2 286	na	578	na
1997-98	9 428	na	na	na	2 389	na	na	na
1998-99	10 378	na	na	na	2 892	na	na	na
1999-00	10 498	na	na	na	na	423	306	na
2000-01	8 769	5 981	na	na	661	316	165	na
2001-02	8 634	6 905	5 034	1 545	4 104	382	196	26 800
2002-03	9 642	7 092	5 560	1 436	4 681	383	194	28 988
2003-04	8 632	6 408	6 376	2 240	4 530	485	154	28 825
2004-05	6 681	7 064	6 638	2 730	4 178	582	120	27 995
2005-06	7 319	7 545	7 295	3 591	4 027	566	96	30 438

<sup>a</sup> Data incomplete because coverage differs between states. Australian totals may include estimates for states for which data are not available separately. <sup>b</sup> Excludes Western Australia. <sup>c</sup> Includes the Australian Capital Territory. <sup>d</sup> Excludes the Australian Capital Territory and Western Australia. <sup>e</sup> Excludes the Australian Capital Territory. <sup>f</sup> Excludes the Australian Capital Territory, Queensland, Western Australia and the Northern Territory. **na** Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; state mines departments and their equivalents: ABARE.

## 263 Australian production of gravel, by state <sup>a</sup>

	New South Wales	Victoria	Queensland	South Australia	Tasmania	Northern Territory	Australia
	kt	kt	kt	kt	kt	kt	kt
1965	2 292	3 662	na	555	1 260	59	7 884
1966	2 474	3 326	na	871	1 449	na	8 686
1967	2 329	3 683	na	935	1 468	na	9 193
1968	3 043	3 247	na	350	1 621	na	8 473
1969	3 118	2 834	1 155	918	1 531	na	10 501
1970	3 869	2 797	2 106	820	1 295	na	12 093
1971	4 021	3 599	2 392	847	915	1 074 <b>b</b>	12 849 <b>c</b>
1972	3 341	3 486	3 306	833	1 034	770 <b>b</b>	12 771 <b>c</b>
1973	3 652	3 634	4 447	694	1 093	922 <b>b</b>	14 441 <b>c</b>
1974	3 667	4 858	5 481	754	1 016	1 725 <b>b</b>	17 500 <b>c</b>
1975	3 530	4 732	4 874	458	1 063	1 524 <b>b</b>	16 181 <b>c</b>
1976	3 498	4 493	5 045	490	1 004	1 110 <b>b</b>	15 640 <b>c</b>
1977	3 224	4 743	4 126	1 098	1 219	1 073 <b>b</b>	15 483 <b>c</b>
1978	3 522	4 807	3 178	806	1 184	679 <b>b</b>	14 176 <b>c</b>
1979	4 354	4 918	3 377	394	1 176	1 786 <b>b</b>	16 005 <b>c</b>
1980	4 736	5 131	3 030	331	1 102	1 336 <b>b</b>	15 667 <b>c</b>
1981	4 612	4 740	3 525	125	1 077	561 <b>b</b>	14 639 <b>c</b>
1982	5 552	5 053	3 513	74	1 156	1 323 <b>b</b>	16 813 <b>c</b>
1983	4 080	4 478	3 205	74	1 238	857	13 931 <b>d</b>
1984	4 486	3 494	3 777	284	1 165	1 824	15 031 <b>d</b>
1985	4 666	5 206	3 297	2 258	1 171	1 793	18 393 <b>d</b>
1986	5 461	4 176	3 186	221	986	1 870	15 900 <b>d</b>
1987	4 992	4 334	2 797	207	832	2 203	15 365 <b>d</b>
1988	5 003	3 558	3 548	442	314	2 819	15 684 <b>d</b>
1988-89	5 464	3 753	4 247	213	107	2 243	16 050 <b>e</b>
1989-90	6 532	1 002	3 069	176	91	1 380	12 259 <b>e</b>
1990-91	6 091	1 131	na	415	35	na	7 672 <b>g</b>
1991-92	6 241	na	na	424	33	na	na
1992-93	5 823	1 780	2 788	555	47	1 090	12 141
1993-94	na	na	na	na	na	na	na
1994-95	na	na	na	na	na	na	na
1995-96	5 871	na	na	na	na	na	na
1996-97	7 925	na	na	na	na	2 764	na
1997-98	5 495	na	na	na	na	na	na
1998-99	5 220	3 939	na	239	61	1 097	na
1999-00	4 565	2 479	na	181	64	276	7 771
2000-01	3 644	3 556	na	58	41	174	7 635
2001-02	3 087	3 404 <b>s</b>	1 110	85	1 549	270	9 858 <b>s</b>
2002-03	4 265	3 802 <b>s</b>	1 222	115	1 989	608	12 155 <b>s</b>
2003-04	4 355	3 542 <b>s</b>	2 391	79	1 801	414	12 718 <b>s</b>
2004-05	3 760	3 865 <b>s</b>	4 437	45	2 488	206	15 104 <b>s</b>
2005-06	3 956	5 027 <b>s</b>	2 154	198	2 117	181	13 729 <b>s</b>

<sup>a</sup> Data incomplete because coverage differs between states. Australian totals may include estimates for states for which data are not available separately.

<sup>b</sup> Includes the Australian Capital Territory. <sup>c</sup> Excludes Western Australia. <sup>d</sup> Excludes the Australian Capital Territory and Western Australia. <sup>e</sup> Excludes the Australian Capital Territory. <sup>f</sup> Victorian data after 1988-89 includes only establishments holding titles under the *Extractive Industries Act 1966*. Previous details represent estimates for all establishments. <sup>g</sup> Excludes the Australian Capital Territory, Queensland, Western Australia and the Northern Territory. <sup>s</sup> ABARE estimate. <sup>na</sup> Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, BMR, Canberra; state mines departments and their equivalents; ABARE.

264 Australian production of crushed and broken stone, by state <sup>a</sup>

	New South Wales kt	Victoria kt	Queensland kt	Western Australia kt	South Australia kt	Tasmania kt	Northern Territory kt	Australia kt
1963	3 870	12 583	2 574	1 562	8 496	937	na	30 246
1964	4 033	13 198	2 497	2 060	11 638	1 026	89	34 723
1965	6 802	15 784	2 817	2 510	10 948	1 361	na	40 810
1966	8 434	19 409	3 174	3 011	10 978	2 149	na	47 547
1967	8 590	18 301	4 762	3 107	10 709	1 176	na	47 011
1968	9 345	17 575	3 917	3 719	9 016	1 206	na	45 087
1969	9 217	15 865	4 030	4 517	12 418	1 377	na	47 830
1970	10 867	15 451	4 159	4 743	1 027	1 313	na	50 793 <b>b</b>
1971	10 020	17 505	4 665	5 234	10 817	1 365	670 <b>b</b>	50 275 <b>b</b>
1972	11 322	16 079	4 218	4 574	12 680	1 336	906 <b>b</b>	51 115
1973	11 452	15 805	6 933	4 451	10 084	1 558	999 <b>b</b>	51 281
1974	11 451	17 499	8 246	5 128	9 864	1 486	996 <b>b</b>	54 671
1975	13 196	18 382	9 454	5 166	9 242	1 495	1 278 <b>b</b>	58 213
1976	10 581	16 885	8 241	5 043	9 765	1 697	820 <b>b</b>	53 033
1977	9 728	17 884	9 411	5 031	9 618	1 621	1 104 <b>b</b>	54 398
1978	10 699	18 665	10 811	5 258	8 848	1 582	1 046 <b>b</b>	56 910
1979	12 081	19 115	12 588	5 801	4 146	1 707	1 090	56 498
1980	14 436	18 001	12 722	4 762	4 460	1 746	1 611 <b>b</b>	57 737
1981	14 543	14 073	15 784	7 397	3 759	1 562	992 <b>b</b>	58 110
1982	12 765	13 279	19 601	5 145	4 189	1 719	303	57 100 <b>c</b>
1983	10 185	13 527	16 592	4 272	2 435	1 609	495	49 115 <b>c</b>
1984	10 452	14 756	19 869	5 067	3 613	2 023	551	56 331 <b>c</b>
1985	12 641	20 539	20 692	6 596	4 066	1 981	959	67 474 <b>c</b>
1986	13 819	20 658	21 597	6 160	4 335	3 040	646	70 255 <b>c</b>
1987	13 135	19 526	20 433	5 743	3 600	2 488	353	65 278 <b>c</b>
1988	12 575	20 001	22 644	6 297	3 432	2 361	193	67 503 <b>c</b>
1988-89	14 861	22 763	22 724	na	3 567	2 525	270	66 710 <b>d</b>
1989-90	15 437	21 232	25 623	8 176	3 703	2 460	367	76 998 <b>d</b>
1990-91	15 488	14 854	na	na	3 571	2 065	na	35 977 <b>e</b>
1991-92	14 326	na	na	na	3 192	2 013	na	na
1992-93	14 725	28 517	20 189	3 839	4 402	2 533	451	74 656
1993-94	na	na	na	na	na	na	na	na
1994-95	na	na	na	na	na	na	na	na
1995-96	na	na	na	na	na	na	na	na
1996-97	16 292	na	na	na	na	na	516	na
1997-98	15 171	na	na	na	na	na	na	na
1998-99	16 775	na	na	na	na	na	na	na
1999-00	17 620	21 864	na	480	3 445	1 452	626	58 556
2000-01	16 256	23 535	na	536	2 991	1 277	352	52 949
2001-02	15 130	24 249	22 394	900	4 311	1 868	1 548	70 400
2002-03	13 864	23 616	22 905	829	3 841	1 663	1 653	68 369
2003-04	11 679	25 096	31 156	826	4 197	1 930	765	75 649
2004-05	11 459	24 300	30 169	761	4 732	2 904	939	75 263
2005-06	14 141	28 048	29 745	1 464	4 354	2 735	585	81 072

<sup>a</sup> Data incomplete because coverage differs between states. Australian totals may include estimates for states for which data are not available separately. <sup>b</sup> Includes the Australian Capital Territory and the Northern Territory. <sup>c</sup> Excludes the Australian Capital Territory. <sup>d</sup> Excludes the Australian Capital Territory and Western Australia. <sup>e</sup> Excludes the Australian Capital Territory, Queensland, Western Australia and the Northern Territory. **na** Not available.

Sources: ABS, *Mineral Production, Australia* cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, BMR, Canberra; state mines departments and their equivalents; ABARE.

## 265 Summary of Australian statistics for copper

	Production					Consumption c	Exports d		
	Mine a	Smelter b	Refined		Total		Volume	Value	Price e
	kt	kt	Primary	Secondary	kt	kt	\$m	\$/t	
1965	92	80	60	14	74	102	37	27	718.0
1966	111	97	90	10	100	108	30	36	944.0
1967	92	79	66	18	84	88	30	30	1 026.0
1968	109	103	84	17	101	105	38	40	1 099.0
1969	131	124	101	19	120	106	54	66	1 324.0
1970	158	120	104	21	125	114	70	86	1 317.0
1971	177	150	127	15	142	116	96	85	991.4
1972	186	150	139	17	156	112	109	91	942.3
1973	220	166	145	14	159	133	106	112	1 234.3
1974	251	200	162	12	174	120	133	177	1 298.2
1975	219	183	166	12	178	97	176	139	950.1
1976	218	170	161	15	176	119	139	157	1 143.3
1977	222	172	152	15	167	106	126	146	1 190.1
1978	222	167	152	14	166	127	102	114	1 189.8
1979	238	169	138	16	154	127	122	206	1 768.0
1980	242	182	145	20	165	128	120	250	1 956.6
1981	231	177	164	15	179	143	114	201	1 535.7
1982	245	180	160	11	171	131	110	156	1 474.5
1983	262	182	169	34	203	115	158	276	1 790.5
1984	236	188	171	26	197	118	126	226	1 592.5
1985	260	175	164	30	194	126	139	274	2 064.8
1986	248	179	164	21	185	117	125	248	2 111.2
1987	233	183	172	36	208	124	119	267	2 559.7
1988	238	193	196	27	223	128	157	510	3 319.4
1989	296	240	230	35	265	129	175	601	3 606.0
1990	330	235	247	24	271	118	230	765	3 413.9
1991	320	258	252	20	272	111	243	723	3 013.4
1992	378	315	300	13	313	123	258	770	3 114.2
1993	430	344	318	13	331	139	271	723	2 818.3
1994	418	337	340	20	360	150	305	816	3 158.2
1995	379	224	266	24	290	158	215	804	3 980.3
1996	548	264	311	24	314	162	363	993	2 948.7
1997	549	216	276	25	276	159	402	1 098	3 061.5
1998	618	211	279	25	279	160	488	1 298	2 636.9
1999	738	332	412	25	412	164	560	1 429	2 438.2
2000	839	390	484	0	484	165	621	1 931	3 127.6
2001	898	455	558	0	558	163	754	2 318	3 043.4
2002	872	456	543	0	542	189	683	2 000	2 869.6
2003	830	435	484	0	484	184	704	2 024	2 730.9
2004	854	443	498	0	490	169	653	2 589	3 902.0
2005	930	412	461	0	471	158	784	4 088	4 844.1
2006	879	377	429	0	429	144	723	6 600	8 937.3

**a** Total metallic content of minerals produced. **b** Includes both primary and secondary (scrap) production of blister copper. **c** Primary refined; producers' shipments to domestic consumers plus imports. **d** Quantities refer to total metallic content of all ores, concentrates, intermediate products or refined metal; value of metals contained in host mine and smelter products (for example, copper in lead concentrate or lead bullion) is not available separately and is included in the value of the mineral product or metal in which it is exported. **e** Mount Isa Mines, cathode, for Townsville refinery, price discontinued end of June 2000. 2000 onwards based on average US\$ LME spot calendar price converted into A\$.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; Metallgesellschaft AG, *Metallstatistik*, Frankfurt; London Metal Exchange.

## 266 Australian supply, disposal and prices of copper

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Production</b>									
Mine <b>a</b>	kt	793	875	882	883	811	899	936	859
Smelter	kt	387	419	456	469	389	434	404	389
Refined	kt	502	542	561	537	458	479	461	435
Primary	kt	477	517	561	537	458	479	461	435
Secondary	kt	25	25	0	0	0	0	0	0
<b>Exports <b>b</b></b>									
Ores and concentrates <b>c</b>	kt	936	1 150	1 271	1 193	1 286	1 326	1 635	1 493
Value	\$m	776	1 037	1 028	1 048	1 242	1 750	3 492	3 910
Refined <b>d</b>	kt	306	366	388	359	301	322	314	290
Value	\$m	840	1 249	1 131	956	924	1 332	2 161	2 610
<b>Consumption <b>e</b></b>	kt	175	153	181	222	236	168	136	146
<b>Export unit value</b>									
Ores and concentrates	A\$/t	829.1	902.0	808.7	878.8	966.3	1 319.7	2 135.6	2 619.8
Refined	A\$/t	2 749.2	3 409.7	2 918.1	2 666.9	3 075.5	4 140.5	6 882.0	8 996.8

**a** Total metallic content of minerals produced. **b** Value of metals contained in host mine and smelter products is not available separately and is included in the value of the mineral product or metal in which it is exported. **c** Gross weight of ores and concentrates. **d** Refinery shapes, unworked. **e** Refined copper, domestic despatches and imports.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## 267 Volume of Australian exports of copper, by destination

	1999 kt	2000 kt	2001 kt	2002 kt	2003 kt	2004 kt	2005 kt	2006 kt
<b>Ores and concentrates</b>								
China	225.5	285.1	453.2	370.9	361.7	216.3	571.4	540.0
Germany	8.6	0.9	0.0	14.8	4.8	4.0	0.1	0.0
India	267.0	340.4	453.7	362.5	451.1	452.7	443.2	444.2
Japan	332.6	271.5	261.9	322.2	415.7	346.8	440.9	372.2
Korea, Rep. of	111.2	39.9	20.3	38.1	105.5	36.8	82.4	93.5
Philippines	61.5	60.7	30.6	34.3	26.9	76.1	35.9	67.7
Other	29.4	16.9	25.3	11.7	0.8	49.9	32.4	41.8
Total	1 035.8	1 015.3	1 245.1	1 154.5	1 366.5	1 182.5	1 606.4	1 559.3
Total Cu content <b>s</b>	302.6	292.5	353.3	317.0	371.2	328.3	449.1	432.9
<b>Refined</b>								
Chinese Taipei	73.2	81.9	90.9	89.8	81.6	96.0	65.4	83.6
European Union <b>a</b>	71.4	55.8	72.6	34.8	31.6	2.6	0.1	0.0
Indonesia	7.6	6.0	7.3	12.4	13.1	31.1	38.2	18.5
Korea, Rep. of	31.3	39.9	51.8	57.6	19.6	6.7	39.5	21.0
Malaysia	41.9	75.0	81.7	83.8	81.8	72.6	51.4	55.1
Thailand	12.0	19.0	28.8	35.0	39.6	52.6	64.3	52.7
Other	16.2	45.8	65.4	50.5	56.3	61.1	56.6	53.4
Total	253.8	323.4	398.6	363.8	323.7	322.7	315.5	284.4

**a** Regarded as twenty five countries. **s** ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review, AGPS*, Canberra.

## 268 World copper production, consumption, stocks and prices

	Production					Consumption kt	Stocks c kt	Price	
	Mine kt	Smelter kt	Refined		US producer d US\$/lb			LME e US\$/t	
			Secondary a kt	Total b kt					
1964	4 848	4 903	2 645	5 825	4 984	na	32.0	966.0	
1965	5 070	5 119	2 850	6 181	5 033	na	35.0	1 288.0	
1966	5 220	5 103	3 081	6 366	5 224	na	36.2	1 528.8	
1967	5 062	4 897	2 872	6 004	5 032	na	38.2	1 135.0	
1968	5 459	5 510	3 176	6 653	6 548	na	41.8	1 236.0	
1969	5 935	5 965	3 452	7 205	7 136	na	47.5	1 464.0	
1970	6 382	6 308	3 298	7 583	7 294	582	57.7	1 413.6	
1971	6 458	6 374	3 155	7 393	7 295	610	51.4	1 080.5	
1972	7 044	7 007	3 272	8 084	7 948	657	50.6	1 069.0	
1973	7 498	7 286	3 639	8 525	8 754	394	58.9	1 781.1	
1974	7 576	7 565	3 502	8 759	8 310	832	76.6	2 052.6	
1975	7 185	7 280	2 699	8 177	7 445	1 744	63.2	1 232.2	
1976	7 661	7 616	3 163	8 624	8 539	1 828	69.0	1 405.2	
1977	7 856	7 810	3 109	8 878	9 057	1 985	66.2	1 308.3	
1978	7 678	7 686	3 313	9 020	9 527	1 564	65.8	1 363.4	
1979	7 767	7 738	3 668	9 181	9 848	1 116	92.2	1 978.1	
1980	7 704	7 681	3 738	9 297	9 396	1 035	101.3	2 189.2	
1981	8 164	8 036	3 671	9 545	9 522	1 133	84.2	1 740.2	
1982	8 078	7 850	3 518	9 378	9 003	1 640	72.8	1 477.9	
1983	8 101	8 379	3 688	9 694	9 099	1 709	76.5	1 590.1	
1984	8 258	8 684	3 848	9 512	9 914	1 220	66.9	1 371.4	
1985	8 365	8 933	3 837	9 689	9 665	1 074	67.0	1 415.5	
1986	8 393	9 165	3 905	9 862	10 075	893	64.7	1 414.5	
1987	8 747	9 287	3 996	10 160	10 449	522	81.1	1 764.9	
1988	8 698	9 372	4 307	10 485	10 531	585	119.1	2 597.1	
1989	9 025	9 720	4 250	10 858	10 969	636	129.5	2 838.8	
1990	8 957	9 132	4 325	10 809	10 789	716	121.8	2 669.0	
1991	9 099	9 066	4 317	10 688	10 695	843	107.9	2 338.1	
1992	9 418	9 730	4 408	11 170	10 806	833	106.0	2 282.0	
1993	9 475	9 671	4 948	11 306	10 996	1 116	91.6	1 910.8	
1994	9 575	9 740	5 026	11 166	11 665	768	110.2	2 307.3	
1995	10 180	9 745	5 337	11 817	12 152	699	138.3	2 935.6	
1996	11 111	10 407	5 917	12 756	12 399	527	109.2	2 293.7	
1997	11 480	10 779	6 200	13 600	13 017	897	106.8	2 277.1	
1998	12 273	10 928	5 976	14 120	13 353	1 274	78.6	1 654.2	
1999	12 749	11 494	5 883	14 465	14 057	1 360	75.9	1 572.6	
2000	13 246	11 855	6 028	14 816	15 192	971	82.3	1 813.5	
2001	13 757	12 350	5 747	15 675	14 685	1 636	71.6	1 577.5	
2002	13 565	11 965	5 427	15 350	15 051	1 712	70.8	1 560.8	
2003	13 700	11 982	5 367	15 221	15 317	1 212	80.7	1 779.5	
2004	14 720	12 242	5 484	15 850	16 672	518	134.2	2 865.9	
2005	15 180	12 816	5 558	16 612	16 655	547	173.6	3 677.7	
2006	15 097	12 935	5 748	17 328	17 044	703	315.6	6 740.6	

**a** Includes direct use by manufacturers. **b** Excludes copper recovered from secondary materials by simple remelting. **c** Unwrought copper. **d** Average price for US producer cathodes. **e** LME average cash settlement price, grade A copper. Before December 1981, wirebars; from 1982 to 1986, higher grade copper. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; Metallgesellschaft AG, *Metallstatistik*, Frankfurt; World Bureau of Metal Statistics, *World Metal Statistics*, London; London Metal Exchange.



## 269 World copper production, by region and country

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Mine production a</b>								
Africa	500	460	526	481	545	611	681	800
Congo, Dem. Rep. of	33	33	33	32	57	70	98	131
South Africa	163	146	142	90	89	86	97	120
Zambia	271	249	307	308	347	410	441	502
Americas	7 775	7 779	8 033	7 737	8 007	8 859	8 817	8 895
Argentina	210	145	192	204	199	177	187	180
Canada	620	634	634	603	557	563	595	607
Chile	4 391	4 602	4 739	4 581	4 904	5 413	5 321	5 361
Peru	536	554	722	845	843	1 036	1 010	1 050
Mexico	382	365	371	330	356	406	429	334
United States	1 600	1 444	1 340	1 140	1 120	1 160	1 140	1 220
Asia	1 997	2 331	2 441	2 515	2 405	2 374	2 635	2 436
China	520	593	587	568	604	742	762	755
Indonesia	790	1 006	1 047	1 163	1 003	842	1 064	817
Kazakhstan	373	430	470	473	485	468	436	459
Malaysia	10	na	na	na	na	na	na	na
Mongolia	128	127	136	135	132	130	129	132
Philippines	35	31	24	20	20	16	16	18
Uzbekistan	60	65	97	80	82	83	104	104
Europe	1 349	1 420	1 435	1 526	1 505	1 645	1 682	1 625
Bulgaria	77	93	97	84	80	80	95	84
Poland	463	454	474	503	503	531	512	497
Portugal	99	76	83	77	78	96	89	79
Russian Federation	510	580	600	685	665	767	805	779
Sweden	71	78	74	72	83	82	87	87
Middle East	204	222	221	215	207	203	241	271
Iran	130	147	146	141	146	153	193	217
Turkey	74	75	75	75	61	50	48	54
Oceania	925	1 035	1 100	1 090	1 032	1 027	1 123	1 069
Australia	738	839	898	872	830	854	930	875
Papua New Guinea	188	203	204	211	202	173	193	194
Other countries	0	0	0	0	0	0	0	0
<b>Total</b>	<b>12 749</b>	<b>13 246</b>	<b>13 757</b>	<b>13 565</b>	<b>13 700</b>	<b>14 720</b>	<b>15 180</b>	<b>15 097</b>

Continued

269 World copper production, by region and country *continued*

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Smelter production b</b>								
Africa	482	493	489	459	464	440	455	518
South Africa	149	136	121	117	112	89	101	103
Zambia	289	308	306	311	320	320	320	384
Americas	4 296	3 919	4 018	3 493	3 354	3 404	3 436	3 428
Canada	617	604	643	539	457	476	472	521
Chile	1 474	1 460	1 503	1 439	1 542	1 518	1 558	1 565
Mexico	371	327	348	263	220	271	301	260
Peru	350	340	392	380	376	378	382	381
United States	1 290	1 002	919	683	539	542	523	501
Asia	3 775	4 123	4 409	4 484	4 725	4 899	5 430	5 562
China	837	1 014	1 145	1 180	1 379	1 503	1 752	1 802
Japan	1 389	1 481	1 444	1 499	1 516	1 465	1 518	1 628
Kazakhstan	384	415	433	446	432	445	405	426
Korea, Rep. of	390	370	390	390	410	390	390	390
Philippines	162	160	217	138	112	120	170	162
Uzbekistan	72	75	97	80	82	85	115	115
Australia	332	390	455	456	435	443	412	377
Europe	2 605	2 934	2 974	3 061	3 004	3 056	3 083	3 049
Belgium	143	145	138	126	120	108	97	96
Germany	330	572	559	578	494	541	510	510
Poland	494	483	514	540	584	581	584	584
Russian Federation	758	758	758	800	790	850	850	850
Spain	319	330	305	298	290	224	284	264
Total	11 494	11 855	12 350	11 965	11 982	12 242	12 816	12 935
<b>Refined copper production</b>								
Africa	423	380	453	449	459	501	555	613
South Africa	116	106	107	92	90	81	97	102
Zambia	259	226	308	347	360	410	446	497
Americas	6 377	6 073	6 390	5 914	5 682	5 764	5 711	5 656
Canada	549	551	568	495	455	527	515	500
Chile	2 666	2 668	2 882	2 850	2 902	2 837	2 824	2 811
Peru	434	452	472	503	517	505	510	508
United States	2 120	1 802	1 800	1 512	1 310	1 310	1 260	1 250
Asia	4 120	4 603	4 937	5 051	5 326	5 739	6 432	7 154
China	1 174	1 371	1 523	1 632	1 836	2 199	2 600	2 999
India	208	259	325	374	391	419	518	627
Japan	1 342	1 437	1 426	1 401	1 430	1 380	1 395	1 532
Kazakhstan	362	395	422	453	432	446	419	430
Korea, Rep. of	450	471	476	499	510	496	527	575
Philippines	148	139	165	144	171	175	172	181
Uzbekistan	72	75	97	80	82	85	115	115
Australia	412	484	558	542	484	490	471	429
Europe	3 130	3 276	3 337	3 391	3 269	3 356	3 441	3 477
Belgium	388	423	423	427	423	383	383	383
Germany	696	709	694	696	598	653	638	662
Poland	470	486	498	509	530	550	560	557
Russian Federation	737	824	888	861	855	909	968	959
Spain	305	316	280	322	293	228	267	255
Total	14 465	14 816	15 675	15 350	15 221	15 850	16 612	17 328

a Metal content. b Metal produced in the form of blister and anodes from ores, concentrates, other primary materials and secondary blister produced from scrap.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 270 Volume of world copper exports, by country

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Concentrates (Cu content)</b>								
Australia	303	293	353	317	371	328	449	433
Canada	264	480	622	283	170	165	256	231
Chile	1 532	1 780	1 798	1 553	1 798	2 166	2 190	2 171
Indonesia	485	644	649	719	595	452	596	583
Papua New Guinea	184	186	189	177	222	163	204	174
Peru	48	80	93	371	280	502	523	462
Portugal	110	81	92	49	72	87	94	82
United States	76	175	45	23	10	24	137	383
Other	514	457	448	507	552	634	653	626
World total	3 515	4 177	4 290	3 999	4 037	4 488	5 054	5 106
<b>Blister and anode copper</b>								
Chile	157	170	155	182	276	366	347	457
Finland	32	42	52	43	33	25	30	35
Mexico	31	22	24	18	16	21	18	20
Namibia	0	10	27	25	26	25	0	0
Peru	31	24	31	25	22	0	0	0
South Africa	0	1	35	26	12	1	6	7
Spain	25	27	35	21	37	51	62	46
Other	268	321	351	345	349	380	353	349
World total	545	616	709	685	771	869	816	914
<b>Refined copper</b>								
Australia	254	323	397	364	323	323	315	287
Belgium	172	199	241	201	337	170	241	237
Canada	294	289	310	241	222	289	297	280
Chile	2 548	2 518	2 696	2 767	2 614	2 954	2 799	2 606
Germany	140	94	108	91	118	137	149	146
Japan	318	299	416	378	290	195	248	320
Kazakhstan	354	392	399	391	376	391	401	357
Peru	416	377	433	415	459	318	514	449
Philippines	143	129	157	143	167	159	114	177
Poland	221	240	227	262	284	280	290	288
Russian Federation	634	650	651	505	397	359	301	268
Singapore	137	77	61	59	38	39	34	94
United States	26	97	23	29	123	127	51	124
Zambia	206	217	308	339	363	393	423	476
Other	903	823	887	918	925	895	1 277	1 371
World total	6 765	6 726	7 313	7 105	7 034	7 029	7 455	7 478

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## copper

## 271 Volume of world copper imports, by country

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Ores and concentrates</b>								
Brazil	146	122	136	116	103	135	101	134
Canada	138	212	220	128	72	67	84	106
China	313	453	564	516	671	721	1 009	908
Finland	129	114	126	125	136	132	126	136
Germany	210	177	259	259	220	285	287	287
Japan	1 249	1 348	1 285	1 261	1 246	1 274	1 320	1 327
Korea, Rep. of	292	294	293	320	331	327	348	364
Spain	251	234	226	264	263	194	260	275
United States	143	0	122	226	27	23	0	0
Other	313	419	404	422	505	689	771	1 076
Total	3 183	3 374	3 634	3 638	3 574	3 848	4 307	4 614
<b>Blister and anode copper</b>								
Belgium	140	215	149	209	291	291	238	268
Canada	28	11	21	58	127	149	159	93
China	130	125	91	105	123	114	129	89
Germany	37	32	27	38	17	12	37	42
Korea, Rep. of	60	48	59	69	51	53	33	87
Mexico	58	82	119	73	62	70	64	78
United States	175	195	218	145	159	149	133	172
Other	64	51	43	27	24	70	106	152
Total	691	759	726	726	854	908	899	980
<b>Refined copper</b>								
Belgium	71	41	44	37	58	17	10	22
Brazil	116	158	141	103	151	154	168	175
China	405	668	835	1 181	1 357	1 200	1 222	827
Chinese Taipei	656	629	541	657	621	692	640	647
France	550	586	564	576	579	590	517	507
Germany	565	690	528	459	517	585	625	881
Greece	115	136	130	126	107	120	91	106
Italy	625	603	650	643	651	700	652	774
Japan	230	203	156	114	79	88	74	75
Korea, Rep. of	485	419	380	446	441	488	428	380
Malaysia	158	166	161	187	134	186	246	186
Singapore	116	58	67	40	34	48	41	110
Thailand	117	151	167	186	204	224	235	268
Turkey	141	181	137	187	229	217	224	150
United Kingdom	303	339	311	316	246	214	182	184
United States	915	1 022	1 199	1 062	687	704	977	1 076
Other	733	746	692	570	572	573	572	522
Total	6 301	6 794	6 702	6 891	6 669	6 801	6 902	6 891

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 272 Summary of Australian statistics for gemstones

	Exports			Imports
	Diamonds \$m	Opals \$m	Sapphires <sup>a</sup> \$m	Gem diamonds \$m
1960	0.24	2.07	na	2.47
1961	0.44	2.81	na	2.38
1962	0.41	6.21	na	2.37
1963	0.37	5.39	na	2.62
1964	0.35	5.40	na	2.96
1965	0.42	5.33	na	3.69
1966	0.43	7.65	na	3.94
1967	0.33	8.62	na	4.23
1968	0.37	10.65	na	4.23
1969	0.39	12.21	3.09	5.25
1970	0.51	11.97	3.21	5.45
1971	0.77	11.20	3.32	6.57
1972	0.81	13.80	2.80	7.44
1973	1.63	17.68	2.91	11.74
1974	4.86	12.70	2.63	15.01
1975	4.61	14.60	3.01	15.45
1976	4.58	22.62	3.61	20.04
1977	5.28	19.21	4.03	24.05
1978	11.99	26.69	10.31	34.25
1979	13.25	24.98	17.17	33.36
1980	12.90	25.55	10.81	50.38
1981	11.16	23.69	14.57	38.25
1982	9.86	16.73	14.46	32.59
1983	36.54	22.69	13.48	31.48
1984	25.90	22.76	9.89	36.14
1985	29.83	17.67	7.78	48.16
1986	180.00	24.41	12.86	55.38
1987	285.00	45.99	19.95	66.62
1988	349.42	67.54	23.13	77.96
1989	410.19	77.19	31.60	108.16
1990	433.13	84.87	17.49	106.68
1991	453.80	83.67	11.27	110.99
1992	574.60	77.13	11.46	105.71
1993	482.30	78.07	22.46	90.24
1994	485.40	96.24	18.27	96.40
1995	480.24	99.79	13.65	103.60
1996	442.99	101.85	10.97	112.41
1997	421.19	75.64	8.52	154.85
1998	621.78	63.20	7.70	150.88
1999	560.57	53.86	5.94	172.28
2000	714.96	75.96	8.35	223.34
2001	517.01	69.78	6.43	241.97
2002	724.10	61.75	1.37	269.90
2003	754.54	56.16	1.11	301.69
2004	507.77	47.28	1.08	320.02
2005	880.88	55.42	1.36	370.57
2006	782.57	49.85	0.45	386.01

<sup>a</sup> Excludes cut and polished sapphires from 1 July 1999, for which data are not available separately.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Department of Minerals and Energy Western Australia, *Statistics Digest*; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, I.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra.

