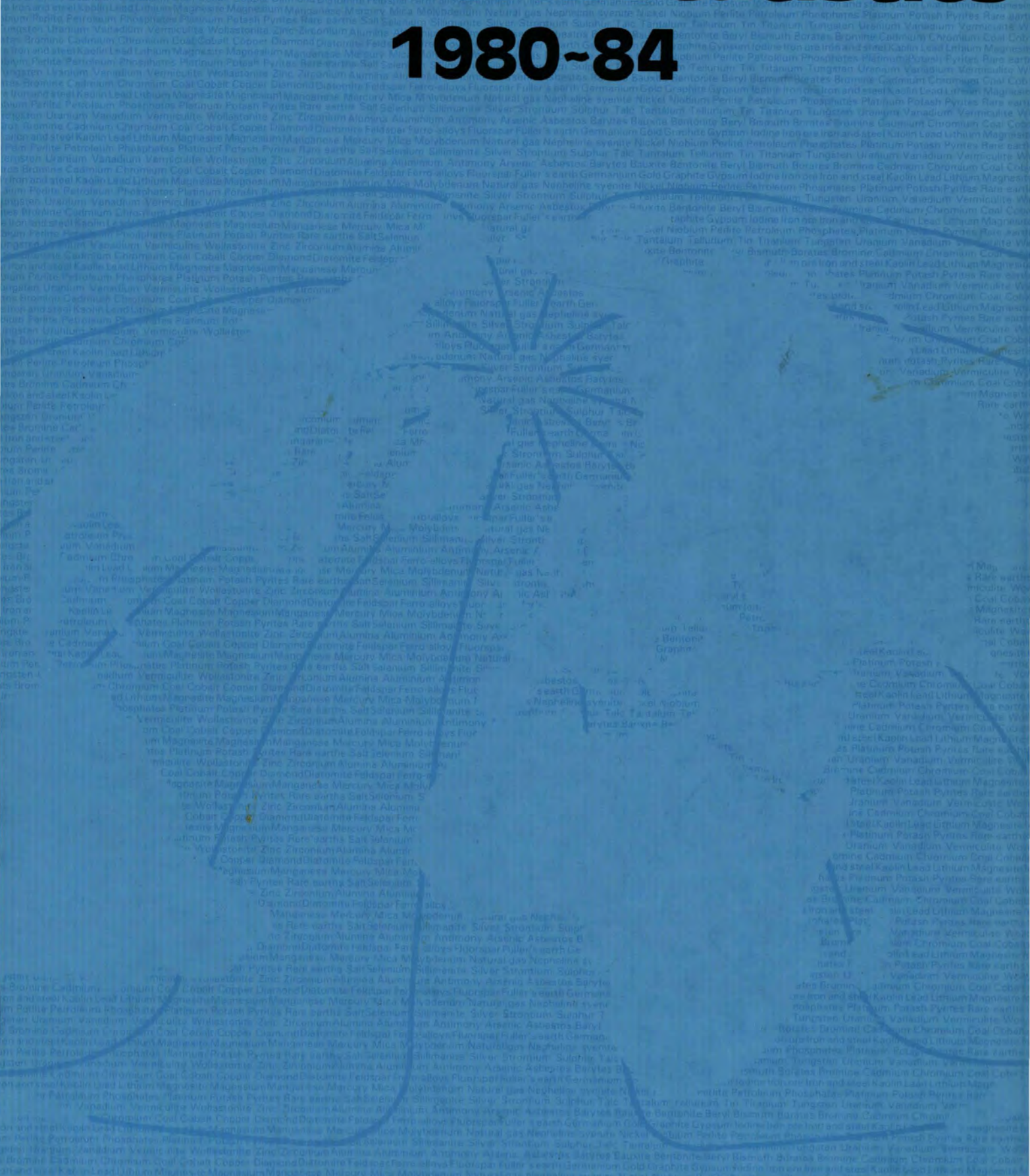




British Geological Survey

# World Mineral Statistics 1980-84





BRITISH GEOLOGICAL SURVEY

Natural Environment Research Council

# WORLD MINERAL STATISTICS 1980–84

Production: Exports: Imports

Compiled by G. J. Lofty, N. E. Sharp, J. A. Hillier, M. F. Lowe, and  
P. J. Ratcliffe

Research and Graphics by C. D. G. Black

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Keyworth, Nottinghamshire NG12 5GG  
Murchison House, West Mains Road, Edinburgh EH9 3LA

*On 1 January 1984 the Institute of Geological Sciences was renamed the British Geological Survey. It continues to carry out the geological survey of Great Britain and Northern Ireland (the latter as an agency service for the government of Northern Ireland), and of the surrounding continental shelf, as well as its basic research projects. It also undertakes programmes of British technical aid in geology in developing countries as arranged by the Overseas Development Administration.*

*The British Geological Survey is a component body of the Natural Environment Research Council.*

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*All communications regarding the content of this publication should be addressed to the Group Manager, Mineral Resources and Applied Geochemistry, British Geological Survey, 154 Clerkenwell Road, London EC1R 5DU.*

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*Compilers*

Staff of Mineral Intelligence, Statistics and Economics  
*British Geological Survey, London*

PREFACE

This is the ninth volume of *World Mineral Statistics*. The first volume in the present series was published in 1978 but the collection and publication of the statistics dates back to the original work comprising *The Mineral Industry of the British Empire and Foreign Countries 1913–1920*. The current edition has been considerably enlarged; no new commodities have been introduced, but the number of production-price graphs has been nearly doubled and tables showing trade reconstructions are included for the first time. A brief explanation of the latter is given in the *Explanatory Notes* which precede the statistical tables, but a few words of introduction might help the reader to appreciate their significance.

Some major trading countries, for example China, Soviet Union and other Eastern bloc countries, publish insufficient data to give a realistic picture of their trade in important mineral commodities. In these cases a reconstruction of either their imports or their exports can be made by searching the official publications of their trading partners that do give details by country. A considerable proportion of trade in particular commodities can be traced in this way, despite the restrictions imposed and without breaching confidentiality. Such activity involves the compilation staff in a substantial amount of work and the Appendix to this volume shows reconstruction of trade in twenty-nine commodities for the Soviet Union. It is hoped that reconstruction tables for a different country can be published in the next issue. The Appendix is printed on coloured paper to emphasise the difference between the objective data in the body of the book, which is derived from external sources, and that in the Appendix which contains an element of interpretation, and originates from in-house work.

The new production-price graphs serve to extend the coverage of the major base metals and fuels to include two precious metals and some minor metals. It should be noted that the prices used for gold are in actual dollars rather than constant dollars. Although steel is not a 'primary' commodity in some senses, it is a useful indicator of mineral industry activity — hence its inclusion. With the mineral industry still adjusting to the conditions obtaining subsequent to the 1973/1979 petroleum price crisis the graphs are presented without analyses but should assist in providing a perspective in which to view the current situation.

In each new volume account is taken of revisions and information received after the publication of the previous issue, so that data for every year are as up-to-date as is practicable. The objective remains to present the latest official information from primary sources, that is, from the individual producing and trading countries, rather than to reproduce data from compilations made by other organisations working in the same field of world mineral statistics. However, such secondary sources have been fully consulted and the co-operation afforded to the British Geological Survey by numerous national and international organisations is gratefully acknowledged.

It is the hope of the compilers that this enlarged production will once again provide comprehensive statistical and economic information for those who monitor the activities of the mineral industry. Criticism and suggestions that might help us to meet the changing needs of users would be gladly received.

G. I. Lumsden  
*Director*

British Geological Survey  
Keyworth  
Nottinghamshire NG12 5GG

March 1986

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## EXPLANATORY NOTES

### Coverage

*World Mineral Statistics* covers the majority of economically important, and internationally traded, mineral commodities; with few exceptions its range is the same as that in the *Statistical Summary of the Mineral Industry*, the predecessor of this series, which was discontinued in 1971. For each commodity constant efforts are made to ensure that as many producing and trading countries as possible are reported and that trade data cover all major traded forms. For some commodities, where statistics on production and trade are not publicly available, estimates are made. Users of this compilation are advised that more statistical information than can be included in a publication of this nature is in the *Mineral Intelligence, Statistics and Economics* files and is available for consultation.

### Arrangement of countries

After the United Kingdom, if listed, countries are ordered alphabetically in geographical groupings as follows:

- European Economic Community (EEC)
- Europe other than EEC; including the Soviet Union
- Africa
- North and Central America, including the Caribbean
- South America
- Asia
- Australasia, including the Pacific Islands

So far as possible the nomenclature follows the London Diplomatic List and United Nations usage.

### Production

*Metals* Mine production of many metals is expressed in terms of metal content. This is clearly indicated at the head of the table, adjacent to the unit used. For aluminium, cobalt, copper, iron, lead, nickel, tin and zinc, mine production and metal production are shown in separate tables. Unless otherwise specified, metal production statistics relate to metal recovered from both domestic or imported materials, whether primary or secondary, but excludes remelted material.

*Canada* Production of Canadian minerals is shown throughout by the official figures for 'sales and shipments'.

### Trade

*Federal Republic of Germany* Data include shipments to, and purchases from, the German Democratic Republic.

*South Africa* Import data are taken from the trade statistics of the common customs area, which includes Botswana, Lesotho, South Africa, Namibia and Swaziland, and relate to this area as a whole. Where separate data are available for any of these countries they have also been shown even though this may result in some double counting.

Export data are taken from returns furnished by producers to the Department of Mineral and Energy Affairs, and may be shipments rather than actual exports.

Estimates for other South African exports, based on reconstruction from importing countries, may include material originating in any of the countries of the common customs area and so involve some double counting on tables where these are listed separately.

*USA* US trade statistics show trade between the US customs territory and foreign countries, but exclude trade between the US and Puerto Rico, and between the US and the Virgin Islands (1980 only), Guam, American Samoa and other US possessions. Also excluded is trade between any of these outlying areas, shipments from US possessions to foreign countries, and shipments for the use of the US Government in foreign countries.

*United Kingdom* Export data for 1981 are estimates obtained by adding together the figures for the months when exports were fully processed (January and February, and September to December) and those from sampling (March to August). The figures may therefore be unreliable and should be used and interpreted with considerable caution.

*General* Although every effort has been made to provide comprehensive coverage of trade statistics the resulting trade compilations depend on the nature of the data available. The fact that a country is not shown as trading in a particular commodity does not necessarily imply that there is no trade in that item. The commodity may not be separately identified in the available trade statistics or may not be traded in significant quantities.

Where an estimate for a trade statistic has been reconstructed from the imports/exports of other countries, the resulting figure may be conservative, as complete coverage of world trade is seldom available.

In general, export statistics include re-exports. The distinction is only made when re-exports are recorded separately in the relevant national trade account and are deemed to be significant.

Tables showing trade in metals covered by Standard International Trade Classification (Revision 2) 688.0, 689.1 & 9, and 699.9 (Antimony, Bismuth, Cadmium, Chromium, Cobalt, Manganese, Molybdenum, Tantalum–Niobium, Titanium, Tungsten, Vanadium and Zirconium) include under the term 'metal', unwrought and wrought forms, powder, alloys, waste and scrap, unless these are separately shown. Trade tables of other metals include only unwrought forms under the term 'metal'.

#### *Commodity Production–Price Graphs*

These have been inserted adjacent to the relevant production tables. They are computer-generated plots of total annual world production against time. On the same horizontal time axis a specific price for the commodity has been plotted with reference to the right-hand vertical axis. Details of the price used are annotated below each plot. The production data have been taken from the current series of *World Mineral Statistics* and, pre-1970, from its predecessor, the *Statistical Summary of the Mineral Industry*. It should be noted that although mine production and commodity prices are shown on the same plot, any inference about the relationship between the two curves is a matter for the reader.

Most of the constant commodity prices are taken from *Commodity Trade and Price Trends*, published by the Johns Hopkins University Press for the World Bank, however use has also been made of other sources which are attributed on the relevant graphs. Permission to use these data is gratefully acknowledged.

The initial graphical analysis of the data was carried out using the MINITAB package, but the final plots were generated by an in-house program developed by Allan Burt of the NERC Computing Service and run on the NERC Honeywell L66A DPS 300 mainframe computer.

#### *Trade Reconstruction: Appendix*

In the course of compilation of this publication it has been found necessary to reconstruct data for nations which do not publish trade statistics on all the mineral commodities covered. By extracting the information on imports or exports which is published by trading partners it is possible to reconstruct fairly comprehensive, though possibly conservative, trade data for most of these commodities. These reconstructions are maintained in the files of the Mineral Statistics section. Initially only one country will be published each year.

#### *Acknowledgements*

Compilation of this volume of mineral statistics has been possible only by obtaining information from a very large number of organisations throughout the world, chiefly home and overseas government departments and specialist national or international authorities concerned with particular sectors of the minerals or metals industries. To all these bodies the British Geological Survey expresses its grateful acknowledgement for the information made available, whether in published form or provided by direct correspondence.

Among the numerous overseas government agencies which have provided valuable information, particular acknowledgement is made to the United States Bureau of Mines; the Department of Energy, Mines and Resources of Canada; the Bureau of Mineral Resources, Geology and Geophysics of Australia; the Department of Mines of South Africa; the Indian Bureau of Mines; and the Mines Departments of other countries whose regular statements, yearbooks and other reports are worthy of direct consultation by readers in search of detail.

Specialist commodity organisations which have kindly allowed information to be reproduced include the British Sulphur Corporation, the International Lead and Zinc Study Group, the International Tin Council, the UK Iron and Steel Statistics Bureau, ISMA Ltd, Samuel Montagu & Company Ltd, the UN Food and Agriculture Organization, and the UNCTAD Committee on Tungsten. In a few instances, information on specific commodities has been obtained directly from company sources.

Supplementary information is also obtained from publications dealing with a wider range of commodities such as American Bureau of Metal Statistics, *Non-ferrous Metal Data*; Bureau de Documentation Minière, *Annales des Mines*; Engineering and Mining Journal, *Annual Review and Outlook*; Groupe IMETAL, *Annuaire Statistique Minemet*; Metallgesellschaft AG, *Metal Statistics*; Mining Journal, *Mining Annual Review*; Samim, *Metalli Non Ferrosi*; World Bureau of Metal Statistics, *World Metal Statistics*; and publications of the United Nations and its agencies.

#### *Units*

The statistics shown in this volume are expressed in metric units. The following factors are given for converting to non-metric units:

Tonnes × 0.9842 = long tons  
Tonnes × 1.1023 = short tons  
Kilograms × 2.2046 = pounds  
Kilograms × 32.1507 = troy ounces  
Cubic metres × 35.31467 = cubic feet  
1 tonne of crude petroleum equals on average 7 barrels of crude petroleum.  
1 metric-ton unit = 10 kilograms  
1 flask mercury = 34.5 kilograms

Conversion of national currencies to pounds sterling has been made using the annual period average factors shown for each country in *International Financial Statistics* published by the International Monetary Fund.

#### *Symbols*

... Figures not available  
0 Quantity less than half unit shown  
— Nil  
\* Estimated  
BGS British Geological Survey

## STATISTICAL TABLES

**Production of Bauxite**

tonnes

Country	1980	1981	1982	1983	1984
France	1 925 000	1 865 000	1 687 000	1 661 000	1 590 000
Greece	3 258 856	3 248 822	2 887 855	2 456 180	2 449 764
Italy	23 260	19 000	23 810	13 118	—
Hungary	2 950 000	2 914 000	2 627 000	2 917 000	2 994 000
Romania	450 000	400 000	380 000	420 000	460 000
Soviet Union (a)	* 6 400 000	* 6 400 000	* 6 400 000	* 6 300 000	* 6 200 000
Spain	9 632	8 930	7 000	5 208	10 000
Turkey	546 546	589 727	508 391	306 350	110 080
Yugoslavia	3 138 383	3 249 000	3 668 000	3 500 000	3 347 000
Ghana	225 100	181 300	63 500	70 400	27 453
Guinea	13 911 000	12 822 000	11 827 000	12 986 000	14 738 000
Sierra Leone	673 969	609 625	630 100	785 200	1 041 200
Zimbabwe	4 281	5 139	7 533	23 145	22 726
Dominican Republic (b)	510 462	405 720	152 250	—	—
Haiti (c)	293 800	409 700	377 000	—	—
Jamaica	11 978 304	11 605 977	8 157 652	7 724 983	8 735 000
USA (b)	1 559 000	1 510 000	732 000	679 000	856 000
Brazil (d)	4 631 855	4 048 545	3 469 928	4 281 241	...
Guyana	3 052 000	2 395 900	1 783 100	1 087 300	2 484 700
Suriname	4 893 000	4 125 000	3 060 000	2 793 000	3 375 000
China	* 1 700 000	* 1 800 000	* 1 950 000	* 1 900 000	* 2 000 000
India	1 785 000	1 955 000	1 954 261	1 849 461	1 994 000
Indonesia	1 249 123	1 203 380	700 247	777 869	1 003 233
Malaysia	920 356	700 866	589 000	501 790	680 434
Australia	27 178 974	25 441 392	23 625 042	24 372 291	32 181 903
World total	93 300 000	87 900 000	77 300 000	77 400 000	90 600 000

Note: In addition to the countries listed, Pakistan produces small amounts of bauxite

(a) Includes nepheline concentrates and alunite

(b) Dried bauxite equivalent

(c) Years ended 30 September of that stated

(d) Includes beneficiated and direct shipping ore

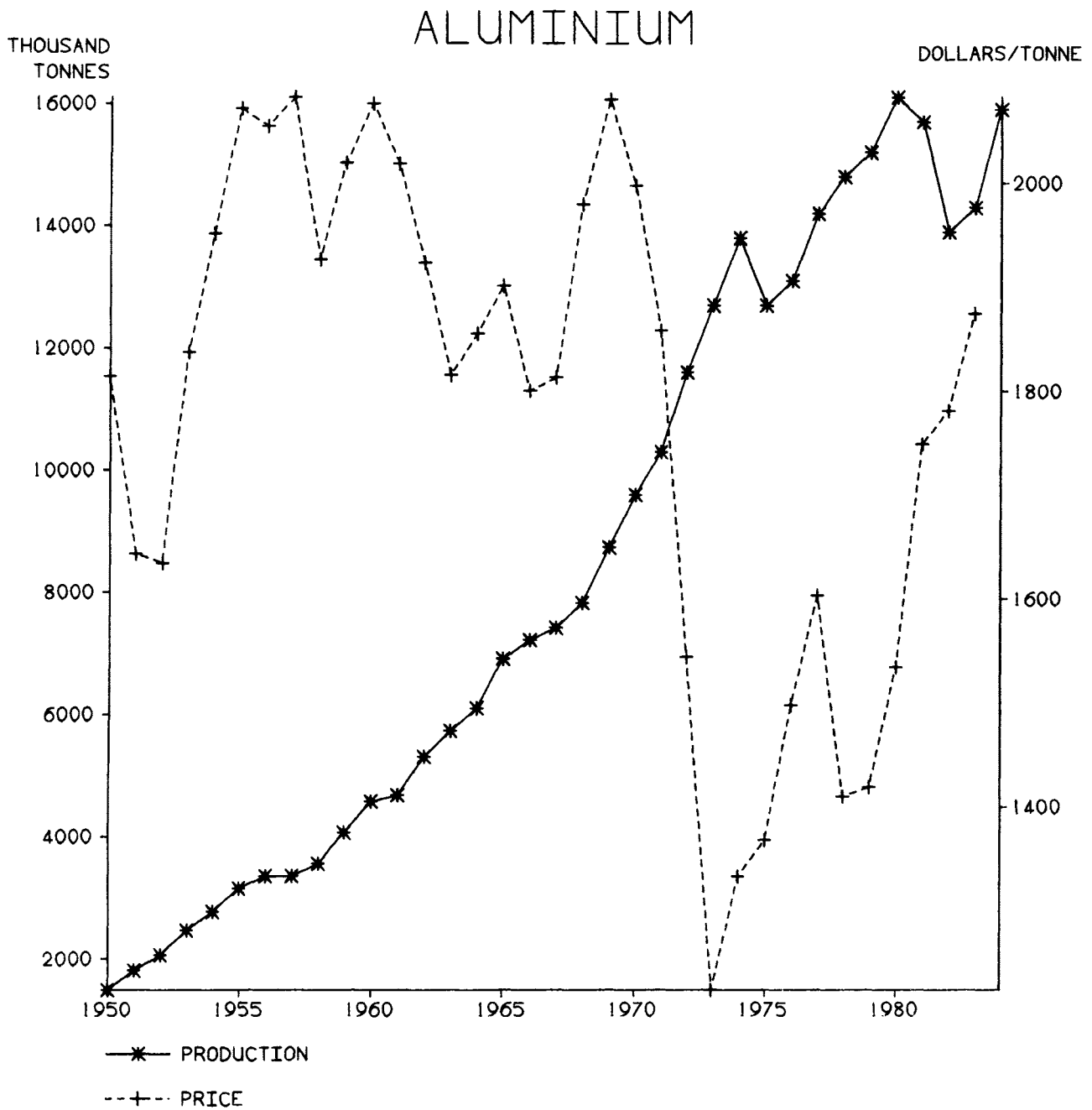


## Production of Alumina

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	101 700	90 361	88 103	93 100	105 000
France	1 339 411	1 235 921	1 086 700	1 009 600	1 034 500
Germany, Federal Republic of	1 607 902	1 650 636	1 509 866	1 580 223	1 700 622
Greece	504 751	490 168	403 634	410 000	482 410
Irish Republic	—	—	—	66 000	675 000
Italy	900 370	786 357	698 329	401 556	625 000
Czechoslovakia	147 525	149 283	151 219	152 456	* 150 000
German Democratic Republic	43 025	45 164	46 085	42 156	43 239
Hungary	805 000	792 000	743 000	835 512	839 089
Romania	534 000	558 000	514 000	512 000	480 000
Soviet Union	* 3 250 000	* 3 800 000	* 4 000 000	* 4 175 000	* 4 200 000
Spain	58 000	* 695 230	673 000	729 000	742 000
Turkey	137 519	131 400	84 204	57 420	75 120
Yugoslavia	1 058 366	1 037 227	1 017 000	1 010 000	1 135 000
Guinea	708 000	679 000	578 000	564 000	550 000
Canada	1 202 000	1 208 000	1 127 000	1 116 000	1 126 000
Jamaica	2 455 870	2 556 057	1 761 135	1 853 940	1 749 000
USA	* 6 810 000	* 5 960 000	* 4 130 000	* 4 000 000	* 4 680 000
Brazil	516 967	496 639	606 177	786 648	* 800 000
Guyana	296 300	170 000	73 000	—	—
Suriname	1 444 000	1 248 000	1 052 000	1 154 000	1 237 000
Venezuela	—	—	—	560 000	1 139 000
China	* 700 000	* 700 000	* 800 000	* 800 000	* 800 000
India	494 041	482 519	485 000	480 000	569 000
Japan	2 218 000	1 619 000	1 212 000	1 378 000	1 488 000
Taiwan	80 000	19 000	—	—	—
Australia	7 246 499	7 079 009	6 630 507	7 230 526	8 433 367
World total	34 700 000	33 700 000	29 500 000	31 000 000	34 900 000

Note: Where possible figures relate to the calcined equivalent weight (i.e. Al<sub>2</sub>O<sub>3</sub>) of alumina hydrate. In countries where all hydrate is destined for calcination, figures relate directly to calcined alumina



**Figure 1** World production of primary aluminium from 1950 to 1984 compared with the yearly average producer price of aluminium ingot on the New York Market expressed in constant 1980 US dollars.