## gemstones

## 273 Australian supply and disposal of gemstones

	Unit	1999	2000	2001	2002	2003	2004	2005	2006
<b>Diamonds</b>									
Production	'000 ct	29 784	26 647	26 176	33 648	31 013	20 620	30 703	29 308
Exports									
Unsorted <b>s</b>	'000 ct	51 703	42 386	21 722	34 442	28 193	20 447	30 594	29 220
	\$m	495	630	428	621	623	385	749	641
Sorted									
Gem	'000 ct	23	48	39	43	74	89	108	87
	\$m	64	85	89	103	126	122	132	142
Industrial	'000 ct	0.30	0.33	0.98	0.19	2 761.25	84.99	0.37	1.32
	\$m	0.74	0.62	0.18	0.50	5.19	0.51	0.21	0.12
Total exports	\$m	561	715	517	724	755	508	881	783
Imports									
Gem diamonds	\$m	172	223	242	270	302	320	371	386
<b>Other gemstones</b>									
Exports									
Opals	\$m	54	76	70	62	56	47	55	50
Sapphires <b>a</b>	\$m	6	8	6	1	1	1	1	0
Others <b>b</b>	\$m	11	15	13	14	10	8	9	5

**a** Excludes cut and polished sapphires from 1 July 1999, for which data are not available separately. **b** Includes cut and polished sapphires from 1 July 1999. **s** ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Department of Minerals and Energy Western Australia, *Statistics Digest*, Perth; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

## 274 World production of natural gem and cheap gem diamonds

	1998	1999	2000	2001	2002	2003	2004	2005
	million ct	million ct	million ct	million ct	million ct	million ct	million ct	million ct
Angola	2.76	3.57	4.01	5.10	5.70	6.30	7.50	10.00
Australia	40.84	29.78	26.65	26.18	33.65	31.01	20.62	30.70
Botswana	19.64	21.26	24.64	26.19	28.37	30.40	31.13	31.89
Congo, Dem. Rep. of	21.36	22.00	16.50	19.64	21.99	29.00	29.00	27.00
Namibia	1.47	1.63	1.54	1.49	1.54	1.45	2.00	1.90
Russian Federation	19.80	16.20	20.50	20.50	20.00	33.02	35.52	38.00
South Africa	10.70	10.01	10.79	11.16	10.88	12.67	14.46	15.78
Other	3.33	6.75	6.87	8.05	9.28	15.13	17.37	18.20
Total	119.90	111.20	111.50	118.30	131.40	159.00	157.60	173.50

Sources: Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; British Geological Survey, *World Mineral Statistics*, Nottingham England.

## 275 Summary of Australian statistics for gold

	Mine production	Exports <sup>a</sup>		Price <sup>d</sup>	
		Volume <sup>b</sup>	Value <sup>c</sup>	A\$/oz	US\$/oz
		t	\$m		
1963	32	17	15	31.32	35.00
1964	30	15	13	31.41	35.00
1965	27	27	23	31.36	35.00
1966	29	29	23	31.40	35.00
1967	25	22	17	31.40	35.00
1968	24	16	13	34.71	38.68
1969	22	22	21	36.92	41.09
1970	19	12	6	32.22	35.95
1971	21	7	3	36.15	41.16
1972	23	14	13	49.02	58.44
1973	17	9	11	68.43	97.59
1974	16	12	23	111.39	159.62
1975	16	8	17	122.87	161.23
1976	16	15	40	102.30	124.94
1977	19	14	43	133.37	147.98
1978	20	8	42	168.88	193.44
1979	19	10	59	271.77	303.22
1980	17	7	90	537.37	612.52
1981	18	7	56	398.19	458.06
1982	27	13	136	371.97	375.76
1983	31	21	270	469.65	423.83
1984	40	32	418	409.94	360.29
1985	59	50	668	455.70	317.28
1986	75	56	972	554.15	367.76
1987	110	85	1 694	639.18	446.43
1988	157	139	2 642	557.34	433.45
1989	204	166	2 559	483.54	381.49
1990	244	238	3 424	493.94	384.35
1991	236	259	3 684	465.21	362.29
1992	244	298	4 458	467.74	343.67
1993	248	275	4 672	530.94	359.89
1994	255	277	4 664	527.92	384.09
1995	253	316	5 251	521.02	384.15
1996	289	325	5 223	497.98	387.72
1997	314	340	4 912	446.17	331.14
1998	310	504	7 621	469.17	294.23
1999	300	334	4 720	433.07	279.08
2000	296	296	4 634	480.37	279.28
2001	280	304	5 086	521.30	271.09
2002	266	269	4 908	570.30	310.20
2003	283	312	5 551	559.68	363.68
2004	258	312	5 551	557.15	409.28
2005	263	306	5 693	585.23	444.91
2006	247	349	8 863	804.30	604.71

<sup>a</sup> Prior to July 1999 includes exports of refined gold that was imported as unrefined bullion, thereafter includes Australian origin gold only. <sup>b</sup> Quantities refer to total metallic content of all ores, concentrates, intermediate products or refined metal of which gold is the predominant constituent. <sup>c</sup> Value of metal contained in host mine and smelter products (for example, gold in copper concentrates or lead bullion) is not separately available; this is included in the value of the mineral product or metal product in which it is exported. <sup>d</sup> Average London AM fix.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; London Bullion Market Association; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## gold

## 276 Australian gold production, imports and exports

	Unit	1999	2000	2001	2002	2003	2004	2005	2006
<b>Production</b>									
Mine	t	299.7	296.4	280.1	266.1	283.4	258.1	263.0	247.2
Refined primary									
Australian origin	t	296.1	302.2	288.0	261.8	257.0	230.8	220.2	205.6
Overseas origin	t	13.2	15.1	16.8	40.5	74.1	81.7	71.1	60.8
Refined secondary									
Australian origin	t	4.6	7.6	23.3	7.2	4.3	4.3	6.3	5.7
Overseas origin	t	61.8	24.4	45.1	39.8	75.9	53.4	43.4	107.3
<b>Exports</b>									
Refined and unrefined bullion <b>a</b>									
Chinese Taipei	t	19.0	17.7	15.7	6.5	3.6	0.5	0.0	0.5
Hong Kong, China	t	31.6	25.5	49.1	29.6	11.7	1.2	1.2	0.0
India	t	3.3	0.5	9.8	13.8	66.1	161.0	164.4	140.4
Japan	t	21.7	23.1	16.0	24.5	8.5	9.4	16.5	12.6
Korea, Rep. of	t	39.6	58.1	45.1	50.3	41.7	30.6	5.3	4.8
Middle East	t	6.6	6.4	28.2	11.1	0.8	0.0	0.0	7.9
Switzerland	t	8.5	1.5	4.5	1.1	4.6	0.0	1.1	8.0
Thailand	t	8.9	8.3	5.1	22.5	11.5	27.2	55.7	21.9
United Kingdom	t	40.4	26.6	54.6	69.8	148.9	56.6	29.2	114.6
Other	t	154.6	128.7	75.6	40.0	15.1	24.8	32.6	38.5
Total	t	334.2	296.4	303.6	269.1	312.6	311.4	305.8	349.3
	\$m	4 719.7	4 634.5	5 085.8	4 907.9	5 551.2	5 550.8	5 693.5	8 863.2
<b>Imports</b>									
Refined and unrefined	\$m	1 999.7	1 643.3	2 145.6	2 503.8	2 910.4	2 448.5	2 792.0	5 786.4
<b>Price <b>b</b></b>	\$/oz	433.07	480.37	521.30	570.30	559.68	557.15	585.23	804.30

**a** Prior to July 1999 includes exports of refined gold that was imported as unrefined bullion, thereafter includes Australian origin gold only. **b** Average London AM fix price, expressed in Australian dollars.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; London Bullion Market Association; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.



## 277 Australian gold production, by state

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
	†	†	†	†	†	†	†	†
<b>Mine production</b>								
1984	1.11	0.41	1.75	na	32.11	1.93	2.99	40.30
1985	1.54	0.96	9.28	na	41.20	2.33	3.22	58.53
1986	0.96	1.15	11.12	na	53.88	2.67	5.30	75.10
1987	4.25	1.21	15.43	0.00	78.08	2.23	8.71	109.90
1988	5.63	1.77	24.78	0.01	110.75	2.03	11.97	156.95
1989	8.75	1.84	27.72	0.28	146.61	1.76	17.06	204.02
1990	8.05	3.93	29.73	0.89	180.79	1.68	19.04	244.10
1991	6.33	3.76	27.06	0.76	179.44	1.62	17.30	236.28
1992	5.65	3.35	32.61	1.05	181.29	1.15	18.64	243.74
1993	8.58	4.07	32.43	0.93	183.49	1.32	17.09	247.90
1994	8.13	3.83	30.67	1.10	192.48	1.39	17.42	255.01
1995	10.03	4.30	28.76	0.97	189.84	0.75	18.44	253.08
1996	11.31	4.52	28.65	1.25	220.19	1.74	21.89	289.03
1997	11.71	4.82	29.40	1.64	238.04	4.15	24.32	314.09
1998	14.76	4.89	32.38	1.74	231.98	4.18	20.38	310.32
1999	21.04	4.63	34.15	1.77	210.92	4.95	22.29	299.75
2000	18.58	4.23	37.10	2.95	203.74	6.68	23.14	296.41
2001	17.10	3.50	31.89	4.31	196.59	6.18	20.51	280.08
2002	23.48	3.24	25.06	3.14	187.20	6.05	17.95	266.14
2003	27.49	3.11	26.24	5.33	189.07	9.31	22.85	283.39
2004	29.14	3.46	23.16	5.12	164.32	10.60	22.27	258.07
2005	29.46	5.24	23.99	6.24	173.16	8.34	16.55	262.96
2006	28.93	6.27	21.00	6.75	165.09	5.10	14.03	247.16
<b>Share of total</b>	%	%	%	%	%	%	%	
1984	2.75	1.02	4.34	na	79.68	4.79	7.42	
1985	2.63	1.64	15.86	na	70.39	3.98	5.50	
1986	1.28	1.53	14.81	na	71.74	3.56	7.06	
1987	3.87	1.10	14.04	0.00	71.04	2.03	7.93	
1988	3.59	1.13	15.79	0.01	70.57	1.29	7.63	
1989	4.29	0.90	13.59	0.14	71.86	0.86	8.36	
1990	3.30	1.61	12.18	0.36	74.06	0.69	7.80	
1991	2.68	1.59	11.45	0.32	75.94	0.69	7.32	
1992	2.32	1.38	13.38	0.43	74.38	0.47	7.65	
1993	3.46	1.64	13.08	0.37	74.02	0.53	6.89	
1994	3.19	1.50	12.03	0.43	75.48	0.55	6.83	
1995	3.96	1.70	11.36	0.38	75.01	0.30	7.28	
1996	3.91	1.56	9.91	0.43	76.18	0.60	7.57	
1997	3.73	1.54	9.36	0.52	75.79	1.32	7.74	
1998	4.76	1.58	10.43	0.56	74.75	1.35	6.57	
1999	7.02	1.55	11.39	0.59	70.37	1.65	7.44	
2000	6.27	1.43	12.52	0.99	68.73	2.25	7.81	
2001	6.11	1.25	11.39	1.54	70.19	2.21	7.32	
2002	8.82	1.22	9.42	1.18	70.34	2.27	6.75	
2003	9.70	1.10	9.26	1.88	66.72	3.29	8.06	
2004	11.29	1.34	8.98	1.98	63.67	4.11	8.63	
2005	11.20	1.99	9.12	2.37	65.85	3.17	6.29	
2006	11.70	2.54	8.50	2.73	66.80	2.06	5.67	

na Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## 278 World supply, demand and price of gold

	Unit	1998	1999	2000	2001	2002	2003	2004	2005	2006
<b>Supply</b>										
Mine production										
Australia	t	310	300	296	280	266	283	258	263	247
Asia	t	280	294	296	331	309	330	291	338	275
Canada	t	164	158	155	157	148	141	129	120	104
China	t	165	163	172	193	202	211	217	230	247
Europe	t	27	24	20	20	21	19	20	19	20
Latin America	t	338	381	378	375	392	406	413	462	496
Russian Federation	t	127	138	154	165	181	182	182	175	173
South Africa	t	497	477	454	417	419	398	363	315	292
Other Africa	t	170	185	193	221	238	230	215	232	238
United States	t	366	342	355	335	299	281	260	262	252
Other	t	130	140	145	151	138	138	144	135	133
Total mine production	t	2 574	2 602	2 619	2 645	2 612	2 620	2 492	2 550	2 477
Forward sales and option hedging										
	t	97	506	- 15	- 151	- 412	- 255	- 422	- 86	- 369
Net official sales	t	363	477	479	520	547	617	469	674	352
Net scrap sales	t	1 105	615	616	713	841	944	849	886	1 105
Net other sales	t	0	0	292	115	171	0	0	0	0
Total supply <b>a</b>	t	4 139	4 200	4 018	3 894	4 000	4 181	3 845	4 110	3 934
<b>Demand</b>										
Fabrication consumption										
Jewellery	t	3 169	3 140	3 204	3 008	2 660	2 482	2 614	2 707	2 279
Electronics	t	226	247	283	197	206	233	260	279	304
Dentistry	t	64	66	69	69	69	67	68	62	61
Official coins	t	147	155	77	83	97	107	115	111	129
Medals and unofficial coins	t	27	25	29	29	27	26	26	37	59
Other	t	103	99	99	97	83	80	83	85	86
Total fabrication	t	3 736	3 732	3 761	3 482	3 140	2 995	3 166	3 282	2 918
Net bullion purchases	t	403	469	242	261	448	931	257	743	647
Total demand <b>a</b>	t	4 139	4 200	4 018	3 894	4 000	4 181	3 845	4 110	3 934
Gold price <b>b</b>	\$/oz	294.23	279.08	279.28	271.09	310.20	363.68	409.28	444.91	604.71

**a** Total supply is defined as the flow of new mine output, and the net sale of aboveground stocks, while total demand is equal to net gold purchases. This classification of annual gold flows is symmetric, so that total annual supply equals total annual demand. **b** Average London AM fix price, expressed in US dollars.

Sources: ABARE, *Australian Commodities*, Canberra; Gold Fields Mineral Services Ltd, *Gold*, London; London Bullion Market Association.

## 279 Summary of Australian statistics for gypsum

	Production	Exports <sup>a</sup>		
		Volume	Value	Unit value
	kt	kt	\$'000	\$/t
1961	619.7	90.0	570	6.33
1962	641.0	141.6	747	5.27
1963	737.1	146.1	715	4.89
1964	807.8	208.8	1 008	4.83
1965	846.9	140.9	747	5.30
1966	814.4	235.2	1 100	4.68
1967	928.8	211.0	879	4.17
1968	857.3	251.9	1 135	4.51
1969	912.1	232.8	1 006	4.32
1970	845.4	218.4	1 051	4.81
1971	889.2	258.3	1 251	4.84
1972	959.1	282.3	1 444	5.12
1973	1 165.2	437.3	2 128	4.87
1974	1 068.9	303.2	1 778	5.86
1975	932.6	215.8	1 539	7.13
1976	941.9	187.7	1 527	8.13
1977	916.0	190.5	1 624	8.52
1978	939.9	181.0	1 640	9.06
1979	1 230.2	423.0	3 105	7.34
1980	1 309.3	389.3	3 814	9.80
1981	1 752.3	645.2	6 861	10.63
1982	1 863.7	604.5	7 982	13.20
1983	1 509.8	800.0	11 044	13.81
1984	1 931.2	726.0	9 653	13.30
1985	1 744.5	516.0	8 362	16.21
1986	1 671.0	423.2	7 702	18.20
1987	1 811.9	195.4	2 968	15.19
1988	1 655.9	116.2	1 391	11.97
1988-89	1 834.6	68.1	1 048	15.39
1989-90	1 885.5	na	na	na
1990-91	1 381.7	53.2	759	14.28
1991-92	1 347.5	160.7	1 775	11.04
1992-93	1 589.5	161.6	1 807	11.19
1993-94	1 691.6	151.7	2 036	13.42
1994-95	1 995.5	231.1	2 993	12.95
1995-96	1 916.3	85.6	1 476	17.24
1996-97	2 392.6	116.9	2 134	18.25
1997-98	3 052.3	570.9	12 070	21.14
1998-99	3 465.6	988.8	18 781	18.99
1999-00	3 796.5	1 121.2	21 059	18.78
2000-01	3 225.5	724.4	16 096	22.22
2001-02	4 267.7	1 010.0	21 835	21.62
2002-03	4 066.0	1 045.0	18 788	17.98
2003-04	4 325.1	1 083.0	16 570	15.30
2004-05	3 881.6	878.4	15 172	17.27
2005-06	4 249.3	1 525.8	26 449	17.33
2006-07	na	1 179.7	21 550	18.27

<sup>a</sup> Raw gypsum. Bulk only to 1978; bulk and bagged thereafter. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; state mines departments and their equivalents; ABARE.

## gypsum

## 280 Australian production of gypsum, by state

	New South Wales kt	Victoria kt	Queensland kt	South Australia kt	Western Australia kt	Australia kt
1960	97.0	102.0	na	346.2	44.9	590.2
1961	98.8	81.5	na	393.5	45.9	619.7
1962	73.0	80.0	na	435.6	52.5	641.0
1963	63.2	116.3	na	505.9	51.6	737.1
1964	65.6	105.9	na	590.5	45.7	807.8
1965	59.3	171.3	na	568.9	47.4	846.9
1966	45.7	113.1	na	613.1	42.6	814.4
1967	43.2	227.7	na	617.2	40.7	928.8
1968	32.8	78.7	na	640.1	105.6	857.3
1969	32.1	85.7	na	728.8	65.4	912.1
1970	39.0	47.6	na	667.4	91.4	845.4
1971	36.4	46.3	na	652.7	153.9	889.2
1972	39.1	42.1	na	721.5	156.5	959.1
1973	32.8	43.7	na	921.9	166.8	1 165.2
1974	42.6	43.0	na	769.8	213.5	1 068.9
1975	34.2	54.1	na	759.3	85.1	932.6
1976	36.2	69.0	na	721.0	115.8	941.9
1977	33.6	84.8	na	694.0	103.7	916.0
1978	18.0	107.4	na	648.1	166.3	939.9
1979	26.8	201.2	na	782.3	219.9	1 230.2
1980	25.0	269.4	na	768.6	246.3	1 309.3
1981	20.2	282.8	na	1 017.2	432.0	1 752.3
1982	17.4	235.9	na	1 159.3	451.2	1 863.7
1983	14.7	79.3	na	924.0	491.9	1 509.8
1984	38.9	236.4	na	1 018.2	637.7	1 931.2
1985	51.0	239.8	na	1 001.9	451.8	1 744.5
1986	47.3	173.4	na	1 135.8	314.5	1 671.0
1987	34.5	412.0	na	1 229.4	136.0	1 811.9
1988	33.7	233.0	na	1 277.2	112.0	1 655.9
1988-89	27.8	241.4	na	1 399.4	166.0	1 834.6
1989-90	29.0	301.5	na	1 400.0	155.0	1 885.5
1990-91	27.5	49.2	na	1 222.5	82.5	1 381.7
1991-92	18.7	53.1	na	1 173.9	101.8	1 347.5
1992-93	24.0	180.2	na	1 260.5	124.8	1 589.5
1993-94	0.0	176.8	3.8	1 315.8	195.2	1 691.6
1994-95	69.0	193.1	24.9	1 478.9	229.6	1 995.5
1995-96	37.3	198.7	25.6	1 401.8	252.9	1 916.3
1996-97	43.2	501.5	40.6	1 555.3	251.9	2 392.6
1997-98	105.2	479.8	36.4	1 596.0	834.9	3 052.3
1998-99	174.4	404.9	29.6	1 601.3	1 255.5	3 465.6
1999-00	161.7	462.8	11.0	1 824.1	1 336.9	3 796.5
2000-01	198.2	437.7	27.0	1 615.2	947.4	3 225.5
2001-02	284.8	781.2	78.7	1 776.6	1 346.3	4 267.7
2002-03	183.3	546.4	55.3	1 822.3	1 458.6	4 066.0
2003-04	230.4	571.9	69.2	1 919.5	1 534.1	4 325.1
2004-05	174.6	450.5	52.1	1 796.7	1 407.7	3 881.6
2005-06	168.1	541.2	48.6	1 913.2	1 578.2	4 249.3

na Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; state mines departments and their equivalents; ABARE.

## 281 Australian exports of gypsum

	Raw <sup>a</sup>							
	New				Total		Calcined	
	Indonesia	Zealand	Singapore	Other	Volume	Value	Volume	Value
kt	kt	kt	kt	kt	\$'000	t	\$'000	
1960	0.0	72.4	0.0	14.6	87.0	479	na	na
1961	0.0	70.3	0.0	19.7	90.0	570	na	na
1962	0.0	80.4	0.0	61.3	141.6	747	na	na
1963	0.0	78.2	0.0	67.9	146.1	715	na	na
1964	0.0	106.0	0.0	102.8	208.8	1 008	na	na
1965	5.1	102.2	0.0	33.6	140.9	747	na	na
1966	5.6	109.7	0.0	119.9	235.2	1 100	na	na
1967	14.0	87.7	0.0	109.3	211.0	879	na	na
1968	10.6	85.8	0.0	155.6	251.9	1 135	na	na
1969	21.1	101.5	17.0	93.2	232.8	1 006	na	na
1970	11.7	104.8	18.8	83.2	218.4	1 051	na	na
1971	15.9	100.3	12.1	129.9	258.3	1 251	na	na
1972	23.6	107.7	26.3	124.6	282.3	1 444	na	na
1973	26.2	147.5	42.1	221.4	437.3	2 128	na	na
1974	30.6	173.1	14.9	84.6	303.2	1 778	na	na
1975	15.6	151.7	27.3	21.2	215.8	1 539	na	na
1976	34.5	122.9	27.5	2.8	187.7	1 527	na	na
1977	37.9	113.0	15.9	23.8	190.5	1 624	na	na
1978	29.7	84.5	16.2	50.6	181.0	1 640	na	na
1979	148.1	63.7	49.7	161.5	423.0	3 105	1 696	223
1980	197.9	98.3	42.9	50.2	389.3	3 814	2 003	172
1981	183.0	104.6	67.1	290.5	645.2	6 861	1 771	188
1982	173.6	124.5	88.0	218.5	604.5	7 982	2 350	263
1983	174.4	98.2	110.4	416.9	800.0	11 044	3 187	416
1984	251.4	128.2	96.9	249.5	726.0	9 653	6 196	901
1985	192.6	143.0	57.0	123.5	516.0	8 362	4 751	728
1986	148.1	118.1	38.4	118.7	423.2	7 702	5 348	893
1987	15.5	122.7	0.0	57.2	195.4	2 968	4 866	848
1988	0.0	116.2	0.0	0.0	116.2	1 391	4 704	845
1988-89	0.1	68.0	0.0	0.0	68.1	1 048	3 940	752
1989-90	0.1	0.0	0.0	na	na	na	10 437	1 032
1990-91	0.0	15.5	0.0	37.6	53.2	759	5 702	1 100
1991-92	0.0	97.2	0.0	63.5	160.7	1 775	6 128	1 318
1992-93	0.0	111.5	12.0	38.1	161.6	1 807	8 610	1 958
1993-94	0.0	101.6	0.0	50.1	151.7	2 036	9 986	2 408
1994-95	0.0	155.2	12.4	63.5	231.1	2 993	8 836	2 338
1995-96	0.2	32.3	0.0	53.1	85.6	1 476	11 477	3 212
1996-97	1.3	0.4	0.1	115.0	116.9	2 134	12 012	3 487
1997-98	48.2	0.8	0.2	521.7	570.9	12 070	17 538	5 656
1998-99	38.5	0.1	0.0	950.2	988.8	18 781	6 926	2 046
2000-01	0.0	0.4	0.0	724.0	724.4	16 096	2 576	916
2001-02	0.0	0.1	0.0	1 009.8	1 010.0	21 835	779	494
2002-03	0.0	0.1	0.1	1 044.8	1 045.0	18 788	36 986	941
2003-04	0.0	0.1	0.1	1 082.8	1 083.0	16 570	30 921	1 589
2004-05	0.0	0.1	0.0	878.3	878.4	15 172	1 717	1 149
2005-06	0.0	126.1	0.1	1 399.7	1 525.8	26 449	977	452
2006-07	0.0	93.7	0.1	1 085.9	1 179.7	21 550	676	299

<sup>a</sup> Bulk only to 1978; bulk and bagged thereafter. na Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

## 282 World mine production gypsum, by country

	Australia	Canada	China <sup>a</sup>	France	Japan	Spain	United States	Other	Total
	kt	kt	kt	kt	kt	kt	kt	kt	kt
1960	590	4 620	na	3 777	735	2 487	8 913	19 520	40 642
1961	620	4 591	na	3 836	724	3 052	8 618	20 217	41 658
1962	641	4 837	na	3 997	800	3 557	8 221	22 653	44 706
1963	737	5 381	na	4 208	782	4 598	9 424	21 608	46 738
1964	808	5 770	na	4 913	751	2 854	9 692	21 951	46 738
1965	847	5 720	na	5 013	649	2 855	9 104	20 518	44 706
1966	814	5 427	na	5 272	597	2 947	8 751	20 898	44 706
1967	929	4 471	na	5 190	584	2 947	8 522	22 064	44 706
1968	857	5 664	na	5 162	572	3 963	9 235	23 064	48 516
1969	912	6 334	na	6 055	569	4 064	9 108	23 557	50 599
1970	845	5 844	na	6 088	581	4 288	8 584	24 570	50 800
1971	889	6 169	na	5 111	536	4 200	9 451	26 644	53 000
1972	959	7 200	na	5 850	465	4 100	11 840	27 236	57 650
1973	1 165	7 540	na	6 160	460	4 100	12 330	29 105	60 860
1974	1 069	7 470	na	6 220	na	4 400	10 890	31 941	61 990
1975	933	5 700	na	5 800	na	4 200	8 800	31 567	57 000
1976	942	6 002	na	5 900	na	4 200	10 868	34 858	62 770
1977	916	7 234	na	6 032	na	5 482	12 147	39 894	71 705
1978	940	8 075	1 500	6 036	na	5 369	13 509	40 280	75 709
1979	1 230	8 098	3 630	6 240	na	5 275	13 272	43 615	81 360
1980	1 309	7 209	3 360	5 889	na	5 223	11 227	43 150	77 367
1981	1 752	7 025	3 450	6 147	na	5 223	10 430	42 129	76 156
1982	1 864	5 987	3 540	6 039	6 363	5 048	9 560	33 913	72 314
1983	1 510	7 507	4 260	5 544	5 845	5 620	11 688	36 695	78 669
1984	1 931	7 756	4 810	5 400	6 100	5 365	12 990	36 378	80 730
1985	1 744	8 400	5 700	5 400	6 300	5 500	13 360	38 706	85 110
1986	1 671	8 500	6 500	5 500	6 300	5 500	14 300	39 309	87 580
1987	1 812	8 600	6 800	5 400	6 300	5 500	14 300	39 680	88 160
1988	1 656	8 500	8 100	5 400	6 300	5 500	14 870	49 534	99 860
1989	1 835	8 700	8 100	5 700	6 300	5 500	16 000	46 385	98 520
1990	1 886	8 200	8 000	5 620	6 350	5 000	14 550	48 055	97 660
1991	1 382	8 000	8 100	5 600	6 350	5 000	14 022	45 481	93 935
1992	1 348	7 054	10 977	5 715	5 443	4 990	14 759	47 257	97 791
1993	1 590	7 345	9 616	4 536	4 990	6 804	14 344	44 504	93 623
1994	1 692	8 500	10 500	5 000	5 300	7 250	17 200	45 735	101 000
1995	1 995	7 960	11 000	5 000	3 900	7 500	16 600	44 297	98 100
1996	1 916	8 330	8 000	5 000	5 350	8 000	17 500	45 802	99 700
1997	2 393	8 500	7 800	5 000	5 500	7 400	18 600	49 309	104 000
1998	3 052	8 100	9 000	4 500	5 300	7 400	19 000	51 128	107 000
1999	3 466	9 470	9 000	4 500	5 500	7 500	22 400	50 940	107 000
2000	3 796	8 550	6 800	4 500	5 600	7 500	19 500	45 233	106 000
2001	3 225	8 560	6 800	4 500	5 900	7 500	16 300	51 249	104 000
2002	4 268	8 850	6 850	3 500	5 900	7 500	15 700	48 613	101 000
2003	4 066	9 000	6 900	3 500	5 700	7 500	16 000	51 462	104 000
2004	4 325	9 340	7 000	3 500	5 800	11 500	17 200	50 516	109 000
2005	3 882	9 400	7 300	3 500	5 890	11 500	21 100	55 428	118 000
2006	4 249	9 450	7 400	3 500	5 900	11 500	21 200	55 801	119 000

<sup>a</sup> Excludes Hong Kong. na Not available.

Sources: ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; US Department of the Interior, US Geological Survey, *Mineral Commodity Summaries*, Washington DC; ABARE.

## 283 Summary of Australian statistics for iron ore and steel

	Production <sup>a</sup>				Exports		
	Iron ore		Pig	Crude	Iron ore	Pig	Crude
	Pellets	Total	iron	steel	and pellets	iron	steel <sup>bs</sup>
	kt	kt	kt	kt	kt	kt	kt
1963	0	5 689	3 683	4 652	0	135	32
1964	0	5 846	4 049	5 099	13	57	9
1965	0	6 805	4 252	5 464	152	46	10
1966	0	11 071	4 743	5 891	2 045	97	255
1967	0	17 314	5 058	6 268	9 164	152	344
1968	3 000	26 632	5 573	6 503	16 398	246	356
1969	5 871	38 576	6 107	7 016	26 858	375	545
1970	5 957	51 188	6 148	6 822	41 112	310	226
1971	6 800	62 063	6 128	6 737	52 796	519	122
1972	6 424	64 401	6 491	6 743	54 079	582	597
1973	10 153	84 828	7 658	7 682	74 181	853	771
1974	10 066	96 950	7 250	7 755	83 654	753	775
1975	9 469	97 651	7 475	7 843	80 363	520	1 636
1976	9 594	93 255	7 417	7 774	81 231	698	1 534
1977	10 226	95 932	6 753	7 313	78 908	647	1 280
1978	9 471	83 134	7 337	7 589	75 264	711	1 008
1979	9 303	91 717	7 811	8 125	78 447	643	611
1980	5 329	95 534	6 959	7 594	80 375	515	306
1981	3 887	84 661	6 830	7 635	71 729	158	378
1982	3 321	87 694	5 956	6 371	72 567	101	218
1983	3 043	71 485	5 045	5 657	74 088	469	384
1984	3 497	89 046	5 329	6 303	85 477	71	294
1985	3 725	97 447	5 607	6 578	84 746	26	583
1986	3 338	94 015	5 889	6 703	79 523	26	496
1987	3 309	101 748	5 569	6 125	77 829	165	523
1988	3 400	96 084	5 730	6 399	94 855	25	843
1989	3 600	105 810	6 094	6 735	101 681	24	948
1990	4 537	109 166	6 125	6 666	95 928	1	1 740
1991	3 475	117 134	5 647	6 017	111 557	0	1 934
1992	1 437	113 097	6 388	6 990	103 487	0	2 315
1993	1 512	121 429	7 284	7 837	111 527	0	2 621
1994	1 507	128 662	7 855	8 455	119 093	0	3 069
1995	1 596	139 067	7 861	8 481	130 367	0	2 950
1996	1 608	147 200	7 381	8 429	128 274	22	3 130
1997	168	157 767	7 685	8 837	146 757	4	3 188
1998	3 618	153 459	7 723	8 886	136 418	0	3 364
1999	1 932	154 979	7 047	8 481	139 278	3	3 253
2000	2 066	167 935	7 049	7 855	157 368	3	2 815
2001	2 024	181 174	6 017	8 299	156 718	0	3 187
2002	2 139	187 198	6 106	8 874	165 869	0	3 385
2003	2 256	212 981	6 116	9 661	187 708	72	3 955
2004	2 103	233 994	5 735	8 104	209 828	70	2 997
2005	2 165	261 855	6 203	7 789	239 313	0	2 265
2006	1 677	275 098	6 276	7 937	247 429	67	2 595

<sup>a</sup> Iron ore figures expressed in natural weight. <sup>b</sup> Series up to and including 1987 do not include flat rolled products, bars and rods, and wire and steel sections. Subsequent series include all items in ABS, *Australian Harmonized Export Commodity Classification*, chapter 72, 'Iron and steel', excluding ferrous waste, scrap and ferroalloys. <sup>s</sup> ABARE estimate. <sup>na</sup> Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

iron ore and steel

284 Volume of Australian exports of iron and steel, by destination <sup>a</sup>

	1999	2000 <sup>a</sup>	2001 <sup>b</sup>	2002 <sup>b</sup>	2003 <sup>b</sup>	2004 <sup>b</sup>	2005 <sup>b</sup>	2006 <sup>b</sup>
	kt	kt	kt	kt	kt	kt	kt	kt
Africa	18	16	59	8	5	7	2	5
Americas								
North	986	544	88	270	254	259	251	492
Other	96	93	44	44	35	15	4	14
Total	1 082	637	132	314	289	274	255	506
Asia								
China	55	93	698	877	1 251	430	6	6
Chinese Taipei	230	183	78	39	65	155	50	8
Hong Kong, China	86	45	16	9	12	5	15	10
India	62	20	4	41	6	5	1	18
Indonesia	165	82	75	36	46	61	51	25
Japan	72	53	25	175	3	5	27	5
Korea, Rep. of	598	302	343	149	271	93	78	129
Malaysia	115	66	48	17	94	51	6	32
Philippines	56	11	19	2	3	3	3	2
Singapore	45	19	7	51	7	7	3	5
Thailand	194	124	29	51	70	81	64	102
Other	82	52	37	78	139	50	57	25
Total	1 760	1 049	1 379	1 525	1 966	946	360	366
Europe	230	212	73	224	77	6	4	187
New Zealand	138	92	91	137	112	117	67	90
Other	26	509	1 453	1 175	1 506	1 646	1 579	1 441
Total	3 253	2 815	3 187	3 385	3 955	2 997	2 267	2 595

<sup>a</sup> Includes all items in ABS, *Australian Harmonized Export Commodity Classification*, chapter 72, 'Iron and steel', excluding ferrous waste, scrap and ferroalloys. <sup>b</sup> Data for slab, hot rolled, cold rolled and coated steel products became confidential in 2000. Estimates or export volumes are included in 'other' category.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra.