Trend line analysis of the production data indicates a growth rate of approximately 7% per annum over 35 years.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Production of Primary Aluminium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	374 446	339 183	240 806	252 525	287 875
France	431 945	435 609	390 413	360 793	341 500
Germany, Federal Republic of	730 669	728 896	722 754	743 376	777 165
Greece	146 777	148 230	136 612	137 210	138 750
Italy	271 211	273 845	232 861	195 694	230 202
Netherlands	258 621	261 983	250 925	235 351	249 170
Austria	94 393	94 219	93 908	94 200	95 352
Czechoslovakia	38 304	32 684	33 830	36 156	31 635
German Democratic Republic	* 62 000	* 60 000	* 58 000	* 57 000	* 58 000
Hungary	73 498	74 253	74 221	74 039	74 202
Iceland	73 111	73 476	75 241	76 077	80 359
Norway	653 377	633 585	638 091	713 014	758 186
Poland	95 100	66 000	42 700	44 400	46 000
Romania	241 000	242 000	208 000	223 000	215 000
Soviet Union	* 2 420 000	* 2 400 000	* 2 400 000	* 2 400 000	* 2 300 000
Spain	414 614	396 600	366 500	357 500	380 800
Sweden	81 195	81 795	81 324	84 935	82 900
Switzerland	86 302	82 221	75 256	75 974	79 173
Turkey	33 600	40 400	36 300	31 045	36 839
Yugoslavia	161 366	172 683	220 100	258 200	267 500
Cameroon	43 000	65 400	78 900	77 400	74 154
Egypt	120 000	142 000	141 000	140 200	172 500
Ghana	187 700	190 500	174 200	42 500	—
South Africa	85 700	83 701	105 500	161 300	167 400
Canada	1 068 198	1 115 691	1 064 795	1 091 213	1 222 000
Mexico	42 601	43 237	41 180	39 706	44 000
USA	4 653 585	4 489 000	3 274 000	3 353 000	4 099 000
Argentina	133 100	133 900	137 600	132 800	133 700
Brazil	290 730	256 418	299 054	400 744	454 999
Suriname	54 922	40 520	42 500	33 600	23 000
Venezuela	325 189	314 105	273 632	335 304	386 000
Bahrain	126 000	141 300	171 000	171 700	177 300
China	* 350 000	* 350 000	* 370 000	* 400 000	* 425 000
Dubai	35 000	106 000	148 739	151 170	155 400
India	184 748	212 844	216 679	204 764	268 400
Indonesia	—	—	32 500	114 800	206 900
Iran	15 900	12 500	45 000	39 400	42 400
Japan	1 091 477	770 602	350 706	255 900	286 728
Korea, Dem. P.R. of	* 10 000	* 10 000	* 10 000	* 10 000	* 10 000
Korea, Republic of	17 800	17 200	14 800	12 600	17 200
Taiwan	63 549	30 532	10 120	—	—
Australia	303 494	379 427	380 796	478 190	757 798
New Zealand	154 741	153 979	163 420	218 610	242 851
World total	16 100 000	15 700 000	13 900 000	14 300 000	15 900 000

**Exports of Bauxite, Alumina and Aluminium**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Bauxite	2 953	2 155	3 870	1 100	2 556
Alumina	9 892	8 850	8 595	8 272	11 756
Alumina hydrate	32 786	30 772	28 423	29 656	32 219
Unwrought	74 195	65 994	60 943	71 197	59 371
Unwrought alloys	117 335	102 544	58 573	61 189	68 189
Scrap	35 693	38 008	60 351	78 865	88 523
Belgium-Luxembourg					
Bauxite	1 787	654	1 216	1 699	1 702
Alumina	744	660	469	757	732
Unwrought	4 167	17 166	4 273	7 100	4 834
Unwrought alloys	15 415	12 500	9 480	9 909	5 443
Scrap	36 800	38 469	40 444	46 757	51 395
Denmark					
Bauxite	46 483	19 424	2 366	414	3 089
Unwrought	105	133	2	27	45
Unwrought alloys	6 880	7 511	8 283	8 959	9 688
Scrap	11 883	12 440	11 781	15 002	15 726
France					
Bauxite	10 768	6 620	92 369	68 651	245 208
Alumina	267 408	159 532	196 038	178 490	157 999
Alumina hydrate	79 306	79 376	84 994	91 241	73 794
Unwrought	84 059	89 456	95 359	67 557	68 008
Unwrought alloys	93 319	100 882	87 324	93 161	78 396
Scrap	47 219	48 988	60 757	90 365	88 858
Germany, Federal Republic of					
Bauxite	22 645	22 885	33 744	43 934	44 633
Alumina	333 433	402 156	253 697	331 964	443 836
Alumina hydrate	146 091	180 931	184 972	210 476	260 485
Unwrought	61 141	78 731	75 076	80 873	69 381
Unwrought alloys	162 539	174 240	180 344	240 272	224 808
Scrap	69 144	69 922	67 719	77 723	88 175
Greece					
Bauxite	2 340 172	1 587 714	1 441 203	1 410 510	1 374 147
Alumina	203 175	159 000	130 000	110 500	208 500
Unwrought	60 244	69 224	66 609	55 066	48 451
Scrap	1 013	426	93	653	1 254
Irish Republic					
Alumina	1 543	1 925	2 309	31 667	654 077
Unwrought (a)	2 206	2 173	1 876	2 537	1 099
Scrap	3 526	2 365	3 479	4 246	4 123
Italy					
Bauxite	24 129	18 229	8 240	5 053	12 287
Alumina	398 630	222 113	256 618	160 980	300 468
Alumina hydrate	25 379	9 087	13 410	13 355	24 657
Unwrought	3 510	20 758	30 624	10 487	8 396
Unwrought alloys	8 256	29 047	23 490	30 795	23 842
Scrap	2 406	3 168	3 346	5 721	3 894
Netherlands					
Bauxite	13 441	12 502	4 268	3 490	5 509
Alumina	51 339	40 318	46 957	51 825	64 974
Alumina hydrate	517	12	49	58	65
Unwrought	233 644	220 103	223 807	302 356	136 920
Unwrought alloys	131 692	131 893	126 995	130 925	142 100
Scrap	74 331	74 778	73 669	80 201	93 258
Austria					
Unwrought	9 797	24 968	27 635	30 153	28 817
Scrap	32 736	56 371	51 406	59 547	29 843
Bulgaria					
Unwrought (a)(f)	* 4 800	* 3 600	* 3 600	* 6 100	* 5 000
Czechoslovakia					
Unwrought (a)(f)	* 10 100	* 8 500	* 15 400	* 19 500	* 18 200
Finland					
Unwrought (a)	3 887	4 643	6 306	10 679	13 575
German Democratic Republic					
Unwrought (a)(f)	* 22 600	* 25 400	* 26 600	* 23 400	* 30 400
Scrap (f)	* 3 400	* 4 000	* 9 900	* 12 600	* 6 600

## Exports of Bauxite, Alumina and Aluminium

tonnes

Country	1980	1981	1982	1983	1984
Hungary					
Bauxite	541 943	498 322	467 375	431 033	430 587
Alumina	686 171	626 404	542 286	658 672	643 993
Alumina hydrate	7 667	6 930	9 667	6 200	6 928
Unwrought	84 216	85 741	48 363	57 822	71 294
Scrap	9 372	8 709	8 740	6 498	8 226
Iceland					
Unwrought (a)	67 318	63 817	61 532	106 904	79 928
Norway					
Unwrought	295 283	338 668	332 013	330 131	322 038
Unwrought alloys	225 897	184 993	212 759	307 208	316 637
Scrap	18 591	20 677	21 858	27 517	27 138
Poland					
Unwrought (a)	18 903	5 119	2 317	2 812	3 166
Portugal					
Scrap	3 322	4 402	4 187	6 920	5 158
Romania					
Unwrought	93 500	98 200	76 100	121 600	...
Soviet Union					
Unwrought (a)(f)	* 376 400	* 363 500	* 433 900	* 494 800	* 487 200
Scrap (f)	* 27 400	* 53 800	* 50 400	* 11 600	* 15 800
Spain					
Alumina	88	23 907	7 377	2 611	20 725
Unwrought	72 318	111 129	98 962	101 284	152 774
Unwrought alloys	34 464	51 552	46 220	64 642	78 470
Sweden					
Bauxite	27	5	673	5	—
Alumina	569	621	740	632	310
Unwrought	2 451	2 958	2 317	2 392	1 876
Unwrought alloys	15 276	34 796	32 904	36 772	36 297
Scrap	2 516	2 345	2 446	5 053	3 150
Switzerland					
Alumina	1 311	301	320	239	288
Unwrought & scrap	44 953	44 982	52 981	56 825	53 895
Turkey					
Bauxite	9 400	109 417	31 686	57 332	46 845
Alumina	74 600	63 018	...	...	16 845
Yugoslavia					
Bauxite	246 821	266 055	599 695	552 051	651 893
Alumina	428 066	613 172	503 044	509 758	...
Alumina hydrate	225 358	19 955	7 342	9 209	...
Unwrought	50 546	58 171	90 106	134 976	) 142 000
Unwrought alloys	3 325	300	939	8 658	)
Scrap	276	177	508	1 674	...
Cameroon					
Unwrought	9 708	44 500	55 400	52 400	54 300
Egypt					
Unwrought & scrap	33 310	76 466	51 719	5 126	...
Ghana					
Bauxite	223 000	151 000	36 000	81 000	44 000
Unwrought (a)	166 200	134 300	174 200	82 300	44 200
Guinea					
Bauxite (f)	* 9 300 000	* 10 300 000	* 10 200 000	* 10 900 000	* 12 000 000
Alumina (f)	* 350 000	* 207 000	* 150 000	* 320 000	* 292 000
Sierra Leone					
Bauxite	730 905	631 145	606 000	...	...
South Africa					
Unwrought (a)	12 599	2 866	26 622	106 108	83 000
Canada					
Alumina (b)	39 541	44 100	28 367	46 001	51 360
Unwrought	784 818	726 073	896 462	925 449	834 371
Scrap	78 615	78 603	62 796	81 425	106 574
Dominican Republic					
Bauxite	585 828	389 516	140 555	—	—
Haiti (e)					
Bauxite	579 440	428 811	377 051	—	—
Jamaica					
Bauxite	6 145 848	5 370 601	4 079 504	3 120 123	4 559 013
Alumina	2 361 139	2 545 149	1 752 755	1 904 270	1 720 660

## Exports of Bauxite, Alumina and Aluminium

tonnes

Country	1980	1981	1982	1983	1984
<b>USA</b>					
Bauxite	38 539	85 964	120 144	80 086	113 113
of which: Re-exports	10 172	45 043	71 429	5 980	30 879
Alumina	828 770	717 539	555 925	583 669	635 909
Alumina hydrate	38 107	19 288	11 629	12 426	20 244
Unwrought	504 935	248 991	309 811	333 112	225 523
Unwrought alloys	144 114	63 398	54 512	27 839	34 518
Scrap	403 779	219 042	194 443	262 592	258 725
<b>Argentina</b>					
Unwrought	66 088	82 180	83 065	57 000	30 100
<b>Brazil</b>					
Bauxite	2 679 429	4 126 328	2 991 302	3 988 633	4 246 914
Alumina	88	636	4 939	7 102	43 213
Unwrought (a)	—	2 159	3 676	116 326	147 923
<b>Guyana</b>					
Bauxite, dried	1 010 211	1 011 297	690 320	...	...
Bauxite, calcined	602 974	496 187	372 818	...	...
Alumina	229 784	152 041	65 074	...	...
<b>Suriname</b>					
Bauxite	1 767 000	1 270 000	497 000	449 000	...
Alumina	1 328 875	1 165 000	1 043 000	1 143 000	...
Unwrought	45 608	31 576	61 000	38 900	22 200
<b>Venezuela</b>					
Alumina	—	—	—	131 000	372 000
Unwrought	209 068	233 945	228 614	292 200	179 100
<b>Bahrain</b>					
Unwrought (a)	77 546	74 793	166 014	191 705	156 548
<b>China</b>					
Bauxite (f)	* 533 100	* 494 900	* 345 500	* 330 500	* 548 600
Alumina (f)	* 36 100	* 31 100	* 20 800	* 14 600	* 13 300
Unwrought (a)(f)	* 6 000	* 41 100	* 50 100	* 14 300	* 800
<b>Hong Kong</b>					
Bauxite (Re-exports)	17 440	11 538	8 120	18 110	17 748
Alumina (Re-exports)	636	90	9	105	500
Alumina hydrate (Re-exports)	1 940	2 152	3 106	2 418	113
Unwrought (Re-exports)	10 365	16 401	48 910	25 150	22 648
Scrap	10 206	14 533	16 810	19 179	19 447
<b>India</b>					
Bauxite	71 025	115 345	...	...	...
Alumina	78 503	56 372	...	...	...
Unwrought (a)(c)	179	18	—	...	...
<b>Indonesia</b>					
Bauxite	1 112 622	956 369	746 784	786 311	944 332
Unwrought	—	—	16 026	90 577	135 017
<b>Japan</b>					
Alumina	393 882	361 947	273 130	481 669	488 032
Alumina hydrate	46 662	50 152	66 589	87 530	85 040
Unwrought	4 067	8 319	4 223	500	646
Unwrought alloys	3 577	3 841	2 458	1 179	1 637
Scrap	858	453	630	637	2 259
<b>Malaysia</b>					
Bauxite	718 300	642 450	418 050	489 931	...
Scrap	3 018	3 283	3 191	6 139	...
<b>Singapore</b>					
Alumina	1 789	2 421	691	1 476	1 216
of which: Re-exports	1 214	392	690	1 466	1 211
Unwrought	4 053	3 052	5 861	13 454	7 078
of which: Re-exports	3 882	3 013	5 675	12 048	5 300
Scrap	6 438	6 196	7 450	8 789	9 963
<b>Taiwan</b>					
Alumina	3 740	1 366	4 498	3 427	3 564
Unwrought	6	11	583	2 638	3 128
Scrap	10	29	350	1 563	1 195

**Exports of Bauxite, Alumina and Aluminium**

tonnes

Country	1980	1981	1982	1983	1984
Australia					
Bauxite	* 5 800 000	* 4 800 000	* 4 650 000	* 4 100 000	* 4 900 000
Alumina	6 994 275	6 509 249	5 951 282	6 377 931	6 905 001
Unwrought (a)	46 456	79 174	156 068	234 562	336 126
Scrap	14 000	13 910	26 973	25 383	12 715
New Zealand (d)					
Unwrought (a)	119 557	135 283	115 066	162 613	211 191
Scrap	2 573	2 264	2 034	3 399	3 264

## Notes:

- 1 Except where alumina hydrate is separately specified, national trade figures for alumina can be considered as inclusive of hydrate
  - 2 In this table the term 'unwrought' aluminium corresponds to item 684.1 of the Standard International Trade Classification (Revision 2) and comprises ingots, blocks, unwrought bars, etc
  - 3 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys  
 (b) Officially described as 'Aluminium ores and concentrates' but believed to be mostly alumina  
 (c) Years ended 31 March following that stated  
 (d) Years ended 30 June of that stated  
 (e) Years ended 30 September of that stated  
 (f) BGS estimates, based on known imports into certain countries

## Imports of Bauxite, Alumina and Aluminium

tonnes

Country	1980	1981	1982	1983	1984
<b>United Kingdom</b>					
Bauxite, uncalcined	241 585	231 919	301 911	241 391	298 486
Bauxite, calcined	167 571	93 652	91 186	79 059	126 886
Alumina	806 343	630 422	449 340	481 114	653 026
Alumina hydrate	3 733	5 734	7 694	7 768	8 928
Unwrought	74 063	56 347	75 569	66 645	64 690
Unwrought alloys	97 360	67 000	79 264	96 992	107 453
Scrap	5 792	4 038	4 085	10 896	6 749
<b>Belgium-Luxembourg</b>					
Bauxite	35 936	33 050	26 574	34 802	40 536
Alumina	7 059	7 595	7 699	8 347	9 757
Alumina hydrate	14 460	16 040	15 188	18 251	18 432
Unwrought	183 376	184 525	197 133	205 986	220 564
Unwrought alloys	69 124	60 430	70 311	83 008	91 033
Scrap	33 316	39 095	51 240	53 086	57 981
<b>Denmark</b>					
Bauxite	90 555	68 507	16	18	18
Alumina	1 379	1 398	1 145	996	773
Alumina hydrate	2 689	3 656	2 377	3 004	3 512
Unwrought	5 101	1 384	1 274	1 189	667
Unwrought alloys	16 819	17 183	20 882	23 548	29 110
Scrap	2 270	2 623	2 904	3 294	4 301
<b>France</b>					
Bauxite	1 358 030	1 989 144	1 253 080	1 078 856	981 080
Alumina	21 924	15 635	62 912	75 660	30 957
Alumina hydrate	22 720	18 330	17 294	15 456	19 042
Unwrought	187 996	175 779	214 044	252 132	224 499
Unwrought alloys	144 638	124 596	137 946	142 509	140 458
Scrap	56 675	60 592	59 550	60 016	66 541
<b>Germany, Federal Republic of</b>					
Bauxite	4 177 043	3 910 619	3 532 830	3 156 141	4 055 547
Alumina	440 704	468 675	489 597	486 393	698 385
Alumina hydrate	1 437	1 854	2 599	2 084	3 482
Unwrought	379 019	315 287	372 252	345 497	447 685
Unwrought alloys	229 734	184 760	193 078	246 643	275 088
Scrap	174 773	160 984	173 592	192 452	208 892
<b>Greece</b>					
Bauxite	6 502	...	30	789	5 689
Alumina	146	133	185	261	360
Alumina hydrate	73	202	218	99	136
Unwrought	153	2 840	3 970	2 119	6 474
<b>Irish Republic</b>					
Bauxite	3	24	111 673	562 997	1 126 985
Alumina	3 998	4 289	4 043	13 026	3 148
Unwrought (a)	5 486	2 522	2 757	2 002	3 065
<b>Italy</b>					
Bauxite	2 298 753	1 709 124	1 578 079	1 181 847	1 281 290
Alumina	161 711	152 665	48 782	253 675	199 595
Alumina hydrate	18 476	17 146	20 764	51 916	72 223
Unwrought	172 029	108 835	107 719	129 076	177 123
Unwrought alloys	122 787	99 996	103 434	125 422	114 697
Scrap	123 463	93 640	94 223	108 485	133 276
<b>Netherlands</b>					
Bauxite	196 261	145 039	126 673	135 623	130 784
Alumina	585 774	598 990	566 795	504 045	565 750
Alumina hydrate	18 126	23 570	25 448	27 344	32 355
Unwrought	185 830	132 576	164 876	244 837	93 184
Unwrought alloys	30 001	28 773	30 626	39 800	39 801
Scrap	44 713	39 589	41 782	48 280	57 473
<b>Austria</b>					
Bauxite	41 706	36 655	24 945	27 762	39 174
Alumina	225 671	266 526	212 331	210 953	242 993
Alumina hydrate	6 756	7 888	7 653	6 847	7 673
Unwrought	35 182	33 160	43 909	52 156	74 677
Scrap	52 632	68 023	67 352	68 354	47 516
<b>Bulgaria</b>					
Unwrought (a)(f)	* 9 600	* 15 700	* 7 000	* 14 800	* 14 400



## Imports of Bauxite, Alumina and Aluminium

tonnes

Country	1980	1981	1982	1983	1984
<b>Czechoslovakia</b>					
Bauxite	465 716	454 000	474 000	469 000	349 000
Alumina (f)	* 29 500	* 32 300	* 20 400	* 23 300	* 24 600
Unwrought (a)	93 000	82 000	66 000	88 000	90 000
<b>Finland</b>					
Bauxite	4 131	3 925	5 588	4 152	2 564
Alumina	708	876	791	727	868
Alumina hydrate	28 551	30 522	26 933	19 888	26 500
Unwrought	23 048	26 080	24 241	23 642	18 307
Unwrought alloys	3 689	2 670	2 975	2 628	2 414
Scrap	2 475	6 100	8 668	22 608	16 289
<b>German Democratic Republic</b>					
Bauxite	120 600	67 200	109 900	103 700	170 600
Alumina (f)	* 99 500	* 101 800	* 101 200	* 101 200	* 103 800
Unwrought (a)(f)	* 49 400	* 53 800	* 44 600	* 51 100	* 47 100
<b>Hungary</b>					
Unwrought	187 865	154 499	137 087	163 000	163 320
<b>Iceland</b>					
Alumina	145 906	134 167	117 331	144 482	147 508
<b>Norway</b>					
Bauxite	6 894	0	3 297	4 480	5 420
Alumina	1 441 859	1 208 258	1 108 901	1 400 162	1 448 516
Alumina hydrate	37 608	34 630	28 082	33 447	43 055
Unwrought	7 330	8 202	7 819	1 570	4 162
Unwrought alloys	9 068	6 614	13 110	9 664	27 349
Scrap	2 503	148	1 164	1 724	2 874
<b>Poland</b>					
Bauxite	83 146	39 436	41 015	34 400	31 011
Alumina	287 206	240 400	206 716	210 434	226 221
Unwrought	88 742	64 533	83 826	83 465	91 481
<b>Portugal</b>					
Bauxite	2 694	1 080	1 730	3 411	1 400
Alumina	4 665	8 387	7 629	6 506	6 372
Unwrought	27 494	42 534	49 520	42 975	26 110
<b>Romania</b>					
Bauxite (f)	* 1 051 500	* 453 400	* 580 500	* 534 600	* 700 000
Alumina (f)	* 10 000	* 20 400	* 11 700	* 13 700	* 7 800
<b>Soviet Union</b>					
Bauxite (f)	* 2 403 000	* 2 835 700	* 3 389 600	* 3 689 800	* 4 533 800
Alumina (f)	* 1 354 600	* 1 007 100	* 931 000	* 879 600	* 877 800
<b>Spain</b>					
Bauxite	349 384	825 545	919 062	1 464 593	1 812 157
Alumina	706 573	228 724	37 281	21 181	23 040
Unwrought	1 279	8 744	14 493	8 194	8 712
Unwrought alloys	1 884	4 894	3 828	4 197	1 872
Scrap	5 630	5 768	8 534	10 142	6 037
<b>Sweden</b>					
Bauxite	65 313	40 967	49 838	45 459	61 749
Alumina	191 699	167 874	156 815	145 390	174 060
Alumina hydrate	43 255	47 624	47 761	57 345	77 114
Unwrought	22 267	21 994	30 101	31 274	24 479
Unwrought alloys	14 624	16 716	15 585	18 397	23 989
Scrap	3 479	2 960	2 654	2 807	2 114
<b>Switzerland</b>					
Bauxite	5 533	772	379	1 254	2 370
Alumina	174 110	171 709	135 364	149 241	162 234
Unwrought & scrap	54 162	37 574	48 076	57 751	63 189
<b>Turkey</b>					
Alumina	79	207	330	258	211
Unwrought	11 163	34 237	35 102	59 953	68 493
<b>Yugoslavia</b>					
Bauxite	217 595	394 180	175 645	158 762	...
Alumina	1 284	60 623	35 539	101 362	...
Unwrought	58 342	50 571	31 050	37 189	) 34 100
Unwrought alloys	297	1 262	340	349	)
<b>Algeria</b>					
Unwrought (a)	3 741	3 284	3 859	3 414	...
<b>Cameroon</b>					
Alumina	86 472	...	73 718	...	...

**Imports of Bauxite, Alumina and Aluminium**

tonnes

Country	1980	1981	1982	1983	1984
<b>Egypt</b>					
Unwrought & scrap	1 590	495	54	5	...
<b>Ghana</b>					
Alumina	334 172	...	...	...	...
<b>Kenya</b>					
Alumina	1 046	5 607	1 574	1 504	...
<b>Madagascar</b>					
Unwrought & scrap	348	144	120	...	...
<b>Morocco</b>					
Bauxite	519	6 931	8 142	2 000	3 200
Alumina	2 399	2 044	2 378	2 793	2 036
Unwrought (a)	1 060	1 083	1 216	1 520	1 081
<b>Nigeria</b>					
Unwrought (a)	...	2 889	2 125	...	...
<b>South Africa</b>					
Bauxite	24 742	15 304	26 966	17 196	20 039
Alumina	164 725	180 066	277 232	357 892	313 864
Unwrought	282	2 417	661	443	169
Scrap	1 809	9 160	2 678	6 070	630
<b>Tanzania</b>					
Unwrought (a)	2 959	4 541	4 937	900	...
<b>Tunisia</b>					
Alumina	23 160	20 460	24 664	...	24 138
<b>Canada</b>					
Bauxite	3 504 369	2 734 711	2 574 762	2 329 910	2 451 542
Alumina	983 972	1 020 568	939 282	1 063 181	1 349 213
Unwrought	9 908	14 297	24 380	30 581	43 633
Scrap	30 724	33 414	36 756	54 666	61 782
<b>Mexico</b>					
Bauxite	90 098	63 945	43 259	26 658	...
Alumina	87 790	104 796	90 012	76 857	...
Alumina hydrate	16 063	24 169	13 451	16 069	...
Unwrought & scrap (a)	70 146	67 542	39 758	17 215	...
<b>Panama</b>					
Unwrought (a)	1 254	816	1 340	500	934
<b>USA</b>					
Bauxite, crude dried	13 896 210	13 856 785	11 049 652	7 903 178	10 436 104
Bauxite, calcined	377 812	353 417	190 042	208 998	232 127
Alumina	4 357 535	3 977 846	3 053 700	3 904 559	4 295 151
Unwrought	245 312	359 246	340 570	396 895	453 315
Unwrought alloys	281 467	285 264	275 815	345 606	427 693
Scrap	54 251	74 384	67 434	88 473	137 673
<b>Argentina</b>					
Bauxite	18 527	6 138	24 555	...	...
Alumina	246 541	286 671	251 992	...	...
Alumina hydrate	5 148	9 200	9 709	...	...
<b>Brazil</b>					
Bauxite	13 175	14 970	8 598	5 020	11 159
Alumina	64 107	26 867	86 995	202 824	183 724
Unwrought	38 797	18 034	5 520	849	1 248
Unwrought alloys	7 905	10 207	5 247	2 109	3 335
Scrap	11 145	5 340	3 750	4 127	210
<b>Colombia</b>					
Bauxite	3 841	5 922	2 150	5 050	...
Alumina	778	867	2 413	2 947	...
Unwrought (a)	13 444	15 734	14 265	17 967	...
<b>Ecuador</b>					
Unwrought	4 471	1 918	2 413	...	...
<b>Peru</b>					
Bauxite	6 661	7 341	3 664	6 527	...
Alumina	2 707	1 260	750	571	...
Unwrought	5 409	4 761	3 852	3 304	...
<b>Uruguay</b>					
Bauxite	4 432	4 068	3 411	3 250	3 350
Alumina	799	638	290	505	1 291
Unwrought	3 329	1 979	628	937	1 494

## Imports of Bauxite, Alumina and Aluminium

tonnes

Country	1980	1981	1982	1983	1984
Venezuela					
Bauxite	34 290	32 695	66 910	...	...
Alumina	) 503 846	696 667	592 664	...	...
Alumina hydrate	)		10 435	...	...
Unwrought	97	467	924	300	300
Bahrain					
Alumina	234 690	248 974	1 030 695	298 246	363 599
China					
Unwrought (a)	(f)* 67 300	57 772	169 566	283 756	252 736
Hong Kong					
Bauxite	15 092	11 602	10 172	17 504	23 630
Alumina	979	86	321	10	167
Alumina hydrate	2 100	2 141	3 527	2 298	184
Unwrought	40 469	38 020	72 204	55 796	35 565
Scrap	1 074	580	672	1 083	1 107
India (c)					
Alumina	439	496	...	...	...
Unwrought	85 546	31 325	) 4 000	13 500	12 300
Unwrought alloys	283	0	)		
Indonesia					
Alumina	19 316	39 859	66 109	182 416	398 823
Unwrought	14 131	21 161	33 677	20 067	17 183
Iran (e)					
Alumina	1 293	44 377	34 550	135 292	...
Unwrought	7 464	29 051	4 762	8 185	...
Israel (b)					
Alumina	1 554	1 769	...	(f)* 1 300	(f)* 1 500
Unwrought	19 738	14 200	13 757	14 365	12 841
Japan					
Bauxite	5 707 708	4 352 440	3 439 361	3 579 739	3 861 875
Alumina	731 245	639 355	154 288	34 529	141 583
Alumina hydrate	3 857	1 139	1 518	680	1 268
Unwrought	750 080	943 623	1 220 404	1 309 192	1 058 938
Unwrought alloys	160 005	185 699	226 162	294 540	288 879
Scrap	275 696	204 863	181 667	302 025	243 250
Korea, Dem. P.R. of					
Unwrought (a)(f)	* 6 400	* 6 000	* 3 900	* 2 600	* 600
Korea, Republic of					
Bauxite	2 247	4 907	5 334	6 095	9 305
Alumina	33 515	39 240	29 010	26 254	37 273
Alumina hydrate	25 812	26 616	27 942	43 428	40 466
Unwrought	47 539	65 973	77 765	298 895	112 599
Unwrought alloys	26 279	32 610	224 502	34 902	30 629
Scrap	3 862	5 699	7 299	6 089	5 069
Malaysia					
Alumina	6 877	5 547	3 194	5 663	...
Unwrought (a)	16 482	14 931	23 078	41 910	...
Pakistan (d)					
Unwrought	3 229	701	6 413	3 059	1 691
Scrap	11 905	13 483	11 525	14 426	14 276
Philippines					
Bauxite	8 219	12 592	3 762	3 119	3 953
Alumina	1 201	1 395	644	1 998	2 766
Unwrought (a)	17 651	10 407	18 471	14 843	6 614
Saudi Arabia					
Bauxite	—	39 509	114 856	142 686	163 647
Unwrought	7 382	7 852	6 318	14 447	13 818
Singapore					
Alumina	8 186	6 625	10 792	9 605	9 339
Unwrought	9 092	8 432	11 085	18 829	10 767
Scrap	433	394	642	639	796
Syria					
Alumina	—	2 273	51	3 196	236
Unwrought & scrap	592	3 457	653	5 746	2 522

**Imports of Bauxite, Alumina and Aluminium**

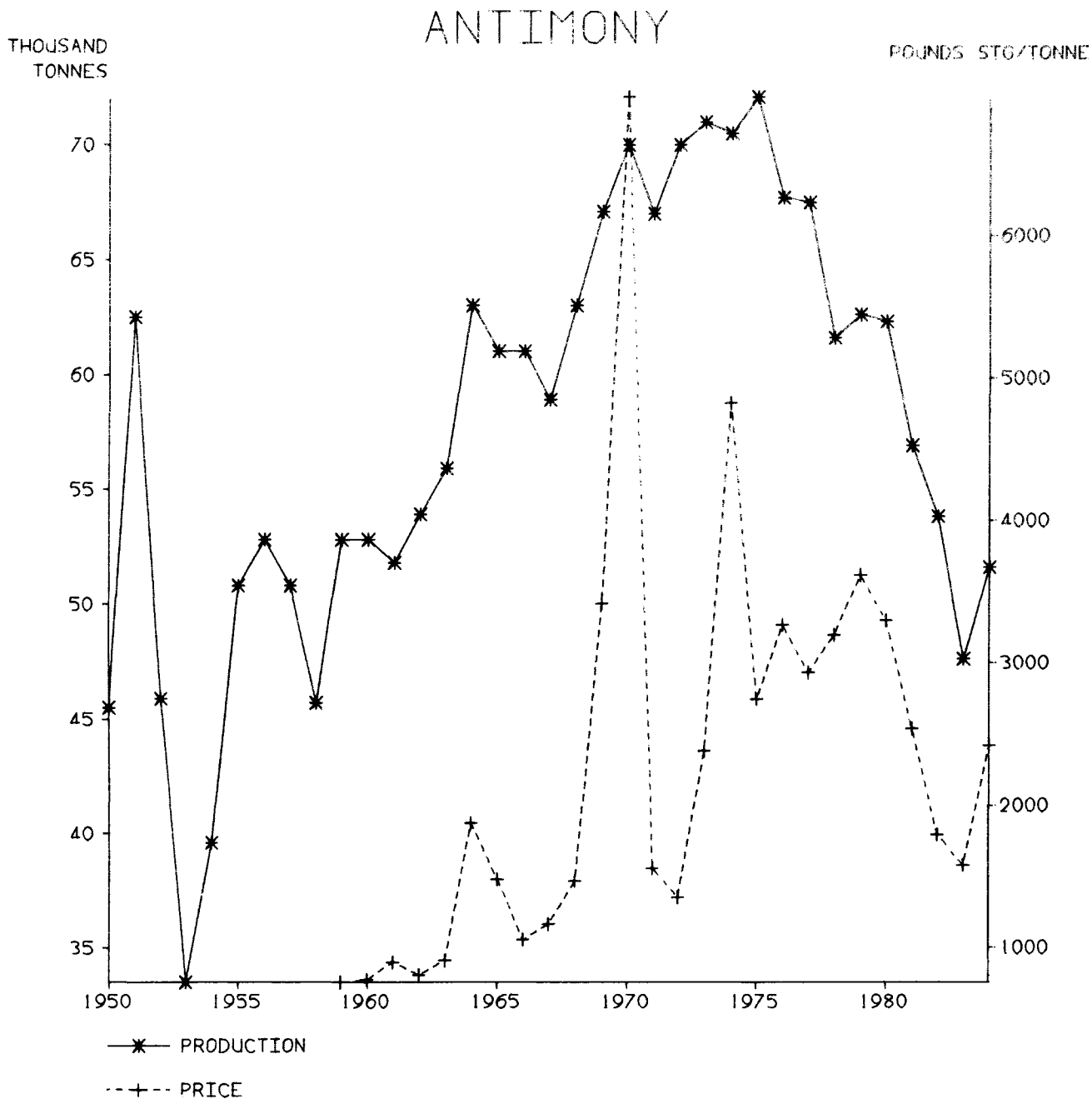
tonnes

Country	1980	1981	1982	1983	1984
Taiwan					
Bauxite	260 438	106 754	30 373	36 805	55 241
Alumina	57 915	37 612	17 024	3 744	5 268
Alumina hydrate	1 111	1 711	1 569	1 308	1 921
Unwrought	58 320	47 752	88 569	139 145	99 923
Scrap	19 255	16 847	15 775	25 766	6 483
Thailand					
Bauxite	205	8 964	285	3 557	11 652
Alumina	1 456	1 325	1 078	1 762	1 473
Alumina hydrate	11 560	8 635	10 773	9 646	9 251
Unwrought	40 209	46 865	55 010	60 569	43 825
Unwrought alloys	4 699	4 909	3 840	4 337	5 415
Australia					
Alumina	3 967	3 619	4 435	3 824	4 730
Unwrought (a)	10 221	9 261	13 922	5 225	709
Scrap	2 243	3 008	2 433	2 711	2 646
New Zealand (d)					
Alumina	265 290	325 738	346 055	335 757	505 892
Unwrought (a)	390	622	7 436	6 000	5 202

**Notes:**

- 1 Except where alumina hydrate is separately specified, national trade figures for alumina can be considered as inclusive of hydrate
  - 2 In this table the term 'unwrought' aluminium corresponds to item 684.1 of the Standard International Trade Classification (Revision 2) and comprises ingots, blocks, unwrought bars, etc
  - 3 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys  
(b) Figures may be incomplete as value only given in Israeli trade return for imports from some countries  
(c) Years ended 31 March following that stated  
(d) Years ended 30 June of that stated  
(e) Years ended 20 March following that stated  
(f) BGS estimates, based on known exports from certain countries





**Figure 2** World mine production of antimony from 1950 to 1984 compared with the annual c.i.f. price of 99.6% European free market regulus expressed in constant 1980 pounds sterling from 1959.  
*Constant commodity prices have been derived from those quoted by Metal Bulletin using the CPI for UK published in International Financial Statistics Yearbook (1985).*

## Mine Production of Antimony

tonnes (metal content)

Country	1980	1981	1982	1983	1984
France	—	150	332	111	—
Italy	713	696	339	—	244
Austria	691	667	711	705	565
Czechoslovakia	820	739	* 700	* 900	* 1 000
Soviet Union	* 7 000	* 6 500	* 6 500	* 6 500	* 6 500
Spain	625	646	461	489	583
Turkey	977	838	1 237	1 170	1 713
Yugoslavia	1 680	1 455	1 517	950	945
Morocco	550	490	864	430	994
South Africa	13 067	9 810	9 127	6 310	7 440
Zimbabwe	150	137	195	74	256
Canada	2 394	1 714	454	385	510
Guatemala	678	487	498	* 500	96
Honduras	23	19	9	10	320
Mexico	2 176	1 800	1 565	2 519	3 064
USA	327	914	(c) 456	(c) 760	(c) 505
Bolivia	15 465	15 301	13 978	9 951	9 281
Brazil	46	40	—	—	—
Peru (a)	344	685	738	713	* 700
Burma	440	—	—	—	—
China	* 10 000	* 11 000	* 12 000	* 13 000	* 13 500
Malaysia	133	191	128	134	17
Pakistan	39	51	—	—	5
Thailand	3 603	1 480	823	1 474	2 434
Australia (b)	1 379	1 126	1 146	538	900
World total	63 300	56 900	53 800	47 600	51 600

## Notes:

- 1 This table includes antimony content of antimonial lead alloys
- 2 In addition to the countries listed, Afghanistan, Hungary, Iran and Romania are also believed to produce antimony

(a) Includes Sb content of antimonial lead plus Sb content of ores for export

(b) Includes Sb content of lead and zinc concentrates

(c) Excludes Sb content of antimonial lead

## Exports of Antimony

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ore	824	...	...	...	...
Metal	54	30	118	75	84
Oxide (a)	* 2 300	* 2 700	* 3 200	* 3 800	* 3 800
France					
Ore	104	271	177	26	54
Metal	124	77	77	66	55
Oxide	4 947	6 309	4 914	5 233	5 931
Germany, Federal Republic of					
Metal	47	101	10	17	118
Oxide	261	481	422	571	755
Italy					
Metal	3	51	4	50	33
Oxide	204	240	220	617	650
Netherlands					
Metal	79	21	22	13	6
Oxide	341	213	331	226	134
Austria					
Ore	291	26	—	4	4
Sulphide (b)	28	91	74	49	14
Soviet Union					
Oxide (a)	* 50	* 400	* 500	* 500	* 600
Spain					
Metal	370	568	506	401	...
Turkey					
Ore	1 447	755	450	330	...
Metal	319	190	...	...	...
Yugoslavia					
Metal	1 055	1 220	675	110	...
Morocco					
Ore	1 159	1 260	1 796	1 105	2 152
South Africa					
Ore (c)	1 836	3 559	2 219	2 904	4 596
Oxide (a)	* 6 400	* 4 200	* 2 900	* 3 500	* 6 800
Zimbabwe					
Ore	298	302	372	137	...
Guatemala					
Ores & concentrates	1 292	556	0	—	...
Mexico					
Ores & concentrates	1 111	830	2 253	2 585	...
Metal	194	78	58	182	...
USA					
Metal	452	317	784	289	484
Oxide	838	420	305	401	574
Bolivia					
Ore (c)	7 386	11 173	7 462	8 728	...
Metal	3 576	4 165	1 138	1 633	...
Oxide (c)	1 661	2 422	2 291	2 559	...
Peru					
Ores & concentrates	377	...	...	...	...
Burma (d)					
Ores & concentrates	201	300	—	...	...
China					
Ores & concentrates (a)	* 3 900	* 3 500	* 3 600	* 2 600	* 7 300
Metal	(a)* 3 100	8 213	13 432	12 216	17 321
Oxide (a)	* 2 300	* 2 500	* 2 600	* 2 700	* 7 700
Sulphide (a)	* 20	* 70	* 80	* 70	* 130
Japan					
Metal	41	29	21	3	6
Thailand					
Ore	5 704	5 268	2 796	3 037	5 491
Australia					
Ores & concentrates	1 376	1 159	1 558	1 695	3 158

(a) BGS estimates, based on known imports into certain countries

(b) Believed to be crude liquated sulphide

(c) Sb content

(d) Years ended 31 March following that stated



## Imports of Antimony

Country	1980	1981	1982	1983	1984
United Kingdom					
Ore (c)	* 3 600	* 12 000	* 8 100	* 10 000	* 6 300
Metal	347	365	297	617	296
Oxide	510	717	856	737	976
Belgium-Luxembourg					
Ore	5 177	5 147	3 962	4 265	6 097
Metal	32	8	198	541	646
Oxide	193	338	283	272	201
Denmark					
Metal	10	10	10	53	15
Oxide	32	36	39	36	45
France					
Ore	8 823	10 998	8 844	10 273	11 255
Metal	348	552	1 143	593	568
Oxide	425	373	357	437	504
Germany, Federal Republic of					
Ore	3 002	1 954	1 640	1 705	2 131
Metal	538	595	441	371	582
Oxide	3 351	3 567	3 899	5 167	5 536
Greece					
Metal	6	2	...	30	1
Italy					
Metal	112	79	252	177	223
Oxide	528	422	427	560	764
Netherlands					
Metal	112	48	75	34	35
Oxide	985	907	948	1 053	1 131
Austria					
Metal	63	52	48	32	31
Oxide	...	98	116	212	140
Bulgaria					
Metal (b)	* 250	* 400	* 50	...	...
Finland					
Metal	15	20	16	2	6
Norway					
Metal	43	20	30	13	71
Soviet Union					
Metal (b)	* 600	* 800	* 500	...	...
Spain					
Ore	659	480	433	348	...
Metal	32	47	29	30	...
Oxide	210	194	301	279	...
Sweden					
Metal	14	25	12	15	2
Switzerland					
Metal	91	55	45	60	34
Yugoslavia					
Ores & concentrates	4 201	3 550	2 849	717	...
Algeria					
Metal	30	80	6	0	...
Canada					
Oxide	944	936	780	1 001	1 144
USA					
Ore	10 019	9 810	5 086	5 719	8 973
Liquated	34	96	80	43	65
Metal	2 367	2 672	2 103	1 828	4 096
Oxide	11 108	11 040	9 465	9 620	16 224
Argentina					
Ore	246	91	150	...	...
Brazil					
Ore	623	443	588	494	34
Metal	132	107	331	650	260
Oxide	786	300	133	162	37
Sulphide	11	3	6	10	17
Venezuela					
Metal	...	...	544	...	...

**Imports of Antimony**

tonnes

Country	1980	1981	1982	1983	1984
India					
Metal	565	820	...	...	...
Oxide (a)	62	134	...	...	...
Japan					
Ores & concentrates	6 996	6 531	3 993	6 272	6 987
Metal	1 563	2 366	2 493	3 487	5 118
Oxide	...	1 048	1 150	1 796	2 467
Sulphide	58	92	116	115	228
Korea, Republic of					
Ores & concentrates	224	547	391	956	1 250
Metal	—	—	32	149	251
Oxide	52	100	126	311	354
Malaysia					
Metal	53	22	26	16	...
Australia					
Metal	36	50	29	26	41

(a) Years ended 31 March following that stated

(b) BGS estimates, based on known exports from certain countries

(c) BGS estimates

## Production of White Arsenic

tonnes

Country	1980	1981	1982	1983	1984
France	10 000	10 000	9 700	4 700	3 800
Germany, Federal Republic of	* 360	* 360	* 360	* 360	* 360
Portugal	185	196	157	163	144
Soviet Union	* 7 700	* 7 750	* 7 800	* 7 900	* 8 000
Sweden	* 6 500	* 6 900	* 7 200	* 5 300	* 5 900
Namibia (a)	1 288	1 370	1 895	1 126	2 504
Zimbabwe	79	21	—	—	—
Mexico (b)	6 930	6 516	4 739	4 557	* 4 500
Bolivia	81	127	261	107	130
Peru	2 427	2 164	1 663	1 110	* 1 100
Japan	284	95	* 100	* 300	* 500
Korea, Republic of	...	170	306	560	...

## Notes:

- 1 This table includes calculated trioxide equivalents of arsenic metal produced except where this would involve double counting
  - 2 In addition to the countries listed, Argentina, Austria, Belgium, China, Czechoslovakia, German Democratic Republic, Finland, Hungary, Spain, United Kingdom, USA and Yugoslavia are also believed to produce arsenic
- (a) Output of Tsumeb Corp. only, trioxide equivalent of reported black arsenic  
(b) Including trioxide equivalent of black arsenic

## Exports of Arsenic

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
White arsenic	165	165	44	146	2
Metallic arsenic (a)	29	10	58	44	57
Belgium-Luxembourg					
Metallic arsenic (a)	7	10	7	46	92
France					
White arsenic	7 886	7 877	7 503	3 246	7 225
Metallic arsenic	104	87	90	27	128
Germany, Federal Republic of					
White arsenic	928	884	745	451	151
Metallic arsenic (a)	4	21	9	14	13
Italy					
White arsenic	73	75	106	3	2
Netherlands					
White arsenic	27	7	12	1	3
Metallic arsenic (a)	61	9	48	39	177
Mexico					
White arsenic	3 817	3 495	2 466	2 625	...
Bolivia					
White arsenic	81	127	...	...	...
Peru					
White arsenic	351	...	...	...	...
Hong Kong					
White arsenic (Re-exports)	38	76	295	51	21
Korea, Republic of					
White arsenic	116	337	643	114	187

Note: This table does not purport to be comprehensive: data relating to arsenic are not fully recorded by many countries

(a) May include some tellurium

## Arsenic

**Imports of Arsenic**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
White arsenic	5 481	8 053	7 116	4 393	5 744
Metallic arsenic (a)	105	105	141	120	160
Belgium-Luxembourg					
White arsenic	37	32	52	20	7
Metallic arsenic (a)	100	90	86	100	123
Denmark					
White arsenic	10	10	10	5	15
Metallic arsenic (a)	17	18	11	1	12
France					
White arsenic	107	181	128	131	31
Metallic arsenic	211	143	117	99	135
Germany, Federal Republic of					
White arsenic	545	688	444	339	344
Metallic arsenic (a)	49	75	77	74	89
Greece					
White arsenic	79	111	97	33	78
Italy					
White arsenic	837	734	598	455	551
Metallic arsenic (a)	57	65	65	32	33
Netherlands					
White arsenic	4	31	13	2	—
Metallic arsenic (a)	59	68	117	63	164
Finland					
White arsenic (d)	1 220	1 644	1 555	1 165	1 183
Spain					
White arsenic	131	241	78	133	...
Metallic arsenic	18	35	11	18	...
Sweden					
Metallic arsenic	5	11	628	730	3 036
Switzerland					
White arsenic (d)	6	80	3	22	4
Turkey					
White arsenic	35	34	...	...	...
Yugoslavia					
White arsenic	102	101	57	73	...
Metallic arsenic	85	58	37	18	...
Morocco					
White arsenic	10	—	5	10	18
South Africa					
White arsenic (d)	—	141	1	90	0
Metallic arsenic	12	12	14	9	22
USA					
White arsenic	11 366	17 199	14 599	10 186	13 985
Metallic arsenic	241	293	136	244	304
Argentina					
White arsenic	251	83	169	...	...
Brazil					
White arsenic	496	116	392	376	246
Metallic arsenic	54	5	2	2	3
Colombia					
White arsenic	35	42	10	12	...
Uruguay					
White arsenic	28	7	24	38	40
Venezuela					
White arsenic	17	2	0	...	...
Hong Kong					
White arsenic	46	75	157	61	238
India (b)					
White arsenic	171	388	...	...	...
Metallic arsenic	11	6	...	...	...
Indonesia					
White arsenic	99	64	62	29	44
Japan					
White arsenic	716	450	599	272	199

**Imports of Arsenic**

Country	1980	1981	1982	1983	1984
Malaysia					
White arsenic	713	732	1 332	612	...
Philippines					
White arsenic (d)	75	162	218	157	118
Taiwan					
White arsenic	190	220	174	274	411
Thailand					
White arsenic (d)	93	75	289	139	97
Australia					
White arsenic	904	1 225	862	510	...
New Zealand (c)					
White arsenic (d)	1 888	2 574	3 146	1 568	1 938

Note: This table does not purport to be comprehensive: data relating to arsenic are not fully recorded by many countries

- (a) May include some tellurium
- (b) Years ended 31 March following that stated
- (c) Years ended 30 June of that stated
- (d) Includes pentoxide and/or arsenic acid