## 285 Australian supply and disposal of iron ore and steel

	Unit	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Production</b>								
Iron ore and concentrate	kt	175 445	185 273	199 149	222 815	251 918	263 815	287 653
Pig iron	kt	6 533	6 062	6 111	5 926	5 969	6 195	6 337
Raw steel	kt	8 003	8 611	9 399	9 430	7 395	7 866	8 010
<b>Exports</b>								
Iron ore and pellets	kt	157 320	156 130	181 478	194 773	228 456	239 380	257 368
	\$m	4 903	5 160	5 342	5 277	8 120	12 854	15 519
Iron and steel s	kt	2 931	3 297	3 589	3 818	2 338	2 428	2 648
	\$m	1 484	1 484	1 855	2 004	2 031	1 674	1 743
Scrap	kt	1 063	934	890	955	1 009	1 876	1 333
	\$m	212	177	211	298	402	467	607
<b>Export unit value</b>								
Iron ore and pellets	\$/t	31.16	33.05	29.44	27.09	35.54	53.70	60.30

s ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

## 286 Volume of Australian iron ore exports, by destination a

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Asia</b>								
China	26 219	33 293	38 023	44 018	59 971	80 109	117 537	128 568
Chinese Taipei	8 017	9 089	9 904	9 347	8 664	9 095	9 144	9 448
Japan b	64 889	69 362	66 830	70 492	75 353	80 314	76 200	73 834
Korea, Rep. of	19 154	21 203	23 810	25 120	26 000	26 472	24 978	26 261
Other	830	828	922	865	594	494	215	208
United States	618	609	436	628	67	0	0	0
Western Europe	18 890	21 484	15 867	14 450	16 051	12 563	10 914	8 575
Other c	662	1 501	926	949	1 008	782	325	536
Total	139 278	157 368	156 718	165 869	187 708	209 828	239 313	247 429

a Dry weight. b Includes exports to the Philippines which were subsequently re-exported to Japan. c Includes data for which details of export destinations are not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

## 287 Summary of world statistics for iron ore and steel

	Production					Iron ore exports <sup>a</sup> Mt
	Iron ore <sup>a</sup>		Iron <sup>b</sup> Mt	Crude steel Mt		
	Pellets Mt	Total Mt				
1963	29.6	516.2	272.4	379.2	164.7	
1964	40.5	568.9	307.9	429.9	198.7	
1965	46.5	624.3	326.3	452.4	211.7	
1966	58.0	625.9	335.8	471.3	214.9	
1967	71.5	629.2	352.4	493.3	223.7	
1968	94.5	687.7	378.4	523.9	256.7	
1969	104.3	720.3	408.4	570.9	278.8	
1970	117.9	773.9	426.5	595.3	323.1	
1971	122.2	780.5	423.1	582.3	318.0	
1972	127.5	781.7	447.1	630.2	311.4	
1973	150.7	845.6	493.5	696.4	377.0	
1974	153.6	896.3	503.4	703.5	411.8	
1975	161.5	888.8	469.9	643.5	381.0	
1976	174.5	922.9	489.4	675.1	379.8	
1977	163.3	880.8	485.8	675.3	358.0	
1978	182.6	891.3	506.7	716.5	350.6	
1979	205.4	947.6	528.3	746.7	398.1	
1980	186.3	917.9	508.1	716.3	384.6	
1981	195.2	894.6	497.2	707.1	372.9	
1982	155.1	818.2	452.6	644.9	329.3	
1983	171.0	782.1	458.1	663.4	315.1	
1984	192.8	882.2	490.7	710.3	372.4	
1985	201.9	909.6	499.6	718.9	375.8	
1986	196.5	920.7	496.3	714.0	370.0	
1987	211.5	945.5	509.0	735.5	367.8	
1988	230.2	964.4	538.4	780.1	400.9	
1989	237.1	991.0	544.8	785.9	424.3	
1990	225.3	980.6	531.6	770.1	397.1	
1991	211.5	952.1	508.6	736.2	398.9	
1992	205.9	907.8	476.4	719.6	334.0	
1993	205.3	944.3	477.4	727.6	354.0	
1994	218.7	967.8	482.6	725.1	383.0	
1995	245.3	918.6	524.2	749.7	459.8	
1996	238.9	898.0	517.4	747.8	442.7	
1997	249.5	924.4	546.6	796.8	473.8	
1998	242.6	906.6	539.5	775.0	453.9	
1999	233.5	884.6	541.1	787.2	437.6	
2000	259.1	959.7	576.3	846.9	499.0	
2001	239.1	932.0	578.4	849.8	493.3	
2002	267.6	986.4	611.0	903.6	533.9	
2003	284.3	1 074.2	670.1	969.7	581.6	
2004	305.7	1 184.2	724.1	1 068.3	672.5	
2005	332.7	1 315.8	785.4	1 140.0	735.9	
2006	347.7	1 475.4	881.3	1 244.0	762.9	

<sup>a</sup> Natural weight. <sup>b</sup> Total production of primary iron less total production of directly reduced iron.

Sources: Association of Iron Ore Exporting Countries, *Iron Ore Statistics*, Geneva; International Iron and Steel Institute, *Steel Statistical Yearbook*, Brussels; United Nations Conference on Trade and Development, Trust Fund on Iron Ore, *Iron Ore Statistics*, Geneva; United Nations Conference on Trade and Development, *Review of Iron Ore Statistics*, *Iron Ore Statistics*, Geneva; United Nations Conference on Trade and Development, *Statistical Issues: Statistics on Iron Ore*, Geneva; United Nations Conference on Trade and Development, Trust Fund Project on Iron Ore Information, *The Iron Ore Market 1999-2000*, Geneva.

## 288 World iron ore production, by country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Australia	155.0	167.9	181.2	187.2	213.0	234.0	261.9	275.1
Brazil <sup>b</sup>	188.7	208.8	210.0	225.1	245.6	270.5	292.4	321.5
Canada	34.0	35.9	27.9	30.9	33.3	28.3	30.1	29.8
China <sup>c</sup>	111.5	105.3	102.6	108.8	122.7	145.7	197.6	276.4
India	70.2	74.9	79.2	86.4	99.1	120.6	145.5	167.3
Russian Federation	81.9	87.0	83.0	84.3	91.4	97.0	96.8	104.0
South Africa	29.5	33.7	34.8	36.5	38.1	39.3	39.5	40.3
Sweden	18.9	20.6	19.5	20.3	21.5	22.3	23.3	23.5
Ukraine	47.1	55.6	54.7	58.9	62.5	65.5	68.6	72.0
United States	57.8	63.1	45.8	51.5	48.5	54.7	54.3	52.9
Venezuela	17.0	17.4	19.0	20.9	19.2	20.0	21.2	20.5
Other	73.0	89.4	74.4	75.6	79.4	86.3	84.7	92.0
Total	884.6	959.7	932.0	986.4	1 074.2	1 184.2	1 315.8	1 475.4

<sup>a</sup> Natural weight. <sup>b</sup> Pellets not included. <sup>c</sup> Converted to correspond with world average Fe content.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; United Nations Conference on Trade and Development, Trust Fund on Iron Ore, *Iron Ore Statistics*, Geneva; United Nations Conference on Trade and Development, *Review of Iron Ore Statistics*, Geneva.

## 289 Volume of world iron ore exports, by country

	1999	2000	2001	2002	2003	2004	2005	2006
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Australia	139.3	157.4	156.7	165.9	187.7	209.8	239.3	247.4
Brazil	140.2	160.1	155.7	170.0	184.4	200.9	223.4	246.6
Canada	26.9	26.5	22.0	25.6	27.1	23.1	27.9	27.7
India	31.0	32.9	37.3	46.6	57.3	62.7	89.6	86.4
Mauritania	11.0	11.1	10.1	10.5	9.6	11.0	10.6	10.7
Russian Federation	10.8	17.4	23.3	13.0	16.2	17.0	20.1	22.8
South Africa	21.1	21.4	23.5	24.3	24.1	24.7	27.4	27.4
Sweden	13.9	16.0	13.6	14.2	15.6	17.3	17.8	18.2
Ukraine	14.4	19.5	18.1	18.7	20.2	18.1	19.6	20.2
Venezuela	6.6	6.9	6.9	6.7	7.4	9.3	7.6	5.6
Other	22.4	30.0	26.1	38.3	31.9	78.6	62.0	49.8
Total	437.6	499.0	493.3	533.9	581.6	672.5	735.9	762.9

<sup>a</sup> Natural weight.

Sources: Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; United Nations Conference on Trade and Development, Trust Fund on Iron Ore Information, *Iron Ore Market 1999-2000*, Geneva; United Nations Conference on Trade and Development, *Review of Iron Ore Statistics*, Geneva.

iron ore and steel

290 Volume of world iron ore imports, by region and country <sup>a</sup>

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Africa and Middle East									
Qatar	1.0	1.1	1.1	1.2	1.2	1.2	1.3	1.3	1.4
Saudi Arabia	3.3	3.5	4.6	4.4	4.7	4.3	3.9	9.7	5.5
Other	6.1	6.2	9.2	9.5	10.1	10.3	9.4	8.3	8.6
Total	10.4	10.8	14.9	15.1	15.9	15.8	14.6	19.3	15.5
Americas									
Argentina	5.5	4.1	5.1	4.5	5.2	6.3	13.5	5.7	6.7
Canada	7.2	7.3	6.6	5.9	6.8	6.6	8.0	9.6	7.6
Mexico	4.0	3.9	3.1	2.3	2.7	3.6	4.4	4.2	3.9
United States	17.0	14.2	15.7	10.6	12.5	12.5	11.8	13.0	11.5
Other	1.9	2.5	2.6	3.5	3.3	3.4	3.9	3.9	4.5
Total	35.5	32.0	33.0	26.8	30.6	32.5	41.5	36.3	34.1
Asia and Oceania									
China	51.8	55.3	70.0	92.4	111.4	148.1	208.1	275.3	326.3
Chinese Taipei	14.0	13.2	14.9	15.6	15.2	15.6	15.7	14.6	15.5
Indonesia	1.3	2.1	2.2	1.3	1.3	1.6	1.6	1.5	1.8
Japan	120.8	120.1	131.7	126.3	129.1	132.1	134.9	132.3	134.4
Korea, Rep. of	33.6	35.4	39.0	45.9	43.3	43.1	44.2	43.5	43.9
Malaysia	1.1	1.4	1.7	1.6	1.3	2.4	2.2	1.9	2.1
Pakistan	1.4	1.6	0.1	1.5	1.5	1.0	1.0	2.1	1.3
Other	5.4	4.7	4.8	4.6	5.0	4.8	4.6	5.3	5.1
Total	229.4	233.8	264.4	289.1	308.1	348.7	412.3	476.4	530.4
Europe									
Austria	4.9	4.3	5.4	5.3	5.8	5.7	5.8	7.4	7.7
Belgium-Luxembourg	13.5	12.2	11.8	11.2	12.2	11.6	10.4	9.4	11.4
Bulgaria	1.7	1.7	1.8	1.3	1.5	1.6	1.7	1.4	1.3
Czech Republic	7.4	5.4	6.6	6.9	6.8	8.2	9.4	6.8	7.6
Finland	4.0	3.8	3.9	3.9	3.8	4.2	3.8	4.2	3.5
Former Yugoslavia	0.1	1.3	0.3	0.0	0.1	1.8	2.1	2.9	3.0
France	19.7	20.3	19.7	16.7	19.0	19.0	20.8	19.5	19.9
Germany	52.5	38.8	47.5	40.1	44.3	33.9	43.3	39.1	44.9
Hungary	2.0	1.7	2.1	1.7	1.7	1.8	1.7	1.0	0.9
Italy	14.2	15.6	17.6	15.8	14.9	15.2	16.7	17.6	17.8
Netherlands	8.8	7.9	7.3	7.7	7.4	14.7	30.3	12.3	11.3
Poland	10.0	7.2	9.7	7.7	6.9	8.7	5.2	6.8	8.6
Portugal	0.8	0.6	0.6	0.1	0.1	0.0	0.0	0.0	0.0
Romania	6.6	4.2	5.0	3.9	6.2	7.0	6.6	6.6	6.6
Russian Federation	4.1	4.1	9.1	8.8	8.7	10.1	10.4	9.7	11.2
Slovakia	4.0	4.3	4.7	4.6	5.1	5.7	5.3	5.5	6.5
Spain	6.6	6.3	6.3	6.6	6.2	5.8	6.1	6.2	5.5
Turkey	3.9	3.0	4.1	3.6	5.8	5.5	5.4	4.6	5.6
Ukraine	3.1	3.3	7.4	6.3	5.0	7.6	3.3	3.0	2.0
United Kingdom	20.8	17.0	16.8	15.4	13.3	16.1	15.3	16.1	16.4
Other	0.8	0.6	0.3	0.3	0.3	0.3	0.6	0.7	0.6
Total	189.4	163.5	188.2	168.1	175.1	184.5	204.2	180.7	192.3
Total	471.5	443.6	505.5	501.5	531.3	583.0	666.2	751.8	778.6

<sup>a</sup> Natural weight. <sup>na</sup> Not available.

Sources: United Nations Conference on Trade and Development, Trust Fund on Iron Ore, *Iron Ore Statistics*, Geneva; United Nations Conference on Trade and Development, *Review of Iron Ore Statistics*, Geneva.

## 291 Iron ore prices

	Australian		Spot b		Negotiated d	
	export unit value a		Nominal	Real c	Fines	Lump
	A\$/t	US\$/t	US\$/t	US\$/t	USc/dltu	USc/dltu
1962	na	na	11.01	71.08	na	na
1963	na	na	11.02	70.27	na	na
1964	6.09	6.82	10.24	64.47	na	na
1965	8.26	9.25	10.24	63.47	na	na
1966	8.38	9.39	9.80	58.96	na	na
1967	8.36	9.36	9.20	53.86	12.00	15.50
1968	8.67	9.71	8.77	49.24	12.00	15.50
1969	8.69	9.73	9.84	52.39	12.00	15.50
1970	8.04	9.00	9.84	49.50	12.00	15.10
1971	7.69	8.72	10.33	49.82	11.90	15.00
1972	7.29	8.69	10.33	48.24	11.80	14.90
1973	6.19	8.80	10.33	45.44	11.70	14.80
1974	7.04	10.13	13.38	52.99	13.30	17.30
1975	9.32	12.21	24.40	88.54	15.40	19.30
1976	10.23	12.53	22.72	77.97	17.40	21.20
1977	12.06	13.38	23.14	74.56	17.70	21.70
1978	12.06	13.81	21.53	64.46	20.20	24.70
1979	12.87	14.39	23.56	63.40	21.20	24.30
1980	14.59	16.63	28.12	66.63	23.10	26.10
1981	15.79	18.15	28.11	60.37	27.60	31.20
1982	19.88	20.23	32.50	65.77	29.70	34.20
1983	21.23	19.16	29.00	56.86	34.80	40.00
1984	18.87	16.60	26.15	49.16	30.45	34.85
1985	22.98	16.10	26.56	48.22	26.67	30.87
1986	24.33	16.32	26.26	46.79	27.05	31.55
1987	21.54	15.10	24.50	42.11	25.97	30.29
1988	18.68	14.65	23.50	38.81	24.67	28.78
1989	20.53	16.27	26.56	41.84	23.68	28.78
1990	23.55	18.40	30.80	46.04	26.76	33.76
1991	25.92	20.20	33.25	47.68	31.03	39.15
1992	27.18	19.99	31.62	44.01	33.49	41.48
1993	25.93	17.63	28.14	38.04	31.85	38.84
1994	21.75	15.91	25.47	33.56	28.35	35.34
1995	22.49	16.68	26.95	34.54	27.15	35.89
1996	22.68	17.75	28.57	35.57	28.78	37.68
1997	24.29	18.07	28.88	35.14	29.10	37.68
1998	29.23	18.40	29.69	35.57	29.92	38.79
1999	25.63	16.54	26.96	31.61	26.63	34.83
2000	28.14	16.38	27.67	31.38	27.79	36.84
2001	33.38	17.28	28.92	31.90	28.98	38.03
2002	31.33	17.04	28.62	31.07	28.28	36.13
2003	27.15	17.70	31.04	32.95	30.83	39.35
2004	29.40	21.67	36.45	37.69	36.57	46.68
2005	46.26	31.11	62.51	62.51	62.72	80.05
2006	58.06	38.61	74.39	72.08	74.63	95.26

**a** Australia commenced commercial exports of iron ore in 1964. **b** Before 1965, Liberia Nimba, 27 per cent fines, cif North Sea ports; after 1965, Brazilian Itabira standard sinterfeed, 61.5 per cent iron, cif German ports. **c** In 2005 dollar terms. **d** Negotiated Japanese fiscal year hematite ores, fob. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; International Monetary Fund, *International Financial Statistics*, Washington DC; TEX Report Co. Ltd, *Iron Ore Manual*, Tokyo.

lead

## 292 Summary of Australian statistics for lead

	Production			Consumption	Exports d		Price e
	Mine a	Bullion b	Refined c		Volume	Value	
	kt	kt	kt	kt	kt	\$m	\$/t
1963	416	82	225	64	380	53	166.5
1964	381	80	203	63	350	73	235.5
1965	368	68	193	64	340	86	276.6
1966	371	75	193	65	354	79	248.8
1967	382	103	191	66	335	80	217.5
1968	389	118	175	66	334	87	218.6
1969	453	156	186	71	342	97	259.2
1970	457	171	180	62	401	123	282.1
1971	404	162	163	63	338	87	239.1
1972	396	139	180	63	320	87	241.3
1973	403	150	190	74	329	107	275.2
1974	375	144	193	72	315	155	389.4
1975	408	152	158	72	298	126	324.2
1976	397	161	182	75	359	157	358.6
1977	432	156	182	77	339	226	531.8
1978	400	152	204	74	369	236	563.2
1979	422	169	215	72	351	437	1 031.2
1980	398	160	200	79	344	570	843.3
1981	388	163	208	66	329	315	662.5
1982	455	182	219	56	397	334	622.4
1983	481	183	196	56	409	383	592.2
1984	441	179	199	59	427	358	515.3
1985	498	183	200	59	430	358	568.1
1986	445	188	156	60	412	361	604.5
1987	489	197	202	62	388	512	867.6
1988	462	191	193	60	420	490	885.7
1989	495	183	212	61	338	382	892.8
1990	565	195	212	58	398	464	1 123.6
1991	579	182	220	56	425	331	801.6
1992	580	231	232	58	542	460	813.6
1993	510	221	221	62	496	334	670.7
1994	505	197	212	78	465	368	810.8
1995	455	164	215	77	479	429	912.6
1996	527	191	204	67	488	489	1 074.7
1997	526	179	203	63	517	431	919.2
1998	618	164	173	54	578	544	914.3
1999	677	162	239	56	696	571	860.2
2000	699	139	223	41	656	576	854.9
2001	759	195	237	41	717	709	1 017.8
2002	694	187	268	39	751	706	1 025.6
2003	688	169	270	38	723	638	950.2
2004	674	140	232	39	715	907	1 356.0
2005	766	159	230	28	815	1 205	1 597.8
2006	668	118	206	27	669	1 368	1 995.5

**a** Total metallic content of minerals produced. **b** Metal content. **c** Primary lead production (excludes scrap). **d** Quantities refer to the total metallic content of all ores and concentrates, intermediate products and refined metal; the value of lead contained in other mine and smelter products (for example, in zinc concentrates) is included in the value of the metal in which it is exported. **e** BHAS, 99.97-99.99 per cent, fob/for Port Pirie.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade*, Australia, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## 293 Australian supply and disposal of lead

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Production</b>									
Mine <b>a</b>	kt	690	724	744	695	677	682	762	642
Bullion <b>b</b>	kt	165	153	201	181	143	153	141	114
Refined									
Primary	kt	233	215	275	267	247	234	234	191
Secondary	kt	33	33	34	36	35	36	33	30
<b>Exports</b>									
Ores and concentrates	kt	436	433	380	366	417	417	502	422
	\$m	264.1	318.2	323.3	288.7	387.2	490.4	710.8	854.5
Bullion	kt	135	119	153	150	113	164	140	112
	\$m	155.1	151.5	194.8	164.8	141.9	245.8	235.3	268.1
Refined metal	kt	258	199	236	269	231	243	244	215
	\$m	187.5	167.2	210.6	203.4	198.8	305.1	349.7	456.6
<b>Consumption <b>c</b></b>									
	kt	44	41	39	38	38	33	28	32
<b>Export unit value</b>									
Ores and concentrates	A\$/t	605.3	735.1	850.2	788.9	927.6	1 176.6	1 415.0	2 025.5
Bullion	A\$/t	1 150.9	1 276.4	1 276.7	1 097.3	1 253.4	1 498.9	1 679.2	2 401.5
Refined	A\$/t	727.4	841.2	891.2	755.5	860.9	1 256.0	1 431.1	2 120.7

**a** Total metallic content of minerals produced. **b** Metal content. **c** Refined metal only.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra.

lead

## 294 Volume of Australian exports of lead, by destination <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Ores and concentrates <sup>b</sup></b>								
Belgium	58	73	64	57	50	30	24	34
China	35	70	74	42	64	83	138	127
Japan	36	39	48	31	43	22	43	40
Korea, Rep. of	72	81	100	130	98	98	110	69
United States	15	9	6	na	na	na	na	na
Other	41	13	12	4	8	31	16	10
Total	257	285	304	264	263	264	331	280
<b>Bullion</b>								
United Kingdom	138	109	148	151	133	150	164	120
Total <sup>c</sup>	138	109	148	151	133	150	164	120
<b>Refined metal</b>								
Chinese Taipei	34	44	30	30	34	12	6	8
Hong Kong, China	15	9	12	13	17	11	15	17
India	13	24	21	20	13	23	32	36
Indonesia	19	21	16	13	17	11	12	11
Japan	2	2	na	na	na	na	na	na
Korea, Rep. of	28	26	28	33	42	49	19	35
Malaysia	43	16	13	15	18	13	9	11
South Africa	11	9	11	12	11	13	12	9
Thailand	7	10	16	21	25	14	26	20
United States	41	31	37	53	20	na	21	9
Other	42	27	23	53	70	65	93	62
Total	255	219	207	263	267	211	245	218

<sup>a</sup> Excludes slags and residues and scrap. <sup>b</sup> Lead content of lead ores and concentrates only. <sup>c</sup> Includes a substantial amount of contained silver, for which separate details are not available. **na** Not available.

Source: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.



## 295 World production, consumption, stocks and prices of lead

	Production				Consumption	Stocks <sup>b</sup>	Price <sup>c</sup>
	Mine <sup>a</sup>	Refined metal		Total			
		Primary	Secondary <sup>b</sup>				
	kt	kt	kt	kt	kt	kt	US\$/t
1962	2 531	2 568	728	3 296	3 275	478	153.0
1963	2 543	2 664	796	3 460	3 429	411	172.2
1964	2 604	2 695	910	3 605	3 633	370	275.0
1965	2 784	2 756	958	3 714	3 670	365	312.5
1966	2 937	2 885	940	3 825	3 847	368	258.5
1967	2 961	2 925	959	3 884	3 861	459	224.7
1968	3 034	3 094	1 044	4 138	4 200	338	236.9
1969	3 295	3 894	1 148	4 542	4 431	414	285.6
1970	3 443	3 616	1 287	4 688	4 502	500	303.8
1971	3 476	3 388	1 261	4 614	4 671	479	252.9
1972	3 585	3 491	1 324	4 803	4 863	470	303.8
1973	3 673	3 580	1 426	4 991	5 218	375	428.2
1974	3 642	3 593	1 462	5 042	5 173	523	591.5
1975	3 570	3 442	1 410	4 828	4 742	576	412.4
1976	3 464	3 539	1 487	5 049	5 183	482	452.8
1977	3 646	3 662	1 707	5 372	5 486	466	618.1
1978	3 622	3 697	1 738	5 459	5 583	396	658.0
1979	3 589	3 716	1 903	5 622	5 683	458	1 204.4
1980	3 495	3 600	1 815	5 417	5 429	525	910.3
1981	3 342	3 560	1 798	5 309	5 345	518	736.9
1982	3 366	3 641	1 649	5 210	5 179	560	543.9
1983	3 265	3 637	1 561	5 198	5 189	560	425.1
1984	3 126	3 470	1 829	5 299	5 312	535	444.3
1985	3 248	3 539	1 835	5 374	5 315	427	394.2
1986	3 082	3 345	1 891	5 236	5 380	480	406.9
1987	3 152	3 386	2 047	5 433	5 464	400	596.1
1988	3 151	3 475	2 102	5 577	5 527	443	656.3
1989	3 110	3 362	2 348	5 710	5 558	356	677.4
1990	3 110	3 087	2 369	5 456	5 411	540	820.0
1991	3 097	3 071	2 262	5 325	5 226	583	559.0
1992	3 047	3 238	2 268	5 437	5 174	735	541.0
1993	2 700	3 176	2 303	5 479	5 225	788	406.0
1994	2 707	2 968	2 483	5 462	5 488	750	549.0
1995	2 750	3 091	2 649	5 740	5 849	611	631.0
1996	3 006	3 074	2 784	5 822	5 987	438	774.0
1997	3 030	3 127	2 905	6 033	6 040	440	624.0
1998	2 990	3 095	2 918	6 010	6 049	420	528.6
1999	2 966	3 291	2 990	6 280	6 246	467	502.6
2000	3 046	3 546	3 109	6 555	6 518	440	453.9
2001	3 008	3 521	3 072	6 594	6 510	436	475.9
2002	2 830	3 560	3 110	6 670	6 649	483	452.6
2003	3 111	3 647	3 117	6 762	6 848	407	515.1
2004	3 129	3 776	3 181	6 954	7 282	299	886.5
2005	3 423	4 392	3 244	7 636	7 809	283	967.3
2006	3 442	4 627	3 291	7 918	7 976	276	1 289.2

<sup>a</sup> Metal content. <sup>b</sup> Western world refined metal. <sup>c</sup> Average London Metal Exchange cash price, midday, standard grade, minimum 99.97 per cent.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal; London Metal Exchange.

296 World lead production, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Mine</b>								
Africa	179	178	150	130	102	117	130	121
Morocco	80	82	77	62	41	59	64	60
South Africa	80	75	51	50	40	37	42	48
Americas	1 111	1 053	1 092	1 024	1 029	985	1 013	1 001
Canada	162	149	154	97	81	77	79	82
Mexico	126	138	149	139	139	118	134	120
Peru	271	271	289	297	308	306	319	313
United States	513	458	463	449	458	439	432	435
Asia	688	805	728	772	1 104	1 154	1 309	1 444
China	549	660	599	641	955	997	1 142	1 251
India	38	36	32	32	44	51	58	66
Kazakhstan	31	39	43	43	44	44	45	62
Korea, Dem. Rep. of	16	12	9	10	20	20	20	20
Other	54	58	45	43	41	42	45	45
Australia	633	650	714	658	648	642	715	617
Europe	355	360	324	245	228	230	256	259
Bulgaria	14	14	16	24	17	13	13	10
Ireland	39	57	45	32	50	65	72	62
Poland	63	51	53	57	55	53	51	51
Sweden	118	107	88	44	51	55	61	56
Other	121	131	122	88	55	44	59	80
Total	2 966	3 046	3 008	2 830	3 111	3 129	3 423	3 442
<b>Refined <sup>b</sup></b>								
Africa	131	125	125	144	138	100	130	122
Americas	2 135	2 216	2 087	2 092	2 092	2 005	2 043	2 068
Canada	266	284	231	252	223	241	230	250
Mexico	199	241	236	232	239	242	256	255
Peru	111	116	118	120	112	119	122	120
United States	1 447	1 457	1 376	1 364	1 392	1 262	1 293	1 297
Other	112	118	111	124	126	141	141	146
Asia	1 882	2 163	2 209	2 361	2 630	3 002	3 486	3 833
China	918	1 100	1 195	1 325	1 564	1 934	2 391	2 680
India	64	67	63	78	71	49	59	104
Japan	293	312	302	286	295	283	275	280
Kazakhstan	159	208	159	152	141	144	142	160
Korea, Rep. of	190	220	211	243	230	243	256	240
Other	258	256	278	277	323	349	363	369
Australia	271	259	271	302	307	273	268	242
Europe	1 855	1 881	1 893	1 761	1 589	1 569	1 702	1 645
France	273	262	230	203	101	104	90	88
Germany	353	387	375	378	357	411	418	379
Italy	215	231	227	196	214	202	211	191
Spain	98	120	122	116	102	105	110	131
United Kingdom	372	338	382	368	320	243	304	298
Other	544	545	557	500	495	504	569	558
Other countries	6	11	9	10	8	8	8	8
Total	6 280	6 655	6 594	6 670	6 762	6 954	7 636	7 918

<sup>a</sup> Lead content by analysis of lead ores and concentrates plus the lead content of other ores and concentrates known to be intended for lead recovery. <sup>b</sup> Includes primary and secondary lead.

Source: International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.

## 297 Volume of world lead trade, by major countries

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Exports</b>								
<b>Ores and concentrates <sup>a</sup></b>								
Australia	257	285	304	264	263	264	331	280
Belgium	59	63	58	64	51	68	58	68
Canada	49	49	58	42	8	1	0	0
Ireland	40	57	49	31	49	64	65	57
Peru	148	145	151	179	178	186	227	209
South Africa	66	77	38	45	39	44	51	40
Sweden	71	73	68	36	34	34	35	29
United States	93	117	185	245	257	295	387	302
<b>Refined lead</b>								
Australia	255	219	207	263	267	211	245	218
Belgium	69	104	81	62	75	62	90	72
Bulgaria	70	72	68	58	60	54	58	65
Canada	166	167	144	163	149	150	161	184
China	450	443	448	399	438	448	455	538
France	76	76	61	56	11	5	5	23
Germany	80	114	145	133	100	79	97	99
Mexico	28	20	13	9	12	9	18	22
Morocco	54	56	52	70	58	21	50	41
Peru	101	111	115	109	109	113	118	117
Sweden	57	65	52	58	66	63	63	69
United Kingdom	81	84	89	100	62	38	51	86
United States	23	21	17	31	92	59	46	53
<b>Imports</b>								
<b>Ores and concentrates <sup>a</sup></b>								
Belgium	58	71	61	69	48	72	78	72
Canada	56	47	53	68	70	93	60	38
China	93	158	255	216	374	454	567	662
France	115	133	109	88	0	0	0	0
Germany	111	115	146	122	108	121	103	97
Italy	110	95	66	63	52	59	65	39
Japan	122	128	117	117	109	94	102	94
Korea, Rep. of	90	126	145	138	151	143	156	145
United Kingdom	25	14	8	0	0	0	0	0
<b>Refined lead</b>								
Austria	36	39	40	42	38	30	12	15
Chinese Taipei	121	126	121	122	98	125	98	101
France	67	80	74	74	101	86	106	120
Germany	87	112	157	136	134	89	85	109
Italy	91	68	77	107	61	95	67	99
Korea, Rep. of	117	113	131	147	153	157	159	121
Malaysia	100	79	74	77	125	62	34	44
Singapore	96	80	89	86	17	41	50	na
Spain	100	104	114	171	119	150	171	141
Thailand	161	51	48	65	79	77	68	81
United Kingdom	38	105	31	29	20	35	27	51
United States	311	357	270	211	176	199	298	333

<sup>a</sup> Metal content. **na** Not available.

Source: International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.

# 298 Summary of Australian statistics for limestone

	Production	Exports		Imports	
		Volume	Value	Volume	Value
	kt	t	\$'000	kt	\$'000
1970	9 996	na	na	511	708
1971	10 335	na	na	713	1 018
1972	10 494	na	na	605	1 001
1973	11 224	na	na	1 130	1 890
1974	11 046	na	na	1 432	2 572
1975	10 854	na	na	1 490	3 775
1976	10 583	na	na	1 527	4 475
1977	10 552	na	na	1 100	4 433
1978	10 924	na	na	1 380	7 085
1979	11 450	na	na	1 317	6 522
1980	11 730	na	na	1 077	4 928
1981	11 983	na	na	1 323	6 345
1982	12 698	15	1	977	4 344
1983	10 131	80	6	833	4 393
1984	9 608 <b>a</b>	35	8	940	5 381
1985	8 570 <b>b</b>	76	8	1 022	7 292
1986	10 747 <b>a</b>	21	10	996	10 794
1987	10 803 <b>a</b>	63	7	859	10 065
1988	10 614 <b>a</b>	30	6	1 004	11 480
1988-89	12 915	24	8	1 038	10 656
1989-90	13 283	15	17	na	9 382
1990-91	12 566	65	16	971	10 194
1991-92	na	258	49	1 161	12 412
1992-93	15 895	1 729	165	819	11 859
1993-94	na	18 893	1 145	1 011	17 156
1994-95	na	463	206	1 038	14 618
1995-96	na	133 080	1 889	991	14 777
1996-97	na	178 758	2 241	1 027	12 712
1997-98	na	226 529	2 724	1 576	15 391
1998-99	na	170 795	2 500	1 066	15 881
1999-00	15 853	229 934	4 515	705	10 540
2000-01	14 743	213 469	4 101	665	10 835
2001-02	15 215	241 526	4 683	595	9 995
2002-03	18 333	242 446	5 132	582	9 170
2003-04	17 152	332 931	6 516	547	8 695
2004-05	18 366	331 515	6 568	473	7 218
2005-06	18 280	177 610	4 254	475	7 130
2006-07	na	171 945	4 242	567	7 575

**a** Excludes Western Australia. **b** Excludes Queensland and Western Australia. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; state mines departments and their equivalents; ABARE.