## Asbestos

## Production of Asbestos

tonnes

Country	1980	1981	1982	1983	1984
Greece	—	1 000	17 500	31 800	45 700
Italy	157 794	137 086	116 410	139 054	147 272
Bulgaria	700	400	600	700	600
Czechoslovakia	617	388	342	325	
Soviet Union	* 2 070 000	* 2 105 000	* 2 180 000	* 2 250 000	* 2 300 000
Turkey	8 882	2 833	23 283	22 590	29 934
Yugoslavia	10 468	12 206	10 748	9 663	7 261
Egypt	316	325	424	245	* 325
Mozambique	94	1 425	852	* 800	* 800
South Africa					
Amosite	51 646	56 834	43 457	40 656	33 237
Crocidolite	119 148	102 337	87 263	87 439	88 884
Chrysotile	106 940	76 772	81 140	93 016	75 414
Swaziland					
Chrysotile	32 833	35 264	30 145	28 287	25 832
Zimbabwe					
Chrysotile	250 949	247 503	197 682	153 221	165 385
Canada					
Chrysotile	1 323 053	1 121 845	834 249	857 504	837 982
USA (a)	80 079	75 618	63 515	69 906	57 422
Argentina	1 261	1 280	1 218	1 240	* 1 250
Brazil	170 403	138 417	145 998	158 855	136 083
China	* 131 700	* 106 000	* 110 000	* 160 000	* 160 000
Cyprus					
Chrysotile	34 540	25 568	18 952	17 288	7 429
India					
Amphibole	33 716	27 521	26 908	23 613	25 097
Japan					
Chrysotile	3 897	3 950	4 135	* 4 000	* 4 000
Korea, Republic of	9 854	14 084	15 933	12 506	8 062
Taiwan	683	2 317	2 392	2 819	1 355
Australia					
Chrysotile	92 418	45 494	18 587	3 909	—
World total	4 700 000	4 300 000	4 000 000	4 200 000	4 200 000

Note: In addition to the countries listed, Democratic P.R. of Korea and Romania are also believed to produce asbestos

(a) Sold or used by producers

## Exports of Unmanufactured Asbestos

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	1 114	1 758	1 860	1 282	964
Belgium-Luxembourg	57	222	1 084	568	349
France	1 574	1 331	1 586	3 195	921
Germany, Federal Republic of	27 333	43 034	47 239	34 260	14 927
Greece	—	—	992	9 376	34 740
Italy	63 815	51 438	48 624	61 164	57 660
Netherlands	36	269	88	243	217
Hungary	* 5 300	* 2 500	* 4 900	...	* 3 200
Soviet Union (a)	* 321 500	* 331 900	* 279 900	* 268 100	* 258 300
Sweden	14	1	—	135	—
Switzerland	43	164	348	389	35
Yugoslavia	2 506	2 938	2 588	2 147	...
South Africa	270 666	254 698	219 652	214 756	191 480
Swaziland	31 435	31 500	29 573	31 176	24 673
Zimbabwe	274 258	198 958	168 812	161 088	...
Canada					
Crude	—	10	555	931	1 729
Fibre	653 461	522 105	454 430	384 068	430 495
Shorts	564 379	542 432	425 779	368 912	363 629
USA	48 666	64 418	58 767	54 632	39 922
Brazil	30	464	7 022	11 750	19 716
China (a)	* 9 000	* 11 200	* 5 200	* 4 200	* 2 700
Cyprus	30 446	29 081	19 115	13 631	8 216
Hong Kong (Re-exports)	8 492	3 127	1 141	84	19
Japan	428	680	723	677	431
Singapore	10 461	11 603	8 939	8 692	6 715
Australia	51 172	38 576	15 578	4 460	22

(a) BGS estimates, based on known imports into certain countries

## Imports of Unmanufactured Asbestos

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	94 640	67 186	52 260	45 145	41 556
Belgium-Luxembourg	47 880	31 374	27 744	35 332	34 882
Denmark	13 713	5 886	9 701	16 585	13 536
France	127 123	102 318	83 639	76 265	70 170
Germany, Federal Republic of	392 978	171 708	148 845	188 857	74 432
Greece	14 180	14 666	7 102	7 515	3 954
Irish Republic	8 413	6 173	5 777	4 729	5 687
Italy	86 550	65 942	56 884	41 619	41 421
Netherlands	19 042	9 927	5 107	5 751	8 357
Albania (d)	* 2 400	* 2 700	* 2 600	* 1 700	* 2 000
Austria	20 241	26 643	27 082	26 076	22 654
Bulgaria (d)	* 500	* 450	* 350	* 1 700	* 3 500
Czechoslovakia	46 197	49 195	48 699	41 681	45 335
Finland	5 040	3 573	4 291	2 561	3 157
German Democratic Republic	74 400	50 200	61 200	47 000	53 800
Hungary	48 402	33 999	33 688	37 603	35 097
Norway	103	149	14	58	0
Poland	83 272	79 837	72 705	71 260	69 361
Portugal	19 953	19 168	14 815	14 047	8 126
Romania (d)	* 4 900	* 4 700	* 2 500	* 1 400	* 300
Spain	66 944	59 937	53 211	54 523	47 472
Sweden	1 195	1 101	1 037	1 000	1 000
Switzerland	21 029	16 886	5 455	12 211	4 772
Turkey	16 671	21 521	20 012	20 575	21 872
Yugoslavia	60 023	57 762	58 611	45 651	...
Algeria	21 305	25 644	3 079	27 181	...
Burundi	125	424	518	28	...
Canary Islands	131	0	12	—	...
Egypt	4 387	26 828	2 367	13 998	...
Ethiopia	302	500	671	1 006	...
Ghana	1 114	...	...	...	...
Kenya	1 403	865	530	747	...
Libya	307	2 109	4 308	...	...
Morocco	6 770	6 630	8 086	6 590	4 702
Mozambique	1 082	779	1 543	1 632	...
Nigeria	...	125 084	77 812	...	...
Senegal	1 177	1 047	914	1 042	613
South Africa	19 518	29 231	12 878	12 781	20 901
Tunisia	5 838	8 397	6 361	...	6 075
Uganda	132	83	...	...	...
Zaire	623	367	169	340	153
Canada	1 156	935	573	454	326
Costa Rica	1 318	762	1 192	382	326
El Salvador	3 324	2 865	3 286	3 955	...
Guatemala	1 825	1 257	376	476	...
Honduras	2 102	1 731	...	...	...
Jamaica	4	78	491	16	29
Mexico	79 014	75 263	55 732	32 846	...
Nicaragua	848	1 343	1 496	...	...
Panama	283	241	320	450	150
USA					
Amosite	364	680	389	609	715
Crocidolite	7 597	7 376	7 904	6 177	5 656
Chrysotile	305 358	314 213	211 901	177 016	194 949
Other unmanufactured	13 976	15 345	21 538	12 584	8 643
Argentina	20 149	12 531	15 462	...	...
Brazil	24 799	13 019	13 192	7 771	3 791
Colombia	27 057	21 492	25 945	13 170	...
Ecuador	7 138	3 906	5 659	...	...
Peru	4 870	7 408	3 801	3 934	...
Uruguay	2 427	1 203	623	1 423	688
Venezuela	9 111	11 742	7 354	...	...



## Imports of Unmanufactured Asbestos

tonnes

Country	1980	1981	1982	1983	1984
Burma (e)	1 825	2 776	7 152	...	...
Cyprus	790	366	367	375	297
Dubai	4 631	10 359	9 217	5 342	912
Hong Kong	8 776	3 297	1 336	101	28
India	63 176	49 736	...	...	...
Indonesia	23 047	27 062	18 765	15 095	10 964
Iran (a)	23 392	31 539	42 568	47 186	...
Israel (c)	3 050	6 282	4 467	6 316	3 932
Japan	305 408	237 963	229 125	237 413	239 747
Korea, Republic of	36 787	53 787	44 038	113 305	59 693
Kuwait	2 084	2 018	10 145	...	...
Malaysia	32 242	35 645	24 632	25 375	...
Pakistan (b)	10 679	5 690	4 462	3 468	3 172
Philippines	4 467	5 499	2 200	2 385	1 663
Saudi Arabia	52 225	10 102	15 882	8 801	6 660
Singapore	16 661	16 824	9 767	10 215	9 951
Sri Lanka	6 188	4 222	2 399	7 110	5 057
Syria	4 076	4 245	3 885	4 849	2 449
Taiwan	31 247	30 121	30 020	37 939	31 764
Thailand	58 756	57 193	54 333	55 967	66 545
Australia	25 239	20 960	20 201	10 113	14 433
New Zealand (b)	4 952	6 173	3 891	2 959	1 907

(a) Years ended 20 March following that stated

(b) Years ended 30 June of that stated

(c) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(d) BGS estimates, based on known exports from certain countries

(e) Years ended 31 March following that stated

## Production of Barytes

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	54 000	63 308	81 000	36 000	63 000
Belgium	* 29 900	* 39 900	* 39 900	* 39 900	* 39 900
France	225 000	172 000	143 000	150 000	148 200
Germany, Federal Republic of	175 380	165 189	165 661	163 965	166 568
Greece	98 529	116 773	119 747	90 187	* 95 000
Irish Republic	260 000	274 000	266 000	199 000	220 000
Italy	203 038	167 186	178 194	139 393	107 128
Czechoslovakia	61 052	* 61 000	* 61 000	* 61 000	* 61 000
German Democratic Republic	* 35 000	* 35 000	* 35 000	* 35 000	* 36 000
Poland	96 300	85 300	90 600	89 900	* 90 600
Portugal	1 200	1 350	600	637	318
Romania	* 80 000	* 79 000	* 78 000	* 78 000	* 73 000
Soviet Union	* 510 000	* 510 000	* 520 000	* 520 000	* 530 000
Spain	59 827	52 695	50 031	52 410	* 50 000
Turkey	128 352	185 555	114 928	78 974	198 031
Yugoslavia	47 818	44 179	32 114	35 025	* 36 000
Algeria	98 255	89 000	102 000	* 110 000	* 110 000
Egypt	4 532	2 108	3 101	3 185	* 3 600
Kenya	6 647	2 591	—	300	210
Morocco	358 311	465 660	515 672	275 000	* 300 000
South Africa	2 635	2 247	3 177	6 683	4 467
Tunisia	26 000	24 700	33 900	23 200	12 100
Zimbabwe	195	—	800	980	700
Canada	94 317	86 117	27 744	45 465	46 884
Guatemala	4 609	290	7 531	886	215
Mexico	269 322	317 738	323 753	357 043	426 000
USA (b)	2 037 000	2 585 000	1 674 000	684 000	703 000
Argentina	49 623	48 868	36 597	61 094	* 60 000
Brazil (d)	104 752	116 340	116 955	96 274	* 96 000
Chile	225 529	259 349	292 402	114 595	21 722
Colombia	3 200	3 160	3 500	3 839	* 4 000
Peru	415 000	409 000	375 000	163 000	* 163 000
Afghanistan (c)	2 700	900	1 800	* 1 800	* 2 700
Burma (a)	4 819	6 932	16 029	9 990	* 11 000
China	* 680 000	* 800 000	* 900 000	* 1 000 000	* 1 000 000
India	442 326	405 138	387 079	317 610	* 400 000
Iran (c)	* 150 000	* 75 000	* 80 000	* 85 000	* 90 000
Japan	54 862	59 584	58 568	69 242	66 200
Korea, Dem. P.R. of	* 110 000	* 100 000	—	—	—
Korea, Republic of	410	—	—	552	—
Malaysia	—	19 365	25 272	21 434	23 421
Pakistan	14 054	26 985	22 448	28 240	28 294
Philippines	5 355	2 135	8 697	1 201	900
Thailand	305 057	307 046	330 948	187 437	174 918
Australia	38 633	41 266	28 064	11 752	* 20 000
World total	7 600 000	8 300 000	7 400 000	5 400 000	5 700 000

## Notes:

- 1 This table may include small quantities of witherite
- 2 In addition to the countries listed, Bulgaria and Cuba are believed to produce barytes

(a) Years ended 31 March following that stated

(b) Sold or used by producers

(c) Years ended 20 March following that stated

(d) Includes beneficiated and directly shipped material

## Exports of Barytes

Country	1980	1981	1982	1983	1984
United Kingdom	4 051	4 226	11 427	10 462	14 997
Belgium-Luxembourg	13 656	19 278	13 099	30 948	33 912
France	98 255	102 439	94 558	109 752	131 394
Germany, Federal Republic of	44 446	54 627	39 886	37 839	46 028
Greece	55 259	822	36 758	5 400	16 000
Irish Republic	272 643	260 691	267 501	227 148	221 558
Italy	105 978	67 792	73 413	46 831	9 610
Netherlands	122 537	86 412	80 306	68 162	59 067
Czechoslovakia	8 000	(b)* 1 200	(b)* 2 600	(b)* 2 000	(b)* 2 000
German Democratic Republic (b)	* 7 600	* 3 100	* 2 700	* 500	* 1 600
Norway	272	3 612	1 611	166	3 515
Portugal	1 000	—	589	—	—
Romania (b)	* 800	* 400	* 400	* 200	* 700
Spain	52 017	65 826	52 740	61 507	51 834
Turkey	81 666	187 931	171 483	162 408	215 981
Yugoslavia	19 077	16 200	20 452	17 680	...
Morocco	333 820	452 976	465 340	372 319	570 973
Tunisia	2 840	1 040	259	...	6 112
Canada	650	404	481	795	1 247
Mexico	115 599	123 183	123 672	126 208	...
Trinidad & Tobago	1 037	1	—	3 757	—
USA	87 833	56 913	44 171	20 743	1 398
Bolivia	8 694	2 130	607	516	...
Brazil	18 125	24 255	19 730	6 300	12 717
Peru	127 868	167 351	130 105	...	...
China	(b)* 618 100	914 310	1 091 218	792 285	951 432
Hong Kong (Re-exports)	679	192	759	886	262
India	219 347	222 463	...	...	...
Indonesia	6 451	10 644	2 829	5 807	762
Japan	1 902	4 768	4	30	400
Malaysia	405	—	4 120	8 802	...
Pakistan (a)	1 700	—	—	—	—
Singapore	37 667	22 203	10 204	15 821	11 303
of which: Re-exports	10 233	14 926	9 623	15 095	6 423
Thailand	361 334	234 091	287 889	205 443	205 557
Australia	48 108	1 903	581	761	...

Note: Trade in barytes is reported under item 278.92 of the Standard International Trade Classification (Revision 2) and is described as 'barytes and witherite'. However, only small quantities of witherite are traded

(a) Years ended 30 June of that stated

(b) BGS estimates, based on known imports into certain countries

## Imports of Barytes

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	142 384	113 007	116 386	138 226	158 473
Belgium-Luxembourg	8 407	8 003	8 427	7 250	8 165
Denmark	12 461	16 951	18 269	23 726	11 096
France	14 610	12 936	18 884	18 543	30 855
Germany, Federal Republic of	209 182	166 066	177 686	141 022	209 420
Greece	137	3 430	6 039	3 400	15
Irish Republic	717	319	300	366	423
Italy	7 531	9 665	10 328	14 424	11 787
Netherlands	81 728	98 928	75 748	148 833	88 490
Austria	5 752	8 273	6 649	9 278	11 325
Finland	1 168	2 632	2 664	1 613	1 419
Hungary	19 000	16 215	19 129	17 459	13 179
Norway	111 392	100 991	87 836	90 574	107 994
Poland	* 4 100	...	...	...	...
Portugal	2 000	2 233	703	1 335	564
Romania (b)	* 20 500	* 13 600	* 3 800	* 1 000	* 2 000
Soviet Union (b)	* 44 400	* 113 100	* 96 900	* 34 700	* 73 300
Spain	849	566	1 429	514	386
Sweden	3 992	4 567	5 440	4 991	5 321
Switzerland	3 181	2 092	1 795	1 393	1 294
Yugoslavia	1 147	490	498	150	...
Algeria	37 258	10 587	—	4	...
Cameroon	21 416	...	...	...	...
Gabon	207	1 410	12 124	6 552	...
Ivory Coast	256	19 273	15 855	...	...
South Africa	5 672	3 693	1 789	2 384	3 494
Tunisia	233	103	484	...	139
Canada	45 157	16 277	23 456	29 952	17 686
Mexico	129 096	132 923	190 602	90 553	...
Trinidad & Tobago	26 666	82 944	22 543	35 811	12 147
USA	1 702 332	1 765 286	2 126 649	1 267 645	1 611 351
Argentina	6 418	2 331	677	...	...
Brazil	175	74	60	45	134
Colombia	8 010	6 164	6 497	7 903	...
Venezuela	141 349	158 863	146 025	...	...
Abu Dhabi	16 189	24 843	25 823	38 318	5 566
Dubai	57	4 888	8 267	22 294	25 126
Hong Kong	1 169	915	1 173	1 252	378
Indonesia	21 031	25 863	70 833	74 316	60 457
Japan	40 173	45 251	40 187	46 568	41 681
Korea, Republic of	100	200	350	469	949
Malaysia	6 424	22 939	16 651	9 409	...
Philippines	1 893	50	85	341	44
Saudi Arabia	41 268	26 597	46 699	73 459	4 124
Singapore	66 343	29 698	19 494	21 554	11 428
Syria	510	—	916	3 918	2 979
Taiwan	7 605	3 035	600	2 867	7 914
Australia	1 273	1 112	4 552	1 166	1 282
New Zealand (a)	1 332	4 545	1 385	1 898	4 623

Note: Trade in barytes is reported under item 278.92 of the Standard International Trade Classification (Revision 2) and is described as 'barytes and witherite'. However, only small quantities of witherite are traded

(a) Years ended 30 June of that stated

(b) BGS estimates, based on known exports from certain countries

## Production of Bentonite and Fuller's Earth

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Fuller's earth (a)	163 000	185 000	187 000	192 000	202 000
France					
Bentonite	...	2 511	3 290	3 088	2 475
Germany, Federal Republic of					
Bentonite	...	...	...	...	154 000
Fuller's earth	808 000	836 000	821 000	766 000	674 000
Greece					
Bentonite	499 424	297 286	404 755	692 557	644 109
Italy					
Bentonite	322 888	301 255	237 248	294 037	311 284
Fuller's earth	4 300	5 495	7 000	20 500	30 000
Hungary					
Bentonite	77 685	80 531	84 934	79 807	64 158
Poland					
Bentonite	81 849	77 491	79 500	71 300	75 500
Romania					
Bentonite	176 500	* 176 000	* 175 000	* 177 000	* 180 000
Spain					
Bentonite	97 705	117 727	112 326	82 550	80 000
Attapulгите	48 020	47 227	42 926	41 654	* 40 000
Sepiolite	252 304	288 499	329 240	345 932	334 926
Turkey					
Bentonite	* 13 000	30 687	* 31 000	21 916	28 093
Fuller's earth	139 702	119 813	127 179	...	...
Yugoslavia					
Bentonite	136 080	...	...	...	...
Algeria					
Bentonite	34 620	* 35 000	* 35 000	* 30 000	* 24 500
Egypt					
Bentonite	5 200	3 700	4 032	2 512	3 515
Morocco					
Bentonite	3 284	2 906	4 457	4 095	1 825
Fuller's earth (g)	17 430	19 750	24 604	27 385	33 406
Mozambique					
Bentonite	848	716	1 455	250	405
Senegal					
Attapulгите	27 651	30 057	94 189	98 950	115 498
South Africa					
Bentonite	51 815	44 372	30 827	39 529	41 849
Attapulгите	3 684	5 221	4 596	4 425	4 843
Fuller's earth	720	434	311	312	—
Guatemala					
Bentonite	4 344	4 255	9 018	5 885	680
Mexico					
Bentonite	176 028	220 454	184 918	171 140	* 175 000
Fuller's earth	56 858	65 378	42 488	41 574	* 42 000
USA					
Bentonite (c)	3 796 223	4 487 987	2 943 633	2 618 925	2 861 682
Fuller's earth (c)(f)	1 391 443	1 502 166	1 526 479	1 734 205	1 722 876
Argentina					
Bentonite	131 384	122 719	123 254	135 569	* 130 000
Fuller's earth	4 722	5 246	11 795	6 741	* 6 500
Brazil					
Bentonite	247 954	166 338	164 060	128 691	196 050
Peru					
Bentonite	18 200	30 500	* 31 000	* 31 000	* 32 000
Burma (d)					
Bentonite	2 182	2 097	985	812	710
Cyprus					
Bentonite	24 032	47 010	13 324	31 950	32 400
India					
Bentonite	158 675	143 872	142 088	94 905	...
Fuller's earth	30 985	19 758	26 295	35 047	...
Iran					
Bentonite	* 20 000	* 10 000	* 11 000	* 10 000	* 10 000
Israel					
Bentonite (e)	18 321	12 581	12 000	6 838	* 12 000

**Production of Bentonite and Fuller's Earth**

tonnes

Country	1980	1981	1982	1983	1984
Japan					
Bentonite	548 328	511 781	484 431	440 923	416 000
Pakistan					
Bentonite	1 347	1 048	1 024	1 069	1 559
Fuller's earth	24 463	17 571	17 342	17 483	19 303
Philippines					
Bentonite	5 053	5 527	4 671	670	91 313
Australia					
Bentonite	10 988	16 905	29 211	30 026	* 30 000
Fuller's earth	—	—	14 769	* 15 000	* 15 000
New Zealand					
Bentonite	3 000	1 885	6 220	1 958	6 418
World total Bentonite	6 780 000	7 290 000	5 600 000	5 500 000	5 840 000
World total Fuller's earth (b)	2 970 000	3 150 000	3 280 000	3 470 000	3 410 000

## Notes:

- 1 Bentonites consist of montmorillonite (one of the smectite group of clay minerals) and occur in two main varieties, calcium bentonite, the most commonly occurring, and sodium bentonite, industrially the more important. Calcium bentonite can be converted to sodium bentonite by a sodium-exchange process. In some countries, such as the United Kingdom, calcium bentonite is known as fuller's earth, a term which is also used to refer to attapulgite, a mineralogically distinct clay mineral but exhibiting similar properties
  - 2 In addition to the countries listed, Austria, Canada, China, Soviet Union and Tanzania are also believed to produce bentonite and France, Iran and Japan may produce fuller's earth
- (a) BGS estimates of saleable production based on data from producing companies  
 (b) Including attapulgite and sepiolite  
 (c) Sold or used by producers  
 (d) Years ended 31 March following that stated  
 (e) A low grade form of bentonite, known as metabentonite  
 (f) Mostly attapulgite  
 (g) Smectite

## Exports of Bentonite and Fuller's Earth

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Bentonite	19 017	29 479	22 066	19 169	22 195
Fuller's earth	6 045	8 914	12 049	13 957	16 619
Belgium-Luxembourg					
Bentonite	10 831	6 247	4 804	6 192	1 488
Fuller's earth	508	58	232	953	659
France					
Bentonite	6 880	12 630	15 304	10 404	7 676
Fuller's earth	1 999	1 808	9 958	10 669	12 033
Germany, Federal Republic of					
Bentonite	29 755	23 956	21 122	31 488	33 552
Fuller's earth	5 220	4 485	3 865	6 361	3 348
Greece					
Bentonite	468 911	757 534	314 533	322 920	380 246
Italy					
Bentonite	18 936	36 297	21 261	40 798	38 144
Netherlands					
Bentonite	35 210	31 619	22 687	22 238	23 916
Fuller's earth	845	15 017	762	5 528	9 074
Hungary					
Bentonite	15 604	18 218	21 527	16 382	12 920
Spain					
Bentonite	32 581	29 689	30 554	32 346	...
Fuller's earth	...	2 485	2 877	2 646	...
Turkey					
Bentonite	5 360	8 833	...	...	...
Yugoslavia					
Bentonite	1 401	348	533	100	...
Morocco					
Fuller's earth (a)	17 384	17 143	18 350	20 737	38 640
Senegal					
Fuller's earth (b)	3 185	7 764	15 017	18 275	7 996
South Africa					
Bentonite	1 630	1 798	995	380	915
USA					
Bentonite	814 421	781 987	605 745	502 522	510 673
Fuller's earth	104 073	100 976	84 321	92 800	105 039
Argentina					
Bentonite	5 529	5 595	3 477	...	...
Colombia					
Bentonite	165	1 366	1 441	336	...

**Exports of Bentonite and Fuller's Earth**

tonnes

Country	1980	1981	1982	1983	1984
China					
Bentonite (c)	* 800	* 1 250	* 700	* 1 000	* 800
Fuller's earth (c)	* 50	* 1 000	* 2 100	* 1 900	* 700
India					
Bentonite	12 894	14 153	...	...	...
Fuller's earth	762	925	...	...	...
Indonesia					
Bentonite	2 946	4 932	6 909	9 928	5 184
Kuwait					
Bentonite	13 913	34 486	18 118	...	...
Singapore					
Bentonite	25 596	29 853	19 312	21 913	21 817
of which: Re-exports	7 299	12 252	14 228	19 710	19 524
Fuller's earth	9 335	9 266	11 239	11 813	7 923
of which: Re-exports	9 295	9 200	11 236	11 813	7 923
Taiwan					
Bentonite	49	65	104	36	45

## Notes:

- 1 See note 1 to production table
- 2 The figures in this table refer to natural and sodium-exchanged bentonite, and fuller's earth, Standard International Trade Classification (Revision 2) 278.21. Activated bentonite and fuller's earth, Standard International Trade Classification (Revision 2) 598.92(b) are excluded. However, some countries are believed to include sodium-exchanged bentonite, often referred to as activated bentonite, under Standard International Trade Classification (Revision 2) 598.92(b), e.g. Italy

(a) Smectite

(b) Attapulgite

(c) BGS estimates, based on known imports into certain countries



## Imports of Bentonite and Fuller's Earth

Country	1980	1981	1982	1983	1984
United Kingdom					
Bentonite	76 462	55 153	46 328	45 751	81 051
Fuller's earth	2 803	1 809	1 381	3 976	5 672
Belgium-Luxembourg					
Bentonite	38 519	25 798	21 336	24 828	19 873
Fuller's earth	18 604	5 281	1 556	7 979	9 470
Denmark					
Bentonite	4 996	3 918	3 555	3 726	3 234
Fuller's earth	672	920	1 183	983	981
France					
Bentonite	76 063	89 112	99 081	89 298	95 069
Fuller's earth	1 899	1 425	4 510	1 909	1 898
Germany, Federal Republic of					
Bentonite	78 043	77 231	70 476	82 442	82 612
Fuller's earth	5 676	5 706	5 369	5 649	4 593
Greece					
Bentonite	693	350	1 250	616	1 657
Italy					
Bentonite	55 438	25 440	42 504	39 530	48 559
Fuller's earth	1 316	1 123	2 362	1 961	2 718
Netherlands					
Bentonite	64 756	60 382	84 738	70 786	90 934
Fuller's earth	4 118	2 794	2 762	3 144	2 615
Austria					
Bentonite	888	954	839	1 733	1 391
German Democratic Republic					
Bentonite (c)	* 11 000	* 11 400	* 10 400	* 10 500	* 8 000
Fuller's earth (c)	* 300	* 300	* 500	* 900	* 900
Norway					
Bentonite	46 914	48 315	36 955	31 374	38 128
Fuller's earth	244	416	341	278	412
Poland					
Bentonite	* 4 600	* 5 000	* 4 600	(c)* 5 200	(c)* 4 900
Portugal					
Bentonite	23 447	25 672	26 497	24 281	19 131
Spain					
Bentonite	31 664	27 977	28 418	24 206	...
Sweden					
Bentonite	4 462	3 339	5 696	2 903	6 653
Algeria					
Bentonite (b)	812	164	206	37	...
Ivory Coast					
Bentonite	1 445	2 412	...	...	...
Morocco					
Fuller's earth	312	225	93	32	42
Senegal					
Bentonite	0	—	1 505	134	2 104
Tunisia					
Bentonite	3 025	...	6 928	...	4 844
Zimbabwe					
Fuller's earth	419	322	379	715	...
Canada					
Bentonite	471 684	311 255	238 031	187 221	337 054
Fuller's earth	1 385	784	1 081	536	4 152
Mexico					
Bentonite	6 675	9 890	5 459	481	...
USA					
Bentonite	140	72	140	693	5 322
Fuller's earth	270	196	38	—	7
Brazil					
Bentonite	13 174	13 691	8 057	10 279	14 098
Colombia					
Bentonite	4 666	6 608	10 138	2 325	...
Peru					
Bentonite	161	910	774	762	...
Uruguay					
Bentonite	132	209	99	164	108

**Imports of Bentonite and Fuller's Earth**

tonnes

Country	1980	1981	1982	1983	1984
Venezuela					
Bentonite	...	...	31 804	...	...
India					
Bentonite	455	45	...	...	...
Fuller's earth	144	67	...	...	...
Indonesia					
Bentonite	6 137	19 529	30 679	24 185	25 542
Korea, Republic of					
Bentonite	2 017	1 651	1 549	2 860	3 816
Kuwait					
Bentonite	58 681	39 722	10 640	...	...
Malaysia					
Bentonite	3 758	5 466	4 385	7 507	...
Fuller's earth	26 854	27 227	25 734	12 298	...
Pakistan (a)					
Fuller's earth	60	199	719	901	10 742
Philippines					
Bentonite	7 147	15 211	8 455	4 382	2 048
Singapore					
Bentonite	46 778	68 208	45 614	51 043	35 468
Fuller's earth	4 856	6 280	8 878	11 640	12 531
Taiwan					
Bentonite	6 435	7 237	6 174	9 396	14 040
Thailand					
Bentonite	848	2 563	1 417	2 014	4 212
Australia					
Bentonite	55 917	43 034	32 571	17 767	...

**Notes:**

- 1 See note 1 to production table
  - 2 The figures in this table refer to natural and sodium-exchanged bentonite, and fuller's earth, Standard International Trade Classification (Revision 2) 278.21. Activated bentonite and fuller's earth, Standard International Trade Classification (Revision 2) 598.92(b) are excluded. However, some countries are believed to include sodium-exchanged bentonite, often referred to as activated bentonite, under Standard International Trade Classification (Revision 2) 598.92(b), e.g. Italy
- (a) Years ended 30 June of that stated  
(b) Including crude kaolin  
(c) BGS estimates, based on known exports from certain countries

**Mine Production of Bismuth**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
France	67	64	78	97	79
Italy	43	15	28	22	26
Romania	* 80	* 80	* 80	* 80	* 80
Soviet Union	* 72	* 75	* 78	* 80	* 82
Yugoslavia	83	102	49	45	30
Canada (a)	149	168	189	253	220
Mexico	770	656	606	545	433
USA	* 400	* 400	* 400	* 400	* 400
Bolivia	11	11	5	6	3
Peru (a)	491	638	613	535	* 530
China	* 260	* 260	* 260	* 260	* 260
Japan	338	478	486	570	* 560
Korea, Republic of	123	100	95	100	126
Australia	* 1 200	* 1 180	* 1 500	* 1 400	* 1 500
World total	4 100	4 200	4 500	4 400	4 300

## Notes:

1 The figures in this table are in some instances derived from reported bismuth content of refined and impure metal plus recoverable bismuth in ores and concentrates exported. Production for some countries may include bismuth produced from imported ores but it is thought that any resulting duplication is insignificant in the countries shown

2 In addition to the countries listed, Belgium, Brazil, Bulgaria, German Democratic Republic and Namibia are also believed to produce bismuth

(a) Includes Bi content of bullion and concentrates exported

## Bismuth

**Exports of Bismuth**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Compounds	16	16	...	...	...
Metal	308	311	319	353	418
France					
Compounds	91	80	49	50	41
Metal	11	8	3	13	12
Germany, Federal Republic of					
Compounds	122	67	93	97	60
Metal	316	328	251	82	427
Italy					
Compounds	1	1	1	...	...
Metal	5	12	18	6	23
Netherlands					
Compounds	13	14	7	1	—
Metal	31	33	55	74	28
Mexico					
Metal	719	669	627	677	...
USA					
Metal	60	38	24	139	177
Bolivia					
Metal	547	—	—	—	...
Peru					
Metal	554	...	...	...	...
Japan					
Metal	242	252	242	249	158
Korea, Republic of					
Metal	119	91	83	92	136

Note: The compounds recorded in this table are bismuth carbonate and/or bismuth nitrate

## Imports of Bismuth

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	389	292	351	337	503
Belgium-Luxembourg					
Compounds	18	22	2	4	2
France					
Compounds	45	2	2	25	1
Metal	362	288	197	274	232
Germany, Federal Republic of					
Compounds	15	11	5	10	4
Metal	268	185	331	418	350
Italy					
Compounds	39	24	24	58	65
Metal	63	40	39	40	69
Netherlands					
Compounds	365	112	6	3	2
Metal	62	36	18	25	34
Spain					
Metal	72	73	123	90	...
Turkey					
Compounds	12	6	...	...	...
Yugoslavia					
Compounds	7	3	0	...	...
Metal	4	0	0	...	...
Morocco					
Compounds	6	3	5	3	4
USA					
Metal	1 008	1 105	919	921	980
Argentina					
Metal	18	8	17	...	...
Brazil					
Compounds (a)	4	8	12	9	4
Metal	52	47	34	46	101
India					
Metal	23	24	...	...	...
Australia					
Metal	13	14	11	7	14

Note: The compounds recorded in this table are bismuth carbonate and/or bismuth nitrate

(a) Also includes oxide and chloride

**Production of Bromine**

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom	26 388 000	27 605 000	29 770 000	25 766 000	28 532 000
France	16 480 000	17 261 000	* 9 000 000	* 10 000 000	* 11 300 000
Germany, Federal Republic of	* 4 000 000	3 567 000	3 073 000	3 136 000	3 306 000
Italy	* 600 000	* 600 000	* 600 000	* 500 000	* 500 000
Soviet Union	* 67 130 000	* 68 000 000	* 68 000 000	* 68 000 000	* 70 000 000
Spain	* 400 000	* 400 000	* 350 000	* 330 000	* 300 000
USA (a)	171 535 000	171 048 000	* 181 900 000	* 168 000 000	* 175 000 000
India	261 000	1 011 000	494 000	544 000	246 000
Israel	44 059 000	44 019 000	* 70 000 000	* 70 000 000	* 90 700 000
Japan	* 12 000 000	* 12 000 000	* 12 000 000	* 12 000 000	* 12 000 000
World total	342 900 000	345 500 000	375 200 000	358 300 000	391 900 000

(a) Elemental bromine sold as such or used in the preparation of bromine compounds by primary producers

**Exports of Bromine**

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom	1 784 207	1 350 481	2 150 846	1 917 710	2 017 764
Belgium-Luxembourg	1 923 300	76 200	—	2 100	5 000
Germany, Federal Republic of	10 600	10 300	10 500	12 600	28 300
Italy	—	106	344	9 800	17 900
Netherlands	845 000	804 000	1 152 000	1 035 000	1 340 000
German Democratic Republic (a)	* 556 000	* 431 000	* 795 000	* 587 000	* 635 000
USA	3 700 000	* 4 000 000	...	2 040 000	30 935 000
Israel (a)	* 11 700 000	* 12 900 000	* 15 100 000	* 17 400 000	* 23 600 000

Note: In general, trade in bromine compounds is not separately distinguished from other halogen salts and has therefore not been included in this table

(a) BGS estimates, based on known imports into certain countries

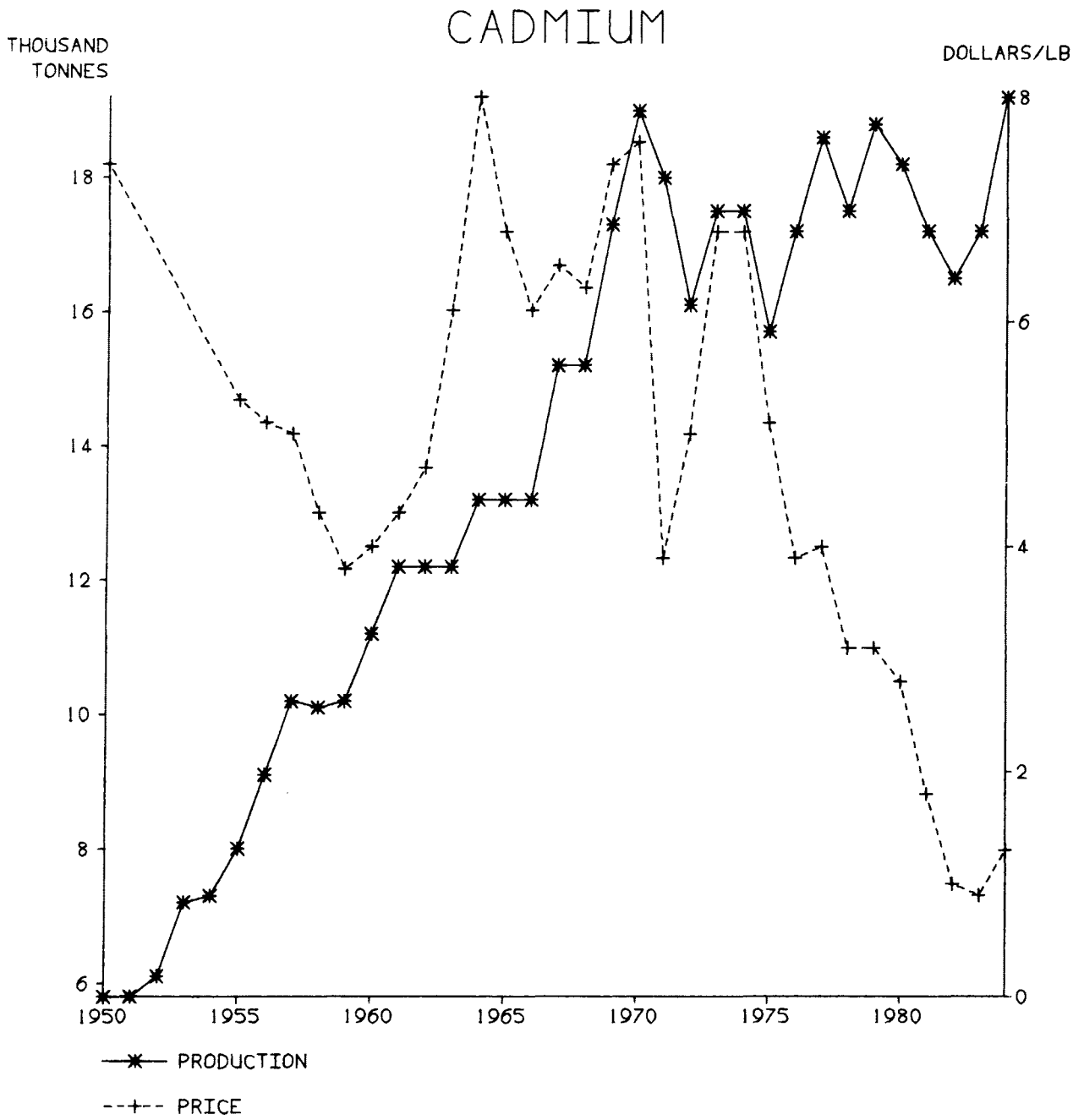
## Imports of Bromine

Country	1980	1981	1982	1983	1984
United Kingdom	4 642 218	5 025 781	4 629 255	5 169 751	6 169 089
Belgium-Luxembourg	1 972 200	665 900	793 600	910 700	1 653 200
Denmark	97 400	86 100	77 200	51 800	74 100
France	2 817 000	2 348 000	4 209 000	4 479 000	5 173 000
Germany, Federal Republic of	2 982 100	2 908 400	3 361 500	4 307 400	5 865 200
Italy	2 701 120	1 276 393	2 484 763	1 273 400	1 736 700
Netherlands	3 766 000	3 192 000	3 296 000	4 053 000	6 933 000
Hungary	618 000	713 000	579 000	597 000	630 000
Portugal	600	700	1 100	300	600
Spain	256 000	275 000	290 000	512 000	...
Turkey	473	147	...	...	...
Yugoslavia	9 397	3 000	3 000	7 000	...
Algeria	6 101	93	196	143	...
Morocco	57	93	22	84	18
South Africa	75 900	94 500	55 000	15 900	18 400
USA	564	354	69	104	4 100
Argentina	42 521	10 713	9 000	...	...
Brazil	24 518	39 676	22 576	11 670	19 842
Colombia	4 094	148	1 823	110	...
Peru	1 060	1 435	337	503	...
Venezuela	...	...	2 920	...	...
India (a)	429 294	346 905	...	...	...
Korea, Republic of	121 610	100 398	154 270	162 356	319 040
Pakistan (b)	...	...	...	4 638	15 266
Saudi Arabia	16 812	...	—	—	—
Taiwan	153	127	151	44 968	56 621
Thailand	13	23	37	24	10

Note: In general, trade in bromine compounds is not separately distinguished from other halogen salts and has therefore not been included in this table

(a) Years ended 31 March following that stated

(b) Years ended 30 June of that stated



**Figure 3** World production of cadmium from 1950 to 1984 compared with the annual average producer price expressed in constant 1980 US dollars. *Constant commodity prices have been derived, from those quoted in Metals Week using the CPI for the USA published in International Financial Statistics Yearbook (1985).*



## Production of Cadmium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	375	278	354	340	390
Belgium	1 527	1 176	1 001	1 264	1 472
France	792	664	803	513	568
Germany, Federal Republic of	1 194	1 192	1 030	1 094	1 110
Italy	568	489	475	386	520
Netherlands	455	518	497	513	636
Austria	36	55	48	46	49
Bulgaria	* 200	* 200	* 180	* 180	* 175
Finland	580	621	566	616	614
German Democratic Republic	* 16	* 16	* 16	* 15	* 15
Norway	130	117	103	117	150
Poland	* 698	* 580	* 500	* 600	* 600
Romania	* 85	* 80	* 75	* 60	* 60
Soviet Union	* 2 900	* 2 800	* 2 800	* 2 750	* 2 750
Spain	309	303	286	278	290
Turkey	10	* 10	* 10	* 10	* 12
Yugoslavia	201	208	174	48	270
Algeria	11	* 30	* 30	* 30	* 25
Namibia (a)	70	—	110	51	41
Zaire	168	230	281	308	300
Canada (b)	1 303	1 293	1 162	1 296	1 768
Mexico	778	590	607	642	571
USA (b)	1 578	1 603	1 007	1 052	1 686
Argentina	18	—	21	21	24
Brazil	40	28	73	189	224
Peru	174	312	425	443	384
China	* 250	* 270	* 300	* 350	* 360
India	89	113	131	133	143
Japan	2 173	1 977	2 021	2 215	2 400
Korea, Dem. P.R. of	* 140	* 130	* 100	* 100	* 120
Korea, Republic of	365	300	320	460	460
Australia	1 012	1 031	1 010	1 104	1 049
World total	18 200	17 200	16 500	17 200	19 200

(a) Thought to be a by-product of the smelting of zinc ores in South Africa

(b) Includes cadmium sponge and/or secondary metal

**Exports of Cadmium**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	128	37	144	194	136
Sulphide	21	8	0	—	0
Belgium-Luxembourg					
Metal	870	576	547	556	727
Sulphide	22	26	43	44	48
France					
Metal	265	251	361	344	490
Germany, Federal Republic of					
Metal (a)	300	604	617	633	405
Oxide	28	38	14	20	51
Italy	322	258	79	504	147
Netherlands	404	505	646	782	714
Austria	31	32	53	51	43
Bulgaria (b)	* 50	* 35	* 40	* 30	* 60
Finland	565	554	658	536	620
Norway	114	94	139	106	137
Soviet Union	* 500	* 450	* 450	* 450	* 400
Spain	298	204	209	232	...
Yugoslavia	105	35	41	25	...
Zaire	185	200	310	...	...
Canada	1 096	1 453	771	1 365	1 388
Mexico	559	335	354	269	...
USA	244	240	12	173	135
Peru	179	...	...	...	...
China (b)	* 300	* 400	* 400	* 400	* 100
Japan	229	938	1 145	910	446
Korea, Dem. P.R. of (b)	* 60	* 50	* 30	...	...
Korea, Republic of	314	360	152	397	393
Australia	794	988	662	934	899

(a) Including rhenium

(b) BGS estimates, based on known imports into certain countries

## Imports of Cadmium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	793	982	872	* 1 100	* 820
Belgium-Luxembourg	1 029	1 131	1 199	1 663	1 189
Denmark	4	5	3	2	3
France					
Metal	659	598	618	744	921
Sulphide	48	44	54	51	61
Germany, Federal Republic of					
Metal	1 145	673	783	829	734
Oxide	550	417	487	635	571
Italy					
Metal	68	86	49	135	107
Sulphide	28	10	12	4	8
Netherlands					
Metal	68	118	155	286	112
Sulphide	15	12	4	27	4
Austria	5	3	3	3	5
Czechoslovakia	206	228	220	201	303
German Democratic Republic (a)	...	* 340	* 250	* 220	* 140
Sweden	268	186	224	218	241
Soviet Union (a)	...	* 70	* 600	* 200	* 300
USA	2 617	3 090	2 305	2 191	1 898
Brazil					
Metal	210	156	107	157	16
Oxide	109	88	92	94	39
India	66	23	...	...	...