## 299 Australian production of limestone, by state

	New South Wales kt	Victoria kt	Queensland kt	Western Australia kt	South Australia kt	Tasmania kt	Australia kt
1960	2 439	1 176	531	315	1 081	218	5 760
1961	2 617	1 263	645	390	1 123	206	6 245
1962	2 471	1 233	706	361	1 422	324	6 518
1963	2 565	1 248	711	356	1 599	351	6 829
1964	2 743	1 415	803	462	1 567	358	7 348
1965	2 850	1 483	818	555	1 587	343	7 637
1966	2 738	1 831	886	571	1 478	350	7 854
1967	2 749	2 024	1 038	710	1 617	351	8 489
1968	2 729	1 849	1 198	745	1 583	504	8 608
1969	2 955	2 058	1 240	996	1 801	559	9 608
1970	3 155	2 022	1 242	1 201	1 853	523	9 996
1971	3 224	2 200	1 470	1 175	1 782	486	10 335
1972	3 403	2 127	1 590	1 301	1 484	581	10 494
1973	3 656	2 248	1 740	1 227	1 719	634	11 224
1974	3 779	2 192	1 758	1 157	1 562	599	11 046
1975	3 295	2 255	1 872	1 378	1 508	545	10 854
1976	3 096	2 068	1 959	1 104	1 720	635	10 583
1977	2 787	2 105	1 952	1 221	1 827	659	10 552
1978	2 903	2 245	1 802	1 365	1 890	718	10 924
1979	3 315	1 653	2 224	1 369	2 136	754	11 450
1980	3 496	2 211	1 951	1 232	1 120	720	11 730
1981	3 620	2 249	1 842	1 382	2 119	771	11 983
1982	3 417	2 303	2 235	1 762	2 061	910	12 698 <b>a</b>
1983	2 881	2 143	1 478	1 203	1 826	581	10 131 <b>b</b>
1984	3 234	2 507	1 634	na	1 469	763	9 608 <b>c</b>
1985	3 222	2 749	na	na	1 798	800	8 570 <b>d</b>
1986	3 420	2 776	1 687	na	2 012	852	10 747 <b>c</b>
1987	3 429	2 463	2 160	na	1 942	809	10 803 <b>c</b>
1988	3 411	2 580	1 880	na	1 918	826	10 614 <b>c</b>
1988-89	3 667	2 684	1 987	1 739	1 918	920	12 915
1989-90	3 972	2 639	2 121	1 699	1 889	963	13 283
1990-91	3 318	2 346	2 309	1 738	1 903	951	12 566
1991-92	3 410	na	2 369	2 054	2 014	na	na
1992-93	3 529	4 566	2 432	2 104	2 429	835	15 895
1993-94	na	na	2 485	2 147	2 666	na	na
1994-95	na	na	2 596	2 195	2 456	na	na
1995-96	3 746	na	na	2 612	1 729	na	na
1996-97	3 953	na	2 127	2 353	2 760	na	na
1997-98	3 887	na	1 994	2 280	2 476	na	na
1998-99	4 194	na	2 407	3 046	2 272	na	na
1999-00	4 164	2 127	2 552	3 008	2 580	1 843	15 853
2000-01	4 031	1 776	689	3 835	2 478	1 894	14 743
2001-02	4 077	992	2 776	3 196	2 164	1 934	15 215
2002-03	4 534	1 228	2 791	4 884	2 852	1 961	18 333
2003-04	4 561	1 201	2 830	4 614	1 983	1 924	17 152
2004-05	4 813	1 133	3 101	4 001	3 475	1 764	18 366
2005-06	4 856	1 316	2 954	3 908	3 124	2 034	18 280

**a** Includes 10 000 tonnes for the Northern Territory. **b** Includes 18 000 tonnes for the Northern Territory. **c** Excludes Western Australia. **d** Excludes Queensland and Western Australia. **na** Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review, AGPS*, Canberra; state mines departments and their equivalents; ABARE.

limestone

300 Australian imports of limestone and lime

	Limestone				Lime	
	Japan	Other	Total		Volume	Value
	kt	kt	Volume	Value	t	\$'000
			kt	\$'000		
1970	511	0	511	708	na	na
1971	713	0	713	1 018	na	na
1972	605	0	605	1 001	na	na
1973	1 130	0	1 130	1 890	na	na
1974	1 432	0	1 432	2 572	na	na
1975	1 449	41	1 490	3 775	na	na
1976	1 526	0	1 527	4 475	na	na
1977	1 099	0	1 100	4 433	na	na
1978	1 332	48	1 380	7 085	na	na
1979	1 269	48	1 317	6 522	na	na
1980	978	99	1 077	4 928	na	na
1981	1 275	48	1 323	6 345	3 445	355
1982	946	31	977	4 344	8 158	1 050
1983	833	0	833	4 393	1 999	273
1984	940	0	940	5 381	28 026	2 145
1985	1 022	0	1 022	7 292	16 927	1 556
1986	996	0	996	10 794	230	103
1987	859	0	859	10 065	511	322
1988	1 004	0	1 004	11 480	470	211
1988-89	1 038	0	1 038	10 656	467	275
1989-90	na	na	na	9 382	478	372
1990-91	969	3	971	10 194	189	105
1991-92	1 120	41	1 161	12 412	369	114
1992-93	777	42	819	11 859	449	182
1993-94	948	63	1 011	17 156	334	125
1994-95	916	122	1 038	14 618	1 659	374
1995-96	986	5	991	14 777	342	103
1996-97	1 010	17	1 027	12 712	3 444	431
1997-98	1 498	78	1 576	15 391	309	82
1998-99	943	123	1 066	15 881	426	102
1999-00	680	25	705	10 540	289	74
2000-01	615	50	665	10 835	2 786	397
2001-02	553	42	595	9 995	2 848	435
2002-03	525	56	582	9 170	307	106
2003-04	473	75	547	8 695	556	87
2004-05	415	58	473	7 218	1 176	191
2005-06	420	55	475	7 130	618	204
2006-07	503	64	567	7 575	2 605	291

na Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

## 301 Summary of Australian statistics for manganese

	Mine production	Exports		Prices <sup>b</sup> US\$/mtu
	(ore) kt	Ore kt	Ferromanganese <sup>a</sup> kt	
1960	62	46	0	80
1961	89	53	0	79
1962	73	64	0	76
1963	37	17	0	68
1964	62	54	0	70
1965	102	67	0	78
1966	318	144	0	80
1967	558	320	0	73
1968	744	565	0	64
1969	903	664	0	53
1970	751	631	0	53
1971	1 051	794	0	64
1972	1 165	na	0	62
1973	1 522	1 513	na	76
1974	1 522	1 203	1	116
1975	1 555	1 132	na	139
1976	2 154	1 711	1	142
1977	1 389	811	13	148
1978	1 257	936	19	141
1979	1 724	1 157	32	135
1980	2 020	1 328	23	164
1981	1 449	900	16	172
1982	1 127	906	17	164
1983	1 370	1 004	29	137
1984	1 849	1 460	19	137
1985	2 003	1 403	20	139
1986	1 649	1 145	44	138
1987	1 854	1 306	47	128
1988	1 986	1 553	41	165
1989	2 119	1 620	27	285
1990	1 950	1 600	43	396
1991	1 390	1 075	20	400
1992	1 239	902	46	377
1993	1 887	1 720	59	267
1994	1 985	1 590	76	212
1995	1 905	1 630	73	204
1996	2 109	1 740	59	212
1997	2 136	1 541	41	206
1998	1 501	1 067	57	204
1999	1 899	1 213	na	191
2000	1 658	1 411	na	186
2001	1 961	1 591	na	199
2002	2 189	1 836	na	199
2003	2 564	2 308	na	199
2004	3 431	1 518	na	199
2005	3 830	2 929	na	327
2006	4 567	4 195	na	260

<sup>a</sup> Data became confidential in 1999. <sup>b</sup> Annual average of free market prices; Manganese ore: 48-50 % Mn. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; UNCTAD *Commodity Price Bulletin*.

## manganese

### 302 Australian supply and disposal of manganese

		1999	2000	2001	2002	2003	2004	2005	2006
<b>Production</b>									
Manganese ore	kt	1 899	1 658	1 961	2 189	2 564	3 431	3 830	4 567
<b>Exports</b>									
Manganese ore <sup>s</sup>	kt	1 213	1 411	1 591	1 836	2 308	1 518	2 929	4 195
<b>Imports</b>									
Ferromanganese	kt	6.1	4.7	5.8	6.0	6.9	9.8	7.3	8.4
	\$m	6.2	4.7	6.3	5.4	5.8	12.5	11.4	9.8
Ferrosilicon and silicomanganese	kt	33.1	29.1	28.1	30.7	31.7	33.5	37.3	34.7
	\$m	32.5	30.8	33.2	34.5	31.6	35.3	42.2	43.2
<b>Prices</b>									
Japanese negotiated <sup>a</sup>	US\$/t	190.75	185.96	198.50	198.50	198.50	198.50	327.06	259.83

<sup>a</sup> High grade ore (48 per cent Mn) to Japan for Japanese fiscal year commencing 1 April. <sup>s</sup> ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

### 303 World production of manganese ore, by country

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Australia	1 899	1 658	1 961	2 189	2 564	3 431	3 830	4 567
Brazil	1 656	1 925	1 970	2 529	2 544	3 143	3 200	3 200
China	5 300	5 300	5 300	5 300	5 300	5 300	5 300	5 300
Gabon	1 908	1 743	1 791	1 856	2 000	2 460	2 859	3 000
Georgia	55	63	98	103	174	219	220	225
Ghana	639	896	1 077	1 136	1 509	1 594	1 715	1 659
India	1 490	1 604	1 483	1 625	2 018	2 149	2 163	1 910
Kazakhstan	944	1 202	1 385	1 835	2 361	2 318	2 208	2 200
Mexico	445	411	259	172	294	357	350	336
South Africa	3 050	3 635	3 271	3 082	3 799	4 207	4 612	5 213
Ukraine	1 985	2 741	2 740	2 762	2 523	2 278	2 226	2 245
Others	324	257	459	742	299	319	330	570
Total	19 695	21 436	21 795	23 331	25 385	27 775	28 317	30 179

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; World Bureau of Metal Statistics, *World Metal Statistics Yearbook*, London.



## 304 Summary of Australian statistics for nickel

	Production <sup>a</sup>							
	Smelter and refinery <sup>b</sup>				Exports		Imports	Price <sup>g</sup>
	Mine	Intermediate products <sup>c</sup>	Refined nickel	Refined nickel	volume <sup>f</sup>	value <sup>s</sup>		
			class 2 <sup>d</sup>	class 1 <sup>e</sup>			kt	\$m
kt	kt	kt	kt	kt	\$m	\$m	A\$/t	
1969	11.2	0.0	0.0	0.0	na	na	9.8	2 109.8
1970	29.8	0.0	0.0	9.0	na	na	23.3	2 541.1
1971	35.5	0.0	0.0	15.0	na	na	11.9	2 585.0
1972	35.5	0.0	0.0	16.5	na	na	8.3	2 583.2
1973	40.1	5.8	0.0	19.8	na	na	13.3	2 372.9
1974	45.9	14.6	0.0	20.5	na	96.0	12.8	2 657.3
1975	75.8	32.2	10.3	22.6	na	172.6	12.1	3 487.9
1976	82.5	32.0	18.0	21.8	na	260.9	18.5	4 059.1
1977	85.9	33.2	17.4	16.7	na	252.5	21.0	4 691.4
1978	82.4	32.7	18.7	18.6	na	222.1	25.1	4 026.3
1979	69.7	38.7	17.4	21.9	na	327.2	21.6	5 354.5
1980	74.3	32.5	17.9	17.4	na	427.0	30.4	5 730.8
1981	74.3	32.9	19.3	23.2	na	388.1	21.4	5 197.2
1982	87.6	49.4	20.6	25.3	na	393.7	19.7	4 765.6
1983	76.6	49.8	12.3	29.5	na	321.6	7.2	5 199.6
1984	76.9	51.1	13.1	25.6	na	386.0	15.2	5 413.4
1985	85.8	51.6	17.9	23.0	na	498.6	17.5	7 006.6
1986	76.7	49.1	20.4	21.6	na	440.3	22.3	5 788.0
1987	74.6	47.8	19.9	24.6	na	390.0	24.1	6 950.4
1988	58.0	40.0	21.1	20.3	62.1	633.5	13.7	18 096.7
1989	63.1	41.6	21.9	18.3	65.0	851.7	20.2	16 825.6
1990	67.8	49.2	22.3	25.2	73.7	666.5	30.2	11 385.0
1991	67.6	54.8	24.9	27.8	82.7	682.5	37.6	10 471.4
1992	57.9	47.8	25.9	29.5	75.4	768.7	48.5	9 525.7
1993	106.3	43.9	26.0	35.4	95.3	574.3	49.4	7 847.9
1994	193.2	68.4	23.0	43.5	111.4	765.0	57.3	8 667.9
1995	192.1	75.9	18.6	58.3	122.9	1 188.6	71.8	11 097.5
1996	183.2	76.8	12.6	61.4	132.0	1 081.0	70.0	9 586.8
1997	185.3	85.8	14.8	58.9	144.4	1 094.4	66.0	9 308.9
1998	192.1	100.1	15.3	64.3	171.6	985.7	66.0	7 357.7
1999	183.4	79.7	10.2	73.4	149.9	1 117.9	60.4	9 320.5
2000	169.2	100.9	10.2	98.7	198.6	2 366.8	80.8	14 839.8
2001	195.5	35.0	8.5	115.5	206.6	2 076.2	88.1	11 490.5
2002	188.2	32.5	9.5	120.8	209.7	2 199.4	89.8	12 457.0
2003	191.2	46.5	11.8	115.8	214.3	2 686.7	92.1	14 777.8
2004	186.8	42.9	10.2	112.4	206.9	2 562.8	104.5	18 765.6
2005	188.9	55.5	9.7	112.6	219.0	2 856.8	112.2	21 921.7
2006	185.0	48.0	11.4	105.1	200.9	5 514.3	180.2	36 468.9

<sup>a</sup> Total metallic content of minerals produced. <sup>b</sup> Includes imported ores for processing at the Yabulu refinery in Queensland. <sup>c</sup> Includes matte and speiss for further refining. Incomplete series from 2001. <sup>d</sup> Product with a nickel content of less than 99 per cent. Includes ferronickel, oxides and oxide sinter. Excludes nickel-cobalt sulphides. <sup>e</sup> Products with a nickel content of 99 per cent or more. <sup>f</sup> Total metallic content. <sup>g</sup> London Metal Exchange average cash settlement price for refined nickel, melting grade, in Australian dollar equivalent. <sup>s</sup> ABARE estimate. <sup>na</sup> Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, AGPS, Canberra; International Nickel Study Group, *World Nickel Statistics*, Lisbon, Portugal; World Bureau of Metal Statistics, *World Metal Statistics*, London; London Metal Exchange.

## nickel

## 305 World production, consumption and prices of nickel

	Production		Stocks <sup>a</sup>	Consumption <sup>s</sup>	Price <sup>b</sup>
	Mine <sup>s</sup>	Smelter/refinery <sup>s</sup>			
	kt	kt	kt	kt	US\$/t
1960	361	345	na	321	1 631.0
1961	404	384	na	357	1 711.0
1962	398	395	na	358	1 761.0
1963	393	374	na	384	1 742.0
1964	422	411	na	441	1 742.0
1965	462	440	na	473	1 735.0
1966	443	429	na	512	1 739.0
1967	508	493	na	524	1 936.0
1968	580	524	na	537	2 075.0
1969	547	517	na	549	2 363.0
1970	702	645	na	625	2 846.0
1971	718	655	na	577	2 932.0
1972	662	624	na	618	3 080.0
1973	719	703	na	696	3 373.0
1974	792	765	na	751	3 825.0
1975	794	741	171	627	4 570.0
1976	814	790	179	728	4 973.0
1977	830	767	247	701	5 203.0
1978	684	651	149	755	4 609.0
1979	721	720	87	811	5 986.0
1980	786	788	204	774	6 530.3
1981	765	762	218	718	5 973.3
1982	687	695	202	722	4 848.5
1983	718	745	183	761	4 692.0
1984	815	822	126	852	4 761.5
1985	879	848	131	834	4 910.3
1986	844	821	126	838	3 883.0
1987	889	857	92	909	4 871.3
1988	928	900	85	930	14 191.8
1989	972	918	97	911	13 334.8
1990	983	931	88	926	8 895.0
1991	946	921	113	886	8 158.3
1992	897	886	176	809	7 004.3
1993	908	809	226	785	5 337.5
1994	877	825	236	871	6 342.1
1995	1 007	919	148	984	8 228.8
1996	1 051	953	144	943	7 506.0
1997	1 073	1 012	156	1 016	6 926.4
1998	1 117	1 034	157	1 009	4 631.0
1999	1 058	1 028	124	1 082	6 014.8
2000	1 177	1 082	93	1 123	8 641.9
2001	1 225	1 160	100	1 104	5 947.9
2002	1 248	1 180	97	1 175	6 775.4
2003	1 264	1 192	99	1 219	9 633.4
2004	1 327	1 252	98	1 246	13 830.3
2005	1 388	1 293	112	1 248	14 742.3
2006	1 474	1 352	87	1 396	24 251.8

<sup>a</sup> Commercial stocks excluding those held by the former Soviet Union. <sup>b</sup> London Metal Exchange cash settlement price for refined nickel, melting grade. Prior to 1980, US producer price for electrolytic cathodes. <sup>s</sup> ABARE estimates prior to 1989. **na** Not available.

Sources: International Nickel Study Group, *World Nickel Statistics*, Lisbon, Portugal; World Bureau of Metal Statistics, *World Metal Statistics*, London; ABARE; London Metal Exchange.

## 306 World nickel smelter/refinery, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Africa	53.4	50.2	52.9	55.0	54.0	54.8	55.5	56.0
South Africa <sup>b</sup>	36.2	36.6	33.4	32.7	37.6	41.4	42.4	41.6
Zimbabwe	17.2	13.6	19.5	22.3	16.4	13.3	13.1	14.4
Americas	238.5	252.9	274.1	290.4	281.4	313.2	308.4	324.5
Brazil	22.9	23.2	22.5	23.7	24.6	26.2	30.3	31.2
Canada	124.3	134.2	140.6	144.5	124.4	151.5	139.7	153.7
Colombia	28.3	27.7	38.4	44.0	47.9	48.8	52.8	51.3
Cuba	38.5	40.0	41.2	39.2	40.1	39.6	39.6	42.0
Dominican Republic	24.5	27.8	22.3	23.5	27.2	29.5	28.7	29.7
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Venezuela	0.0	0.0	9.0	15.5	17.2	17.5	17.4	16.6
Asia	187.7	221.8	213.5	220.3	238.9	249.4	269.8	303.0
China	44.8	50.9	49.5	53.5	64.7	72.6	98.0	136.0
Indonesia	9.2	10.1	10.3	8.9	8.9	7.3	6.4	14.5
Japan	133.7	160.7	153.7	157.9	165.3	169.5	165.5	152.5
Europe	419.2	403.1	445.5	433.7	451.4	468.5	485.6	500.1
Austria	1.5	1.3	1.5	1.0	1.0	1.3	0.6	0.7
Finland	52.8	54.3	54.6	55.3	51.0	49.6	40.8	47.3
France	11.7	12.3	13.0	11.4	11.1	9.6	12.7	13.3
Greece	13.0	17.5	17.7	19.2	18.0	18.1	19.2	17.7
Macedonia <sup>c</sup>	0.0	0.0	3.0	5.2	5.5	5.1	7.8	10.9
Norway	74.1	58.7	68.2	68.5	77.2	71.4	84.9	80.9
United Kingdom	38.1	38.0	33.8	33.8	24.2	38.6	37.1	38.0
Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Russian Federation	228.0	221.0	252.2	239.3	263.4	262.8	270.0	273.3
Ukraine	0.0	0.0	1.5	0.0	0.0	12.0	12.5	18.0
Oceania	128.9	152.8	170.0	179.0	178.3	165.6	169.0	165.1
Australia	83.6	108.8	124.1	130.4	127.6	122.6	122.3	116.5
New Caledonia (Fr)	45.3	43.9	45.9	48.7	50.7	43.0	46.7	48.6
World total	1 027.7	1 082.4	1 160.0	1 180.1	1 192.2	1 252.1	1 293.2	1 351.8

<sup>a</sup> Includes the metal content of smelter/refinery production of electrolytic nickel, nickel pellets, briquettes, steel making powder, nickel salts, chemical grade nickel oxide, ferronickel, nickel oxide sinter and utility nickel. <sup>b</sup> Includes Bophuthatswana production. <sup>c</sup> Former Yugoslavian Republic of Macedonia.

Sources: International Nickel Study Group, *World Nickel Statistics*, Lisbon, Portugal; World Bureau of Metal Statistics, *World Metal Statistics*, London; ABARE.

## nickel

307 World nickel mine production, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Africa	73.1	69.3	67.7	73.2	80.9	73.5	76.7	79.1
Botswana	25.8	24.4	23.9	26.7	31.0	25.2	27.7	30.0
South Africa <sup>b</sup>	36.2	36.6	36.4	38.8	42.1	40.5	42.4	41.6
Zimbabwe	11.1	8.3	7.4	7.8	7.8	7.8	6.6	7.5
Americas	349.5	386.9	391.5	398.8	393.7	424.8	446.8	491.9
Brazil <sup>c</sup>	32.5	35.6	34.2	36.8	37.8	37.8	36.0	40.0
Canada	186.2	190.7	194.1	189.3	162.8	186.5	198.4	233.5
Colombia	39.3	58.9	53.0	58.5	70.8	75.1	89.0	94.1
Cuba	67.0	71.4	76.5	75.2	78.0	78.0	77.4	78.0
Dominican Republic <sup>c</sup>	24.5	27.8	22.3	23.5	27.2	30.0	29.0	29.7
United States	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Venezuela	0.0	2.5	11.4	15.5	17.0	17.5	17.0	16.6
Asia	151.6	173.1	176.7	200.3	226.4	222.7	233.1	279.0
China	50.1	51.0	51.5	54.6	60.6	63.0	59.8	68.9
Indonesia	89.1	98.2	102.1	121.6	143.9	142.7	150.0	150.0
Kazakhstan	0.0	3.6	0.0	0.0	0.0	0.0	1.2	1.2
Philippines	12.4	20.2	23.1	24.1	22.0	17.0	22.2	58.9
Europe	254.7	260.2	265.8	267.5	270.7	300.8	328.9	336.2
Finland	0.7	3.3	2.7	2.5	3.4	3.4	3.4	3.0
Greece <sup>c</sup>	16.1	19.5	20.8	22.7	21.4	21.7	23.2	21.7
Macedonia <sup>d</sup>	0.0	0.0	3.0	5.2	5.5	5.3	7.8	10.9
Norway	2.9	2.3	2.8	2.1	0.3	0.4	0.3	0.4
Russian Federation	235.0	235.0	235.0	235.0	240.0	264.0	280.0	277.4
Serbia	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Ukraine	0.0	0.0	1.5	0.0	0.0	6.0	6.0	12.0
Oceania	293.5	286.8	313.1	288.1	303.2	305.0	300.8	288.0
Australia	183.4	169.2	195.5	188.2	191.2	186.8	188.9	185.0
New Caledonia (Fr)	110.1	117.6	117.6	99.9	112.0	118.3	112.0	103.0
World total	1 057.9	1 177.3	1 224.5	1 248.2	1 263.8	1 326.7	1 387.6	1 474.0

<sup>a</sup> Nickel content of all ores and concentrates. <sup>b</sup> Includes Bophuthatswana production. <sup>c</sup> Figures refer to nickel content of ferronickel. <sup>d</sup> Former Yugoslavian Republic of Macedonia.

Sources: International Nickel Study Group, *World Nickel Statistics*, Lisbon, Portugal; World Bureau of Metal Statistics, *World Metal Statistics*, London; ABARE.

## 308 World primary refined nickel consumption, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Africa	33.2	32.2	31.2	35.9	45.5	45.5	32.0	42.0
South Africa	32.0	31.0	30.0	34.7	44.0	44.0	30.5	40.5
Other	1.2	1.2	1.2	1.2	1.5	1.5	1.5	1.5
Americas	193.2	192.4	170.7	159.7	159.0	164.6	170.9	183.9
Brazil	19.6	21.7	21.1	23.6	25.3	23.3	22.9	24.6
Canada	15.0	15.0	14.8	10.5	10.0	8.0	7.3	9.0
Mexico	3.2	2.2	2.0	1.6	2.0	2.2	2.4	2.7
United States	152.0	150.0	129.1	120.6	117.6	128.6	135.4	144.8
Other	3.1	3.2	3.2	2.9	4.1	2.5	2.9	2.8
Asia	429.6	463.9	441.5	501.2	550.4	579.6	590.6	677.7
China	46.5	62.0	83.0	93.6	125.0	150.0	190.0	255.0
Chinese Taipei	89.0	90.0	81.0	91.0	90.9	85.0	74.0	88.0
Hong Kong, China	1.8	1.3	4.5	4.7	5.5	5.8	5.8	5.0
India	19.2	22.5	25.0	25.5	26.0	27.4	29.9	33.0
Japan	182.7	200.1	161.5	191.2	192.8	192.5	172.9	183.2
Korea, Rep. of	80.7	78.0	75.4	83.2	98.0	103.2	100.0	93.0
Thailand	2.1	2.0	2.2	2.2	2.0	2.4	2.6	2.6
Turkey	2.4	2.2	1.9	1.8	2.0	2.4	3.3	3.2
Other	5.2	5.8	7.0	8.0	8.2	10.9	12.1	14.7
Europe	423.5	432.0	458.3	476.0	461.0	454.3	449.2	488.1
Austria	3.3	4.2	5.6	4.8	5.0	5.5	6.5	7.0
Belgium-Luxembourg	28.0	28.5	28.2	32.5	39.0	40.7	44.5	54.0
Czech Republic	1.6	2.3	2.4	2.0	2.0	2.3	1.8	2.0
Finland	40.8	43.3	38.6	40.6	52.0	53.0	50.0	55.0
France	52.3	49.8	51.0	55.3	43.6	34.0	30.5	32.7
Germany	101.2	103.5	110.2	106.6	99.7	99.6	99.7	105.5
Italy	55.0	52.6	57.0	66.0	64.9	61.9	60.0	68.0
Norway	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Poland	2.5	2.3	2.4	2.4	2.0	1.9	1.8	2.1
Russian Federation	17.0	21.0	28.0	27.0	25.6	26.0	26.0	27.0
Spain	37.8	37.8	43.8	47.0	47.0	45.0	45.0	51.0
Sweden	34.6	36.8	36.6	37.9	34.8	36.0	34.5	38.0
Switzerland	1.1	0.5	0.5	0.5	0.7	0.7	0.7	0.7
Ukraine	3.6	4.5	4.8	4.8	4.5	4.1	4.6	5.5
United Kingdom	29.2	32.4	37.5	34.4	28.6	33.3	32.8	30.0
Other	13.9	10.9	10.0	12.5	10.2	8.5	9.1	7.9
Oceania	2.1	2.0	2.0	2.0	2.7	2.0	2.0	2.9
Australia	1.6	1.6	1.6	1.6	2.3	1.6	1.6	2.5
New Zealand	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4
World total	1 081.6	1 123.5	1 103.7	1 174.8	1 218.6	1 245.9	1 247.8	1 395.8

<sup>a</sup> Metal content. The consumption of primary unwrought nickel including refined nickel and nickel contained in other smelter/refinery products.

Sources: International Nickel Study Group, *World Nickel Statistics*, Lisbon, Portugal; World Bureau of Metal Statistics, *World Metal Statistics*, London; ABARE.

309 Summary of Australian statistics for primary petroleum <sup>a</sup>

	Production of crude oil condensate and LPG	Exports of crude oil and other refinery feedstocks <sup>b</sup>	Exports of liquefied petroleum gas	Imports of crude oil and other refinery feedstocks	Production of natural gas and ethane <sup>c</sup>	Exports of liquefied natural gas <sup>ds</sup>
	ML	ML	ML	ML	Gm <sup>3</sup>	Mt
1965-66	504	na	na	19 965	0.00	0
1966-67	645	na	na	22 543	0.00	0
1967-68	1 902	na	na	23 013	0.01	0
1968-69	2 236	na	na	23 897	0.06	0
1969-70	4 919	na	na	23 176	0.78	0
1970-71	15 688	241	661	13 913	1.96	0
1971-72	20 266	1 090	1 193	11 174	2.63	0
1972-73	22 464	330	1 672	10 004	3.74	0
1973-74	25 223	305	1 984	10 469	4.45	0
1974-75	25 306	234	2 000	10 171	4.88	0
1975-76	26 059	243	1 950	9 702	5.45	0
1976-77	27 128	206	2 253	10 116	6.50	0
1977-78	28 287	221	2 855	11 214	7.18	0
1978-79	28 067	371	3 031	10 407	8.01	0
1979-80	26 823	127	2 764	11 263	9.24	0
1980-81	26 077	86	2 569	11 450	10.66	0
1981-82	25 419	44	2 622	12 460	11.80	0
1982-83	24 978	61	2 334	11 780	11.92	0
1983-84	29 960	1 056	2 851	8 553	12.49	0
1984-85	34 820	5 819	2 620	7 294	13.37	0
1985-86	35 750	5 051	2 977	6 186	14.69	0
1986-87	35 431	5 702	2 675	7 724	15.08	0
1987-88	35 187	6 453	2 402	9 577	15.68	0
1988-89	32 080	4 789	2 177	12 058	16.15	0
1989-90	36 003	7 202	1 983	11 603	20.27	2.01
1990-91	35 755	8 830	1 507	13 389	21.23	3.40
1991-92	35 171	8 967	1 568	15 332	23.49	4.66
1992-93	34 776	10 098	1 483	19 421	24.61	4.98
1993-94	32 960	9 538	1 290	20 296	26.76	6.03
1994-95	35 158	11 445	1 189	20 639	29.47	7.02
1995-96	34 365	10 899	1 469	23 703	30.24	7.48
1996-97	35 302	12 401	2 421	24 768	30.66	7.49
1997-98	38 862	14 785	2 824	25 017	31.92	7.65
1998-99	32 265	14 291	2 486	29 729	32.78	7.82
1999-00	42 279	20 877	2 857	26 936	34.04	7.92
2000-01	44 398	24 044	2 785	26 489	34.82	7.53
2001-02	42 467 <sup>s</sup>	23 936	3 211	27 308	36.20	7.60
2002-03	39 704 <sup>s</sup>	20 950	3 194	27 958	37.22	7.83
2003-04	35 352 <sup>s</sup>	17 526	2 916	23 498	37.41	7.91
2004-05	31 939 <sup>s</sup>	15 731	2 844	26 054	41.68	10.59
2005-06	29 037 <sup>s</sup>	13 026	2 800	24 416	42.63	12.50
2006-07	33 105 <sup>s</sup>	15 963	2 824	25 341	44.10	15.20

<sup>a</sup> Export volumes for primary petroleum up to June 1977 are direct from ABS overseas trade reports. As a result of changes in ABS classifications from July 1977, other statistics are taken from Department of Resources and Energy and ABARE publications. <sup>b</sup> Before 1983 exports were principally semiprocessed and re-export feedstocks. <sup>c</sup> Includes ethane, methane and noncommercial natural gas. <sup>d</sup> 1 million tonnes (Mt) of LNG is

approximately equal to 1.31 billion cubic metres (Gm<sup>3</sup>) of gas; production began in 1989-90. <sup>s</sup> ABARE estimate. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Overseas Trade, Part 1 - Exports and Imports*, cat. no. 5409.0, Canberra; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.

# 310 Summary of Australian statistics for refined petroleum products <sup>a</sup>

	Production ML	Domestic	Imports		Exports <sup>c</sup>		Bunkers <sup>d</sup> \$m
		consumption <sup>b</sup> ML	Volume ML	Value \$m	Volume ML	Value \$m	
1963-64	17 514	17 479	2 066	na	2 285	na	na
1964-65	18 821	19 268	2 013	na	1 459	na	na
1965-66	20 353	20 953	1 899	na	1 099	na	na
1966-67	23 110	22 734	1 227	na	1 365	na	na
1967-68	25 229	24 837	1 123	na	1 374	na	na
1968-69	26 651	27 423	1 741	na	970	na	na
1969-70	27 884	29 317	2 860	na	1 440	na	na
1970-71	28 846	30 355	3 256	63	1 740	23	43
1971-72	29 524	31 754	3 978	78	2 321	46	44
1972-73	30 575	32 518	4 126	75	1 846	42	42
1973-74	33 853	36 587	4 422	133	2 488	96	70
1974-75	34 066	36 637	4 083	247	1 954	146	136
1975-76	34 106	36 991	4 009	290	2 192	144	137
1976-77	35 744	39 042	4 193	347	1 904	190	190
1977-78	36 992	39 813	4 104	360	1 956	224	na
1978-79	36 671	38 921	4 215	450	2 344	306	na
1979-80	36 654	39 315	4 540	710	1 882	427	na
1980-81	35 292	37 937	3 748	770	1 990	577	na
1981-82	35 877	37 676	2 939	629	1 955	539	na
1982-83	34 692	35 511	2 666	608	2 427	707	438
1983-84	35 586	36 929	2 526	559	2 925	803	394
1984-85	35 924	37 204	2 823	683	2 207	641	460
1985-86	35 171	36 260	2 761	712	2 383	673	437
1986-87	34 826	37 713	4 078	732	2 270	459	338
1987-88	37 579	39 395	3 319	629	2 738	563	406
1988-89	38 210	41 173	3 342	664	2 769	520	371
1989-90	39 424	41 678	3 621	930	2 422	520	416
1990-91	40 487	41 468	1 819	727	2 952	787	631
1991-92	41 440	41 804	2 146	455	3 819	769	522
1992-93	42 933	43 349	3 940	634	3 711	830	568
1993-94	43 104	44 561	3 057	606	3 507	747	512
1994-95	44 421	46 746	3 479	676	3 289	719	511
1995-96	46 343	48 193	3 522	765	4 101	933	586
1996-97	46 872	47 829	4 286	955	5 041	1 147	547
1997-98	47 400	48 395	3 263	766	4 941	1 097	505
1998-99	47 030	48 973	4 129	868	4 236	866	397
1999-00	47 630	50 450	4 632	1 375	4 116	1 202	666
2000-01	47 690	50 010	4 746	1 845	4 564	1 844	899
2001-02	46 677	51 260	4 655	1 625	3 415	1 234	760
2002-03	46 723	51 906	5 497	2 050	3 159	1 198	775
2003-04	43 486	52 906	10 542	3 595	2 488	918	696
2004-05	44 555	54 017	11 188	5 123	1 864	844	951
2005-06	40 679	55 151	15 124	8 761	2 102	1 195	1 322
2006-07	43 652	na	18 268	8 584	1 762	1 098	1 295

<sup>a</sup> Export and import values up to June 1977 are direct from ABS overseas trade reports. As a result of changes in ABS classifications from July 1977, other statistics are taken from Department of Industry, Tourism and Resources and ABARE publications, with ABARE estimates of import values used from 1977-78 to 1980-81. <sup>b</sup> Includes fuels not marketed commercially and domestic sales of all ships and aircraft stores. <sup>c</sup> Excludes LPG. <sup>d</sup> Ships' and aircraft stores. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Overseas Trade, Part 1 - Exports and Imports*, cat. no. 5409.0, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; DITR, *Australian Petroleum Statistics* [previously *Major Energy Statistics*].