(a) BGS estimates, based on known exports from certain countries

**Production of Chromium Ores and Concentrates**

tonnes

Country	1980	1981	1982	1983	1984
Greece	33 614	20 856	23 238	20 517	50 364
Albania	* 760 000	* 850 000	* 875 000	* 900 000	* 905 000
Finland	186 400	202 400	180 251	160 475	150 400
Soviet Union	* 2 450 000	* 2 400 000	* 2 450 000	* 2 450 000	* 2 520 000
Turkey	383 141	401 112	452 445	345 610	487 405
Madagascar	146 529	99 689	44 223	42 920	59 765
South Africa	3 414 410	2 869 502	2 469 048	2 493 724	3 407 151
Sudan	25 609	18 615	10 018	18 557	25 000
Zimbabwe	552 475	536 052	432 410	420 347	476 521
Cuba	28 457	20 528	27 300	33 600	37 900
Brazil (a)	313 067	236 390	275 504	155 022	* 300 000
Cyprus	16 350	10 381	2 878	—	—
India	321 318	343 601	356 604	378 313	435 000
Iran	* 80 000	* 30 000	* 40 000	* 50 000	* 40 000
Japan	13 610	10 959	11 178	8 396	* 9 000
Pakistan	3 115	1 427	4 456	4 992	3 155
Philippines	496 060	439 256	321 866	266 909	256 643
Vietnam	* 15 500	* 15 500	* 16 300	* 18 100	* 18 000
New Caledonia	2 188	—	49 826	86 612	84 152
World total	9 200 000	8 500 000	8 000 000	7 900 000	9 300 000

Note: In addition to the countries listed, Bulgaria, China and Democratic P.R. of Korea are also believed to produce chromite

(a) Includes beneficiated and direct shipping ore

## Exports of Chromium

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	891	1 192	980	112	27
Metal	2 569	2 275	1 945	3 038	3 889
Belgium-Luxembourg					
Ores & concentrates	27	—	—	8	51
Metal	464	398	280	65	111
France					
Ores & concentrates	1 616	2 033	1 554	1 316	1 069
Metal	699	774	590	740	1 630
Germany, Federal Republic of					
Ores & concentrates	5 412	3 459	12 959	8 694	8 877
Metal	275	164	101	106	252
Greece					
Ores & concentrates	32 318	15 670	11 945	12 030	8 625
Italy					
Ores & concentrates	2 034	3 046	437	680	678
Metal	9	5	2	30	45
Netherlands					
Ores & concentrates	18 726	16 577	21 130	18 603	21 377
Metal	3	31	5	58	117
Albania					
Ores & concentrates (b)	* 534 000	* 485 000	* 542 000	* 715 000	* 753 000
Austria					
Ores & concentrates	291	109	49	622	349
Finland					
Ores & concentrates	206 547	250 898	199 806	133 952	273 069
Soviet Union					
Ores & concentrates	567 000	567 000	561 000	496 000	442 000
Turkey					
Ores & concentrates	334 555	308 280	303 822	362 668	439 680
Yugoslavia					
Ores & concentrates	11 537	12 483	12 477	12 454	...
Madagascar					
Ores & concentrates	134 528	80 830	63 723	...	107 548
South Africa					
Ores & concentrates	1 237 203	1 171 608	1 112 198	1 244 982	1 096 856
Zimbabwe					
Ores & concentrates	14 828	4 279	—	—	...
Cuba					
Ores & concentrates	34 768	13 780	21 651	29 050	...
USA					
Ores & concentrates	45 003	124 502	60 994	14 145	53 327
of which: Re-exports	39 640	60 389	53 586	4 137	3 497
Metal	324	365	221	243	243
China					
Ores & concentrates (b)	* 2 100	* 7 900	* 1 150	* 3 300	...
Metal (b)	* 150	* 100	* 250	* 500	* 900
Cyprus					
Ores & concentrates	7 500	10 689	11 868	11 071	—
India					
Ores & concentrates	129 981	105 075	...	...	...
Iran (a)					
Ores & concentrates	10 000	(b)* 5 000	(b)* 1 200	4 200	(b)* 3 500
Japan					
Ores & concentrates	5 678	607	744	852	718
Philippines					
Ores & concentrates	484 109	397 381	279 017	146 826	244 028
New Caledonia					
Ores & concentrates	7 292	—	18 750	79 360	95 341

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Years ended 20 March following that stated

(b) BGS estimates, based on known imports into certain countries

## Chromium

## Imports of Chromium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	92 573	76 495	64 547	100 475	129 786
Metal	(a)* 300	(a)* 200	(a)* 200	162	185
Belgium-Luxembourg					
Ores & concentrates	1 671	1 832	2 108	3 848	4 223
Metal	275	219	298	284	233
Denmark					
Ores & concentrates	200	346	329	1 532	1 463
France					
Ores & concentrates	278 773	146 435	111 459	54 509	57 596
Metal	394	300	90	276	290
Germany, Federal Republic of					
Ores & concentrates	328 847	268 237	244 279	247 187	337 907
Metal	862	569	601	921	1 295
Greece					
Ores & concentrates	6 931	3 917	20	18 719	26 814
Irish Republic					
Ores & concentrates	1	5 623	—	3 275	3 803
Italy					
Ores & concentrates	171 045	91 806	159 431	192 212	220 529
Metal	186	175	126	122	244
Netherlands					
Ores & concentrates	27 176	18 189	31 355	20 554	23 802
Metal	126	46	64	132	414
Austria					
Ores & concentrates	77 407	42 334	49 906	40 390	56 814
Czechoslovakia					
Ores & concentrates	182 000	180 000	204 000	185 000	176 000
German Democratic Republic					
Ores & concentrates (b)	40 100	49 100	46 800	51 900	39 000
Hungary					
Ores & concentrates (c)	15 000	15 000	14 000	17 000	17 000
Norway					
Ores & concentrates	293	27 203	23 311	8 800	538
Poland					
Ores & concentrates	197 975	181 902	203 835	169 249	150 993
Portugal					
Ores & concentrates	457	392	577	753	859
Romania					
Ores & concentrates (a)	* 1 300	* 16 400	* 43 200	* 62 400	* 42 300
Spain					
Ores & concentrates	84 558	70 330	72 233	51 198	114 162
Sweden					
Ores & concentrates	332 525	406 697	305 050	341 154	580 363
Metal	144	193	155	187	282
Yugoslavia					
Ores & concentrates	278 799	325 185	189 699	202 819	...
South Africa					
Ores & concentrates	7 430	8 147	121	1	0
Canada					
Ores & concentrates (b)	41 468	69 607	11 770	12 577	18 836
Mexico					
Ores & concentrates	36 906	47 612	43 245	32 868	...
USA					
Ores & concentrates	892 318	814 949	459 754	172 990	121 860
Metal	3 719	3 221	1 725	2 707	4 254
Argentina					
Ores & concentrates	9 734	11 967	6 198	...	...
Brazil					
Ores & concentrates	31 437	21 966	4 381	5 897	20 674
Peru					
Ores & concentrates	3 657	3 382	5 540	129	...
Venezuela					
Ores & concentrates	4 951	1 954	11 000	...	...

## Imports of Chromium

tonnes

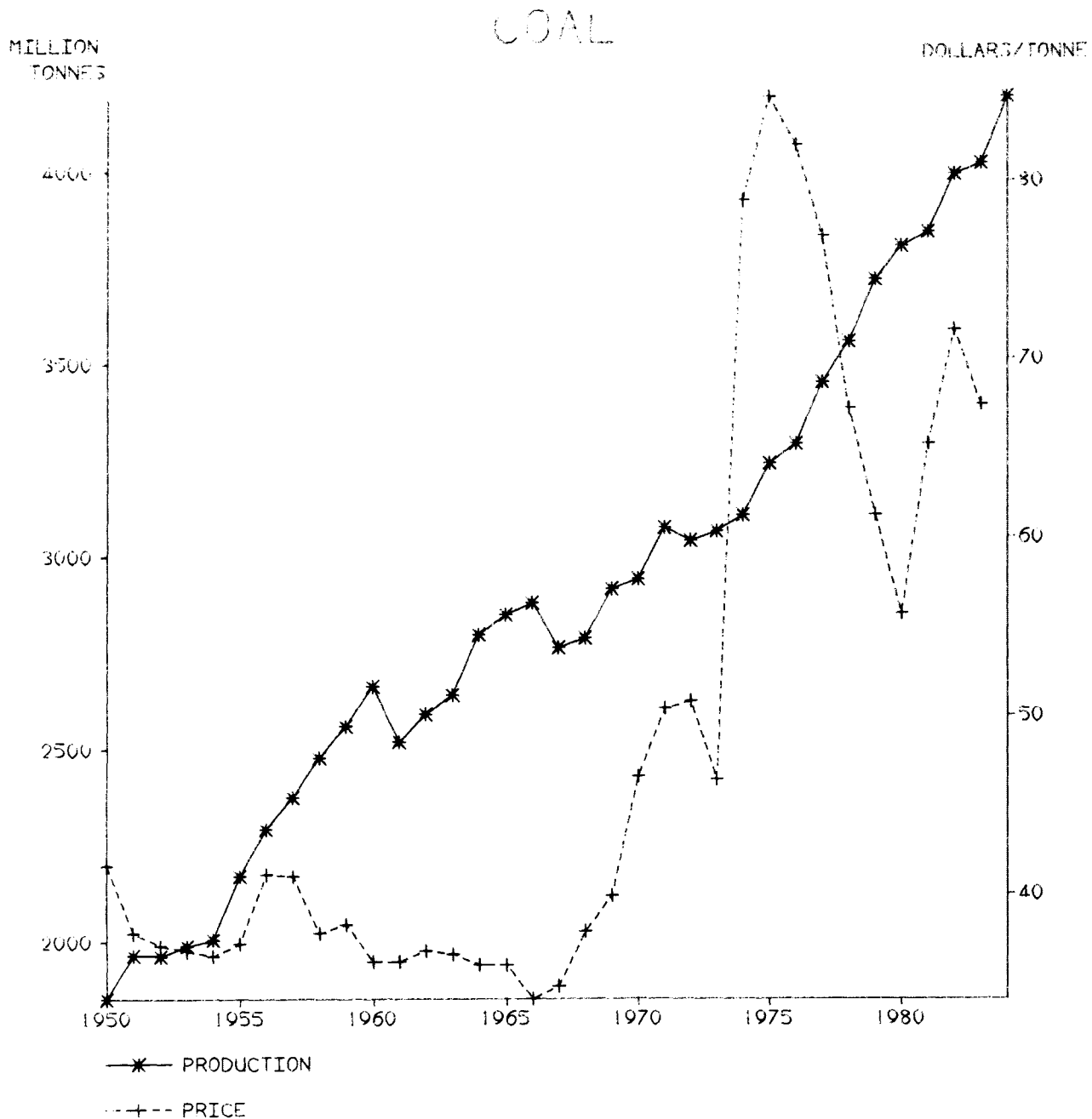
Country	1980	1981	1982	1983	1984
China					
Ores & concentrates	(a)* 50 000	80 079	224 841	307 479	280 687
Japan					
Ores & concentrates	950 039	743 937	694 521	644 895	823 394
Korea, Dem P.R. of					
Ores & concentrates (a)	* 19 000	* 14 000	* 16 000	* 14 000	* 17 000
Korea, Republic of					
Ores & concentrates	5 264	3 501	4 846	3 853	5 027
Taiwan					
Ores & concentrates	6 363	1 270	1 856	1 751	3 514
Australia					
Ores & concentrates	15 476	7 997	3 912	...	...

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) BGS estimates, based on known exports from certain countries

(b) Cr<sub>2</sub>O<sub>3</sub> content

(c) Exports from Soviet Union



**Figure 4** World production of coal from 1950 to 1984 compared with the yearly average export unit value of bituminous coal f.o.b. US ports expressed in constant 1980 US dollars.

Trend line analysis of the production data indicates a growth rate of approximately 2% per annum over 35 years.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*



## Production of Coal

Country	1980	1981	1982	1983	1984
United Kingdom					
Mined –					
Anthracite	1 607 000	1 566 000	1 406 000	1 249 000	256 000
Bituminous	110 823 000	108 907 000	104 755 000	100 493 000	34 987 000
Opencast –					
Anthracite	1 295 000	1 343 000	1 478 000	767 000	961 000
Bituminous	14 484 000	13 485 000	13 788 000	13 939 000	13 345 000
Belgium					
Anthracite	375 460	321 000	262 000	187 500	102 300
Bituminous	5 948 574	5 815 446	6 276 874	5 909 928	6 195 300
France					
Anthracite & bituminous	18 135 000	18 588 000	16 895 000	17 021 000	16 596 000
Lignite	2 585 000	2 945 000	3 065 000	2 605 000	2 424 000
Germany, Federal Republic of					
Anthracite & bituminous	87 145 911	88 460 000	89 014 000	82 202 000	76 426 000
Brown coal	129 833 000	130 619 000	127 307 000	124 281 000	126 739 000
Greece					
Lignite	23 505 701	27 303 699	27 326 248	30 726 823	32 029 451
Irish Republic					
Anthracite & semi-bituminous	63 000	70 000	62 000	74 800	70 000
Italy					
Lignite	1 932 571	1 957 958	1 912 677	1 736 643	1 805 845
Albania					
Brown coal & lignite	* 1 540 000	* 1 600 000	* 1 650 000	* 1 650 000	* 1 600 000
Austria					
Brown coal & lignite	2 864 967	3 061 262	3 297 488	3 041 260	2 927 939
Bulgaria					
Anthracite & bituminous	267 000	245 661	241 000	243 000	223 000
Brown coal & lignite	29 946 000	28 995 000	31 974 000	37 732 000	39 175 000
Czechoslovakia					
Bituminous	28 201 000	27 513 000	27 463 000	26 915 000	26 421 000
Brown coal	92 529 000	93 096 000	95 504 000	98 878 000	101 084 000
Lignite	3 197 000	3 269 000	3 440 000	3 538 000	3 659 000
German Democratic Republic					
Brown coal	258 097 000	266 734 000	276 038 000	277 968 000	296 341 000
Hungary					
Bituminous	3 065 389	3 065 763	3 038 720	2 826 780	2 573 382
Brown coal	14 156 496	14 463 295	14 753 868	14 406 136	14 448 203
Lignite	8 478 981	8 413 123	8 286 113	7 980 067	8 025 499
Norway					
Spitzbergen (d) –					
Bituminous	288 412	409 729	440 000	502 000	470 080
Poland					
Bituminous	193 121 000	163 022 000	189 314 000	191 092 000	191 592 000
Brown coal	36 866 000	35 616 000	37 649 000	42 532 000	50 378 000
Portugal					
Anthracite	177 451	183 760	178 540	185 228	194 855
Romania					
Anthracite & bituminous	9 686 000	9 826 000	9 658 000	10 629 000	8 458 000
Lignite	27 448 000	29 014 000	31 061 000	37 357 000	) 35 821 000
Brown coal	680 000	724 000	714 000	773 000	
Soviet Union					
Anthracite & bituminous	552 954 000	544 213 000	555 400 000	557 800 000	556 500 000
Lignite	163 417 000	159 831 000	162 700 000	158 300 000	155 800 000
Spain					
Anthracite	4 074 042	4 876 268	5 205 462	5 370 495	5 475 626
Bituminous	9 069 931	9 838 594	10 217 469	10 048 791	9 813 701
Lignite	15 390 196	20 886 388	23 881 898	24 533 916	24 302 928
Turkey					
Bituminous	6 598 755	7 284 834	7 222 871	6 750 000	7 103 413
Lignite	16 997 916	18 950 943	20 542 357	23 847 360	27 199 347
Yugoslavia					
Bituminous	388 344	384 000	389 000	392 000	388 000
Lignite	36 949 000	40 958 000	43 454 000	47 697 000	53 293 000
Brown coal	9 665 671	10 581 000	10 744 000	11 303 000	11 391 000

## Coal

## Production of Coal

tonnes

Country	1980	1981	1982	1983	1984
Botswana	371 495	379 924	382 052	395 087	392 854
Morocco					
Anthracite	680 000	703 000	735 000	751 000	837 500
Mozambique					
Bituminous	409 000	535 000	67 000	59 000	107 000
Niger	690	79 800	96 300	118 609	123 644
Nigeria					
Sub-bituminous	194 191	170 169	56 022	53 574	76 077
South Africa					
Anthracite	4 392 149	4 633 634	3 525 691	2 227 308	3 864 193
Bituminous	111 676 580	126 797 202	140 650 263	142 976 664	158 598 900
Swaziland					
Bituminous	184 216	157 701	115 043	101 652	124 569
Tanzania					
Bituminous	4 250	3 000	10 800	10 000	7 200
Zaire					
Bituminous	139 506	129 842	122 852	111 339	* 110 000
Zambia					
Bituminous	579 100	507 300	603 934	452 867	510 600
Zimbabwe					
Bituminous	3 133 036	2 866 323	2 772 980	3 436 515	3 109 904
Canada					
Bituminous	20 151 000	21 739 000	22 296 000	22 556 000	31 915 000
Sub-bituminous	10 542 000	11 551 000	13 021 000	14 464 000	15 170 000
Lignite	5 971 000	6 798 000	7 494 000	7 760 000	9 715 000
Mexico					
Bituminous	7 009 716	8 086 474	7 618 871	8 999 467	* 9 000 000
USA					
Anthracite	5 500 000	4 900 000	4 200 000	3 700 000	3 600 000
Bituminous & lignite	747 200 000	742 400 000	756 100 000	705 800 000	803 900 000
Argentina					
Lignite	389 395	497 546	516 891	490 960	* 520 000
Brazil					
Bituminous & lignite (e)	5 340 909	6 085 839	6 472 053	6 935 478	* 7 400 000
Chile					
Bituminous	995 561	1 147 122	975 070	1 077 831	1 306 785
Colombia					
Bituminous	4 947 000	5 030 000	5 550 000	6 000 000	...
Peru					
Anthracite	89 471	157 000	* 120 000	* 120 000	...
Venezuela					
Bituminous	43 979	45 736	46 506	39 174	48 000
Afghanistan (c)					
Bituminous	118 700	124 970	145 000	* 165 000	* 200 000
Burma (b)	11 213	18 327	29 119	35 969	* 43 200
China	620 000 000	622 000 000	666 000 000	715 000 000	772 000 000
India					
Bituminous	109 152 000	123 104 000	128 464 000	136 261 000	145 800 000
Lignite	4 549 000	5 966 000	6 673 000	7 342 000	7 500 000
Indonesia					
Bituminous	303 990	350 350	480 987	485 669	1 084 652
Iran (c)					
Bituminous	* 700 000	* 600 000	* 700 000	980 000	...
Japan					
Anthracite & bituminous	18 026 455	17 687 375	17 605 703	16 991 244	16 646 000
Lignite	26 193	11 549	11 860	10 960	...
Korea, Dem P.R. of					
Anthracite	* 36 000 000	* 36 000 000	* 36 500 000	* 36 500 000	* 44 000 000
Lignite	* 10 000 000	* 10 000 000	* 10 200 000	* 10 500 000	* 10 400 000
Korea, Republic of					
Anthracite	18 624 000	19 865 000	20 115 600	19 860 800	21 370 300
Mongolia					
Anthracite	392 000	346 000	401 000	408 000	...
Lignite	3 985 000	3 957 000	4 520 000	4 566 000	5 000 000

## Production of Coal

tonnes

Country	1980	1981	1982	1983	1984
Pakistan (a)	1 694 447	1 562 008	1 809 626	1 747 000	1 992 000
Philippines					
Bituminous	325 008	318 170	556 755	1 019 594	1 244 773
Taiwan					
Bituminous	2 573 530	2 445 782	2 383 579	2 236 065	2 010 775
Thailand					
Lignite	1 426 566	1 686 044	1 963 764	1 866 083	2 337 226
Vietnam					
Anthracite	5 300 000	5 900 000	5 700 000	6 019 000	...
Australia					
Bituminous	77 428 000	93 376 000	99 109 000	99 896 000	) * 114 800 000
Sub-bituminous	7 196 000	7 190 000	7 992 000	8 995 000	
Brown coal	32 894 000	32 959 000	37 821 000	34 191 000	
New Zealand					
Bituminous	486 500	474 600	427 800	496 400	582 400
Sub-bituminous	1 466 700	1 509 700	1 594 700	1 752 200	1 709 100
Lignite	208 000	211 900	221 900	235 000	235 100
World total	3 806 000 000	3 842 000 000	3 993 000 000	4 022 000 000	4 195 000 000

Note: There is no international agreement as to the separate definition of lignite and brown coal. In some cases they are distinguished. Elsewhere both may be aggregated under one or other term

- (a) Including lignite
- (b) Years ended 31 March following that stated
- (c) Years ended 20 March following that stated
- (d) Not including production from mines controlled by the Soviet Union
- (e) Includes beneficiated and directly shipped material

## Coal

## Exports of Coal

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Anthracite	1 014 614	893 170	551 945	517 120	203 240
Other coal	3 026 143	8 619 348	6 835 137	5 822 496	2 237 167
Briquettes	118 906	104 020	126 338	124 555	73 440
Belgium-Luxembourg					
Anthracite	48 012	72 493	71 561	78 985	119 541
Other coal	490 031	820 440	676 747	721 856	1 098 769
Briquettes	25 399	16 254	13 254	17 000	83 967
Denmark	4 103	3 115	1 170	3 091	76 750
France					
Anthracite	100 603	67 402	86 606	120 732	170 756
Other coal	358 726	687 584	717 082	601 240	721 378
Lignite	6 617	6 492	4 630	3 397	2 409
Briquettes	50 249	26 716	21 727	25 704	49 049
Germany, Federal Republic of					
Coal (b)	12 369 332	11 995 765	9 944 737	10 581 581	10 489 141
Brown coal	275 152	259 859	217 977	214 979	307 022
Briquettes	959 407	953 583	872 308	854 965	1 179 654
Irish Republic (b)	38 446	9 235	3 430	4 866	25 196
Italy (b)	18 718	19 773	4 492	5 234	11 703
Netherlands					
Anthracite	213 439	250 490	188 252	185 777	169 639
Other coal	1 333 147	659 795	481 105	648 453	1 096 798
Briquettes	3 309	2 893	3 850	2 206	3 482
Austria					
Brown coal	24 052	19 518	15 291	9 422	8 180
Czechoslovakia					
Coal	3 728 000	2 605 000	2 822 000	2 928 000	2 672 000
Brown coal	2 160 000	2 527 000	2 710 000	2 679 000	2 644 000
German Democratic Republic					
Briquettes	2 212 000	2 789 000	3 000 000	3 285 000	3 971 000
Hungary					
Brown coal	44 547	42 422	35 085	22 712	17 222
Norway	91 120	84 140	96 386	127 492	187 835
Poland					
Coal	31 048 000	15 159 000	28 462 000	35 148 000	42 918 000
Brown coal	1 569 000	1 383 000	941 000	200 000	...
Soviet Union					
Coal (c)	* 21 364 000	* 17 589 000	* 18 379 000	* 19 155 000	* 19 899 000
Brown coal (c)	* 78 900	* 61 800	* 78 700	* 96 400	* 87 600
Spain					
Anthracite	17 167	13 767	16 945	4 371	3 000
Sweden (b)	3 994	703	912	1 456	22 958
Turkey					
Coal	2 000	—	4 452	...	...
Lignite	197 055	—	25 000	* 30 000	...
Yugoslavia					
Brown coal	318 833	444 840	509 631	231 260	...
Lignite	78 660	75 291	60 082	164 371	...
Morocco					
Anthracite	81 012	62 935	24 755	40 200	65 940
Mozambique	98 478	236 400	108 400	17 300	...
South Africa					
Anthracite	3 409 202	4 297 987	1 927 870	1 564 416	2 769 760
Other coal	25 741 032	25 592 810	26 261 852	28 566 816	35 390 764
Swaziland	139 558	104 959	77 273	76 161	83 376
Zimbabwe	229 498	116 357	66 251	113 761	...
Canada	14 310 784	16 285 020	15 528 486	16 978 473	24 354 988
USA					
Anthracite	1 628 371	2 040 027	889 053	720 428	617 249
Other coal	81 539 975	100 011 646	95 477 268	69 750 160	73 294 538
Lignite	59 025	44 201	47 893	114 490	8 087
Briquettes	32 812	63 924	108 838	98 210	101 187
Colombia	95 429	89 323	173 729	277 527	...