## 311 Australian production of primary petroleum

	Crude oil	Condensate <sup>b</sup>	Crude oil and condensate	Liquefied petroleum gas	Natural gas <sup>c</sup>	Ethane
	ML <sup>a</sup>	ML	ML	ML	Gm <sup>3</sup>	Gm <sup>3</sup>
1967-68	1 902	na	1 902	na	0.01	0.00
1968-69	2 236	na	2 236	na	0.06	0.00
1969-70	4 882	na	4 882	37	0.78	0.00
1970-71	14 936	na	14 936	752	1.96	0.00
1971-72	19 038	na	19 038	1 228	2.63	0.00
1972-73	20 668	na	20 668	1 796	3.71	0.03
1973-74	23 193	na	23 193	2 030	4.40	0.05
1974-75	23 134	na	23 134	2 172	4.82	0.06
1975-76	23 827	na	23 827	2 232	5.38	0.07
1976-77	24 598	na	24 598	2 530	6.40	0.10
1977-78	25 369	na	25 369	2 918	7.05	0.13
1978-79	24 896	na	24 896	3 171	7.86	0.14
1979-80	23 711	na	23 711	3 112	9.09	0.15
1980-81	23 093	na	23 093	2 984	10.52	0.14
1981-82	22 386	na	22 386	3 033	11.65	0.15
1982-83	21 085	984	22 069	2 909	11.75	0.17
1983-84	25 732	1 096	26 828	3 132	12.31	0.18
1984-85	29 241	1 715	30 956	3 864	13.17	0.20
1985-86	29 782	1 952	31 734	4 016	14.50	0.20
1986-87	29 457	2 047	31 504	3 927	14.90	0.18
1987-88	28 551	2 713	31 264	3 923	15.48	0.20
1988-89	25 574	2 681	28 255	3 825	15.96	0.19
1989-90	28 744	3 250	31 994	4 009	20.08	0.19
1990-91	28 661	3 294	31 955	3 800	21.05	0.18
1991-92	27 780	3 529	31 309	3 862	23.30	0.19
1992-93	27 037	3 666	30 703	4 073	24.42	0.19
1993-94	25 216	3 730	28 945	4 015	26.57	0.19
1994-95	26 795	4 395	31 190	3 969	29.26	0.20
1995-96	24 058	6 193	30 251	4 113	30.04	0.20
1996-97	24 164	6 885	31 049	4 253	30.23	0.43
1997-98	25 779	8 183	33 961	4 901	31.35	0.57
1998-99	19 937	7 960	27 897	4 368	32.22	0.56
1999-00	29 594	7 861	37 447	4 832	33.43	0.61
2000-01	32 671	7 169	39 839	4 558	34.34	0.48
2001-02	29 945 <b>s</b>	7 875 <b>s</b>	37 820 <b>s</b>	4 647	35.80	0.41
2002-03	26 492 <b>s</b>	8 532 <b>s</b>	35 023 <b>s</b>	4 681	36.81	0.41
2003-04	23 198 <b>s</b>	7 515 <b>s</b>	30 713 <b>s</b>	4 639	37.03	0.38
2004-05	20 259 <b>s</b>	7 052 <b>s</b>	27 311 <b>s</b>	4 628	41.27	0.41
2005-06	17 246 <b>s</b>	7 069 <b>s</b>	24 315 <b>s</b>	4 722	42.18	0.46
2006-07	21 151 <b>s</b>	7 404 <b>s</b>	28 555 <b>s</b>	4 550	43.63	0.47

**a** 58 030 million litres equals 1 million barrels a day. **b** Before 1982-83, condensate production is included in crude oil. **c** Includes noncommercial natural gas and methane from other than natural gas fields. **s** ABARE estimate. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; Bureau of Resource Economics, *Australian Energy Projections, Australia: 1961-62 to 1998-99*, AGPS, Canberra; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.



## 312 Australian production of refined petroleum products

	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	ML	ML	ML	ML	ML	ML	ML	ML	ML
Automotive gasoline	18 705	18 652	17 886	17 999	17 984	17 375	17 913	16 528	17 732
Automotive diesel oil	12 968	12 737	13 212	13 064	13 335	12 544	12 822	10 154	11 055
Aviation turbine fuel	5 218	5 539	5 837	5 390	5 149	4 964	5 325	5 216	5 332
Fuel oil	1 634	1 839	1 951	1 684	1 441	1 105	1 092	1 048	942
Liquefied petroleum gas <sup>a</sup>	1 691	1 674	1 795	1 718	1 657	1 062	995	1 125	1 387
Industrial and marine diesel fuel	32	60	98	105	117	84	22	31	21
Bitumen	695	719	693	725	751	678	1 091	831	1 356
Lubricants	680	649	641	564	521	259	202	163	146
Aviation gasoline	174	158	137	147	134	114	144	119	119
Heating oil	167	217	194	192	195	118	106	102	86
Other <sup>a</sup>	5 065	5 387	5 245	5 088	5 439	5 183	4 844	5 363	5 475
Total products	47 030	47 630	47 690	46 677	46 723	43 486	44 555	40 679	43 652

<sup>a</sup> Includes byproducts of petrochemical and downstream processing.

Sources: ABARE, *Australian Energy Projections 1961-62 to 1998-99*, Canberra; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.

## 313 Australian consumption of petroleum

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Crude oil and other refinery feedstock</b>									
Stock	days <sup>a</sup>	23	24	29	26	26	23	23	23
Refinery input	ML	44 500	44 708	42 911	44 548	39 949	40 334	36 895	39 453
<b>Refined products</b>									
Automotive gasoline	ML	18 477	18 168	18 669	18 872	19 962	19 876	19 048	19 251
Automotive diesel oil	ML	13 245	12 952	13 441	13 888	14 462	15 185	15 804	17 028
Aviation turbine fuel	ML	5 023	5 319	4 603	4 250	4 329	4 730	5 359	5 837
Fuel oil	ML	2 200	1 705	1 777	1 423	1 466	1 595	1 586	1 513
Liquefied petroleum gas	ML	4 650	4 746	4 009	4 327	4 253	3 862	4 643	na
Industrial and marine diesel fuel	ML	18	22	46	18	17	15	19	15
Bitumen	ML	781	716	755	671	742	812	805	808
Lubricants	ML	526	532	555	569	618	470	451	421
Aviation gasoline	ML	103	101	97	90	90	91	86	90
Heating oil	ML	81	63	50	48	46	34	25	15
Other <sup>b</sup>	ML	5 429	4 284	5 132 <sup>s</sup>	5 333 <sup>s</sup>	5 835 <sup>s</sup>	7 098 <sup>s</sup>	7 257 <sup>s</sup>	na
Total products	ML	50 533	48 608	49 134	49 489	51 819	53 767	55 083	na

<sup>a</sup> Days of forward consumption. <sup>b</sup> Includes petrochemical and noncommercial use of all products plus refinery fuel, but petroleum products produced from the conversion of other petroleum products have been netted off. <sup>s</sup> ABARE estimate. **na** Not available.

Sources: ABARE; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.

## 314 Australian production of primary petroleum, by basin

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	ML	ML	ML	ML	ML	ML	ML	ML
<b>Crude oil</b>								
Adavale	0	0	0	2	0	0	0	0
Amadeus	91	80	72	59	136	132 s	53 s	53
Bonaparte	6 177	9 602	5 987 s	4 806 s	3 037 s	1 868 s	1 403 s	1 470
Bowen-Surat	35	45	39	27	28	24	23	21
Canning	5	6	4	4	3	2	2	2
Carnarvon								
Barrow Island	683	646	580	547	502	448	390	390
North West Shelf	5 495	7 055	9 315	8 842 s	8 564 s	7 859 s	4 524 s	5 850 s
Other	5 191	5 739	4 855	4 284	3 688	3 831 s	5 854 s	7 044 s
Cooper-Eromanga								
Queensland	512	499	432 s	450	387	529	432 s	791
South Australia	422	439	490	413	445	401	488	1 116
Gippsland	10 987	8 560	8 164 s	6 937 s	6 019 s	4 647 s	3 681 s	3 598
Otway	0	0	0	0	0	0	0	0
Perth	6	1	5	119	387	517 s	395 s	816
Total	29 604	32 671	29 945 s	26 492 s	23 198 s	20 259 s	17 246 s	21 151 s
<b>Condensate</b>								
Adavale	0	0	0	1	0	0	0	0
Amadeus	0	0	0	0	0	0	0	0
Bonaparte	0	0	0	0	46	307 s	394 s	394 s
Bowen-Surat	18	18	13	12	15	23	20	21
Canning	0	0	0	0	0	0	0	0
Carnarvon								
Barrow Island	300	365	366	349	203	120	0	8
North West Shelf	6 038	5 199	5 869	6 686 s	5 840 s	5 041 s	5 265 s	5 692 s
Other	205	118	110	101	142	250	202	134
Cooper-Eromanga								
Queensland	198	151	216 s	239 s	242	270	205	167
South Australia	447	467	378	349	176	221	208	239
Gippsland	652	832	898 s	769 s	836 s	813 s	770 s	744
Otway	2	17	23 s	23 s	13 s	7 s	3	2
Perth	2	2	1	2	1	1	2	3
Total	7 861	7 169	7 875 s	8 532 s	7 515 s	7 052 s	7 069 s	7 404 s
<b>Liquefied petroleum gas</b>								
Adavale	0	0	0	0	0	0	0	0
Amadeus	0	0	0	0	0	0	0	0
Bonaparte	0	0	0	0	0	0	0	0
Bowen-Surat	20	22	18	18	20	24	23	24
Canning	0	0	0	0	0	0	0	0
Carnarvon								
Barrow Island	0	0	0	0	0	0	0	0
North West Shelf	1 564	1 493	2 028	1 911	1 817	1 963	2 160	2 067
Other	0	0	0	0	0	0	0	0
Cooper-Eromanga								
Queensland	0	0	0	0	0	0	0	0
South Australia	895	816	768	783	827	663	597	551
Gippsland	1 889	1 725	1 799	1 970	1 976	1 977	1 942	1 908
Otway	0	0	0	0	0	0	0	0
Perth	0	0	0	0	0	0	0	0
Total	4 368	4 056	4 612	4 682	4 639	4 628	4 722	4 550

Continued

314 Australian production of primary petroleum, by basin *continued*

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	GL	GL	GL	GL	GL	GL	GL	GL
<b>Naturally occurring ethane and natural gas <sup>a</sup></b>								
Adavale	21	19	15	9	8	10	12	8
Amadeus	476	459	471	452	424	479	494	509
Bonaparte	0	0	0	0	0	0	0	0
Bowen-Surat	713	614	518	641	613	696	641	554
Canning	0	0	0	0	0	0	0	0
Carnarvon								
Barrow Island	942	929	452	1 116	1 023	545	1 172	1 937
North West Shelf	16 357	16 042	16 561	17 753	17 827	21 437	22 947	23 803
Other	1 027	1 384	1 359	1 113	1 533	2 364	1 430	1 145
Cooper-Eromanga								
Queensland	0	0	0	0	19	0	0	0
South Australia	6 456	5 764	6 308	5 753	4 288	4 149	4 004	3 791
Gippsland	5 329	6 304	6 355	6 432	7 487	7 477	7 274	7 748
Otway	209	203	316	100	260	281	161	77
Perth	263	286	188	197	178	236	338	313
Total	31 792	32 004	32 543	33 568	33 659	37 674	38 473	39 885

<sup>a</sup> Does not include methane or ethane produced from other than natural gas fields or non commercial production. <sup>s</sup> ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.

petroleum

315 Volume of Australian trade in petroleum

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Exports</b>									
Automotive gasoline	ML	1 371	1 288	1 186	1 058	774	774	714	771
Diesel fuel	ML	1 070	1 276	948	1 052	872	367	419	288
Aviation turbine fuel	ML	579	755	549	645	528	240	127	120
Fuel oil	ML	585	724	293	95	81	201	490	209
Aviation gasoline	ML	79	28	71	52	36	38	85	81
Kerosene	ML	10	10	2	0	0	0	0	0
Lubricants	ML	258	278	163	163	122	156	179	231
Other	ML	164	203	203	94	74	88	89	62
Total refined products	ML	4 116	4 564	3 415	3 159	2 488	1 864	2 102	1 762
Liquefied petroleum gas <b>a</b>	ML	2 857	2 785	3 211	3 194	2 916	2 844	2 800	2 824
Bunkers <b>b</b>	ML	2 315	2 291	2 267	2 238	2 216	2 207	2 163	2 156
Crude oil and other refinery feedstock	ML	20 877	24 044	23 936	20 950	17 526	15 731	13 026	15 963
Liquefied natural gas <b>cs</b>	MT	7.923	7.530	7.600	7.826	7.914	10.589	12.495	15.200
<b>Imports</b>									
Automotive gasoline	ML	1 065	1 189	1 436	1 673	3 242	3 131	3 687	2 914
Diesel fuel	ML	1 400	1 129	1 280	1 627	3 374	3 944	6 122	5 419
Aviation turbine fuel	ML	171	387	225	429	681	983	817	1 045
Fuel oil	ML	799	814	557	611	1 285	1 281	1 418	1 363
Lubricants	ML	82	33	57	216	195	327	370	365
Liquefied petroleum gas	ML	519	633	588	299	785	540	599	748
Other	ML	597	561	511	643	979	981	2 111	6 414
Total refined products	ML	4 632	4 746	4 655	5 497	10 542	11 188	15 124	18 268
Crude oil and other refinery feedstock	ML	26 936	26 489	27 308	27 958	23 498	26 054	24 416	25 341

**a** Mostly naturally occurring. **b** Ship and aircraft stores. **c** 1 tonne of LNG is approximately equal to 2174 litres of LNG. **s** ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.

## 316 Value of Australian trade in petroleum

	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>Exports</b>								
Automotive gasoline	366	500	389	367	280	339	419	468
Diesel fuel	268	498	308	366	292	166	238	188
Aviation turbine fuel	169	301	184	228	172	108	80	74
Fuel oil	116	183	70	29	21	51	215	84
Aviation gasoline	34	17	33	29	20	26	54	69
Kerosene	2	5	1	0	0	0	0	0
Lubricants	184	238	164	141	100	112	139	157
Other products	64	103	85	39	33	41	52	57
Total refined products	1 202	1 844	1 234	1 198	918	844	1 195	1 098
Liquefied petroleum gas	648	830	721	855	647	804	1 002	1 038
Bunkers <sup>a</sup>	666	899	760	775	696	951	1 322	1 295
Crude oil and other refinery feedstock	5 292	8 137	6 390	6 402	5 055	6 330	6 638	8 318
Liquefied natural gas	1 949	2 671	2 613	2 607	2 174	3 199	4 416	5 222
<b>Imports</b>								
Automotive gasoline	321	432	448	569	1 168	1 463	2 342	1 873
Diesel fuel	377	438	414	561	1 134	1 933	4 071	3 465
Aviation turbine fuel	48	154	68	146	220	483	527	668
Fuel oil	150	222	143	180	313	364	569	536
Lubricants	111	60	126	190	206	288	418	495
Liquefied petroleum gas	108	160	116	76	166	143	198	261
Other products	262	380	310	328	388	448	637	1 285
Total refined products	1 375	1 845	1 625	2 050	3 595	5 123	8 761	8 584
Crude oil and other refinery feedstock	6 313	8 753	7 458	8 610	6 594	9 995	12 820	13 361

<sup>a</sup> Ships and aircraft stores.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra.

317 Australian exports of petroleum, by destination <sup>a</sup>

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Quantity</b>									
<b>Crude oil and other refinery feedstock</b>									
China	ML	1 675	912	1 160	1 699	2 389	732	404	518
Chinese Taipei	ML	2 561	3 712	1 920	580	125	916	346	446
Japan	ML	3 528	4 068	3 168	3 402	2 079	1 927	2 201	1 957
Korea, Rep. of	ML	4 338	4 358	5 521	4 012	3 778	2 787	2 725	3 873
New Zealand	ML	556	613	1 426	784	722	1 425	465	1 045
Singapore	ML	3 831	6 079	6 215	6 567	3 948	2 861	3 110	3 751
United States	ML	3 462	2 962	2 674	2 944	1 808	1 154	297	190
Other	ML	927	1 339	1 851	962	2 677	3 929	3 478	4 183
Total	ML	20 877	24 044	23 936	20 950	17 526	15 731	13 026	15 963
<b>Liquefied petroleum gas</b>									
China	ML	606	416	441	154	696	598	393	308
Japan	ML	1 841	2 241	2 575	2 783	2 109	2 081	2 142	1 821
Korea, Rep. of	ML	188	61	127	234	0	81	0	384
Other	ML	222	67	68	23	111	84	264	311
Total <b>b</b>	ML	2 857	2 785	3 211	3 194	2 916	2 844	2 800	2 824
<b>Refined products</b>									
Fiji	ML	624	748	473	384	122	7	62	4
Japan	ML	67	18	71	26	29	53	74	84
New Zealand	ML	1 245	1 086	1 247	1 250	828	1 113	716	872
Singapore	ML	561	697	367	246	127	471	771	576
Other Pacific	ML	1 296	1 564	921	861	776	156	274	131
United States	ML	254	328	153	99	123	0	37	6
Other	ML	70	123	184	292	482	63	168	90
Total	ML	4 116	4 564	3 415	3 159	2 488	1 864	2 102	1 762
<b>Value <sup>c</sup></b>									
<b>Crude oil and other refinery feedstock</b>									
China	\$m	431	317	316	528	671	309	219	266
Chinese Taipei	\$m	629	1 284	508	179	33	372	172	237
Japan	\$m	899	1 394	854	1 058	582	782	1 111	1 033
Korea, Rep. of	\$m	1 117	1 486	1 490	1 217	1 057	1 091	1 366	1 968
New Zealand	\$m	142	213	406	256	238	602	256	583
Singapore	\$m	943	1 973	1 597	1 956	1 118	1 080	1 481	1 865
United States	\$m	892	1 012	693	883	527	473	149	100
Other	\$m	239	458	525	324	828	1 620	1 884	2 266
Total	\$m	5 292	8 137	6 390	6 402	5 055	6 330	6 638	8 318
<b>Liquefied petroleum gas</b>									
China	\$m	131	125	96	36	159	169	129	107
Japan	\$m	432	667	580	755	466	595	766	668
Korea, Rep. of	\$m	42	19	30	59	0	18	0	150
Other	\$m	43	19	15	6	22	21	107	113
Total <b>b</b>	\$m	648	830	721	855	647	804	1 002	1 038
<b>Refined products</b>									
Fiji	\$m	165	293	161	140	43	8	43	5
Japan	\$m	23	9	25	14	13	22	40	43
New Zealand	\$m	379	461	437	460	310	516	463	557
Singapore	\$m	117	201	112	95	41	170	375	311
Other Pacific	\$m	414	669	367	349	294	103	177	119
United States	\$m	72	143	56	39	47	0	20	3
Other	\$m	31	67	76	101	170	24	78	60
Total	\$m	1 202	1 844	1 234	1 198	918	844	1 195	1 098

<sup>a</sup> Does not include LNG exports or ships and aircraft stores. <sup>b</sup> Includes confidential exports. <sup>c</sup> Actual values are used and aggregated for each category.

Sources: DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra: ABARE.

## 318 Australian imports of petroleum, by source

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Quantity</b>									
<b>Crude oil and other refinery feedstock</b>									
Indonesia	ML	4 176	3 788	6 795	5 380	4 012	3 328	3 929	3 391
Malaysia	ML	2 811	2 249	2 290	2 299	4 073	4 761	3 976	3 716
New Zealand	ML	1 251	1 104	1 089	990	708	663	638	636
Other Middle East	ML	985	453	42	334	42	158	199	118
Papua New Guinea	ML	3 549	2 772	2 208	1 683	1 189	1 717	2 386	2 059
Qatar	ML	470	439	646	191	0	77	0	106
Saudi Arabia	ML	3 294	4 016	3 004	3 680	1 517	3 101	1 602	1 147
Singapore	ML	61	287	554	719	596	652	829	846
United Arab Emirates	ML	1 642	3 170	2 305	2 294	2 207	1 917	863	2 971
Viet Nam	ML	6 157	6 282	5 652	6 699	5 778	6 560	6 708	6 710
Other	ML	2 538	1 930	2 724	3 690	3 375	3 122	3 286	3 643
Total	ML	26 936	26 489	27 308	27 958	23 498	26 054	24 416	25 341
<b>Refined products</b>									
Indonesia	ML	41	121	80	57	281	162	98	17
Korea, Rep. of	ML	406	144	289	144	280	237	961	818
Malaysia	ML	69	8	27	45	97	93	220	8
Middle East	ML	555	846	474	140	1 036	588	691	642
New Zealand	ML	83	20	42	17	3	4	84	96
Singapore	ML	1 730	1 692	2 110	2 832	5 904	7 395	8 452	7 667
United States	ML	379	401	462	407	434	423	456	378
Other <sup>a</sup>	ML	1 368	1 549	1 171	1 855	3 370	2 334	4 163	8 643
Total	ML	4 632	4 781	4 655	5 497	11 405	11 236	15 125	18 268
<b>Value</b>									
<b>Crude oil and other refinery feedstock</b>									
Indonesia	\$m	942	1 295	1 846	1 671	1 141	1 335	2 108	1 778
Malaysia	\$m	666	770	647	735	1 199	1 924	2 180	2 033
New Zealand	\$m	307	379	309	316	212	275	349	350
Other Middle East	\$m	227	138	12	101	12	59	103	55
Papua New Guinea	\$m	867	974	601	527	347	711	1 283	1 113
Qatar	\$m	90	141	191	58	0	24	0	46
Saudi Arabia	\$m	751	1 201	758	1 074	408	1 114	775	535
Singapore	\$m	13	98	149	225	152	202	368	384
United Arab Emirates	\$m	363	1 041	674	664	584	659	446	1 551
Viet Nam	\$m	1 454	2 115	1 528	2 095	1 584	2 517	3 493	3 585
Other	\$m	633	601	743	1 145	955	1 173	1 714	1 929
Total	\$m	6 313	8 753	7 458	8 610	6 594	9 995	12 820	13 361
<b>Refined products</b>									
Indonesia	\$m	11	41	23	17	92	75	59	6
Korea, Rep. of	\$m	121	67	101	56	108	126	642	541
Malaysia	\$m	18	4	11	18	36	49	134	10
Middle East	\$m	112	243	94	39	260	165	260	224
New Zealand	\$m	19	9	12	6	3	4	37	47
Singapore	\$m	481	660	684	1 000	2 061	3 532	5 534	4 961
United States	\$m	240	287	321	277	236	250	299	285
Other <sup>a</sup>	\$m	374	534	379	637	799	922	1 796	2 509
Total	\$m	1 375	1 845	1 625	2 050	3 595	5 123	8 761	8 584

<sup>a</sup> Includes confidential imports of refined products. <sup>s</sup> ABARE estimate.

Sources: DITR, *Australian Petroleum Statistics* (previously *Major Energy Statistics*), Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABARE.

319 World crude oil supply and demand <sup>a</sup>

	Unit	1999	2000	2001	2002	2003	2004	2005	2006
<b>Supply</b>									
OPEC <sup>b</sup>	mbd	29.3	30.7	30.2	28.6	30.7	32.8	34.2	34.4
Non-OPEC									
Asia Pacific	mbd	3.0	3.2	3.2	3.1	3.3	3.3	3.3	3.3
China	mbd	3.2	3.2	3.3	3.4	3.4	3.5	3.6	3.7
Europe	mbd	8.3	8.4	8.4	8.5	8.3	8.3	7.9	7.7
Mexico	mbd	3.4	3.5	3.6	3.6	3.8	3.8	3.8	3.7
Middle East Africa	mbd	4.7	4.8	4.9	5.1	5.0	5.3	5.6	5.7
North America	mbd	10.7	10.8	10.9	11.0	10.8	10.8	10.4	10.6
Russian Federation	mbd	6.2	6.5	7.0	7.7	8.5	9.2	9.5	9.7
South America	mbd	3.8	3.8	3.8	3.9	4.0	4.1	4.3	4.4
Total <sup>c</sup>	mbd	74.2	76.7	76.9	76.6	79.7	83.0	84.5	85.2
<b>Demand</b>									
Africa	mbd	2.4	2.4	2.5	2.7	2.7	2.8	2.9	2.9
China	mbd	4.5	4.8	4.7	5.0	5.6	6.4	6.7	7.2
Japan and Korea, Rep. of	mbd	7.6	7.6	7.5	7.6	7.8	7.5	7.5	7.4
Latin America	mbd	6.8	6.9	6.9	6.8	6.6	7.0	7.2	7.3
Middle East	mbd	4.5	4.7	4.9	5.4	5.4	5.8	6.0	6.3
North America	mbd	21.9	22.1	21.9	22.2	22.6	23.4	23.4	22.9
Russian Federation	mbd	2.4	2.4	2.5	2.5	2.5	2.6	2.6	2.7
Western Europe <sup>d</sup>	mbd	8.5	8.4	8.4	8.3	8.3	8.3	8.2	8.2
Other Asia Pacific	mbd	8.0	8.3	8.4	8.9	9.1	9.7	9.9	10.1
Other Europe	mbd	8.9	8.6	9.1	8.7	8.7	8.9	9.2	9.4
Total	mbd	75.4	76.2	76.8	78.0	79.3	82.4	83.5	84.3
OECD stocks <sup>e</sup>	days	51	52	54	50	50	51	52	54

<sup>a</sup> Includes crude oil, marine bunkers, refinery fuel, nonconventional oil and natural gas liquids. <sup>b</sup> Includes natural gas liquids produced by OPEC (around 4.5 million barrels a day). <sup>c</sup> Includes around 1.8 million barrels a day net gain in the processing of primary fuels other than crude oil. <sup>d</sup> France, Germany, Italy and United Kingdom. <sup>e</sup> Industry stocks measured in days of forward consumption at 31 December.

Sources: BP Statistical Review of World Energy; International Energy Agency, *Monthly Oil Market Report*, OECD, Paris; Energy Information Administration, US Department of Energy, Washington DC.



320 Prices for crude oil, by origin <sup>a</sup>

	World trade weighted <sup>b</sup> US\$/bbl	Dubai <sup>c</sup> US\$/bbl	Brent <sup>d</sup> US\$/bbl	WTI <sup>e</sup> US\$/bbl	Gippsland <sup>f</sup> US\$/bbl	Tapis <sup>g</sup> US\$/bbl
<b>1989 quarter</b>						
March	15.49	15	17.39	18.46	na	na
June	17.33	15.72	18.20	20.25	na	na
September	16.26	15.32	17.54	19.85	na	na
December	17.42	16.18	19.04	20.02	na	na
<b>1990 quarter</b>						
March	18.14	16.63	19.76	21.75	na	na
June	14.43	14.01	16.35	17.84	na	na
September	24.12	25.58	26.64	26.57	na	na
December	29.15	27.53	32.27	31.88	na	na
<b>1991 quarter</b>						
March	17.98	15.85	20.37	21.12	na	na
June	16.56	15.57	18.93	20.86	na	na
September	17.61	16.91	19.91	21.66	na	na
December	18.57	17.54	20.48	21.75	na	na
<b>1992 quarter</b>						
March	16.37	15.55	17.89	18.86	na	na
June	18.49	17.94	20.15	21.17	na	na
September	19.04	18.42	20.27	21.33	na	na
December	18.08	17.26	19.20	20.46	na	na
<b>1993 quarter</b>						
March	16.87	15.84	18.29	19.83	na	na
June	16.95	15.93	18.16	19.74	na	na
September	15.16	14.32	16.46	17.63	na	na
December	14.02	13.54	14.86	16.83	na	na
<b>1994 quarter</b>						
March	13.34	12.75	14.00	14.83	na	na
June	15.28	14.74	16.17	17.81	na	na
September	16.45	15.85	16.95	18.50	na	na
December	16.15	15.63	16.57	17.66	na	na
<b>1995 quarter</b>						
March	16.90	16.34	17.04	18.40	na	na
June	17.80	16.96	18.12	19.38	na	na
September	15.98	15.33	16.15	17.87	na	na
December	16.55	15.87	17.03	18.17	na	na
<b>1996 quarter</b>						
March	18.13	16.49	18.64	19.78	na	na
June	19.09	17.24	19.24	21.72	na	na
September	20.22	19.51	21.10	22.43	na	na
December	22.75	21.64	23.30	24.65	na	na
<b>1997 quarter</b>						
March	20.69	20.93	19.94	22.81	22.56	24.62
June	17.53	18.04	17.83	19.98	19.45	20.98
September	17.59	17.73	18.73	19.80	18.35	20.08
December	17.80	17.97	18.93	19.92	19.43	20.97
<b>1998 quarter</b>						
March	12.78	12.59	14.54	16.01	14.35	16.70
June	11.95	12.30	13.86	14.72	13.96	14.44
September	11.87	11.69	12.75	13.59	12.99	12.72
December	11.11	11.56	11.73	13.00	12.20	13.47

Continued

320 Prices for crude oil, by origin <sup>a</sup> continued

	World trade weighted <sup>b</sup> US\$/bbl	Dubai <sup>c</sup> US\$/bbl	Brent <sup>d</sup> US\$/bbl	WTI <sup>e</sup> US\$/bbl	Gippsland <sup>f</sup> US\$/bbl	Tapis <sup>g</sup> US\$/bbl
<b>1999 quarter</b>						
March	10.93	11.13	11.53	13.11	11.98	11.63
June	15.33	15.28	15.85	17.67	16.15	14.50
September	20.10	19.68	20.89	21.63	21.19	19.69
December	23.46	23.55	24.51	26.72	24.29	23.89
<b>2000 quarter</b>						
March	26.33	25.57	26.72	29.05	26.75	26.52
June	26.31	24.17	25.29	27.33	27.79	27.16
September	28.79	25.72	26.95	28.97	31.82	31.36
December	28.58	28.56	30.77	32.28	31.10	29.77
<b>2001 quarter</b>						
March	24.33	23.63	26.14	28.60	26.81	27.87
June	25.57	25.15	27.28	27.93	28.18	27.89
September	24.24	24.16	25.40	26.78	25.26	26.46
December	18.40	18.52	19.40	20.50	20.26	23.24
<b>2002 quarter</b>						
March	19.78	20.32	21.29	21.82	21.04	21.22
June	23.95	24.33	25.06	26.29	25.49	25.61
September	25.54	25.49	26.81	28.26	26.98	27.24
December	25.41	25.03	26.76	28.18	27.99	28.28
<b>2003 quarter</b>						
March	29.71	28.62	31.58	34.17	32.34	32.46
June	24.37	24.47	26.14	29.06	27.04	27.23
September	27.25	26.88	28.87	31.07	29.19	29.53
December	27.67	27.22	29.38	30.44	30.92	31.23
<b>2004 quarter</b>						
March	29.60	29.80	31.98	35.17	34.38	34.50
June	32.78	33.49	35.46	38.35	37.45	37.54
September	36.50	36.53	41.61	43.91	44.51	44.63
December	38.74	36.38	44.14	48.30	45.52	47.12
<b>2005 quarter</b>						
March	42.34	41.84	47.60	49.71	50.17	49.73
June	47.13	48.15	51.58	53.16	53.23	55.23
September	56.50	55.92	61.55	63.14	62.19	64.72
December	52.33	53.45	56.94	60.04	58.90	60.84
<b>2006 quarter</b>						
March	56.28	58.48	61.75	63.27	65.42	67.49
June	63.87	65.35	69.53	70.41	71.90	73.77
September	65.70	66.40	69.62	70.42	73.04	75.43
December	54.99	57.63	59.68	59.96	61.43	63.32
<b>2007 quarter</b>						
March	52.50	54.03	56.80	58.02	62.19	63.55
June	64.62	64.58	67.81	64.79	73.45	74.99

<sup>a</sup> Based on daily prices unweighted and averaged over the period using posted or official selling prices with Rotterdam spot prices for Middle East and North Sea crudes after 1980. <sup>b</sup> Quarterly averages of weekly rates; average contract selling prices fob of internationally traded crude oils only, weighted by estimated export volume. <sup>c</sup> Middle East crude, 32 API gravity. <sup>d</sup> North Sea crude, 38 API gravity. <sup>e</sup> North American crude, 40 API gravity. <sup>f</sup> Australian crude, 42 API gravity. Price series discontinued in 1988. <sup>g</sup> Malaysia tapis blend 44 API. <sup>na</sup> Not available.

Sources: ABARE averaging of daily prices using: Middle East Petroleum and Economic Publications, *International Crude Oil and Product Prices*, London; Department of Resources and Energy, *Australian Energy Statistics*, AGPS, Canberra; Energy Information Administration, US Department of Energy, Washington DC; *Platts Oilgram Price Reports*, London; Reuterlink; Tokyo Commodity Exchange.

# 321 Summary of Australian statistics for salt

	Production kt	Exports		Unit value <sup>a</sup> \$/t
		Volume kt	Value \$m	
1960	471	19	0.3	15.79
1961	517	61	0.7	11.48
1962	545	76	0.7	9.21
1963	591	122	0.8	6.56
1964	554	119	0.8	6.72
1965	665	115	0.6	5.22
1966	655	95	0.5	5.26
1967	714	89	0.5	5.62
1968	914	228	0.9	3.95
1969	1 680	775	2.1	2.71
1970	3 071 <b>b</b>	2 331	8.2	3.52
1971	3 788 <b>b</b>	2 815	9.0	3.20
1972	3 340 <b>b</b>	2 417	7.0	2.90
1973	4 204	3 475	10.6	3.05
1974	5 009	4 211	15.4	3.66
1975	4 660	3 652	17.5	4.79
1976	5 489	4 258	26.9	6.32
1977	4 716	4 057	29.5	7.27
1978	5 873	4 654	32.9	7.07
1979	5 215	4 513	33.3	7.38
1980	5 665	4 515	44.3	9.81
1981	6 716	3 964	44.0	11.10
1982	4 811	4 144	55.2	13.32
1983	5 170	4 535	69.4	15.30
1984	5 695	4 783	74.7	15.62
1985	5 835	5 166	97.4	18.85
1986	6 131	5 213	102.0	19.57
1987	6 486	2 745 <b>c</b>	56.0 <b>c</b>	20.40
1988	6 958 <b>b</b>	6 206	117.2	18.89
1989	7 070 <b>d</b>	6 194	121.5	19.61
1990	7 229 <b>d</b>	6 466	136.3	21.08
1991	7 768 <b>d</b>	7 061	165.6	23.46
1992	7 693 <b>d</b>	7 028	174.9	24.89
1993	7 553 <b>d</b>	6 982	185.5	26.56
1994	7 792 <b>d</b>	7 259	174.1	23.99
1995	8 298 <b>d</b>	7 649	176.5	23.08
1996	7 993 <b>d</b>	7 651	166.6	21.77
1997	8 883 <b>d</b>	8 187	190.9	23.32
1998	9 033 <b>d</b>	8 701	233.4	26.82
1999	9 888 <b>d</b>	8 418	213.7	25.38
2000	8 847 <b>d</b>	8 257	221.7	26.85
2001	9 254 <b>d</b>	8 817	267.1	30.29
2002	9 961 <b>d</b>	9 504	259.6	27.32
2003	10 526 <b>d</b>	10 114	200.6	19.83
2004	11 088 <b>d</b>	11 181	194.6	17.40
2005	12 219 <b>d</b>	11 488	228.3	19.87
2006	11 423 <b>d</b>	10 911	240.2	22.01

<sup>a</sup> Average export unit value of all salt, bulk, bagged and table. <sup>b</sup> Excludes Victoria. <sup>c</sup> Excludes salt, common, in bulk from 1 January to 30 June. <sup>d</sup> Excludes Victoria and the Northern Territory.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

salt

## 322 Australian supply and disposal of salt

	Unit	2000	2001	2002	2003	2004	2005	2006
<b>Production</b>								
Queensland	kt	137	150	217	230	143	50	60
South Australia	kt	1 004	693	577	560	556	620	647
Western Australia <sup>a</sup>	kt	7 706	8 410	9 167	9 736	10 388	11 549	10 716
Total	kt	8 847	9 254	9 961	10 526	11 088	12 219	11 423
<b>Exports (all types)</b>								
Total	kt	8 257	8 817	9 504	10 114	11 181	11 488	10 911
	\$m	222	267	260	201	195	228	240
<b>Imports</b>								
Common salt	t	14 988	14 869	17 285	15 157	16 578	15 369	18 033
	\$'000	3 447	3 591	4 445	4 540	5 280	5 762	5 906

<sup>a</sup> Sales.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

## 323 World production of salt, by country

	1999	2000	2001	2002	2003	2004	2005	2006
	Mt	Mt	Mt	Mt	Mt	Mt	Mt	Mt
Argentina	1.3	1.3	1.3	1.1	1.7	1.4	na	na
Australia	9.9	8.8	9.3	10.0	10.5	11.1	12.2	11.4
Brazil	6.0	6.1	5.6	6.1	6.6	6.6	6.7	7.3
Canada	12.7	12.0	13.7	12.3	14.0	14.1	14.5	15.0
Chile	6.1	5.1	6.0	3.5	6.2	4.9	4.9	6.1
China <sup>a</sup>	28.1	35.2	34.5	36.0	34.4	37.1	44.5	48.0
Egypt	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
France	7.0	6.6	7.6	6.8	7.4	7.6	7.0	7.0
Germany	15.7	12.6	12.7	13.7	14.0	15.5	18.7	18.6
India	14.5	15.7	14.3	17.9	14.9	14.8	15.5	16.0
Iran	1.6	1.3	1.5	1.5	1.6	1.8	2.0	2.0
Italy	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Japan	1.3	1.4	1.4	1.3	1.3	1.2	na	na
Mexico	8.2	8.9	8.5	7.8	7.5	8.6	9.2	8.5
Netherlands <sup>b</sup>	5.0	5.6	5.7	5.8	6.0	5.9	5.0	5.0
Poland	4.2	3.5	3.5	3.6	3.6	4.0	5.0	5.0
Romania	2.2	2.3	2.2	2.3	2.4	2.4	2.4	2.5
Russian Federation	3.2	3.2	2.8	2.8	2.8	2.8	2.8	2.8
Spain	3.2	3.9	3.8	3.9	4.0	3.9	3.2	3.2
Turkey	2.1	2.1	1.8	2.2	2.2	2.3	2.2	2.2
Ukraine	2.2	2.3	2.3	2.3	2.9	3.3	2.3	2.4
United Kingdom	5.8	5.8	6.0	5.7	5.9	6.2	5.8	5.8
United States <sup>c</sup>	45.0	43.2	42.2	40.3	43.7	46.4	45.1	46.0
Other	18.7	18.6	19.6	20.6	21.3	22.3	22.6	19.2
Total	210.0	211.4	212.3	213.3	220.8	230.3	238.0	240.0

<sup>a</sup> Marketable salt. <sup>b</sup> Includes the Antilles. <sup>c</sup> Includes Puerto Rico. **na** Not available.

Sources: Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; British Geological Survey, *World Mineral Statistics*, Nottingham, England; US Department of the Interior, US Geological Survey, *Mineral Yearbook*, Washington DC; ABARE.

## 324 Summary of Australian statistics for silica

	Production	Exports <sup>a</sup>		Imports	
	Volume kt	Volume kt	Value \$'000	Volume t	Value \$'000
1963	247	na	na	46	38
1964	330	na	na	97	25
1965	337	na	na	44	55
1966	354	na	na	533	33
1967	446	na	na	478	na
1968	550	na	na	438	31
1969	652	na	na	624	37
1970	879	178 <b>b</b>	575 <b>b</b>	785 <b>b</b>	53 <b>b</b>
1971	1 112	211 <b>b</b>	736 <b>b</b>	1 126 <b>b</b>	85 <b>b</b>
1972	1 058	219 <b>b</b>	658 <b>b</b>	1 000 <b>b</b>	86 <b>b</b>
1973	1 259	557 <b>b</b>	1 836 <b>b</b>	696	259
1974	1 443 <b>c</b>	555 <b>b</b>	1 838 <b>b</b>	846	74
1975	1 219	513 <b>b</b>	2 193 <b>b</b>	1 121	119
1976	1 381	389 <b>b</b>	1 867 <b>b</b>	343	52
1977	1 224	495 <b>b</b>	3 030 <b>b</b>	441	77
1978	1 290	467 <b>b</b>	3 112 <b>b</b>	283	45
1979	1 768	647	4 896	368	77
1980	1 828	649	5 762	199	49
1981	1 743	383	4 075	569	169
1982	1 813	519	5 399	3 678	589
1983	1 928	670	6 879	2 464	647
1984	2 242	686	7 430	3 087	550
1985	2 091	895	9 972	1 267	648
1986	2 091	1 137	13 590	852	567
1987	2 361	1 094	13 249	535	397
1988	2 667	1 577	20 973	3 633	609
1988-89	2 795 <b>d</b>	1 660	23 319	3 473	523
1989-90	3 116 <b>d</b>	2 226	34 848	2 029	282
1990-91	3 835 <b>d</b>	2 398	37 685	6 835	667
1991-92	3 347 <b>e</b>	2 547	40 175	9 025	1 205
1992-93	3 570 <b>e</b>	2 488	41 825	2 231	906
1993-94	na	2 600	43 083	1 130	631
1994-95	4 576	3 007	49 163	2 431	989
1995-96	na	3 227	49 538	1 731	1 153
1996-97	na	3 074	52 062	4 237	2 681
1997-98	na	3 280	61 616	3 495	2 306
1998-99	na	2 986	58 401	2 704	975
1999-00	4 266	3 232	64 567	2 427	1 159
2000-01	3 997	3 213	75 376	2 658	1 455
2001-02	4 472	2 629	57 598	4 084	1 933
2002-03	4 046	2 794	59 900	4 330	2 004
2003-04	4 181	2 687	62 290	3 477	1 572
2004-05	4 145	1 844	52 643	2 708	1 375
2005-06	5 169	1 839	59 009	2 325	1 360
2006-07	na	2 313	71 290	3 114	1 779

**a** Includes quartz sand from July 1999, data not available separately. **b** Year ended 30 June. **c** Excludes Western Australia. **d** Excludes Victoria. **e** Excludes Tasmania and Victoria. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; state mines departments and their equivalents; ABARE.

# 325 Australian production of silica, by state

	New South Wales kt	Victoria kt	Queensland kt	Western Australia kt	South Australia kt	Tasmania kt	Australia kt
1961	153.3	na	29.7	8.3	23.1	1.4	218.0 <b>a</b>
1962	173.4	na	26.0	10.5	23.8	0.5	234.2 <b>a</b>
1963	176.7	na	32.5	10.1	25.3	2.7	247.3 <b>a</b>
1964	241.9	na	38.2	10.2	25.4	13.8	329.6 <b>a</b>
1965	234.9	na	46.2	9.4	36.4	10.1	337.0 <b>a</b>
1966	234.1	na	39.4	28.7	46.2	5.5	353.9 <b>a</b>
1967	289.1	na	70.2	42.4	35.1	8.7	445.6 <b>a</b>
1968	283.6	na	164.5	20.9	67.1	14.3	550.4 <b>a</b>
1969	315.4	na	208.9	49.7	49.4	28.3	651.7 <b>a</b>
1970	335.2	114.5	295.0	39.3	43.2	51.8	879.1
1971	430.2	108.1	405.7	57.8	74.0	36.7	1 112.4
1972	464.2	98.8	395.4	20.9	60.5	18.1	1 058.0
1973	459.7	109.0	568.1	27.4	66.2	28.1	1 258.5
1974	474.9	141.8	712.4	na	75.2	38.4	1 442.8 <b>b</b>
1975	392.9	142.6	544.1	28.3	77.6	33.3	1 218.8
1976	511.7	166.3	516.5	40.6	118.7	27.7	1 381.4
1977	410.3	199.4	458.7	78.1	104.4	51.5	1 224.3
1978	417.3	184.3	520.2	91.2	114.8	53.1	1 289.7
1979	544.9	196.2	627.3	217.7	91.7	89.9	1 767.6
1980	588.1	255.3	670.7	148.1	99.9	65.5	1 827.6
1981	548.5	288.2	581.4	168.1	120.4	36.5	1 743.1
1982	557.5	361.0	563.7	144.0	146.8	40.1	1 813.2
1983	471.5	348.5	627.4	322.8	114.5	43.3	1 927.8
1984	448.4	406.9	866.7	352.6	124.4	43.1	2 242.1
1985	338.5	273.7	924.6	373.1	143.4	37.1	2 090.5
1986	412.3	267.0	839.4	390.4	141.3	40.9	2 091.3
1987	464.8	224.0	1 079.2	386.0	147.2	59.5	2 360.7
1988	457.6	218.7	1 467.0	348.9	96.8	78.0	2 667.0
1988-89	480.2	na	1 682.6	364.5	109.7	158.0	2 794.9 <b>a</b>
1989-90	574.0	na	1 802.0	478.0	112.0	150.0	3 116.0 <b>a</b>
1990-91	551.1	na	2 145.1	861.7	104.4	172.3	3 834.6 <b>a</b>
1991-92	552.5	na	2 019.8	654.6	119.8	na	3 346.7 <b>c</b>
1992-93	495.0	na	2 421.0	518.0	136.0	na	3 570.0 <b>c</b>
1993-94	na	na	2 494.2	568.4	na	na	na
1994-95	565.0	220.0	2 828.7	614.5	174.0	174.0	4 576.0
1995-96	636.2	na	na	741.9	132.0	na	na
1996-97	699.1	na	2 680.5	700.2	157.0	na	na
1997-98	489.4	na	2 851.1	821.5	131.0	na	na
1998-99	438.4	na	2 087.2	583.0	126.1	na	na
1999-00	442.2	443.0	2 637.0	599.6	114.8	139.9	4 265.8
2000-01	433.5	78.0	2 619.0	557.3	145.3	163.4	3 996.5
2001-02	452.0	530.9	2 488.0	653.0	185.0	163.3	4 472.2
2002-03	491.7	20.1	2 406.3	752.5	246.4	128.9	4 046.0
2003-04	158.1	476.6	2 510.4	644.2	239.1	153.0	4 181.4
2004-05	504.5	564.1	1 902.7	700.2	320.1	153.0	4 144.8
2005-06	1 443.4	338.3	2 087.0	778.1	337.9	183.9	5 168.6

**a** Excludes Victoria. **b** Excludes Western Australia. **c** Excludes Tasmania and Victoria. **na** Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; state mines departments and their equivalents; ABARE.

## 326 Australian imports of silica based products

	Silicon		Ferrosilicon		Ferrosilicomanganese		Piezoelectric
	Volume	Value	Volume	Value	Volume	Value	crystals
	t	\$'000	t	\$'000	t	\$'000	\$'000
1962	797	168	6 307	1 004	na	na	na
1963	830	249	5 720	710	na	na	na
1964	1 593	466	10 348	1 167	na	na	na
1965	638	194	13 211	1 747	na	na	na
1966	na	142	7 620	1 061	na	na	na
1967	na	422	9 440	1 379	na	na	na
1968	na	na	6 327	923	na	na	na
1969	na	625	7 722	1 180	na	na	na
1970	na	621	13 603	2 272	na	na	na
1971	3 403	1 192	12 281	2 073	na	na	112
1972	1 950	688	9 771	1 794	na	na	259
1973	2 366	777	9 202	1 526	na	na	159
1974	2 496	1 047	14 286	3 048	na	na	330
1975	2 602	2 723	21 578	8 528	na	na	558
1976	1 845	1 229	14 258	5 249	na	na	467
1977	3 896 <sup>a</sup>	2 982 <sup>a</sup>	6 437	3 114	390 <sup>a</sup>	200 <sup>a</sup>	738 <sup>a</sup>
1978	2 006 <sup>a</sup>	1 492 <sup>a</sup>	6 363	2 893	414	271	536 <sup>a</sup>
1979	2 573 <sup>a</sup>	2 950 <sup>a</sup>	7 149	3 640	488	392	819 <sup>a</sup>
1980	4 888 <sup>a</sup>	5 749 <sup>a</sup>	14 598	8 856	532	376	971 <sup>a</sup>
1981	3 093 <sup>a</sup>	3 553 <sup>a</sup>	9 716	4 675	217	180	1 040 <sup>a</sup>
1982	2 961	3 685	10 761	6 222	193	127	1 886
1983	2 695	4 064	7 174	4 280	336	300	1 859
1984	4 572	7 422	9 461	5 273	774	709	2 402
1985	4 914	9 447	13 890	7 153	940	1 183	3 782
1986	5 852	10 461	11 469	6 873	392	558	3 407
1987	5 083	11 853	12 897	8 894	656	913	4 106
1988	3 759	6 592	9 095	7 533	433	571	3 444
1988-89	3 714	8 062	14 100	12 065	293	401	4 347
1989-90	2 908	10 160	21 507	18 566	205	308	4 470
1990-91	2 443	10 545	19 330	13 929	231	316	3 475
1991-92	2 301	11 469	13 229	11 460	913	922	8 486
1992-93	3 611	11 910	24 738	21 091	932	832	4 423
1993-94	3 025	11 393	35 732	31 342	510	548	6 114
1994-95	2 863	15 083	32 593	25 699	377	375	6 607
1995-96	4 899	14 862	34 506	38 060	288	482	7 951
1996-97	3 226	10 408	52 952	38 258	279	468	6 305
1997-98	3 054	11 369	36 016	39 544	199	304	6 485
1998-99	4 110	15 289	32 044	33 968	451	752	9 431
1999-00	4 887	14 683	29 189	27 749	329	474	12 066
2000-01	5 966	23 530	29 004	33 006	468	723	20 325
2001-02	3 857	13 719	28 965	34 115	259	439	8 509
2002-03	6 437	21 935	29 692	30 695	240	368	8 863
2003-04	6 134	19 553	35 474	35 501	540	817	9 716
2004-05	6 284	21 039	34 877	38 631	398	714	13 092
2005-06	9 518	26 979	32 653	37 898	297	570	7 307
2006-07	13 256	31 324	36 775	46 249	444	837	7 312

<sup>a</sup> Year ended 30 June. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra.

# 327

## Summary of Australian statistics for silver

	Production		Exports <sup>a</sup>		Price <sup>b</sup> \$/kg
	Mine t	Refinery t	Volume t	Value \$m	
1970	808	374	304	na	59.39
1971	678	328	203	na	47.92
1972	681	313	219	na	49.75
1973	707	261	115	na	60.08
1974	670	256	112	na	104.75
1975	726	283	134	na	109.17
1976	779	255	100	na	115.17
1977	856	280	136	na	135.00
1978	813	299	76	na	153.00
1979	832	320	85	na	319.25
1980	777	355	85	na	598.00
1981	744	376	90	na	297.17
1982	907	357	234	na	253.67
1983	1 033	329	222	na	411.33
1984	972	302	164	na	299.75
1985	1 086	329	167	na	285.33
1986	1 023	336	192	na	264.58
1987	1 119	362	178	na	325.83
1988	1 134	359	26 <sup>c</sup>	26 <sup>d</sup>	275.75
1989	1 075	376	23 <sup>c</sup>	28 <sup>d</sup>	229.67
1990	1 173 <sup>s</sup>	419	16 <sup>c</sup>	43 <sup>d</sup>	205.92
1991	1 180 <sup>s</sup>	387	106 <sup>c</sup>	38 <sup>d</sup>	175.58
1992	1 218 <sup>s</sup>	369	200 <sup>c</sup>	49 <sup>d</sup>	181.25
1993	1 152 <sup>s</sup>	357	257 <sup>c</sup>	60 <sup>d</sup>	212.25
1994	1 045 <sup>s</sup>	363	190 <sup>c</sup>	53 <sup>d</sup>	240.92
1995	939 <sup>s</sup>	346	192 <sup>c</sup>	52 <sup>d</sup>	234.06
1996	974 <sup>s</sup>	220	316 <sup>c</sup>	73 <sup>d</sup>	222.42
1997	1 107 <sup>s</sup>	174	215 <sup>c</sup>	54 <sup>d</sup>	220.70
1998	1 473 <sup>s</sup>	292	365 <sup>c</sup>	123 <sup>d</sup>	291.56
1999	1 715 <sup>s</sup>	437	428 <sup>c</sup>	117 <sup>d</sup>	268.62
2000	2 059	404	427	138	285.31
2001	1 970	584	524	159	287.72
2002	2 070	644	540	154	290.78
2003	1 868	649	432	109	258.89
2004	2 224	650	477	150	308.13
2005	2 417	701	528	170	308.28
2006	1 728	634	421	209	492.71

<sup>a</sup> Refined silver only. <sup>b</sup> Pasmenco Metals, fob/fot Port Pirie. <sup>c</sup> Refined bullion only. <sup>d</sup> Includes refined bullion, powder, unwrought silver and semi-manufactured forms. <sup>s</sup> ABARE estimate. <sup>na</sup> Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Australian Associated Press Financial News Wire; Factiva.



## 328 Australian supply and disposal of silver

	Unit	1999	2000	2001	2002	2003	2004	2005	2006
<b>Production</b>									
<b>Mine</b>									
New South Wales	t	147	146	133	88	82	92	101	94
Queensland	t	1 187	1 576	1 545	1 760	1 582	1 914	2 065	1 385
Western Australia	t	133	137	107	68	70	51	88	96
South Australia	t	25	34	34	26	20	34	38	30
Tasmania	t	171	118	104	78	67	89	82	88
Northern Territory	t	54	47	48	50	46	45	43	35
Total s	t	1 715	2 059	1 970	2 070	1 868	2 224	2 417	1 728
<b>Refinery</b>	t	437	404	584	644	649	650	701	634
<b>Exports</b>									
<b>Refined silver</b>									
India	t	140	131	190	192	124	92	66	47
Japan	t	162	185	178	143	204	267	216	191
Korea, Rep. of	t	39	53	42	34	34	37	60	80
Singapore	t	1	17	72	5	9	20	20	3
United Kingdom	t	10	0	0	42	0	0	50	1
Other	t	76	42	41	125	62	59	116	99
Total	t <b>a</b>	428	427	524	540	432	477	528	421
	\$m <b>b</b>	117	138	159	154	109	150	170	209
Silver content of lead bullion	t	419	332	441	455	402	453	498	70
<b>Prices</b>									
World	US\$/troy oz	524.97	499.91	434.98	460.04	487.65	664.98	731.23	1157.25
Australia <b>c</b>	A\$/kg	268.62	285.31	287.72	290.78	258.89	308.13	308.28	492.71

**a** Refined bullion only. **b** Includes refined bullion, powder, unwrought silver and semimanufactured forms. **c** Pasmenco Metals, fob/fof Port Pirie.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Australian Associated Press Financial News Wire; Factiva; London Bullion Market Association.

## silver

## 329 World mine production of silver

	1998	1999	2000	2001	2002	2003	2004	2005	2006
	t	t	t	t	t	t	t	t	t
Australia <sup>s</sup>	1 473	1 715	2 059	1 970	2 070	1 868	2 224	2 417	1 728
Bolivia	404	424	434	408	450	466	413	420	460
Brazil	130	130	130	130	130	130	130	130	130
Canada	1 196	1 246	1 212	1 320	1 408	1 309	1 337	1 124	983
Chile	1 337	1 380	1 245	1 349	1 205	1 313	1 360	1 400	1 602
China	1 260	1 330	1 330	1 908	2 000	2 000	2 000	2 000	2 000
Indonesia	349	292	335	348	289	377	377	283	182
Japan	95	94	104	80	81	79	76	54	11
Kazakhstan	536	816	816	943	856	805	690	804	811
Korea, Dem. Rep. of	200	200	200	50	50	22	22	22	22
Mexico	2 688	2 483	2 483	2 760	2 749	2 551	2 531	2 870	2 999
Morocco	307	270	290	240	277	200	200	200	200
Peru	2 004	2 231	2 438	2 571	2 870	2 921	3 060	3 193	3 471
Poland	1 097	1 093	1 088	1 231	1 342	1 332	1 330	1 263	1 306
Russian Federation	240	240	240	400	400	400	400	400	400
South Africa	145	152	144	112	111	87	71	88	87
Spain	66	66	66	66	13	2	4	4	4
Sweden	280	284	304	285	294	341	320	310	268
United States	2 060	1 952	2 017	1 606	1 419	1 240	1 250	1 230	1 139
Uzbekistan	150	150	150	218	157	150	150	150	150
Other	663	658	660	819	876	882	827	902	985
Total <sup>a</sup>	16 677	17 208	17 747	18 815	19 047	18 475	18 730	19 263	18 938

<sup>a</sup> Excludes countries for which data are not available. <sup>s</sup> ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 330 Summary of Australian statistics for talc

	Production <b>b</b>	Exports <b>a</b>			Imports <b>a</b>	
		Volume	Value	Unit value	Volume	Value
		†	†	\$'000	\$/t	†
1962	13 754	5 068	164	32.34	2 156	72
1963	12 790	4 090	142	34.63	2 591	81
1964	15 439	5 264	177	33.69	2 351	75
1965	19 695	6 887	234	33.98	2 404	68
1966	21 616	7 758	231	29.78	2 903	62
1967	20 431	8 787	277	31.52	2 199	74
1968	37 860	24 875	661	26.57	3 590	117
1969	52 259	34 134	863	25.28	1 823	77
1970	47 517	31 037	791	25.49	3 441	164
1971	41 280	32 662	861	26.36	4 091	197
1972	43 849	32 051	897	27.99	1 186	69
1973	50 850	36 179	996	27.53	1 109	66
1974	63 992	51 325	1 428	27.82	1 606	10
1975	67 242	45 457	1 527	33.59	947	72
1976	77 447	62 306	2 425	38.92	370	62
1977	112 920	87 271	4 052	46.43	335	65
1978	137 553	107 177	5 338	49.81	527	103
1979	138 266	107 849	6 330	58.69	420	86
1980	159 962	83 059	5 286	63.64	382	82
1981	74 840	82 641	5 529	66.90	329	105
1982	143 325	80 512	5 428	67.42	93	30
1983	167 009	131 914	8 401	63.69	147	68
1984	179 709	163 370	10 810	66.17	215	111
1985	132 074	122 306	9 577	78.30	352	196
1986	179 467	183 357	15 028	81.96	151	85
1987	206 865	129 656	11 012	84.93	266	189
1988	201 740	168 758	13 073	77.47	509	223
1988-89	208 998	126 597	9 447	74.62	578	216
1989-90	234 579	200 870	18 158	90.39	631	297
1990-91	173 803	137 260	12 770	93.03	528	237
1991-92	179 678	152 009	13 717	90.24	563	298
1992-93	172 273	119 830	14 184	118.36	629	372
1993-94	154 073	152 297	15 440	101.38	534	328
1994-95	125 701	133 060	12 672	95.23	1 053	353
1995-96	176 163	182 600	17 388	95.22	1 066	423
1996-97	185 601	143 227 <b>c</b>	12 861 <b>c</b>	89.80	1 262	451
1997-98	199 315	1 614 <b>c</b>	572 <b>c</b>	354.23	1 341	578
1998-99	190 037	3 333 <b>c</b>	1 053 <b>c</b>	315.82	886	695
1999-00	178 545	184 559	20 391	110.48	1 115	893
2000-01	173 446	135 771	24 298	178.96	1 234	707
2001-02	160 741	144 216	21 768	150.94	1 058	630
2002-03	165 980	148 281	22 040	148.63	1 742	856
2003-04	123 080	132 782	18 884	142.22	1 992	750
2004-05	150 923	129 756	19 104	147.23	1 853	827
2005-06	na	125 730	17 247	137.17	3 538	1 556
2006-07	na	100 098	13 769	137.55	6 326	3 255

**a** Includes pyrophyllite. **b** Excludes pyrophyllite. **c** Excludes uncrushed product from 1 June 1997 to 31 May 1999. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; state mines departments and their equivalents; ABARE.

# 331 Australian production of talc and pyrophyllite, by state

	Talc				Pyrophyllite
	New South Wales	South Australia	Western Australia	Australia	New South Wales
	†	†	†	†	†
1962	732	7 962	5 061	13 754	1 303
1963	878	7 168	4 744	12 790	1 176
1964	1 388	8 533	5 518	15 439	723
1965	1 710	10 783	7 202	19 695	0
1966	1 426	6 611	13 580	21 616	266
1967	2 169	7 303	10 958	20 431	564
1968	2 153	10 586	25 121	37 860	985
1969	2 925	12 459	36 876	52 259	3 165
1970	1 162	14 559	31 796	47 517	7 707
1971	698	11 506	29 076	41 280	6 596
1972	650	11 336	31 863	43 849	12 299
1973	765	14 088	35 997	50 850	12 820
1974	430	12 773	50 789	63 992	15 845
1975	280	12 975	53 987	67 242	15 145
1976	305	16 892	60 250	77 447	14 650
1977	90	16 391	96 439	112 920	16 039
1978	105	14 070	123 378	137 553	9 401
1979	150	15 565	122 551	138 266	19 209
1980	77	16 414	143 471	159 962	11 002
1981	76	21 046	53 718	74 840	8 146
1982	0	20 497	122 828	143 325	9 467
1983	63	14 913	152 033	167 009	9 569
1984	145	18 588	160 976	179 709	7 051
1985	239	16 804	115 031	132 074	7 317
1986	38	18 061	161 368	179 467	8 588
1987	120	17 471	189 274	206 865	6 036
1988	126	18 840	182 774	201 740	3 932
1988-89	155	13 536	195 307	208 998	3 436
1989-90	88	14 228	220 263	234 579	2 965
1990-91	136	12 107	161 560	173 803	1 032
1991-92	0	10 787	168 891	179 678	1 260
1992-93	0	13 484	158 789	172 273	1 175
1993-94	na	13 016	141 057	154 073	na
1994-95	27	12 950	112 724	125 701	777
1995-96	0	14 751	161 412	176 163	595
1996-97	0	8 061	177 540	185 601	337
1997-98	0	8 018	191 297	199 315	702
1998-99	0	8 428	181 609	190 037	347
1999-00	0	9 410	169 135	178 545	1 727
2000-01	0	9 126	164 320	173 446	0
2001-02	0	8 372	152 369	160 741	868
2002-03	0	8 616	157 364	165 980	0
2003-04	0	6 440	116 640	123 080	0
2004-05	0	7 919	143 004	150 923	0
2005-06	0	5 109	na	na	0

na Not available.

Sources: ABS, *Mineral Production, Australia*, cat. no. 8405.0, Canberra; ABS, *The Australian Mining Industry*, cat. no. 8414.0, Canberra; ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Kalix, Z., Fraser, L.M. and Rawson, R.I., *Australian Mineral Industry: Production and Trade, 1842-1964*, Bureau of Mineral Resources, Canberra; state mines departments and their equivalents; ABARE.

332 Australian exports of talc, by destination <sup>a</sup>

	Belgium	Japan	Nether-lands	New Zealand	Korea, Rep. of	United States	Other	Total	
								Volume	Value
	t	t	t	t	t	t	t	t	\$'000
1960	na	na	na	1 161	na	na	na	3 968	129
1961	na	na	na	957	na	na	na	4 258	149
1962	na	na	412	1 116	na	na	na	5 068	164
1963	na	na	0	1 259	na	na	na	4 090	142
1964	na	na	217	1 049	na	na	na	5 264	177
1965	na	na	1 852	1 421	na	na	na	6 887	234
1966	na	na	4 864	1 198	na	na	na	7 758	231
1967	na	78	6 971	1 235	na	na	503	8 787	277
1968	na	190	19 026	1 285	na	na	4 374	24 875	661
1969	na	9 976	22 236	1 474	na	na	448	34 134	863
1970	na	16 445	12 786	1 567	na	na	239	31 037	791
1971	na	20 754	10 048	1 740	na	na	120	32 662	861
1972	na	14 953	14 991	2 029	na	na	78	32 051	897
1973	na	20 061	14 346	1 661	na	na	111	36 179	996
1974	na	30 889	18 703	1 644	na	na	89	51 325	1 428
1975	na	28 329	12 163	2 060	na	na	2 905	45 457	1 527
1976	na	39 050	15 107	2 802	na	na	5 347	62 306	2 425
1977	na	66 557	13 422	2 461	na	na	4 831	87 271	4 052
1978	na	90 577	11 291	1 860	na	na	3 449	107 177	5 338
1979	na	85 511	12 868	3 099	na	na	6 371	107 849	6 330
1980	3 150	64 152	13 500	1 868	na	na	389	83 059	5 286
1981	6 096	60 406	6 215	2 917	na	na	7 007	82 641	5 529
1982	12 597	51 096	10 063	2 419	na	na	4 337	80 512	5 428
1983	5 004	93 988	14 655	1 325	5 023	9 990	1 929	131 914	8 401
1984	11 213	119 678	14 327	1 988	14 167	0	1 997	163 370	10 810
1985	20 051	66 765	14 980	1 848	15 420	0	3 242	122 306	9 577
1986	15 007	120 312	15 252	1 069	15 745	14 003	1 969	183 357	15 028
1987	8 084	84 701	5 001	1 079	9 311	15 472	6 008	129 656	11 012
1988	12 112	124 843	11 960	669	0	18 030	1 144	168 758	13 073
1988-89	5 000	107 482	5 507	548	0	7 019	1 041	126 597	9 447
1989-90	21 754	137 648	13 565	366	4 648	18 510	4 379	200 870	18 158
1990-91	6 000	87 984	35 167	476	0	6 003	1 630	137 260	12 770
1991-92	5 255	103 279	30 200	421	0	4 728	8 126	152 009	13 717
1992-93	17 002	70 331	14 630	686	0	8 166	9 015	119 830	14 184
1993-94	6 317	94 451	37 356	689	0	10 911	2 573	152 297	15 440
1994-95	6 300	68 657	46 800	679	0	9 300	1 324	133 060	12 672
1995-96	12 803	85 375	48 300	797	680	30 100	4 545	182 600	17 388
1996-97 <sup>b</sup>	6 300	69 029	45 625	669	4 815	5 262	11 527	143 227	12 861
1997-98 <sup>b</sup>	0	0	0	910	3	0	701	1 614	572
1998-99 <sup>b</sup>	0	1 200	0	944	99	0	1 090	3 333	1 053
1999-00	2 501	65 101	78 939	1 013	43	12 400	24 562	184 559	20 391
2000-01	0	62 567	57 550	1 138	129	0	14 387	135 771	24 298
2001-02	0	55 436	61 767	2 574	178	4 200	20 061	144 216	21 768
2002-03	0	42 547	78 318	1 625	21	6 300	19 470	148 281	22 040
2003-04	0	28 261	77 958	3 928	0	20	22 615	132 782	18 884
2004-05	0	15 811	87 257	3 146	38	6 010	17 494	129 756	19 104
2005-06	9 100	25 300	73 080	2 405	38	21	15 786	125 730	17 247
2006-07	0	33 815	44 550	2 345	25	3 721	15 642	100 098	13 769

<sup>a</sup> Includes pyrophyllite. <sup>b</sup> Excludes uncrushed product from 1 June 1997 to 31 May 1999. **na** Not available.

Sources: ABS, *International Trade*, Australia, cat. no. 5465.0, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

talc

## 333 Australian imports of talc, by source <sup>a</sup>

	Norway	United Kingdom	United States	Other	Total Volume	Total Value
	t	t	t	t	t	\$'000
1960	na	na	na	na	504	24
1961	na	na	na	na	1 489	45
1962	34	na	64	na	2 156	72
1963	41	na	119	na	2 591	81
1964	61	na	135	na	2 351	75
1965	82	na	139	na	2 404	68
1966	19	na	256	na	2 903	62
1967	13	na	381	na	2 199	74
1968	40	na	469	na	3 590	117
1969	9	na	442	na	1 823	77
1970	23	na	560	2 858	3 441	164
1971	31	na	732	3 328	4 091	197
1972	65	na	765	356	1 186	69
1973	86	na	647	376	1 109	66
1974	97	na	355	1 154	1 606	10
1975	2	na	244	701	947	72
1976	62	na	188	120	370	62
1977	26	na	186	123	335	65
1978	51	na	236	240	527	103
1979	41	na	168	211	420	86
1980	23	na	187	172	382	82
1981	60	na	228	41	329	105
1982	22	na	49	22	93	30
1983	27	29	82	9	147	68
1984	39	61	111	4	215	111
1985	46	47	248	11	352	196
1986	43	61	36	11	151	85
1987	66	47	107	46	266	189
1988	31	17	431	30	509	223
1988-89	45	34	338	161	578	216
1989-90	25	23	571	13	631	297
1990-91	58	75	368	28	528	237
1991-92	17	65	451	29	563	298
1992-93	30	99	354	146	629	372
1993-94	35	50	297	152	534	328
1994-95	20	46	287	700	1 053	353
1995-96	4	24	305	733	1 066	423
1996-97	11	44	185	1 022	1 262	451
1997-98	14	42	218	1 068	1 341	578
1998-99	6	24	224	632	886	695
1999-00	8	5	280	822	1 115	893
2000-01	39	0	250	945	1 234	707
2001-02	59	0	168	830	1 058	630
2002-03	16	4	185	1 537	1 742	856
2003-04	0	1	412	1 578	1 992	750
2004-05	1	2	344	1 506	1 853	827
2005-06	16	1	771	2 750	3 538	1 556
2006-07	16	4	717	5 590	6 326	3 255

<sup>a</sup> Includes pyrophyllite. **na** Not available.