# Exports of Coal

Coal

tonnes

Country		1980	1981	1982	1983	1984
China	(c)*	2 865 500	6 940 000	6 730 000	6 860 000	7 040 000
India (a)		108 336	118 434	180 000	80 000	...
Indonesia						
Anthracite	)	112 487	72 263	94 371	251 810	136 420
Other coal	)		84 432	116 368	172 648	745 924
Japan		70 726	55 004	25 060	15 274	13 621
Korea, Dem. P.R. of (c)	*	100 000	* 126 000	* 40 500	* 30 300	* 92 600
Australia		42 242 500	50 662 000	49 791 000	60 504 000	75 856 000
New Zealand (d)		10 527	186 256	135 097	204 452	279 998

Note: This table excludes bunker shipments

(a) Years ended 31 March following that stated

(b) Including anthracite

(c) BGS estimates, based on known imports into certain countries

(d) Years ended 30 June of that stated

## Coal

## Imports of Coal

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Anthracite	320 145	329 641	616 871	672 254	1 268 607
Other coal	7 006 537	3 960 522	3 445 445	3 783 895	7 625 715
Briquettes	170 173	132 428	89 395	97 182	241 639
Belgium-Luxembourg					
Anthracite	1 807 545	1 705 916	1 526 643	1 216 802	1 289 315
Other coal	8 781 963	8 707 874	9 398 103	6 735 525	8 074 165
Brown coal	97 167	113 925	116 132	113 801	205 252
Briquettes	174 321	193 899	187 749	198 677	199 552
Denmark					
Coal	10 063 182	10 884 615	9 662 819	8 537 000	9 806 867
Briquettes	40 349	61 527	59 228	41 926	39 001
France					
Anthracite	2 534 097	1 488 523	1 054 155	1 176 799	1 140 061
Other coal	27 278 643	25 882 151	20 801 922	18 592 259	19 490 727
Lignite	11 527	9 725	6 778	6 030	8 644
Briquettes	305 761	262 769	313 624	275 495	234 756
Germany, Federal Republic of					
Anthracite	154 025	164 423	67 927	71 048	28 473
Other coal	8 969 458	10 155 991	10 568 889	9 051 123	8 818 429
Brown coal	2 124 539	2 713 584	2 666 888	2 639 788	2 603 590
Briquettes	1 099 275	1 252 158	1 388 776	1 544 170	1 665 396
Greece					
Anthracite	6 625	2 000	25 000	...	...
Other coal	474 057	165 868	360 490	527 280	1 414 043
Irish Republic					
Anthracite	36 825	36 894	40 610	58 364	42 122
Other coal	1 168 360	1 251 847	1 195 501	1 367 947	1 351 802
Italy					
Anthracite	293 977	200 282	294 930	110 257	539 867
Other coal	16 222 716	18 264 303	17 579 153	15 665 615	19 637 618
Lignite	47 506	18 248	41 766	44 081	43 597
Briquettes	64 011	130 516	37 285	33 666	53 125
Netherlands					
Anthracite	417 808	419 242	329 366	224 502	240 099
Other coal	6 737 607	7 529 577	8 546 038	7 512 067	9 824 539
Brown coal	156 168	149 208	120 707	88 707	92 739
Briquettes	43 515	21 499	28 282	31 528	57 926
Albania (e)	* 159 000	* 187 000	* 308 000	* 188 000	* 271 000
Austria					
Anthracite	52 840	50 561	18 003	26 735	51 784
Other coal	2 805 265	2 663 210	2 833 702	2 933 274	3 721 039
Brown coal	283 372	523 867	601 331	363 518	191 121
Briquettes	325 686	369 119	470 274	469 963	466 403
Bulgaria	6 732 000	7 051 000	7 227 000	7 087 000	7 200 000
Czechoslovakia					
Coal	5 058 000	4 423 000	4 980 000	5 028 000	4 565 000
Brown coal	438 000	570 000	652 000	676 000	708 000
Finland					
Anthracite	127 242	111 832	89 585	70 390	74 723
Other coal	4 542 386	5 537 729	4 594 492	4 319 984	3 508 482
German Democratic Republic (c)	6 828 000	5 361 000	4 739 000	4 198 000	3 619 000
Greenland	1 926	2 150	1 167	637	818
Hungary					
Coal (c)	1 622 633	1 678 129	1 996 684	1 756 113	1 609 833
Briquettes	503 747	523 792	489 471	514 560	589 021
Iceland	12 279	23 995	24 629	37 557	54 822
Norway (a)					
Anthracite	103 425	79 128	63 267	85 685	94 982
Other coal	635 014	613 569	741 689	461 980	673 209
Poland					
Anthracite	30 000	31 000	30 000	) 1 021 000	1 031 000
Other coal	1 012 000	1 072 000	972 000		

## Imports of Coal

Country	1980	1981	1982	1983	1984
Portugal					
Anthracite	11 182	12 149	8 025	2 912	15 658
Other coal	299 109	338 204	354 130	422 912	474 358
Romania	3 949 000	3 769 000	3 631 000	5 312 800	5 300 000
Soviet Union (e)	* 6 041 000	* 3 834 000	* 8 869 000	* 10 000 000	* 12 834 000
Spain					
Coal	5 678 146	7 044 941	7 188 379	5 908 964	6 994 000
Brown coal	6 705	6 810	4 512	3 441	2 000
Sweden					
Anthracite	44 949	10 069	26 143	31 910	18 283
Other coal	2 136 679	2 028 063	2 856 200	3 053 687	3 931 456
Switzerland					
Anthracite	573 437	862 858	471 399	344 274	543 702
Briquettes	65 803	60 355	45 197	40 872	42 075
Turkey	508 318	336 131	1 038 710	901 674	1 928 000
Yugoslavia					
Anthracite	137 465	208 498	219 889	213 120	) 3 768 995
Other coal	3 420 285	3 614 030	3 316 979	3 791 833	)
Briquettes	111 948	156 988	113 619	69 187	...
Algeria	510 132	666 287	681 502	1 170 417	...
Egypt	802 050	1 266 508	1 400 977	979 584	...
Ghana	* 2 000	* 2 000	* 2 000	* 2 000	...
Kenya	15 562	90 929	46 505	32 217	...
Madagascar	27 114	12 528	19 062	* 20 000	...
Malawi	65 383	47 739	70 539	45 000	...
Morocco	9 951	10 071	41 211	216 805	155 763
Mozambique	71 755	18 464	69 395	72 023	...
South Africa	199 470	51 515	795	987	662
Tunisia	21 006	26 436	14 207	...	23 880
Zaire	61 884	7 726	1 532	69 300	59 390
Zimbabwe	75 418	43 299	38 215	3 785	...
Canada					
Anthracite	331 176	289 802	214 373	205 386	227 780
Other coal	15 719 027	14 687 202	15 488 032	14 509 685	18 824 104
Cuba	82 618	75 310	107 786	75 219	...
Mexico					
Coal	816 259	675 301	644 751	272 869	...
Lignite	6 438	5 240	6 571	5 372	...
USA					
Coal	1 082 887	946 519	673 516	1 152 669	) 1 167 253
Briquettes	30 178	17 224	19 590	17 747	)
Argentina	788 278	878 377	739 486	479 000	...
Brazil					
Anthracite	240 677	32 291	41 545	32 661	30 038
Other coal	4 279 895	4 320 492	4 194 337	6 262 363	8 073 572
Chile	345 734	408 222	240 000	335 000	...
Peru	26 366	23 928	24 568	48 664	...
Uruguay	3 545	1 403	—	—	—
Venezuela	44 089	36 617	38 167	* 40 000	...
Burma	* 210 000	* 215 000	* 200 000	* 180 000	...
China	...	1 940 000	2 160 000	2 130 000	2 430 000
Hong Kong	2 851	57 004	1 454 698	3 418 316	4 462 239
India	703 303	620 000	1 240 000	539 000	...
Indonesia	4 876	5 336	2 593	932	558
Iran (b)	* 60 000	25 744	64 908	64 612	...
Israel (d)	116	307 738	990 000	2 136 000	...
Japan					
Anthracite	1 191 229	872 732	630 197	913 389	1 511 193
Other coal	67 036 601	77 397 668	78 461 180	73 752 601	86 307 274
Lignite	33 970	28 204	44 206	43 315	24 870
Korea, Dem. P.R. of	* 450 000	* 450 000	* 450 000	* 400 000	...

## Coal

**Imports of Coal**

tonnes

Country	1980	1981	1982	1983	1984
Korea, Republic of					
Anthracite	2 365 057	5 138 150	2 448 589	805 131	819 231
Other coal	4 931 296	7 310 891	9 044 396	10 150 926	12 193 393
Malaysia					
Anthracite	19 488	20 908	8 464	5 525	...
Other coal	29 937	86 794	98 268	361 378	...
Pakistan (f)	19 456	160 933	538 307	472 871	499 523
Philippines	2 422	12 705	120 303	70 687	504 825
Syria	652	1 354	250	522	250
Taiwan	4 068 985	5 187 010	5 589 187	6 510 177	7 684 357
Thailand					
Coal	15 230	15 311	98 954	99 173	145 249
Briquettes	4 005	17 344	8 482	18 408	44 981
Australia	2 159	1 781	12 183	19 255	22 064
New Caledonia	119 799	82 351	64 990	96 801	52 186

(a) Excludes coal imported from Spitzbergen

(b) Years ended 20 March following that stated

(c) Including anthracite

(d) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(e) BGS estimates, based on known exports from certain countries

(f) Years ended 30 June of that stated



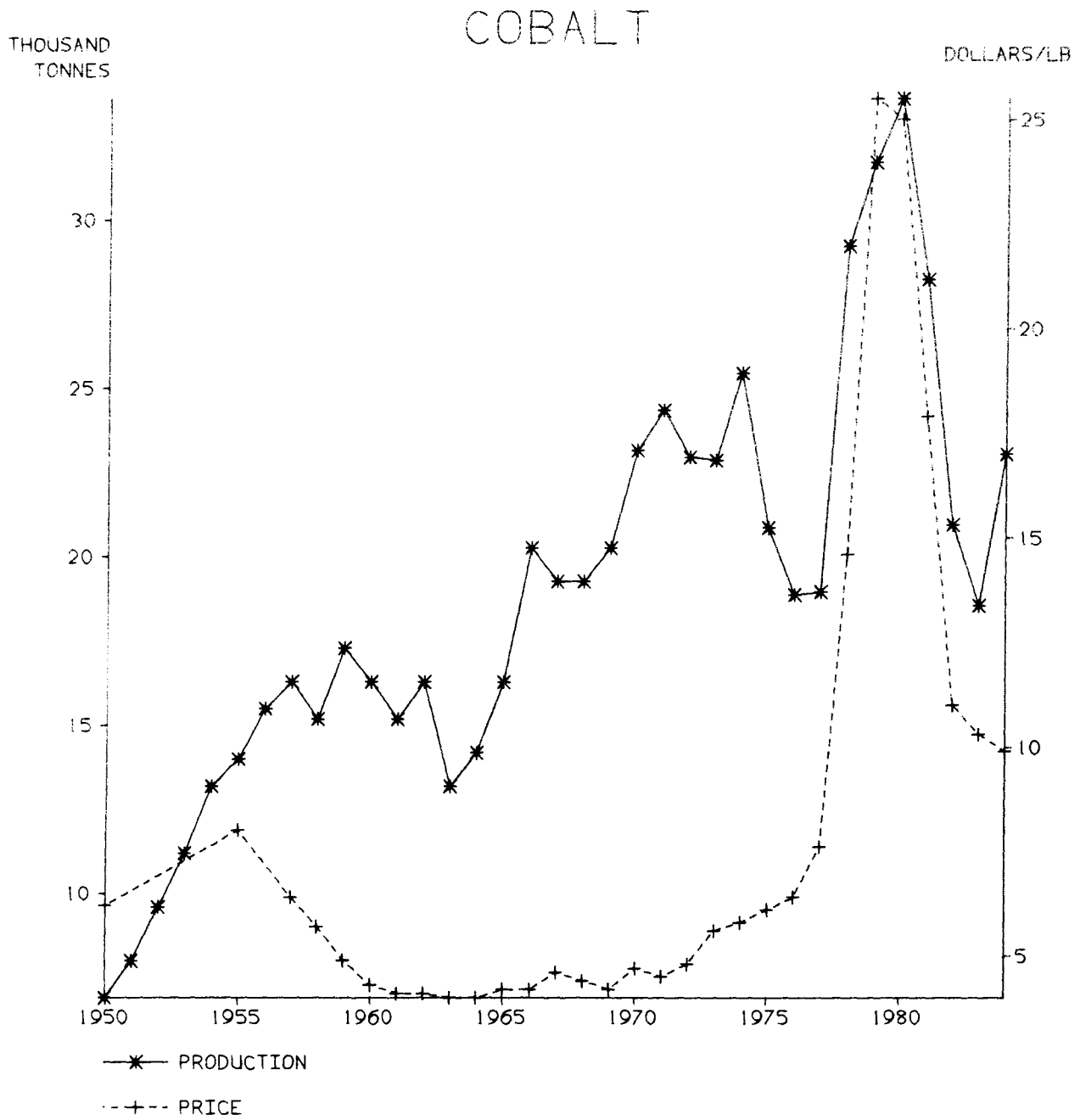
**Production of Cobalt Metal**

tonnes

Country	1980	1981	1982	1983	1984
Belgium (a)	...	...	...	...	...
France	1 033	815	501	—	—
Germany, Federal Republic of	* 300	* 150	* 150	* 100	* 100
Czechoslovakia (b)	...	...	...	...	...
Finland	1 906	1 937	2 181	1 453	1 450
Norway	1 275	1 444	991	879	1 191
Soviet Union	* 4 200	* 4 300	* 4 300	* 4 500	* 4 700
Zaire	14 482	11 124	5 573	5 370	9 076
Zambia	3 310	2 570	2 446	2 407	3 472
Canada	692	914	784	1 153	1 628
USA	454	406	461	93	—
Japan	2 867	2 421	1 942	1 371	905
World total	30 500	26 100	19 300	17 300	22 500

Note: In addition to the production listed above, several countries, including the United Kingdom, France, Federal Republic of Germany and USA, are known to produce substantial amounts of cobalt compounds

- (a) Production not reported. Much of the metal recorded under Zaire is believed to be further processed in Belgium
- (b) Czechoslovakia is thought to recover cobalt from materials imported from Cuba. However no data are available to enable a reliable estimate to be made



**Figure 5** World mine production of cobalt from 1950 to 1984 compared with the average annual purchase price (New York) of metal granules and regular fines expressed in constant 1980 US dollars.

*Constant commodity prices derived from those quoted by USBM in Mineral Facts and Problems (1960 et seq.) using the CPI for the USA taken from International Financial Statistics Yearbook (1985).*

**Mine Production of Cobalt**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
Finland	1 360	1 270	1 293	1 157	860
Soviet Union	* 2 150	* 2 250	* 2 350	* 2 400	* 2 600
Botswana	226	254	254	223	259
Morocco	838	783	792	—	—
Zaire	14 482	11 124	5 573	5 370	9 076
Zambia	3 310	2 570	2 446	2 407	3 472
Zimbabwe	115	93	97	74	78
Canada	2 118	2 080	1 274	1 584	2 325
Cuba	* 1 500	* 1 600	* 1 500	* 1 600	* 1 300
Philippines	1 331	997	466	165	64
Australia	3 704	2 902	3 132	2 196	* 1 500
New Caledonia	2 598	2 343	1 803	1 385	1 610
World total	33 700	28 300	21 000	18 600	23 100

Note: There is frequently a considerable disparity between the cobalt content of ore raised and cobalt actually recovered. Figures in this table relate where possible to cobalt recovered. The principal exceptions to this are Australia and New Caledonia, the figures for which relate to cobalt in ore raised

## Cobalt

## Exports of Cobalt

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	1 061	810	514	743	920
Oxides	279	838	500	385	359
Belgium-Luxembourg (a)					
Metal	* 2 300	* 1 400	* 1 300	* 2 200	* 1 600
Oxides	* 1 000	* 500	* 700	* 1 400	* 1 400
France					
Metal	831	805	780	1 133	1 216
Oxides	179	209	165	111	47
Germany, Federal Republic of					
Metal	821	619	817	885	1 270
Oxides	88	54	25	86	112
Italy	30	27	63	34	81
Netherlands					
Metal	196	60	117	158	47
Oxides	48	48	40	38	60
Finland					
Metal	1 201	1 564	1 297	1 325	1 077
Oxides	0	0	—	159	966
Norway	1 139	1 638	1 007	816	1 270
Sweden					
Metal	103	342	65	67	58
Morocco					
Ore	7 489	6 333	5 017	1 852	0
Zaire	11 600	8 800	6 900	...	...
Zambia	2 059	2 211	...	...	...
Canada					
Metal	327	679	585	887	1 487
of which: Re-exports	2	2	0	2	—
Oxides	1 091	601	212	192	373
Cuba					
Oxide, sinter & sulphide (b)	* 1 500	* 1 600	* 1 500	* 1 500	* 1 300
USA					
Metal	1 075	1 345	665	787	744
Oxides	780	220	240	348	506
Japan					
Oxides	85	13	10	66	74

(a) Exports of cobalt are not separately recorded. Figures shown are BGS estimates based on known imports into certain countries

(b) Co content

## Imports of Cobalt

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	2 189	1 439	1 219	1 918	1 832
Oxides	1 333	890	363	344	502
Belgium-Luxembourg					
Oxides	43	74	62	34	30
Denmark					
Metal	19	14	16	24	27
Oxides	5	6	10	8	10
France					
Ore	5 696	6 460	5 767	—	—
Metal	1 141	1 133	1 721	1 397	1 574
Oxides	209	183	231	211	314
Germany, Federal Republic of					
Metal	1 703	1 212	1 451	2 008	2 678
Oxides	319	239	308	409	448
Italy					
Metal	258	209	252	327	409
Oxide	193	190	131	161	184
Netherlands					
Metal	180	52	140	240	100
Oxides	197	194	192	246	282
Austria					
Oxides	4	3	3	5	8
Finland					
Metal	7	252	2	4	6
Oxides	246	0	0	0	0
German Democratic Republic					
Metal (b)	* 200	* 100	* 200	* 130	* 100
Norway					
Metal	69	502	341	166	2 290
Oxides	6	3	2	129	11
Portugal					
Oxide	4	6	3	7	6
Spain					
Metal	—	118	247	162	...
Oxides	72	94	86	113	85
Sweden					
Metal	530	555	273	233	363
Oxides	2	2	3	6	6
Turkey					
Oxides	25	41	42	60	37
Yugoslavia					
Oxides	17	53	20	25	..
Kenya					
Oxides	0	40	25	27	...
South Africa					
Metal	100	82	77	91	81
Oxides	12	15	9	16	13
Mexico					
Metal	76	88	90	84	...
Oxides	187	75	74	...	..
USA					
Metal	6 783	6 308	5 397	7 194	10 471
Oxide	188	201	164	183	320
Argentina	61	17	28	...	...
Brazil					
Metal	303	237	239	377	282
Oxide	52	16	21	21	5
Venezuela					
Oxides	10	11	14	...	...
Hong Kong					
Oxide	18	42	26	28	23
India					
Metal	125	127	...	...	..
Oxide (a)	3	2	...	...	..

**Imports of Cobalt**

tonnes

Country	1980	1981	1982	1983	1984
Indonesia					
Oxides	5	17	64	95	276
Japan					
Metal	1 693	1 129	2 014	2 071	2 588
Oxide	292	227	305	517	411
Korea, Republic of					
Metal	56	54	88	182	139
Oxides	9	8	9	12	21
Taiwan					
Oxides	23	24	23	56	43
Australia					
Metal	23	31	18	27	30
Oxide	11	39	25	28	29

(a) Years ended 31 March following that stated

(b) BGS estimates, based on known exports from certain countries

## Mine Production of Copper

tonnes (metal content)

Country	1980	1981	1982	1983	1984
United Kingdom	200	607	649	652	660
France	100	98	137	114	79
Germany, Federal Republic of	1 274	1 400	1 300	1 200	1 000
Greece	100	100	100	200	—
Irish Republic	4 000	3 400	1 573	—	—
Italy	604	771	138	1 556	876
Albania	11 500	11 500	14 000	15 000	15 000
Bulgaria	62 000	62 000	65 000	68 000	73 000
Czechoslovakia	11 500	9 200	9 300	9 800	10 000
Finland	53 000	41 892	41 739	38 570	29 464
German Democratic Republic	* 11 800	* 12 000	* 13 000	* 12 000	* 12 000
Norway	28 891	28 123	27 590	22 568	22 310
Poland	343 000	294 600	376 000	402 300	431 000
Portugal	3 889	2 849	2 287	2 615	2 706
Romania	* 28 000	* 30 000	* 30 000	* 28 000	* 30 000
Soviet Union	* 980 000	* 1 000 000	* 1 010 000	* 1 020 000	* 1 020 000
Spain	48 483	56 423	47 614	54 818	63 105
Sweden	42 785	51 472	52 682	75 338	85 800
Turkey	21 300	32 085	32 789	24 767	29 561
Yugoslavia	114 786	110 961	119 299	129 506	137 600
Algeria	200	200	200	200	200
Botswana	15 554	17 815	18 375	20 266	21 517
Congo	1 300	245	100	100	—
Morocco	7 088	7 895	21 979	24 200	22 100
Mozambique	145	194	224	250	284
Namibia	39 200	44 300	48 800	52 100	50 000
South Africa	210 348	208 567	195 643	212 112	206 550
Zaire	462 202	506 481	505 385	503 966	500 700
Zambia	609 935	587 442	529 641	578 300	564 800
Zimbabwe	26 901	24 583	24 693	21 560	22 687
Canada (a)	716 363	691 328	612 455	653 040	707 112
Cuba	3 350	2 907	2 645	2 667	2 700
Guatemala	813	726	—	—	—
Honduras	269	454	758	* 800	...
Mexico	175 399	230 466	239 091	206 062	189 100
USA	1 181 116	1 538 160	1 146 975	1 038 098	1 091 284
Argentina	182	80	37	318	300
Bolivia	1 882	2 637	2 270	1 982	1 600
Brazil	402	11 777	24 482	40 000	35 000
Chile	1 067 900	1 081 100	1 242 200	257 100	1 290 000
Colombia	442	315	293	540	...
Ecuador	923	825	25	8	—
Peru	366 800	327 614	356 300	322 200	364 100
Burma	56	77	101	4 200	9 000
China	* 165 000	* 170 000	* 175 000	* 175 000	* 180 000
Cyprus	—	259	841	1 148	1 267
India	26 819	25 200	24 000	43 800	47 000
Indonesia	58 990	62 550	75 136	78 608	82 510
Iran	1 000	2 000	43 000	65 000	* 60 000
Israel	400	4 400	4 100	—	—
Japan	52 553	51 513	50 658	46 045	43 309
Korea, Dem. P.R. of	* 12 000	* 12 000	* 12 000	* 10 000	* 10 000
Korea, Republic of	372	501	320	389	279

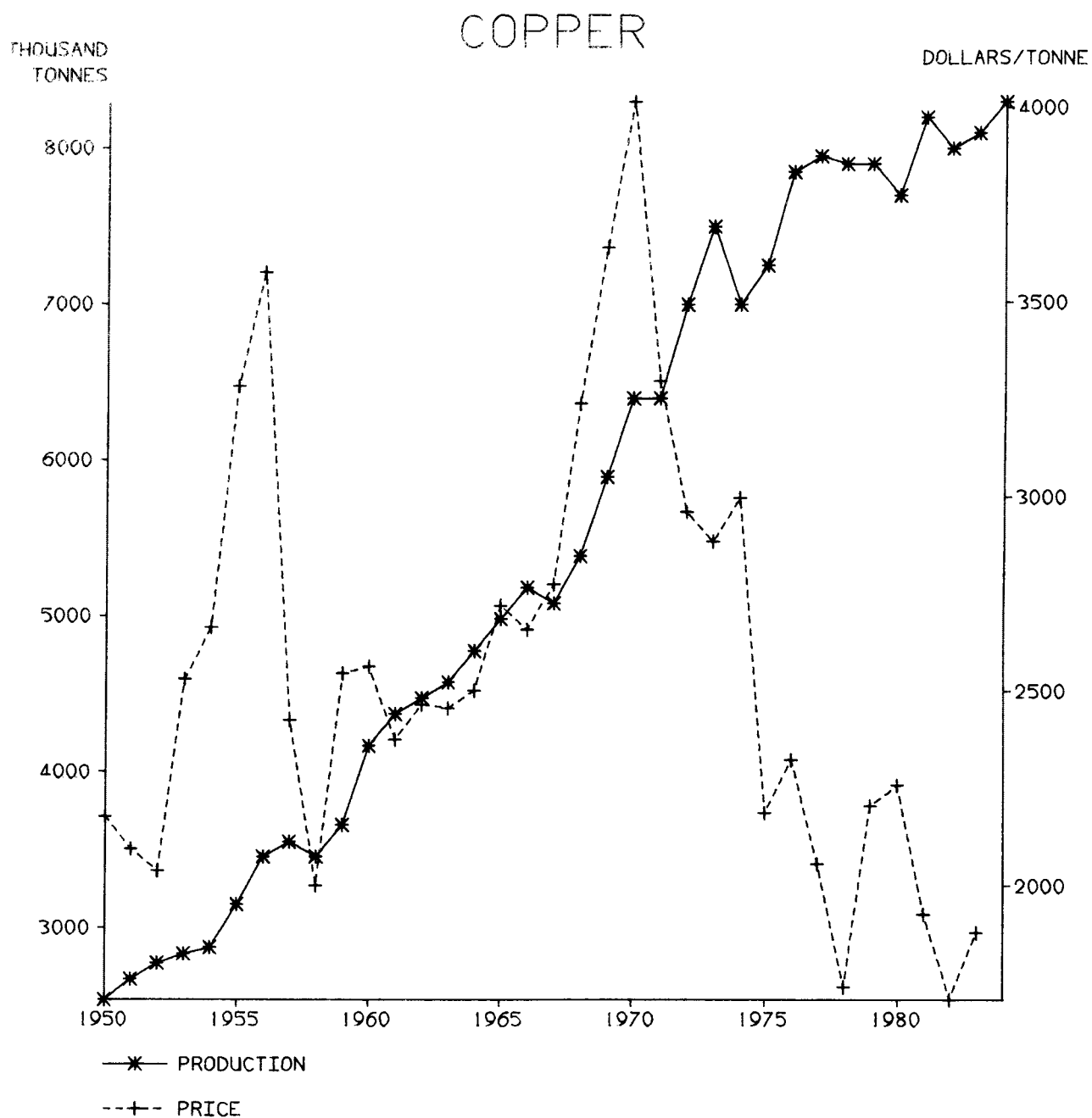
**Mine Production of Copper**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
Malaysia	26 990	28 642	30 906	29 136	29 288
Mongolia	44 000	71 800	95 000	95 000	128 000
Oman	—	—	—	11 300	16 200
Philippines	304 504	302 328	292 086	271 403	225 216
Taiwan	500	500	—	—	—
Australia	243 541	231 339	245 322	261 476	235 811
Papua New Guinea	146 813	165 420	170 004	183 191	164 447
World total	7 700 000	8 200 000	8 000 000	8 100 000	8 300 000

(a) Blister copper plus recoverable copper in ores and matte exported





**Figure 6** World mine production of copper from 1950 to 1984 compared with the yearly average producer price of domestic refinery electrolytic wirebars on the New York Market expressed in constant 1980 US dollars.