Sources: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

334 World mine production of talc, by country <sup>a</sup>

	Australia kt	Brazil kt	China <sup>b</sup> kt	Japan kt	Korea, Rep. of kt	United States kt	Other kt	Total kt
1960	16	na	150	592	na	666	833	2 520
1961	15	na	150	635	na	692	914	2 708
1962	15	na	150	589	na	700	931	2 712
1963	14	na	150	654	na	730	993	2 857
1964	16	na	150	1 055	na	807	1 032	3 485
1965	20	na	150	1 008	na	783	1 038	3 444
1966	22	na	150	1 109	na	812	1 003	3 526
1967	21	na	150	1 370	na	819	1 003	3 831
1968	39	na	150	1 689	na	869	1 058	4 298
1969	55	112	150	1 705	180	934	1 280	4 490
1970	55	130	150	1 676	204	932	1 413	4 940
1971	48	130	150	1 895	212	932	1 203	4 950
1972	56	130	150	1 507	236	1 005	1 290	4 764
1973	64	90	150	1 564	417	1 131	1 457	5 272
1974	80	201	150	1 542	443	1 170	1 276	5 272
1975	82	221	270	1 192	416	841	1 430	4 872
1976	92	247	300	1 345	496	963	1 532	5 415
1977	129	254	150	1 359	605	1 093	1 601	5 641
1978	147	240	150	1 272	665	1 202	1 577	5 723
1979	157	366	150	1 709	778	1 318	1 889	6 847
1980	171	413	916	1 749	719	1 125	1 946	7 529
1981	83	503	898	1 545	565	1 218	1 912	7 224
1982	153	384	898	1 492	591	1 030	1 780	6 838
1983	177	396	950	1 466	632	967	1 982	7 070
1984	187	413	952	1 498	848	1 023	2 177	7 615
1985	139	425	1 000	1 434	932	1 151	2 257	7 855
1986	188	425	1 000	1 334	900	1 181	2 190	7 735
1987	213	600	na	1 260	900	1 120	3 763	7 856
1988	206	400	na	1 266	850	1 249	3 678	7 649
1989	212	620	1 000	1 286	800	1 253	2 279	7 980
1990	238	720	1 000	1 293	910	1 267	2 823	8 251
1991	175	570	2 300	1 295	840	1 037	2 715	8 932
1992	181	480	2 650	1 123	760	997	2 673	8 864
1993	173	440	2 700	1 090	750	968	2 579	8 700
1994	na	440	2 400	999	710	935	2 396	7 880
1995	126	460	2 400	994	730	1 060	1 380	7 150
1996	177	510	2 400	965	820	994	2 324	8 190
1997	186	625	2 350	1 010	810	1 050	2 439	8 470
1998	200	452	2 300	965	822	971	2 340	8 050
1999	190	452	3 900	800	875	925	2 328	9 470
2000	180	452	3 500	743	776	851	3 138	9 640
2001	173	450	3 500	668	1 100	853	2 176	8 920
2002	162	450	3 600	665	1 100	775	2 118	8 870
2003	166	400	3 600	640	940	869	2 305	8 920
2004	123	570	3 000	585	958	857	2 336	8 320
2005	151	607	3 000	431	900	856	2 305	8 250
2006	na	601	3 000	380	960	880	2 479	8 300

<sup>a</sup> Includes pyrophyllite. <sup>b</sup> Excludes Hong Kong. **na** Not available.

Sources: ABS, *Mining Operations, Australia*, cat. no. 8415.0, Canberra; BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; US Department of the Interior, US Geological Survey, *Mineral Commodity Summaries*, Washington DC; ABARE.

# 335 Summary of Australian statistics for tin

	Production		Exports		Price <sup>c</sup> A\$/t
	Mine <sup>a</sup> t	Refinery t	Volume <sup>b</sup> t	Value \$m	
1961	2 745	2 546	0	0	2 450.0
1962	2 715	2 704	0	0	2 470.0
1963	2 860	2 626	97	0	2 506.0
1964	3 642	3 021	253	1	3 416.0
1965	3 849	3 179	633	2	3 892.0
1966	4 807	3 640	1 327	4	3 570.0
1967	5 586	3 594	1 690	5	3 339.0
1968	6 537	3 692	3 238	8	3 125.0
1969	8 177	4 156	4 075	10	3 427.0
1970	8 828	5 211	4 681	14	3 669.0
1971	10 035	6 333	5 249	14	3 497.0
1972	11 997	7 027	8 129	23	3 761.0
1973	10 801	6 904	7 414	21	4 802.0
1974	10 481	6 714	6 755	30	8 167.0
1975	9 577	5 254	6 977	32	6 841.0
1976	10 611	5 603	5 670	30	7 650.0
1977	10 634	5 561	7 405	60	10 788.0
1978	11 864	5 129	9 071	89	12 867.0
1979	12 571	5 423	8 450	103	15 419.0
1980	11 588	4 819	8 919	118	16 795.0
1981	12 233	4 286	8 622	98	14 244.0
1982	12 093	3 105	7 779	92	12 764.0
1983	9 252 <sup>d</sup>	2 913	6 692	120	12 995.0
1984	7 923 <sup>d</sup>	2 899	6 577	83	12 217.0
1985	6 363 <sup>d</sup>	2 683	5 667	85	12 161.0
1986	8 508 <sup>d</sup>	1 399	7 512	58	11 581.0
1987	7 691	563	7 163	60	12 004.0
1988	7 009	439	7 376	60	11 299.0
1989	7 709	424	7 511	85	13 352.0
1990	7 425	312	6 187	55	9 913.0
1991	5 380	268	5 770	35	9 054.0
1992	6 609	240	6 569	45	8 549.1
1993	8 057	222	8 161	53	7 589.8
1994	7 400	320	7 234	44	7 502.4
1995	8 656	570	8 574	59	8 432.0
1996	8 733	481	8 779	56	7 892.3
1997	10 326	646	10 160	63	7 611.5
1998	10 174	655	10 066	73	8 831.9
1999	10 011	586	10 556	70	8 373.8
2000	9 115	735	9 057	67	9 335.9
2001	9 840	1 094	9 325	66	8 646.7
2002	7 017	791	6 995	43	7 469.4
2003	3 864	597	2 885	18	7 514.4
2004	1 196	467	218	0	11 583.3
2005	2 308	594	2 573	16	9 687.4
2006	1 477	572	1 022	8	11 647.9

<sup>a</sup> Metallic content. <sup>b</sup> Tin content of all ores, concentrates, slags, residues and refined tin. <sup>c</sup> London Metal Exchange cash settlement price for refined tin, 99.75 per cent purity, expressed in Australian dollars; between 1 January 1986 and 31 May 1989, Kuala Lumpur Tin Market. <sup>d</sup> Excludes content of copper-tin concentrate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; London Metal Exchange.



## 336 Australian supply and disposal of tin

	Unit	1999	2000	2001	2002	2003	2004	2005	2006
<b>Production</b>									
<b>Mine <sup>a</sup></b>									
New South Wales	t	0	0	0	750	1 031	429	0	0
Queensland	t	40	10	0	0	0	0	0	1 090
Tasmania	t	9 414	8 327	8 961	5 609	2 282	396	1 832	0
Western Australia	t	557	778	879	659	552	371	476	387
Total	t	10 011	9 115	9 840	7 017	3 864	1 196	2 308	1 477
<b>Refinery</b>	t	586	735	1 094	791	597	467	594	572
<b>Exports</b>									
<b>Tin ore and concentrate</b>									
Malaysia	t	9 548	8 067	5 728	1 199	605	41	3 696	1 180
Thailand	t	6 626	6 076	9 426	10 342	4 123	0	0	6
Other	t	0	0	0	0	0	0	40	0
Total	t	16 174	14 143	15 154	11 541	4 728	41	3 736	1 186
	\$m	69.55	67.43	66.08	43.36	18.41	0.25	16.29	7.69
<b>Refined</b>									
Malaysia	t	20	50	1	0	65	180	539	302
Thailand	t	109	27	0	0	0	0	0	0
United States	t	199	1	0	0	0	0	0	0
Other	t	165	217	96	12	4	15	21	13
Total	t	493	295	97	12	69	195	560	315
	\$m	3.01	0.97	0.53	0.17	0.25	1.06	0.70	2.29
Tin content of primary materials exported <sup>b</sup>	t	10 556	9 057	9 325	6 995	2 885	218	2 573	1 022
<b>Prices <sup>c</sup></b>									
World	US\$/t	5 399.9	5 434.8	4 483.6	4 062.0	4 896.3	8 512.0	7 382.0	8 780.0

<sup>a</sup> Metallic content. <sup>b</sup> Tin content of all ores, concentrates, slags, residues and refined tin. <sup>c</sup> London Metal Exchange cash settlement price for refined tin, 99.75 per cent purity.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London; London Metal Exchange.

tin

## 337 World mine production of tin in concentrates, by country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Australia	10.0	9.1	9.8	7.0	3.9	1.2	2.3	1.5
Bolivia	12.4	12.5	12.0	13.2	16.4	18.1	18.7	17.4
Brazil	13.2	13.8	13.0	12.0	16.4	12.2	11.7	11.7
China	80.1	97.1	99.4	81.0	101.8	118.2	121.6	114.3
Indonesia	47.8	51.6	56.3	78.6	64.0	78.4	120.0	117.5
Kazakhstan	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0
Laos	0.4	0.4	0.8	1.1	1.1	1.1	1.1	1.1
Malaysia	7.3	6.3	5.0	4.2	3.4	2.7	2.9	2.4
Myanmar	0.2	1.6	0.6	0.3	0.5	0.4	0.4	1.0
Nigeria	1.5	2.0	1.3	0.9	0.9	0.9	0.9	0.9
Peru	30.6	37.4	38.2	38.8	40.2	41.6	42.1	38.5
Portugal	2.2	1.2	1.2	0.3	0.2	0.2	0.2	0.0
Rwanda	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2
Russian Federation	5.2	6.6	5.5	5.2	5.4	5.3	5.1	5.1
Thailand	2.7	2.2	2.5	1.1	0.9	0.7	0.2	0.2
Viet Nam	4.5	1.8	1.7	1.7	2.1	3.5	5.4	5.4
Other <sup>s</sup>	0.1	0.2	0.1	1.3	2.5	5.9	8.1	7.3
Total <sup>s</sup>	219.1	244.6	247.8	247.0	255.6	290.6	340.9	324.4

<sup>a</sup> Recoverable tin content of ores and concentrates produced. <sup>s</sup> ABARE estimate; excludes some small producer countries.  
Sources: ABARE, *Australian Mineral Statistics*, Canberra; World Bureau of Metal Statistics, *World Metal Statistics*, London.

## 338 Summary of Australian statistics for titanium

	Ilmenite concentrate				Rutile concentrate			
	Production <sup>a</sup>	Exports			Production <sup>a</sup>	Exports		
	Volume kt	Volume kt	Value \$m	Unit value \$/t	Volume kt	Volume kt	Value \$m	Unit value \$/t
1961	169 <b>b</b>	146	1.3	8.9	103	101	6.4	63.4
1962	182 <b>b</b>	158	1.4	8.9	121	119	7.3	61.3
1963	205 <b>b</b>	155	1.5	9.7	185	157	10.6	67.5
1964	309 <b>b</b>	250	2.3	9.2	185	197	14.1	71.6
1965	448 <b>b</b>	367	3.5	9.5	221	243	17.1	70.4
1966	522	362	3.7	10.2	251	235	17.8	75.7
1967	554	391	3.9	10.0	270	263	19.7	74.9
1968	562	402	4.1	10.2	293	290	21.9	75.5
1969	721	576	6.0	10.4	326	304	25.5	83.9
1970	886	648	6.6	10.2	371	374	34.8	93.0
1971	814	657	6.7	10.2	375	325	35.8	110.2
1972	707	410	4.4	10.7	313	354	41.1	116.1
1973	720	650	7.2	11.1	335	336	40.5	120.5
1974	817	739	8.8	11.9	319	345	48.2	139.7
1975	991	534	6.8	12.7	348	319	60.0	188.1
1976	959	951	13.5	14.2	390	347	72.5	208.9
1977	1 033	1 083	17.5	16.2	325	247	53.5	216.6
1978	1 255	994	16.1	16.2	257	371	69.2	186.5
1979	1 181	907	15.2	16.8	275	318	69.3	217.9
1980	1 385	1 059	20.1	19.0	312	315	88.8	281.9
1981	1 321	908	21.4	23.6	231	216	64.1	296.8
1982	1 149	879	22.3	25.4	221	199	50.9	255.8
1983	893	817	23.0	28.2	163	218	54.0	247.7
1984	1 493	1 173	33.9	28.9	170	192	58.0	302.1
1985	1 419	1 152	39.7	34.5	212	212	83.5	393.9
1986	1 238	1 034	48.5	46.9	216	230	116.4	506.1
1987	1 349	1 046	61.0	58.3	249	257	149.9	583.7
1988	1 610	1 046	68.3	65.3	231	238	137.5	576.9
1989	1 690	1 001	72.6	72.5	243	252	165.0	655.0
1990	1 616	1 041	82.8	79.5	244	186	143.9	775.3
1991	1 466	977	82.0	84.0	192	175	124.1	708.8
1992	1 787	945	76.6	81.1	183	196	111.6	568.5
1993	1 795	962	79.4	82.6	187	182	98.9	543.3
1994	1 777	1 084	89.7	82.8	233	209	113.4	541.3
1995	1 980	1 075	98.0	91.1	204	221	132.1	598.0
1996	2 030	1 062	103.4	97.4	192	169	128.5	761.3
1997	2 233	1 350	137.2	101.6	245	208	150.3	724.1
1998	2 413	1 286	141.4	110.0	233	218	176.1	807.9
1999	1 976	1 051	135.0	128.4	182	157 <b>s</b>	117.7 <b>s</b>	747.2 <b>s</b>
2000	2 146	1 148	159.8	139.2	207	189 <b>s</b>	146.4 <b>s</b>	776.4 <b>s</b>
2001	2 019	915	144.2	157.6	207	188 <b>s</b>	165.8 <b>s</b>	880.2 <b>s</b>
2002	1 954	969	138.6	143.1	219	204 <b>s</b>	171.7 <b>s</b>	840.4 <b>s</b>
2003	2 006	868	104.6	120.4	173	164 <b>s</b>	112.2 <b>s</b>	685.9 <b>s</b>
2004	1 920	756	76.6	101.4	163	147 <b>s</b>	98.2 <b>s</b>	666.4 <b>s</b>
2005	2 030	714	71.4	100.0	177	168 <b>s</b>	130.6 <b>s</b>	775.6 <b>s</b>
2006	2 377	905	99.5	110.0	232	231 <b>s</b>	191.5 <b>s</b>	827.9 <b>s</b>

<sup>a</sup> Ex mine. <sup>b</sup> Despatches. <sup>s</sup> ABARE estimate.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## 339 World ilmenite production, by country

	Australia <sup>a</sup> kt	India kt	Malaysia kt	Norway kt	Ukraine <sup>s</sup> kt	United States kt	Other <sup>s</sup> kt	Total <sup>s</sup> kt
1960	108	250	120 <b>b</b>	246	127	714	1 015	2 580
1961	169	174	109 <b>b</b>	311	135	710	1 217	2 825
1962	182	138	103 <b>b</b>	245 <b>c</b>	144	727	923	2 470
1963	205	26	149 <b>b</b>	242	153	806	1 079	2 660
1964	309	11	131 <b>b</b>	272	163	908	1 516	3 310
1965	448	30	124 <b>b</b>	284	174	879	1 591	3 530
1966	522	34	118 <b>b</b>	370	185	876	1 635	3 740
1967	554	42	91 <b>b</b>	427	197	874	1 565	3 750
1968	562	59	126 <b>b</b>	402	210	888	1 723	3 970
1969	721	48	133 <b>b</b>	491	224	845	1 728	4 190
1970	886	79	223 <b>b</b>	579	238	787	2 537	5 340
1971	814	140 <b>c</b>	156 <b>b</b>	595	254	618	2 559	5 150
1972	707	165 <b>c</b>	153 <b>b</b>	610	270	659	2 195	4 770
1973	720	185 <b>c</b>	154 <b>b</b>	750	288	735	2 247	5 090
1974	817	132 <b>c</b>	154 <b>b</b>	844	307	685 <b>c</b>	2 246	5 200
1975	991	140 <b>c</b>	112 <b>b</b>	516 <b>c</b>	327	632	1 990	4 725
1976	959	150 <b>c</b>	180 <b>b</b>	759	381	590	2 249	5 280
1977	1 033	185 <b>c</b>	185 <b>b</b>	823	399	576	1 988	5 200
1978	1 255	185 <b>c</b>	187 <b>b</b>	763	408	535	2 141	5 490
1979	1 181	160	187 <b>b</b>	820	408	580	2 162	5 520
1980	1 385	160	189 <b>b</b>	828	417	498	2 439	5 940
1981	1 321	189	173 <b>b</b>	656	426	462	2 954	6 200
1982	1 149	190	77 <b>b</b>	552	431	239	2 642	5 300
1983	893	180	223 <b>b</b>	544	435	235	1 777	4 300
1984	1 493	150	177 <b>b</b>	661	440	240	2 906	6 100
1985	1 419	143	247 <b>b</b>	736	445	240	3 756	7 000
1986	1 238	140	415	804	450	240	3 599	6 900
1987	1 349	140	509	852	454	240	4 496	8 200
1988	1 610	140 <b>d</b>	506 <b>d</b>	898 <b>d</b>	460	240 <b>d</b>	4 164	8 030
1989	1 690	160 <b>d</b>	520 <b>d</b>	930 <b>d</b>	460	240 <b>d</b>	5 116	9 140
1990	1 616	305 <b>d</b>	250 <b>d</b>	814 <b>d</b>	350	255 <b>d</b>	4 109	7 699
1991	1 466	270 <b>d</b>	200 <b>d</b>	625 <b>d</b>	350	220 <b>d</b>	3 641	6 773
1992	1 787	215 <b>d</b>	338 <b>d</b>	708 <b>d</b>	200	240 <b>d</b>	4 296	7 784
1993	1 795	260	279	713	180	240	4 030	7 497
1994	1 777	290	155	826	150	315	4 139	7 652
1995	1 980	290	179	833	180	330	4 201	7 993
1996	2 030	330	101	747	270	300	4 653	8 431
1997	2 233	305	167	558	162	270	4 815	8 510
1998	2 413	368	67	590	192	360	5 247	9 237
1999	1 976	395	100	590	230	389	5 091	8 764
2000	2 146	416	110	750	260	418	5 488	9 593
2001	2 019	457	170	750	319	437	5 908	10 063
2002	1 954	522	185	790	356	410	5 883	10 103
2003	2 006	632	175	850	420	474	5 622	10 180
2004	1 920	691	189	870	448	506	5 761	10 386
2005	2 030	619	223	816	470	511	6 359	11 028
2006	2 377	685	165	850	470	461	6 677	11 685

**a** Includes leucoxene. **b** Exports to 1985. **c** Bureau of Mineral Resources estimate. **d** DEMA Pty Ltd estimates. **s** ABARE estimate.

Sources: British Geological Survey, *World Mineral Statistics*, Keyworth, Nottingham, United Kingdom; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; Metal Bulletin, *Prices and Data*, Surrey, England; Mining Journal, *Mining Annual Review*, London; TZ Minerals International, *Mineral Sands Annual Review*, Surrey, England; TZ Minerals International, *Mineral Sands Report*, Surrey, England; US Department of the Interior, Bureau of Mines, *Mineral Commodity Summaries*, Washington DC; ABARE.

# 340 World rutile concentrate and titaniferous slag production, by country

	Rutile concentrate						Titaniferous slag	
	Australia	Sierra Leone	South Africa	United States	Other s	Total s	Canada	South Africa
	kt	kt	kt	kt	kt	kt	kt	kt
1962	121	0	0	9	26	156	273	0
1963	185	0	0	11	24	220	344	0
1964	185	0	0	7	22	214	494	0
1965	221	0	0	5	22	248	495	0
1966	251	0	0	5	22	278	476	0
1967	270	24 <b>a</b>	0	5	23	322	547	0
1968	293	14 <b>a</b>	0	2	24	333	610	0
1969	326	28 <b>a</b>	0	0	26	380	680	0
1970	371	44 <b>a</b>	0	0	25	440	766	0
1971	375	12	0	0	25	412	774	0
1972	313	0	0	0	28	341	835	0
1973	335	0	0	8 <b>a</b>	27	370	855	0
1974	319	0	0	6 <b>a</b>	26	351	845	0
1975	348	0	0	10 <b>a</b>	28	386	748	0
1976	390	0	0	8 <b>a</b>	26	424	812	0
1977	325	0	0	7	30	362	691	0
1978	257	0	20	4	35	316	848	100
1979	275	7	42	0	40	364	476	316
1980	312	47	48	10	38	456	875	379
1981	231	51	50	15	40	387	762	408
1982	221	48	47	15	33	364	653	420
1983	163	72	56	18	34	343	612	420
1984	170	91	56	20	33	371	726	417
1985	212	81	55	30 <b>a</b>	35	413	844	435
1986	216	97	60	30 <b>a</b>	37	440	850	435
1987	249	113	56	30 <b>a</b>	35	480	915	632
1988	231	126	55	25 <b>s</b>	38	475	1 025	700
1989	243	128	61	25 <b>s</b>	42	499	1 035	692
1990	244	144	60	29 <b>s</b>	39	516	1 046	672
1991	192	155	90	27 <b>s</b>	79	543	701	808
1992	183	149	95	29 <b>s</b>	65	521	753	884
1993	187	150	100	21	64	522	653	892
1994	233	144	90	24	56	547	765	772
1995	204	0	92	19	50	365	816	988
1996	192	0	108	32	55	387	954	1 065
1997	245	0	108	35	32	420	914	1 075
1998	233	0	108	35	45	421	1 033	1 083
1999	182	0	118	37	46	383	928	1 100
2000	207	0	123	38	78	442	893	1 090
2001	207	0	122	30	83	438	990	1 030
2002	219	0	134	22	82	455	864	975
2003	173	0	108	26	82	391	842	928
2004	163	0	110	23	82	378	829	1 018
2005	177	0	123	28	85	414	876	1 198
2006	232	74	122	11	83	522	950	1 234

**a** Bureau of Mineral Resources estimate. **s** ABARE estimate.

Sources: British Geological Survey, *World Mineral Statistics*, Keyworth, Nottingham, United Kingdom; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; TZ Minerals International, *Mineral Sands Annual Review*, Surrey, England; TZ Minerals International, *Mineral Sands Report*, Surrey, England; US Department of the Interior, Bureau of Mines, *Mineral Commodity Summaries*, Washington DC.

## 341 Summary of Australian statistics for uranium

	Production <sup>a</sup>	Exports		
		Volume <sup>b</sup>	Value	Unit value
	t	t	\$m	\$/kg U <sub>3</sub> O <sub>8</sub>
1960-61	1 557	na	na	na
1961-62	1 362	na	na	na
1962-63	1 193	na	na	na
1963-64	367	na	na	na
1964-65	na	na	na	na
1965-66	na	na	na	na
1966-67	na	na	na	na
1967-68	na	na	na	na
1968-69	na	na	na	na
1969-70	na	na	na	na
1970-71	na	na	na	na
1971-72	na	na	na	na
1972-73	na	na	na	na
1973-74	na	na	na	na
1974-75	na	na	na	na
1975-76	484	na	na	na
1976-77	480	750	26.9	35.87
1977-78	696	1 452	87.0	59.92
1978-79	951	1 317	102.3	77.68
1979-80	1 837	1 210	98.4	81.32
1980-81	3 944	1 625	120.0	73.85
1981-82	5 968	5 460	415.0	76.01
1982-83	4 334	3 233	296.0	91.56
1983-84	5 836	3 259	312.1	95.77
1984-85	4 327	3 441	317.0	92.12
1985-86	4 450	3 210	296.0	92.21
1986-87	4 505	4 364	389.0	89.14
1987-88	4 193	4 552	411.0	90.29
1988-89	4 507	5 061	402.6	79.54
1989-90	4 089	4 812	314.8	65.42
1990-91	4 367	6 129	331.7	54.12
1991-92	4 329	4 729	244.8	51.76
1992-93	2 686	2 289	122.6	53.55
1993-94	2 733	3 992	193.3	48.42
1994-95	2 622	4 069	187.9	46.18
1995-96	5 088	5 286	241.8	45.75
1996-97	5 975	5 701	245.2	43.01
1997-98	5 788	6 415	288.2	44.93
1998-99	6 387	5 989	287.8	48.05
1999-00	8 217	8 025	366.6	45.68
2000-01	9 549	9 722	497.3	51.15
2001-02	7 823	7 367	360.7	48.96
2002-03	9 172	9 593	427.0	44.52
2003-04	9 569	9 099	364.5	40.05
2004-05	10 964	11 249	475.1	42.24
2005-06	9 974	10 253	545.8	53.24
2006-07	9 594	9 519	659.5	69.28

<sup>a</sup> Tonnes of uranium oxide (U<sub>3</sub>O<sub>8</sub>). <sup>b</sup> Before 1983-84, exports are tonnes of concentrate; from 1983-84, exports are tonnes of U<sub>3</sub>O<sub>8</sub>. **na** Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra.

342 World uranium production, by country <sup>a</sup>

	Australia kt	Canada kt	Gabon kt	Namibia kt	Niger kt	South Africa kt	United States kt	Total <sup>b</sup> kt
1970	0.25	3.52	0.40	0.00	0.00	3.17	9.90	18.90
1971	0.00	3.83	0.54	0.00	0.43	3.22	9.40	19.10
1972	0.00	4.00	0.21	0.00	0.87	3.20	9.90	20.11
1973	0.00	3.71	0.40	0.00	0.95	2.74	10.20	20.00
1974	0.00	3.42	0.44	0.00	1.12	2.71	8.90	18.70
1975	0.00	3.56	0.80	0.00	1.31	2.49	8.90	19.35
1976	0.36	4.85	0.85	0.65	1.46	2.76	9.80	23.17
1977	0.36	5.79	0.91	2.34	1.61	3.36	11.50	28.58
1978	0.52	6.80	1.02	2.70	2.06	3.96	14.20	34.12
1979	0.71	6.82	1.10	3.84	3.62	4.80	14.40	38.34
1980	1.56	7.15	1.03	4.04	4.13	6.15	16.80	44.24
1981	2.92	7.72	1.02	3.97	4.36	6.13	14.80	44.20
1982	4.42	8.08	0.97	3.78	4.26	5.82	10.30	41.46
1983	3.21	7.14	1.01	3.72	3.43	6.06	8.20	36.99
1984	4.32	11.17	0.92	3.70	3.28	5.73	5.70	38.85
1985	3.21	10.88	0.94	3.40	3.18	4.88	4.30	34.87
1986	4.15	11.72	0.90	3.30	3.11	4.60	5.20	37.21
1987	3.78	12.44	0.80	3.50	2.97	3.96	5.00	36.96
1988	3.53	12.29	0.93	3.51	2.97	3.80	5.04	36.43
1989	3.66	11.32	0.87	3.08	2.96	2.94	5.32	34.09
1990	3.53	8.73	0.70	3.21	2.83	2.49	3.42	28.36
1991	3.78	8.16	0.54	2.45	2.96	1.71	3.06	26.99
1992	2.33	9.30	0.54	1.68	2.96	1.67	2.20	23.88
1993	2.24	9.12	0.68	1.65	2.92	1.69	1.23	23.48
1994	2.20	9.69	0.65	1.90	2.98	1.69	1.40	23.64
1995	3.70	10.52	0.63	2.01	2.97	1.42	1.36	26.22
1996	4.96	11.40	0.56	2.45	3.16	1.44	1.81	29.32
1997	5.48	11.17	0.47	2.91	3.50	1.10	1.81	29.72
1998	4.89	10.92	0.73	2.78	3.71	0.97	1.81	27.57
1999	5.98	8.21	0.29	2.69	2.91	0.93	1.77	24.15
2000	7.58	10.68	0.00	2.72	2.91	0.80	1.52	27.65
2001	7.72	12.52	0.00	2.24	2.92	0.87	1.01	28.42
2002	6.85	11.60	0.00	2.33	3.08	0.83	0.90	36.05
2003	7.57	10.46	0.00	2.04	3.16	0.77	0.77	35.49
2004	8.98	11.60	0.00	3.04	3.25	0.75	0.88	40.26
2005	8.98	11.80	0.00	3.00	3.40	0.85	0.84	41.25
2006	na	na	na	na	na	na	na	na

<sup>a</sup> Uranium (U); excludes current and former centrally planned economies. <sup>b</sup> Includes other Western producers not listed. **na** Not available.

Sources: International Atomic Energy Agency, *Uranium: Resources, Production and Demand*, Vienna; Nuexco, *Annual Review*, Denver, Colorado; World Nuclear Association.

# 343 World uranium consumption, by country <sup>a</sup>

	Canada	France	Germany <sup>b</sup>	Japan	United Kingdom	United States	Other	Total
	kt	kt	kt	kt	kt	kt	kt	kt
1980	1.00	3.70	2.76	4.00	1.90	7.40	3.59	24.35
1981	1.10	4.40	1.95	4.70	1.30	8.30	4.84	26.59
1982	1.30	6.00	3.20	4.70	2.20	11.80	6.90	36.10
1983	1.40	6.50	2.70	3.50	1.50	8.90	5.85	30.35
1984	1.30	6.00	3.40	5.00	1.50	10.50	6.50	34.20
1985	1.30	6.00	3.20	4.70	2.20	11.80	6.90	36.10
1986	1.40	6.20	3.30	4.80	1.50	11.85	7.22	36.27
1987	1.60	6.20	3.30	6.00	1.55	11.15	7.70	37.50
1988	1.70	6.50	3.30	6.40	1.70	14.19	6.77	40.56
1989	1.80	7.20	3.30	6.60	1.90	14.50	7.39	42.69
1990	1.90	7.20	3.30	6.90	2.00	11.40	7.64	40.34
1991	1.90	7.30	3.30	7.10	2.00	16.00	8.30	45.90
1992	1.90	7.80	3.20	7.60	2.33	17.30	7.31	47.44
1993	1.90	7.90	3.20	8.10	2.04	17.30	9.34	49.77
1994	1.90	8.90	3.00	7.70	2.43	15.60	9.90	49.43
1995	1.90	8.90	3.30	7.70	2.51	18.40	9.74	52.45
1996	1.80	8.90	3.20	8.70	2.62	17.40	9.81	52.43
1997	1.80	8.60	2.90	7.50	2.62	21.30	8.41	53.13
1998	1.20	8.20	3.10	7.81	2.36	17.70	12.33	52.69
1999	1.30	8.20	3.10	9.29	2.36	18.10	12.19	54.54
2000	1.80	8.88	3.35	7.50	2.25	20.57	12.84	57.19
2001	1.80	8.57	3.20	11.10	2.25	18.42	12.32	57.66
2002	1.40	8.57	3.20	7.84	1.93	22.70	13.23	58.87
2003	1.70	8.57	3.20	8.38	1.76	22.80	13.32	59.73
2004	1.70	7.19	3.00	7.14	1.91	24.15	22.24	67.32
2005	1.70	7.19	2.90	8.67	1.50	22.88	22.01	66.84
2006	na	na	na	na	na	na	na	na

<sup>a</sup> Annual reactor related requirements; excludes current and former centrally planned economies. <sup>b</sup> West Germany until 1991; unified Germany from 1992. **na** Not available.

Note: Uranium: Resources, production and Demand publication is only released every two years.

Source: International Atomic Energy Agency, *Uranium: Resources, Production and Demand*, Vienna.



344 Uranium prices <sup>a</sup>

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Av.
1973	5.95	6.00	6.10	6.20	6.45	6.50	6.50	6.50	6.50	6.50	6.75	7.00	6.41
1974	7.70	7.90	8.00	9.00	9.50	10.50	11.50	12.00	12.50	14.00	14.75	15.00	11.03
1975	16.00	16.00	18.00	20.00	21.00	23.00	24.70	26.00	26.00	28.50	30.00	35.00	23.68
1976	35.20	37.00	39.25	40.00	40.00	40.00	40.00	40.40	41.00	41.00	41.50	41.00	39.70
1977	41.35	41.50	41.60	41.60	42.00	42.25	42.25	42.25	42.40	42.75	43.20	43.20	42.20
1978	42.90	43.25	43.25	43.25	43.40	43.40	43.40	43.10	43.25	43.00	43.25	43.25	43.23
1979	43.25	43.25	43.25	43.25	43.25	43.00	42.70	42.70	42.20	42.20	41.00	40.75	42.57
1980	40.00	38.00	35.00	32.00	32.00	31.50	31.50	30.00	28.50	28.00	28.00	27.00	31.79
1981	25.00	25.00	25.00	25.00	25.00	24.25	23.50	23.50	23.50	23.50	23.50	23.50	24.19
1982	23.00	23.00	22.50	20.75	20.50	19.25	18.25	17.00	17.00	17.50	19.75	20.25	19.90
1983	21.50	21.75	22.25	23.25	23.50	23.50	24.00	24.00	24.00	23.50	22.50	22.00	22.98
1984	20.50	17.50	17.00	17.75	17.75	17.50	17.50	17.50	17.50	16.00	15.50	15.25	17.27
1985	15.00	15.00	15.00	14.25	15.00	15.00	15.75	16.00	16.00	16.50	16.75	17.00	15.60
1986	17.00	17.00	17.25	17.25	17.00	17.00	17.00	17.00	17.00	17.00	16.75	16.75	17.00
1987	16.65	16.75	17.00	17.00	17.00	17.20	17.20	17.00	16.75	16.75	16.75	16.50	16.88
1988	16.50	16.25	16.00	16.00	15.50	15.25	14.55	14.10	13.85	13.20	12.30	12.00	14.63
1989	11.50	11.25	10.75	10.20	9.75	9.65	9.65	9.60	9.60	9.40	9.30	9.00	9.97
1990	8.90	8.80	8.80	8.90	9.35	11.00	11.75	11.50	10.50	8.50	9.50	9.65	9.76
1991	9.20	9.40	9.40	9.00	9.25	9.10	8.75	9.00	8.25	7.50	7.40	8.75	8.75
1992	7.90	8.00	7.90	7.90	7.70	7.90	7.90	8.10	8.60	10.25	10.50	10.00	8.55
1993	9.80	10.10	10.20	10.35	10.10	10.30	9.90	10.10	10.30	10.30	10.00	9.90	10.11
1994	9.50	9.50	9.50	9.40	9.25	9.25	9.40	9.20	9.10	9.20	9.50	9.60	9.37
1995	9.70	10.35	11.00	11.50	11.75	11.75	11.90	11.90	11.80	11.80	11.80	12.25	11.46
1996	12.90	15.25	15.90	16.15	16.50	16.60	16.50	16.40	15.90	15.50	15.00	14.70	15.61
1997	14.25	13.75	13.00	12.25	11.50	10.70	10.60	10.30	10.85	12.50	12.75	12.15	12.05
1998	12.00	11.00	10.70	10.80	10.90	10.90	10.50	10.25	9.90	9.25	8.75	8.75	10.31
1999	10.50	10.50	10.85	10.85	10.65	10.40	10.30	10.10	9.90	9.70	9.70	9.60	10.25
2000	9.50	9.40	9.20	9.00	8.45	8.15	8.05	7.80	7.45	7.25	7.10	7.10	8.20
2001	7.25	7.90	8.20	8.60	8.90	8.90	8.90	9.10	9.30	9.45	9.50	9.60	8.80
2002	9.70	9.90	9.90	9.90	9.90	9.90	9.85	9.85	9.75	9.90	9.90	10.20	9.89
2003	10.20	10.20	10.10	10.75	11.00	10.90	10.90	11.30	12.20	12.75	13.75	14.50	11.55
2004	15.50	16.50	17.50	17.60	17.85	18.50	18.50	19.25	20.00	20.25	20.50	20.70	18.55
2005	21.00	21.75	22.50	24.00	29.00	29.00	29.50	30.20	31.25	33.25	34.50	36.25	28.52
2006	37.50	38.50	40.50	41.50	43.00	45.50	47.50	48.50	54.00	60.00	63.00	72.00	49.29
2007	75.00	85.00	95.00	113.00	125.00	136.00	120.00	90.00	85.00	85.00	na	na	na

<sup>a</sup> Restricted exchange value after 1993, using Nuexco's exchange value up to 1996 and an average of four prices after 1996, US\$/lb U<sub>3</sub>O<sub>8</sub>. **na** Not available.

Sources: TradeTech, *The Nuclear Review*, Denver, Colorado (previously Nuexco, *Monthly Report*); Ux Consulting.

# 345 Nuclear power reactors in operation

	2003 Reactors in operation a		2004 Reactors in operation a		2005 Reactors in operation a		2006 Reactors in operation a	
	No. of Units	Capacity MW(e) b	No. of Units	Capacity MW(e) b	No. of Units	Capacity MW(e) b	No. of Units	Capacity MW(e) b
Argentina	2	935	2	935	2	935	2	935
Armenia	1	376	1	376	1	376	1	376
Belgium	7	5 760	7	5 760	7	5 801	7	5 728
Brazil	2	1 901	2	1 901	2	1 901	2	1 901
Bulgaria	4	2 722	4	2 722	4	2 722	4	2 722
Canada	17	12 113	17	12 113	18	12 595	18	12 595
China	9	6 587	9	6 587	9	6 587	10	7 587
Czech Republic	6	3 548	6	3 548	6	3 472	6	3 472
Finland	4	2 656	4	2 656	4	2 676	4	2 676
France	59	63 363	59	63 363	59	63 474	59	63 473
Germany	18	20 643	18	20 643	17	20 303	17	20 303
Hungary	4	1 755	4	1 755	4	1 755	4	1 755
India	14	2 550	14	2 550	15	2 993	16	3 483
Japan	54	45 464	54	45 464	55	47 700	55	47 700
Korea, Rep. of	19	15 850	19	15 850	20	16 840	20	16 840
Lithuania	2	2 370	2	2 370	1	1 185	1	1 185
Mexico	2	1 310	2	1 310	2	1 310	2	1 310
Netherlands	1	449	1	449	1	452	1	452
Pakistan	2	425	2	425	2	425	2	425
Romania	1	655	1	655	1	655	1	655
Russian Federation	30	20 793	30	20 793	31	21 743	31	21 743
South Africa	2	1 800	2	1 800	2	1 842	2	1 842
Slovakia	6	2 442	6	2 442	6	2 472	6	2 472
Slovenia	1	656	1	656	1	676	1	696
Spain	9	7 584	9	7 584	9	7 584	8	7 442
Sweden	11	9 451	11	9 451	10	8 904	10	8 938
Switzerland	5	3 220	5	3 200	5	3 220	5	3 220
United Kingdom	23	11 852	27	12 052	23	11 852	19	10 982
Ukraine	14	12 157	13	11 207	15	13 168	15	13 168
United States	104	98 298	104	98 298	103	97 838	103	98 054
Total	439	364 569	442	363 819	441	368 340	438	369 014

a At end of year. b Annual electricity generating capacity in megawatts.

Source: International Atomic Energy Agency, annual press release: IAEA releases nuclear power statistics, Vienna; World Nuclear Association.

# 346 Summary of Australian statistics for zinc

	Production			Exports d		Price e \$/t
	Mine a kt	Refined b kt	Consumption c kt	Volume kt	Value \$m	
1963	357	183	94	216	26	200.8
1964	350	189	110	184	37	284.2
1965	355	202	98	194	39	286.0
1966	375	198	90	241	47	270.5
1967	407	198	104	254	43	260.7
1968	416	198	102	267	44	262.0
1969	510	253	117	331	59	277.8
1970	487	268	115	390	71	295.0
1971	453	266	109	359	68	314.8
1972	507	304	114	346	80	339.8
1973	480	306	121	418	102	385.9
1974	464	284	120	374	139	543.2
1975	510	200	82	295	117	627.0
1976	462	249	86	388	159	655.7
1977	492	256	81	327	148	657.7
1978	473	295	92	465	157	533.6
1979	529	310	102	382	165	712.5
1980	495	306	100	481 f	251 f	713.1
1981	518	300	97	406	235	798.5
1982	665	296	81	521	323	849.0
1983	699	298	83	645	392	952.3
1984	677	302	77	661	469	1 187.7
1985	759	289	87	633	515	1 255.2
1986	712	303	81	662	489	1 242.2
1987	778	310	82	663	526	1 249.3
1988	760	302	90	674	631	1 560.7
1989	803	294	88	670	962	2 298.9
1990	933	303	82	825	1 159	2 094.7
1991	1 023	324	71	915	900	1 569.8
1992	1 019	332	71	995	1 135	1 816.9
1993	990	316	75	987	851	1 568.2
1994	955	323	79	978	785	1 499.9
1995	937	320	77	907	797	1 559.7
1996	1 070	326	73	983	808	1 478.4
1997	1 011	307	81	965	953	1 889.8
1998	1 063	311	93	1 002	1 025	1 806.6
1999	1 162	344	96	1 109	1 105	1 752.6
2000	1 419	493	85	1 333	1 718	2 046.7
2001	1 517	556	83	1 484	1 669	1 921.2
2002	1 469	566	87	1 544	1 485	1 614.4
2003	1 479	553	85	1 466	1 316	1 431.5
2004	1 335	470	82	1 324	1 232	1 609.3
2005	1 367	457	76	1 444	1 765	1 993.3
2006	1 362	463	86	1 283	3 792	4 342.4

a Metal content. b Excludes secondary (scrap) and zinc dust production. c Refined metal only. d Quantities refer to the total metallic content of all ores and concentrates, intermediate products and refined metal. The value of zinc contained in other mine and smelter products (for example, zinc in lead concentrates) is included in the value of the product in which it is exported. e EZ Industries, Prime Western, 98.5 per cent purity. Before 1968, Prime Western grade zinc at Cockle Creek. f Zinc export code classifications changed substantially between 1979 and 1980, creating a break in the continuity of the series.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade*, Australia, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## zinc

## 347 Australian supply and disposal of zinc

	Unit	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Production</b>									
Mine <b>a</b>	kt	1 265	1 483	1 490	1 529	1 355	1 352	1 380	1 378
Refined									
Primary	kt	405	534	572	570	502	464	446	496
Secondary <b>b</b>	kt	5	5	6	6	6	6	6	6
<b>Exports</b>									
Ores and concentrates									
	kt	1 496	1 903	1 849	1 913	1 844	1 953	1 821	1 948
	\$m	682	977	735	670	677	852	1 542	2 599
Refined metal									
	kt	317	452	496	486	396	397	388	374
	\$m	550	905	794	757	557	614	998	1 707
<b>Consumption <b>c</b></b>									
	kt	89	81	88	86	84	79	79	80
<b>Export unit value</b>									
Ores and concentrates	A\$/t	456.2	513.5	397.5	350.3	366.9	436.2	846.7	1 334.2
Refined metal	A\$/t	1 734.0	2 000.5	1 600.8	1 558.2	1 408.6	1 549.1	2 573.2	4 561.9

**a** Metal content. **b** Includes remelted zinc and direct use of secondary materials. **c** Refined metal only.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra.

348 Volume of Australian exports of zinc, by destination **a**

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Ores and concentrates <b>b</b></b>								
Belgium	100	40	27	89	64	45	15	9
China	0	5	94	63	116	131	103	104
Germany	6	22	33	28	27	32	6	22
India	27	14	0	18	19	34	18	28
Italy	34	33	21	67	21	5	na	na
Japan	226	217	216	185	202	181	184	171
Korea, Rep. of	257	173	252	173	186	234	278	205
Netherlands	23	238	188	219	225	230	207	216
Thailand	43	52	32	25	24	na	19	24
United Kingdom	43	31	42	65	5	na	na	na
Other	57	65	119	84	118	103	101	107
Total	816	890	1 024	1 016	1 007	995	931	886
<b>Metal</b>								
Bangladesh	3	12	18	22	16	2	2	2
Chinese Taipei	67	72	63	61	42	39	74	79
Hong Kong, China	66	74	87	92	105	119	147	118
India	4	9	13	12	14	5	11	13
Indonesia	37	39	32	33	31	18	17	15
Malaysia	55	33	33	30	19	36	90	15
Netherlands	13	3	18	21	33	na	na	10
Saudi Arabia	6	11	15	21	24	17	8	3
Thailand	3	4	9	15	7	6	5	5
United States	5	124	89	58	8	8	na	15
Other	21	46	80	118	162	75	109	82
Total	280	427	457	483	461	325	463	357

**a** Excluding slags, residues and scrap. **b** Metal content. **na** Not available.

Source: ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.

# 349 World production, consumption, stocks and prices of zinc

	Production				Consumption c	Stocks b	Price d
	Mine a	Refined metal		Total			
		Primary	Secondary b				
kt	kt	kt	kt	kt	kt	US\$/t	
1961	3 476	3 199	149	3 348	3 282	478	214.3
1962	3 600	3 322	155	3 477	3 438	477	186.5
1963	3 660	3 426	167	3 593	3 644	392	211.8
1964	4 083	3 683	177	3 860	3 986	390	324.0
1965	4 352	3 848	215	4 063	4 099	433	310.6
1966	4 550	4 045	242	4 287	4 292	461	280.4
1967	4 958	4 142	222	4 364	4 323	479	271.9
1968	5 113	4 613	224	4 837	4 701	452	261.7
1969	5 472	5 073	205	5 278	5 092	519	285.2
1970	5 590	4 975	259	5 234	5 013	682	294.5
1971	5 675	4 862	248	5 110	5 164	614	310.0
1972	5 866	5 247	269	5 516	5 679	586	378.4
1973	6 070	5 543	283	5 826	6 195	457	846.8
1974	6 129	5 720	274	5 994	6 000	759	1 237.5
1975	6 176	5 219	264	5 483	5 062	1 185	746.0
1976	6 249	5 545	266	5 811	5 779	1 140	711.7
1977	6 567	5 710	279	5 989	5 857	1 194	590.0
1978	6 401	5 801	237	6 038	6 329	833	593.3
1979	6 299	6 169	287	6 456	6 444	868	741.2
1980	6 108	5 958	285	6 243	6 289	787	761.3
1981	6 004	5 969	318	6 287	6 199	875	859.6
1982	6 275	5 701	355	6 056	6 043	800	745.7
1983	6 289	6 016	368	6 384	6 370	668	765.5
1984	6 523	6 327	351	6 678	6 539	626	891.0
1985	6 651	6 545	325	6 870	6 532	606	763.9
1986	6 534	6 085	295	6 380	6 747	615	753.1
1987	6 885	6 330	293	6 623	6 959	568	816.2
1988	6 714	6 579	299	6 878	6 848	496	1 240.5
1989	6 785	6 426	368	6 794	6 726	572	1 719.6
1990	5 166	6 296	395	6 724	6 663	534	1 520.0
1991	7 214	6 427	428	6 868	6 622	650	1 116.0
1992	7 208	6 605	425	6 957	6 555	989	1 240.0
1993	6 758	6 755	455	7 169	6 588	1 474	961.0
1994	6 812	6 700	467	7 131	6 987	1 669	998.0
1995	6 982	6 850	497	7 359	7 545	1 170	1 031.0
1996	7 296	6 919	524	7 443	7 549	913	1 025.0
1997	7 337	7 283	500	7 783	7 782	901	1 313.0
1998	7 569	7 503	518	8 021	7 912	762	1 023.0
1999	8 065	7 816	552	8 368	8 496	734	1 076.3
2000	8 839	8 382	599	8 981	8 997	662	1 128.4
2001	8 933	8 599	622	9 221	8 920	946	885.5
2002	8 892	9 082	628	9 710	9 377	1 095	778.9
2003	9 520	9 281	593	9 874	9 843	1 158	828.0
2004	9 733	9 801	552	10 353	10 646	1 039	1 047.4
2005	10 088	9 706	523	10 229	10 629	808	1 381.9
2006	10 400	10 138	535	10 672	11 049	495	3 276.0

a Metal content. b Excludes Former Soviet Union, Eastern Europe and China. c Refined primary metal only. d Average London Metal Exchange cash settlement price, registered brands, minimum 98 per cent purity.

Sources: BMR, *Australian Mineral Industry Annual Review*, AGPS, Canberra; International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal; Metallgesellschaft AG, *Metallstatistik*, Frankfurt; London Metal Exchange.

## zinc

350 World zinc mine production, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Africa								
Algeria	5	6	7	5	2	0	3	3
Morocco	112	105	89	91	69	87	128	130
Namibia	35	40	37	41	108	202	232	206
South Africa	70	63	61	64	41	32	32	34
Tunisia	45	41	41	37	38	31	19	3
Total	267	256	236	237	258	352	414	376
Americas								
Argentina	34	35	40	37	30	27	30	35
Bolivia	145	151	145	142	145	147	159	165
Brazil	99	100	111	136	153	159	171	180
Canada	1 021	1 002	1 065	916	788	791	667	638
Chile	32	31	33	36	33	28	29	32
Honduras	41	43	48	46	44	41	43	38
Mexico	363	393	429	446	414	426	476	432
Peru	900	910	1 056	1 219	1 369	1 209	1 202	1 202
United States	852	852	842	784	768	739	720	727
Total	3 483	3 517	3 769	3 762	3 744	3 568	3 497	3 449
Asia								
China	1 476	1 780	1 572	1 624	2 029	2 391	2 525	2 837
India	185	208	222	234	305	340	446	509
Iran	98	102	105	121	111	135	167	164
Japan	64	64	45	43	45	48	41	7
Kazakhstan	283	322	320	376	392	404	405	450
Korea, Dem. Rep. of	37	34	28	32	52	62	65	68
Korea, Rep. of	10	12	5	na	na	na	na	na
Thailand	24	27	24	25	31	40	43	42
Turkey	57	48	36	43	40	39	56	62
Viet Nam	18	22	32	42	45	40	48	45
Total	2 258	2 623	2 400	2 546	3 057	3 507	3 809	4 219
Australia	1 110	1 379	1 476	1 444	1 447	1 298	1 329	1 321
Europe								
Bulgaria	11	10	11	14	12	11	13	6
Finland	20	16	20	35	39	37	41	36
Greece	18	17	32	35	3	na	4	18
Ireland	200	263	298	253	419	438	429	426
Macedonia	21	25	20	10	4	na	na	8
Poland	155	157	153	152	152	140	136	117
Romania	27	27	29	22	22	19	14	16
Russian Federation	161	163	164	162	159	162	186	178
Spain	154	204	161	70	15	na	na	na
Sweden	175	177	159	149	188	199	216	211
Total	947	1 063	1 052	903	1 013	1 007	1 042	1 036
Total	8 065	8 839	8 933	8 892	9 520	9 733	10 088	10 400

<sup>a</sup> Recovered metal zinc content by analysis of zinc ores and concentrates, plus the zinc content of other ores and concentrates known to be intended for zinc recovery. **na** Not available.

Source: International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.

# 351 World zinc metal production, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Africa</b>								
Algeria	27	26	26	34	35	33	37	36
South Africa	108	103	109	111	112	105	104	90
Total	135	129	135	147	197	260	274	256
<b>Americas</b>								
Argentina	40	36	40	39	39	35	41	40
Brazil	187	192	193	255	258	266	267	272
Canada	777	780	661	793	761	805	723	824
Mexico	219	235	304	306	320	337	336	285
Peru	191	200	190	170	202	196	164	175
United States	372	371	329	339	350	354	350	248
Total	1 785	1 814	1 717	1 903	1 930	1 993	1 881	1 844
<b>Asia</b>								
China	1 703	1 957	2 038	2 155	2 319	2 720	2 772	3 207
India	189	204	234	248	280	272	302	415
Iran	24	47	65	82	84	96	140	140
Japan	633	654	644	640	651	635	638	614
Kazakhstan	243	262	277	286	279	317	357	367
Korea, Dem. Rep. of	40	37	31	34	55	65	57	57
Korea, Rep. of	430	477	508	608	645	669	647	667
Thailand	95	101	105	105	107	103	93	84
Uzbekistan	27	34	35	30	30	30	45	48
Total	3 412	3 774	3 936	4 189	4 450	4 906	5 058	5 611
<b>Australia</b>	344	494	556	567	553	474	457	463
<b>Europe</b>								
Belgium	232	264	256	239	244	257	222	251
Bulgaria	84	84	88	82	86	102	95	95
Finland	225	223	249	235	266	285	282	282
France	318	318	329	334	253	260	209	120
Germany	361	357	357	378	388	358	335	317
Italy	145	170	179	176	123	118	121	109
Macedonia	49	58	52	56	28	na	na	na
Netherlands	221	217	206	203	223	225	228	238
Norway	144	138	145	145	142	140	148	158
Poland	179	173	175	159	154	156	137	134
Romania	29	52	52	38	51	52	53	54
Russian Federation	232	242	250	257	253	241	211	230
Spain	383	391	437	503	519	523	500	500
United Kingdom	89	76	90	98	14	na	na	na
Other	1	7	12	1	0	3	18	9
Total	2 692	2 770	2 877	2 904	2 744	2 720	2 559	2 497
<b>Total</b>	<b>8 368</b>	<b>8 981</b>	<b>9 221</b>	<b>9 710</b>	<b>9 874</b>	<b>10 353</b>	<b>10 229</b>	<b>10 672</b>

<sup>a</sup> Total production by smelters and refineries of zinc in marketable form or used directly for alloying, including production on toll in the reporting country, regardless of the type of source material. Remelted zinc and zinc dust are excluded. **na** Not available.

Source: International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.

# 352

## Volume of world zinc trade, by country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Exports</b>								
<b>Ores and concentrates <sup>b</sup></b>								
Australia	816	890	1 024	1 016	1 007	955	931	886
Canada	327	311	428	409	258	228	155	109
China	119	70	7	2	na	na	na	na
Ireland	214	257	305	249	417	445	410	426
Mexico	141	138	117	131	105	62	155	139
Peru	601	620	747	906	900	879	933	920
Sweden	163	169	130	140	150	188	185	205
United States	531	523	698	827	822	746	788	827
<b>Metal</b>								
Australia	280	427	457	483	461	325	463	357
Belgium	86	99	90	107	110	138	11	13
Canada	611	603	495	598	591	614	527	629
China	507	561	544	472	451	224	123	325
Finland	187	168	175	189	212	236	235	233
CIS	255	254	236	226	147	na	na	na
France	128	112	127	143	110	115	80	32
Korea, Rep. of	154	177	209	261	317	320	261	215
Mexico	74	130	151	161	181	189	194	148
Netherlands	245	223	284	197	421	285	320	368
Norway	122	117	113	133	126	127	135	138
Peru	124	125	121	127	137	113	84	106
Spain	136	96	94	79	246	295	334	268
<b>Imports</b>								
<b>Ores and concentrates <sup>b</sup></b>								
Belgium	505	442	412	409	571	704	596	577
Canada	266	208	140	276	397	273	195	278
China	22	39	384	393	373	306	284	419
Finland	203	216	204	218	218	240	250	279
CIS	130	141	92	70	60	na	na	na
France	301	318	287	279	241	229	222	125
Germany	120	156	175	176	186	240	201	157
Italy	126	158	156	141	96	125	110	88
Japan	564	531	575	559	544	563	530	595
Korea, Rep. of	441	480	537	582	616	627	642	654
Netherlands	221	213	152	38	214	204	242	265
Spain	287	283	344	451	537	459	545	575
United Kingdom	114	160	108	115	8	0	0	0
<b>Metal</b>								
Belgium	189	237	233	237	222	269	48	73
Chinese Taipei	273	294	277	304	332	344	309	286
France	129	129	127	98	115	103	143	162
Germany	252	251	260	231	253	249	246	313
Italy	198	213	176	202	226	273	261	229
Japan	57	81	64	17	41	42	46	41
Korea, Rep. of	113	130	97	115	108	72	59	60
Netherlands	125	172	178	138	182	220	202	287
Singapore	131	158	204	142	68	18	12	na
United Kingdom	112	119	111	106	174	142	139	123
United States	1 070	923	827	878	792	868	700	895

<sup>a</sup> Metal content. <sup>b</sup> Metal content of zinc ores and concentrates only. **na** Not available.

Source: International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.



# 353 World zinc consumption, by region and country <sup>a</sup>

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
<b>Africa</b>								
Algeria	8	10	11	11	9	9	12	14
Egypt	17	17	16	17	16	16	16	16
Kenya	12	12	12	11	14	14	14	14
Morocco	7	10	9	12	5	14	13	12
Nigeria	9	8	9	9	12	12	12	12
South Africa	87	92	89	95	86	96	103	100
Tunisia	5	5	4	5	3	5	5	4
Other Africa	12	16	16	28	28	28	28	28
Total	157	170	165	187	174	194	203	200
<b>Americas</b>								
Argentina	41	38	36	37	32	46	49	50
Brazil	179	188	198	216	215	239	210	238
Canada	169	176	181	192	185	189	175	181
Chile	8	10	12	9	10	11	10	11
Colombia	16	21	20	21	20	23	23	24
Mexico	200	212	210	225	236	240	244	250
Peru	67	75	67	71	61	80	61	69
United States	1 342	1 348	1 163	1 217	1 152	1 251	1 077	1 168
Venezuela	16	15	16	12	12	16	16	16
Other America	21	22	22	23	26	28	28	28
Total	2 058	2 105	1 925	2 023	1 950	2 123	1 893	2 035
<b>Asia</b>								
Bangladesh	38	44	48	51	52	50	49	50
China	1 200	1 350	1 500	1 750	2 155	2 690	3 037	3 200
Hong Kong, China	6	6	6	5	5	5	5	5
India	254	270	286	310	339	362	394	428
Indonesia	55	87	88	85	79	87	83	74
Iran	57	58	62	69	70	72	76	80
Israel	11	11	11	13	10	7	11	12
Japan	634	676	633	603	619	623	602	594
Kazakhstan	32	34	34	35	35	35	35	35
Korea Dem. Rep. of	17	15	12	10	6	5	5	5
Korea, Rep. of	389	438	401	476	482	445	503	534
Malaysia	47	54	50	62	65	68	67	68
Pakistan	26	25	25	24	25	24	24	25
Philippines	41	27	33	32	19	20	12	13
Saudi Arabia	16	16	16	14	23	23	27	28
Singapore	16	17	15	16	16	16	16	17
Chinese Taipei	273	294	276	302	330	342	306	282
Thailand	83	90	103	107	116	129	117	104
Turkey	74	83	84	99	122	144	142	141
Uzbekistan	8	8	8	8	8	8	7	7
Viet Nam	34	36	40	40	45	45	47	50
Other Asia East	1	1	1	1	1	41	2	2
Other Asia West	25	29	30	32	35	36	25	25
Total	3 337	3 669	3 762	4 147	4 660	5 241	5 593	5 782

Continued

## zinc

353 World zinc consumption, by region and country <sup>a</sup> Continued

	1999	2000	2001	2002	2003	2004	2005	2006
	kt	kt	kt	kt	kt	kt	kt	kt
Europe								
Austria	48	47	48	48	49	48	48	50
Belgium	275	285	265	352	350	365	345	360
Bosnia and Herzegovina	7	8	8	7	5	5	5	5
Bulgaria	9	10	10	14	28	11	12	13
Croatia	10	10	9	9	8	8	8	8
Czech Republic	17	21	20	20	21	21	20	24
Denmark	17	12	11	11	11	11	10	11
Finland	36	47	52	53	57	52	47	52
France	300	311	327	290	291	298	275	285
Germany	561	532	549	526	539	514	511	564
Greece	18	21	26	22	20	29	17	14
Hungary	14	15	15	16	20	15	15	14
Ireland	2	2	3	5	3	3	3	6
Italy	336	385	348	374	348	389	395	313
Macedonia	9	10	10	9	8	8	7	7
Netherlands	106	106	108	114	114	115	115	116
Norway	21	23	25	29	18	14	12	22
Poland	92	109	96	88	102	103	79	100
Portugal	14	12	12	13	18	13	12	18
Romania	20	22	22	18	16	25	23	30
Russian Federation	120	137	150	153	189	163	171	181
Serbia	na	na	na	10	11	8	8	8
Slovak Republic	27	28	28	30	30	30	32	37
Slovenia	14	17	15	12	13	14	14	17
Spain	190	203	228	220	226	248	216	210
Sweeden	38	40	27	33	31	42	42	54
Switzerland	19	15	19	20	11	14	12	11
Ukraine	62	65	65	65	65	65	50	50
United Kingdom	220	210	191	185	188	185	175	172
Yugoslavia	8	10	10	na	na	0	0	0
Other	3	4	7	8	8	8	8	8
Total	2 612	2 717	2 704	2 754	2 797	2 824	2 687	2 760
Oceania								
Australia	210	217	222	249	254	250	239	259
New Zealand	16	14	16	17	13	13	14	14
Total	226	231	237	266	267	263	253	273
World Total	8 391	8 891	8 793	9 377	9 843	10 645	10 629	11 049
Western World	6 735	7 036	6 785	7 118	7 115	7 417	7 086	7 340

<sup>a</sup> Total consumption of refined zinc including zinc used directly for the production of zinc alloys, regardless of the type of source material from which produced, i.e. ores, concentrates, residues, slags or scrap. Remelted zinc and zinc dust are excluded. **na** Not available.

Source: International Lead-Zinc Study Group, *Lead and Zinc Statistics*, Lisbon, Portugal.

## 354 Summary of Australian statistics for zircon and monazite

	Zircon concentrate				Monazite concentrate			
	Production <sup>a</sup>		Exports <sup>b</sup>		Production <sup>a</sup>		Exports	
	Volume	Volume	Value	Unit value	Volume	Volume	Value	Unit value
	kt	kt	\$m	\$/t	kt	kt	\$m	\$/t
1962	132	130	3.3	25.4	0.8	1.5	0.1	80.0
1963	181	177	4.4	24.9	2.1	2.4	0.2	79.2
1964	181	196	5.1	26.0	2.1	2.1	0.2	85.7
1965	223	213	6.8	31.9	2.3	2.3	0.2	95.7
1966	232	207	9.0	43.5	2.0	2.1	0.2	114.3
1967	290	243	10.7	44.0	2.4	1.9	0.2	126.3
1968	292	262	11.0	42.0	2.1	2.6	0.4	134.6
1969	363	306	12.4	40.5	3.9	2.7	0.3	125.9
1970	389	380	13.9	36.6	4.4	4.8	0.6	129.2
1971	406	366	13.3	36.3	4.4	4.6	0.7	145.7
1972	357	386	13.8	35.8	5.1	4.6	0.6	121.7
1973	375	431	15.9	36.9	4.2	5.1	0.7	127.5
1974	368	384	32.2	83.9	3.6	3.8	0.5	142.1
1975	382	299	58.2	194.6	4.5	2.5	0.4	172.0
1976	420	345	54.5	158.0	5.3	3.2	0.5	165.6
1977	398	323	36.2	112.1	9.4	7.5	1.2	161.3
1978	392	390	29.4	75.4	15.0	11.6	2.4	205.2
1979	445	479	33.1	69.1	16.3	13.2	3.1	233.3
1980	492	502	35.1	69.9	14.1	10.3	3.4	329.1
1981	434	444	37.0	83.3	13.3	14.0	5.4	382.1
1982	462	405	43.1	106.4	9.6	15.3	6.1	400.0
1983	382	380	44.7	117.6	15.1	17.7	7.2	406.8
1984	458	438	51.8	118.3	16.3	18.1	7.6	421.5
1985	501	496	63.9	128.8	18.7	18.0	9.2	512.2
1986	452	446	74.5	167.0	14.8	14.1	9.2	651.1
1987	466	465	108.4	233.1	12.8	10.5	7.7	735.2
1988	480	464	189.6	409.0	12.2	9.7	7.6	787.5
1989	479	474	303.7	641.2	12.8	15.9	13.6	855.3
1990	443	332	205.0	616.7	11.1	11.1	9.9	894.0
1991	288	324	136.0	419.4	6.6	8.7	3.3	383.2
1992	355	310	71.6	230.8	5.6	5.7	1.7	300.0
1993	413	348	62.9	180.7	6.5	6.5	1.9	296.5
1994	511	504	124.1	246.2	2.3	2.7	0.8	290.3
1995	505	514	190.1	370.2	0.2	0.0	0.0	na
1996	460	424	248.3	585.8	0.0	0.0	0.0	na
1997	416	342	204.9	599.4	0.0	0.0	0.0	na
1998	401	399	225.9	566.6	0.0	0.0	0.0	na
1999	359	370 <sup>s</sup>	174.4 <sup>s</sup>	471.6 <sup>s</sup>	0.0	0.0	0.0	na
2000	374	372 <sup>s</sup>	198.0 <sup>s</sup>	532.2 <sup>s</sup>	0.0	0.0	0.0	na
2001	393	391 <sup>s</sup>	262.5 <sup>s</sup>	671.2 <sup>s</sup>	0.0	0.0	0.0	na
2002	412	407 <sup>s</sup>	279.8 <sup>s</sup>	687.6 <sup>s</sup>	0.0	1.6	0.4	249.8
2003	462	452 <sup>s</sup>	261.3 <sup>s</sup>	578.1 <sup>s</sup>	0.0	0.0	0.0	na
2004	441	437 <sup>s</sup>	285.0 <sup>s</sup>	652.4 <sup>s</sup>	0.0	0.0	0.0	na
2005	427	422 <sup>s</sup>	355.8 <sup>s</sup>	842.4 <sup>s</sup>	0.0	0.0	0.0	na
2006	491	485 <sup>s</sup>	446.3 <sup>s</sup>	919.7 <sup>s</sup>	0.0	0.0	0.0	na

<sup>a</sup> Ex mine. <sup>b</sup> All grades, bulk and bagged, before January 1992; standard grade only until June 1993; all grades until August 1999. <sup>s</sup> ABARE estimate. <sup>na</sup> Not available.

Sources: ABARE, *Australian Mineral Statistics*, Canberra; ABS, *International Trade, Australia*, cat. no. 5465.0, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra.

## zircon and monazite

## 355 World zircon production, by major producing country

	Australia kt	South Africa <sup>a</sup> kt	Ukraine kt	United States <sup>a</sup> kt	Other <sup>a</sup> kt	Total <sup>a</sup> kt
1960	101	na	na	na	na	na
1961	134	na	na	na	na	na
1962	132	7	na	45	11	195
1963	181	2	na	45	12	240
1964	181	0	na	54	10	245 <b>b</b>
1965	223	0	na	54	8	286 <b>b</b>
1966	232	0	na	70	18	320 <b>b</b>
1967	290	0	na	60	6	356 <b>b</b>
1968	292	0	na	60	8	360 <b>b</b>
1969	363	0	na	63	9	435 <b>b</b>
1970	389	0	na	56	7	452 <b>b</b>
1971	406	1	na	60	12	479 <b>b</b>
1972	357	1	na	75	52	485 <b>b</b>
1973	375	2	na	90	33	500 <b>b</b>
1974	368	12	na	110	30	520 <b>b</b>
1975	382	12	na	100	16	510 <b>b</b>
1976	420	11	na	80	9	520 <b>b</b>
1977	398	17	na	90	15	520 <b>b</b>
1978	392	50	na	75	33	550 <b>b</b>
1979	445	50	na	70	45	610 <b>b</b>
1980	492	80	na	60	28	660 <b>b</b>
1981	434	100	73	70	36	713
1982	462	125	82	78	33	780
1983	382	127	82	64	48	703
1984	458	153	82	67	44	804
1985	501	161	86	70	67	885
1986	452	140	86	85	60	823
1987	466	140	86	90	64	837
1988	480	130	86	115	103	918
1989	479	150	85	118	111	975
1990	443	150	50	102	111	856
1991	288	200	50	103	60	701
1992	355	220	50	108	56	789
1993	413	220	50	105	47	835
1994	511	205	50	114	51	931
1995	505	245	50	115	56	971
1996	460	302	53	117	57	989
1997	416	297	55	123	64	955
1998	401	279	57	152	69	958
1999	359	310	60	188	79	996
2000	374	317	na	181	109	975
2001	393	377	na	173	102	1 050
2002	412	420	na	132	124	1 093
2003	462	370	na	144	121	1 088
2004	441	379	na	172	156	1 148
2005	427	399	na	164	197	1 189
2006	491	407	na	143	249	1 275

<sup>a</sup> Bureau of Mineral Resources estimates until 1987; other sources thereafter. <sup>b</sup> Excludes former centrally planned economies. <sup>na</sup> Not available.

Sources: Bureau of Mineral Resources, *Australian Mineral Industry Annual Review*, AGPS, Canberra; Bureau of Mineral Resources, *Australian Mineral Industry, Quarterly Summary Statistics*, Canberra; TZ Minerals International, *Mineral Sands Report*, Surrey, England; TZ Minerals International, *Mineral Sands Annual Review*, Surrey, England; US Department of the Interior, Bureau of Mines, *Mineral Commodity Summaries*, Washington DC; ABARE.