Trend line analysis of the production data indicates a growth rate of approximately 4% per annum over 35 years.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Smelter Production of Copper

tonnes

Country	1980	1981	1982	1983	1984
Belgium	* 700	* 3 100	* 2 500	* 2 800	* 500
Germany, Federal Republic of	153 900	163 100	161 800	159 100	148 800
Albania	11 500	10 000	12 000	12 500	14 300
Bulgaria	59 000	62 000	62 000	60 000	70 000
Czechoslovakia	30 966	30 180	30 317	33 019	* 30 000
Finland	47 846	54 747	66 333	74 455	77 600
German Democratic Republic	* 16 000	* 16 000	* 17 000	* 17 000	* 14 000
Hungary	2 069	2 351	2 639	2 765	3 050
Norway	33 690	31 951	24 358	25 658	36 980
Poland	367 000	326 000	360 000	330 000	342 000
Portugal	3 200	3 200	1 500	6 200	3 500
Romania	40 675	39 450	40 000	40 200	40 000
Soviet Union	* 1 130 000	* 1 150 000	* 1 130 000	* 1 120 000	* 1 120 000
Spain	103 058	107 900	135 000	118 000	127 200
Sweden	45 749	60 576	72 504	78 756	81 800
Turkey	16 320	27 264	25 308	18 516	32 023
Yugoslavia	93 745	92 505	84 000	86 800	84 700
Namibia	40 000	39 700	49 800	54 200	48 600
South Africa	185 800	185 400	191 800	192 300	178 700
Zaire (a)	428 071	471 224	469 406	466 728	463 900
Zambia (a)	601 348	560 616	584 790	562 722	531 945
Zimbabwe	26 300	30 100	30 500	31 200	24 200
Canada	492 700	479 000	412 440	406 417	440 000
Mexico	85 610	69 199	77 373	91 994	* 90 000
USA	1 008 397	1 316 756	975 695	927 739	1 014 016
Brazil	—	—	4 812	63 083	61 334
Chile	953 100	953 800	1 046 800	1 058 100	1 097 800
Peru	348 600	302 300	323 200	295 900	334 400
China	* 175 000	* 190 000	* 205 000	* 195 000	* 220 000
India	28 489	25 856	32 585	33 992	40 400
Japan	929 300	980 100	1 046 300	1 061 900	929 000
Korea, Dem. P.R. of	* 23 000	* 24 000	* 30 000	* 35 000	* 25 000
Korea, Republic of	64 100	101 200	119 400	124 000	100 200
Taiwan	17 000	53 100	47 500	37 900	47 600
Australia	174 920	172 181	175 536	173 619	179 822
World total	7 700 000	8 100 000	8 100 000	8 000 000	8 100 000

Note: This table shows, where possible, primary metal in the form of blister and anode produced from concentrates, but may include some secondary metal produced from scrap, residues, etc.

(a) Including leach cathodes

## Production of Refined Copper

Country	1980	1981	1982	1983	1984
United Kingdom	161 338	136 163	134 132	144 366	136 834
Belgium (a)	526 252	436 579	501 634	431 264	427 707
France	46 460	46 369	46 585	43 865	40 900
Germany, Federal Republic of	373 999	387 433	394 072	420 325	378 916
Italy	12 200	23 700	19 600	31 200	50 300
Albania	* 9 000	* 9 500	* 9 500	* 10 000	* 11 000
Austria	43 545	39 117	41 559	41 900	43 814
Bulgaria	63 000	60 000	55 200	68 000	70 000
Czechoslovakia	25 559	25 513	25 636	25 746	26 068
Finland	40 542	33 796	47 969	55 376	57 318
German Democratic Republic	* 51 000	* 54 000	* 51 000	* 50 000	* 55 000
Hungary	27 756	28 840	22 773	24 040	25 863
Norway	26 715	26 776	18 564	22 705	30 323
Poland	357 268	327 178	348 027	360 100	372 300
Portugal	4 480	4 853	4 556	4 561	5 300
Romania	* 65 000	* 60 000	* 50 000	* 47 000	* 46 500
Soviet Union	* 1 300 000	* 1 320 000	* 1 350 000	* 1 400 000	* 1 380 000
Spain	153 700	152 100	171 900	158 600	156 400
Sweden	55 713	61 892	62 304	63 357	63 900
Turkey	15 934	27 263	25 683	19 113	32 023
Yugoslavia	131 288	132 603	126 870	123 708	127 611
Egypt	* 2 000	* 2 000	* 2 400	* 2 400	* 2 400
South Africa	147 900	144 800	142 500	157 700	148 400
Zaire	144 161	151 484	175 115	226 900	225 200
Zambia	607 592	560 600	584 500	576 100	523 300
Zimbabwe	7 100	16 700	25 700	25 400	22 800
Canada	505 238	476 655	337 780	464 333	504 262
Mexico	96 610	66 301	74 424	86 903	83 700
USA	1 730 300	2 037 600	1 694 300	1 583 700	1 509 400
Brazil	63 000	45 000	61 812	103 003	97 334
Chile	810 700	775 600	852 500	833 400	879 200
Peru	223 500	200 400	224 536	194 669	219 000
China	* 295 000	* 300 000	* 300 000	* 310 000	* 320 000
India	23 200	23 100	27 100	28 100	32 600
Iran	* 1 000	* 1 000	* 1 000	* 5 000	* 10 000
Japan	1 014 292	1 050 120	1 074 974	1 091 929	935 156
Korea, Dem. P.R. of	* 23 000	* 24 000	* 30 000	* 32 000	* 35 000
Korea, Republic of	87 709	121 942	128 377	143 806	* 150 000
Oman	—	—	—	3 800	15 200
Philippines	—	—	—	38 800	99 200
Taiwan	19 495	53 230	47 377	37 960	48 436
Australia	182 400	191 008	178 138	202 603	197 200
World total	9 500 000	9 600 000	9 500 000	9 700 000	9 600 000

Note: Figures relate to both primary and secondary refined copper, whether electrolytic or fire refined. Metal recovered from secondary materials by remelting alone is excluded

(a) Including alloys

## Exports of Copper

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ore & matte	4	4	115	817	3 077
Unwrought—					
Unrefined	80	66	60	497	303
Refined	32 938	19 875	17 433	16 742	21 220
Alloys	27 544	23 095	15 149	15 564	16 927
Scrap	82 399	65 562	92 719	104 703	101 194
Belgium-Luxembourg					
Ore	716	727	630	674	742
Burnt cupreous pyrites	138 574	149 092	152 161	9 365	4 520
Unwrought—					
Matte, cement & unrefined	6 662	12 118	11 902	11 324	162
Refined	299 149	282 495	287 857	221 244	210 706
Alloys	8 222	8 551	6 717	8 338	8 354
Scrap	26 356	24 066	30 553	27 835	32 176
Denmark					
Unwrought	70	—	158	51	1 331
Unwrought alloys	1 040	1 447	1 147	1 842	2 512
Scrap	15 153	13 132	11 907	15 707	14 459
France					
Ore	1 618	801	648	448	293
Matte & cement	2 344	1 861	3 146	2 603	4 812
Unwrought—					
Unrefined	3 335	3 935	3 471	6 619	2 930
Refined	12 008	15 115	5 944	17 589	4 204
Alloys	3 711	4 510	2 374	2 021	3 057
Scrap	108 369	108 153	112 338	126 003	120 467
Germany, Federal Republic of					
Burnt cupreous pyrites	954	—	45	—	—
Matte & cement	617	282	41	2 569	1 124
Unwrought—					
Unrefined	24 976	18 870	18 771	16 988	22 314
Refined	76 271	63 079	71 490	93 169	72 979
Alloys	13 548	13 180	13 131	12 748	15 719
Scrap	86 810	88 881	61 514	67 128	78 064
Irish Republic					
Ores & concentrates	18 888	17 525	7 430	360	—
Unwrought	454	759	481	530	903
Scrap	6 698	7 119	8 260	8 051	8 897
Italy					
Ore	4 100	2 356	657	1 970	8 860
Matte & cement	1 073	1 232	440	2 890	1 060
Unwrought—					
Unrefined	113	221	297	213	129
Refined	2 613	2 687	2 339	5 885	10 581
Alloys	1 584	4 288	5 929	7 182	3 111
Scrap	11 149	24 531	19 042	20 306	14 235
Netherlands					
Unwrought	1 479	5 190	1 377	432	534
Unwrought alloys	4 466	5 997	4 024	6 141	7 001
Scrap	58 390	57 388	53 616	59 055	62 443
Albania					
Unwrought (f)	* 1 100	* 300	* 200	* 100	...
Austria					
Unwrought	17 955	20 181	17 242	21 341	15 550
Unwrought alloys	1 385	3 392	2 333	1 687	6 038
Scrap	3 713	5 410	5 022	9 075	15 451
Bulgaria					
Unwrought (f)	* 2 000	* 500	* 300	...	* 800
Finland					
Ore	15	—	12 175	14 096	—
Unwrought—					
Unrefined	5 945	20 392	13 773	14 987	17 656
Refined	2 473	1 247	4 425	11 670	4 833
Alloys	894	1 110	1 192	1 882	1 790
Scrap	234	241	209	1 337	2 126
German Democratic Republic					
Unwrought (f)	* 7 700	* 8 500	* 5 000	* 12 200	* 12 600

## Exports of Copper

Country	1980	1981	1982	1983	1984
Hungary					
Scrap	2 923	2 832	2 290	1 563	2 090
Norway					
Ore	89 498	97 387	92 712	92 465	72 619
Unwrought—					
Unrefined	7 376	5 268	6 691	6 224	5 949
Refined	25 484	24 371	18 106	20 261	29 379
Alloys	1 966	1 693	1 193	297	56
Scrap	4 166	5 851	4 271	7 730	5 761
Poland					
Unwrought	144 754	142 514	176 447	183 203	179 970
Portugal					
Ore	550	1 100	—	2 990	1 352
Unwrought	1 258	838	3 617	1 172	3 927
Scrap	967	2 063	104	1 001	855
Soviet Union					
Unwrought (f)	* 47 300	* 47 600	* 59 200	* 66 100	* 97 100
Scrap (f)	* 1 900	* 3 400	* 13 600	* 14 200	* 12 400
Spain					
Ore	—	33 471	36 383	32 067	50 205
Burnt cupreous pyrites	(a) 313 193	359 567	277 899	55 597	...
Matte	215	798	—	1 197	1 419
Unwrought	59 980	70 745	70 913	72 523	67 100
Unwrought alloys	6 319	3 642	2 403	5 176	4 784
Scrap	881	978	301	915	452
Sweden					
Ore	6 895	21 902	45 172	33 829	71 079
Unwrought—					
Unrefined	723	13 849	25 652	40 197	37 892
Refined	17 841	18 080	28 366	23 039	22 924
Alloys	2 480	4 846	2 967	3 887	5 217
Scrap	1 838	1 011	2 222	1 963	1 575
Switzerland					
Unwrought—					
Refined	2 201	725	870	1 560	712
Alloys	4 429	4 060	4 854	5 518	5 256
Scrap	12 075	11 458	13 259	18 886	15 518
Yugoslavia					
Unwrought	14 334	13 801	7 321	4 102	1 493
Scrap	6 129	4 035	3 048	6 062	...
Algeria					
Ore	—	853	800	1 128	...
Scrap	1 124	2 342	1 303	3 389	...
Botswana					
Matte (b)	20 000	17 300	19 300	20 200	21 400
Ivory Coast					
Matte & scrap	1 389	1 295	1 209	1 338	...
Morocco					
Ore	22 274	22 207	60 291	69 531	72 174
Matte	1 743	2 215	1 815	3 270	1 363
Scrap	1 591	1 860	2 616	2 539	2 376
Namibia					
Unwrought	41 300	38 600	44 400	46 800	46 100
Senegal					
Scrap	797	737	623	809	1 079
South Africa					
Ores & concentrates (b)	17 197	19 470	15 387	17 310	25 087
Unwrought	99 210	94 366	107 662	120 119	95 097
Tunisia					
Unwrought & scrap (g)	832	1 525	1 050	...	2 237
Zaire					
Ores & concentrates	97 579	99 969	80 000	* 80 000	* 80 000
Unwrought—					
Unrefined (e)	272 733	277 433	323 332	231 782	241 567
Refined	154 158	150 834	156 035	218 470	221 669

## Copper

## Exports of Copper

tonnes

Country	1980	1981	1982	1983	1984
Zambia					
Unwrought—					
Unrefined	3 173	220	—	—	—
Refined	614 208	555 760	602 583	570 453	530 093
Zimbabwe					
Unwrought	24 732	14 387	22 355	24 276	20 300
Canada					
Ores, concentrates & matte (b)	286 076	276 816	257 934	313 796	339 061
Unwrought	335 374	263 259	233 118	298 555	346 017
Scrap	43 115	41 324	51 745	53 469	52 676
Cuba					
Concentrates	3 598	2 770	2 789	2 500	...
Mexico					
Concentrates (b)	89 787	161 100	161 461	110 757	106 500
Unwrought, unrefined	1 141	6 931	9 473	4 179	...
Trinidad & Tobago					
Scrap	434	398	373	455	475
USA					
Ores & concentrates (b)	106 825	150 782	195 277	42 738	61 384
Unwrought—					
Unrefined	3 819	9 233	2 008	7 454	8 379
Refined	18 926	56 219	31 624	82 007	92 327
Alloys	3 460	4 399	5 175	7 160	3 912
Scrap	191 622	146 703	146 955	137 761	189 203
Bolivia					
Ore (b)	1 676	2 545	2 139	1 925	1 300
Chile					
Ores & concentrates (b)	122 600	111 500	) 203 100	196 200	178 600
Matte (b)	1 200	1 200			
Unwrought—					
Unrefined	151 300	172 700	198 700	224 400	210 600
Refined	769 100	752 200	809 100	830 300	830 200
Colombia					
Ore	4 354	3 317	857	615	...
Peru					
Ore	69 811	* 85 000	92 181	* 110 000	* 135 000
Unwrought—					
Unrefined	126 985	104 534	97 091	92 722	96 823
Refined	206 095	192 410	204 051	161 757	174 664
Cyprus					
Cement copper	825	—	2 011	1 103	3 059
Hong Kong					
Scrap	17 354	18 288	19 302	22 212	22 802
Indonesia					
Ores & concentrates	193 509	197 146	191 749	229 053	188 428
Iran					
Ore (c)	* 4 000	...	7 500	3 000	...
Israel (h)					
Cement copper	79	5 845	5 535	4 795	1 544
Scrap	4 419	2 234	2 623	2 237	1 775
Japan					
Unwrought	216 406	43 192	48 417	182 829	22 414
Scrap	527	133	417	410	176
Korea, Republic of					
Unwrought	5 243	3 387	10 700	25 251	2 933
Scrap	627	250	336	2 716	1 517
Malaysia					
Ore	107 416	129 267	121 060	121 875	* 110 000
Scrap	5 789	6 033	6 661	8 297	...
Philippines					
Ores & concentrates	1 141 855	1 138 628	1 060 405	787 508	450 438
Unwrought	—	—	—	18 112	80 631
Scrap	1 729	1 201	621	2 062	9 314
Saudi Arabia					
Scrap	3 269	6 672	8 013	14 094	16 268
Singapore					
Scrap	16 066	13 849	15 328	19 507	17 882

## Exports of Copper

Country	1980	1981	1982	1983	1984
Taiwan					
Unwrought	272	232	184	227	300
Scrap	5 279	2 861	8 911	8 095	6 496
Australia					
Ores & concentrates	164 313	113 625	159 980	248 265	202 190
Matte & cement	5 797	4 444	13 910	4 963	3 977
Unwrought—					
Unrefined	18 100	18 773	7 213	8 413	5 350
Refined	50 784	55 548	45 235	77 632	75 452
Alloys	319	565	539	198	...
Scrap	601	216	411	599	...
New Zealand (d)					
Unwrought	—	32	40	40	266
Scrap	1 155	1 519	1 858	2 003	1 409
Papua New Guinea					
Ores & concentrates (b)	142 241	168 065	173 261	182 473	167 107

Note: In this table the term 'unwrought' copper corresponds to item 682.1 of the Standard International Trade Classification (Revision 2) and includes both unrefined (including blister) and refined copper. Additionally the term 'unwrought' as used here includes alloys unless these are separately specified. The term 'scrap' includes scrap alloys

- (a) Includes other burnt pyrites
- (b) Cu content
- (c) Years ended 20 March following that stated
- (d) Years ended 30 June of that stated
- (e) Including leach cathodes
- (f) BGS estimates, based on known imports into certain countries
- (g) Including matte
- (h) Figures may be incomplete as value only given in Israeli trade return for exports to some countries

## Copper

## Imports of Copper

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ore & matte	644	570	687	1 000	2 409
Unwrought—					
Unrefined	76 773	66 880	68 135	82 592	87 422
Refined	269 052	214 598	255 441	200 680	225 864
Alloys	596	588	1 302	504	1 044
Scrap	9 314	8 141	10 021	10 025	8 117
Belgium-Luxembourg					
Ore (i)	2 628	17 417	15 960	10 706	2 047
Burnt cupreous pyrites	3 104	1 375	70	1 951	—
Unwrought—					
Matte, cement & unrefined	189 986	203 637	213 831	194 275	213 954
Refined	317 255	278 264	255 273	141 671	180 884
Alloys	2 515	1 913	4 605	3 338	1 888
Scrap	124 528	104 715	113 628	131 918	115 165
Denmark					
Unwrought	3 105	1 354	67	329	148
Unwrought alloys	582	829	843	982	1 627
Scrap	3 123	5 281	4 244	3 042	5 165
France					
Ore	0	4	298	46	356
Burnt cupreous pyrites	3 883	5 732	—	661	2 863
Matte & cement	1 054	13	70	64	—
Unwrought—					
Unrefined	17 896	17 693	22 451	14 435	17 667
Refined	411 988	388 166	367 823	338 995	341 562
Alloys	4 583	4 661	4 901	3 836	4 925
Scrap	36 741	29 616	28 745	32 714	31 623
Germany, Federal Republic of					
Ore	537 883	481 142	553 963	496 262	550 531
Burnt cupreous pyrites	546 261	511 169	410 134	25 792	37 889
Matte & cement	11 026	4 675	6 309	11 358	2 724
Unwrought—					
Unrefined	51 680	65 706	81 223	68 903	85 517
Refined	451 645	381 748	423 208	403 807	465 575
Alloys	51 016	43 384	37 551	45 363	41 706
Scrap	180 971	151 352	177 122	205 405	211 757
Greece					
Matte & cement	—	3 665	8 864	15 583	13 367
Unwrought	24 692	19 600	16 223	19 090	20 215
Unwrought alloys	265	420	234	182	98
Scrap	354	1 871	2 079	22	447
Irish Republic					
Unwrought	197	215	330	131	275
Scrap	121	280	530	286	484
Italy					
Unwrought—					
Unrefined	2 241	1 143	1 061	2 717	11 085
Refined	372 834	317 082	318 919	297 164	311 854
Alloys	21 255	11 151	6 160	6 845	13 742
Scrap	99 524	59 318	71 728	82 442	112 098
Netherlands					
Unwrought	20 028	22 822	20 648	25 598	23 851
Unwrought alloys	1 520	3 340	1 806	895	1 075
Scrap	29 459	37 746	38 211	38 047	43 123
Austria					
Unwrought—					
Unrefined	9 261	8 659	8 711	8 467	9 728
Refined	5 479	3 637	4 911	1 293	4 100
Alloys	908	679	1 784	1 074	1 199
Scrap	20 113	18 074	29 009	27 729	30 616
Bulgaria					
Ore (a)	* 4 300	* 5 100	...	...	...
Unwrought (a)	* 1 100	* 1 000	* 1 500	* 700	* 1 300
Czechoslovakia					
Unwrought	63 000	67 000	59 000	66 000	62 000



## Imports of Copper

Country	1980	1981	1982	1983	1984
Finland					
Ore	9 934	53 626	74 305	103 800	120 130
Unwrought—					
Refined	23 436	20 060	18 435	18 716	15 104
Alloys	497	356	392	301	378
Scrap	1 768	2 004	2 318	702	463
German Democratic Republic					
Ores & concentrates (a)	* 19 500	* 10 100	* 3 800	* 3 800	* 12 200
Unwrought (a)	* 20 300	* 13 500	* 29 100	* 37 200	* 37 800
Scrap (a)	* 22 500	* 23 700	* 21 700	* 22 300	* 21 600
Hungary					
Unwrought (c)	28 962	35 799	33 428	31 785	30 112
Scrap	6 544	4 786	6 463	6 678	7 958
Norway					
Unwrought	721	659	590	468	656
Unwrought alloys	1 538	1 600	1 425	1 153	1 386
Scrap	331	232	47	71	92
Poland					
Unwrought	15	...	1 295	—	17 138
Portugal					
Ore	10	140	7 522	1 030	4 365
Matte & cement	1 797	3 107	463	20	0
Unwrought	11 190	10 474	13 801	13 947	15 072
Scrap	1 853	2 584	326	188	79
Romania					
Unwrought (a)	* 23 000	* 25 000	* 26 800	* 23 000	* 17 500
Soviet Union					
Ore (a)	* 111 300	* 97 500	* 97 000	...	...
Unwrought	(a)* 10 000	(a)* 12 300	(a)* 3 600	* 7 000	* 7 000
Spain					
Ore	204 097	152 753	127 518	164 798	146 959
Matte & cement	3 758	8 659	13 155	7 178	8 033
Unwrought—					
Unrefined	24 979	31 560	22 796	17 878	20 870
Refined	24 039	19 423	11 676	19 791	24 625
Alloys	548	999	1 192	1 151	998
Scrap	35 812	32 236	43 720	32 121	23 322
Sweden					
Ore	50 070	88 872	92 449	90 133	49 877
Matte & cement	8 009	10 829	8 516	8 020	4 327
Unwrought	72 701	62 145	73 797	71 046	60 636
Unwrought alloys	4 611	3 453	3 672	4 394	4 510
Scrap	5 780	3 409	10 567	22 473	18 566
Switzerland					
Unwrought—					
Refined	9 396	10 046	8 615	8 370	8 928
Alloys	1 170	1 051	748	674	1 020
Scrap	3 566	3 762	3 695	2 201	3 290
Turkey					
Ore	14 012	29 979	—	16 202	23 292
Unwrought	11 345	9 358	6 164	26 110	24 460
Scrap	1 200	2 091	2 697	928	324
Yugoslavia					
Concentrates	47 817	11 561	9 691	...	...
Unwrought	50 412	67 037	52 334	26 927	24 500
Algeria					
Unwrought	5 418	1 979	2 251	724	...
Egypt					
Unwrought (b)	1 482	2 534	3 102	626	...
Libya					
Unwrought	514	1 251	539	...	...
Morocco					
Unwrought	304	565	617	724	774
South Africa					
Ores & concentrates	2 972	2 040	—	—	3
Unwrought	8 852	5 109	2 911	884	...
Unwrought alloys	161	71	133	94	...
Scrap	286	376	107	166	...

## Imports of Copper

tonnes

Country	1980	1981	1982	1983	1984
Canada					
Ores & concentrates (d)	12 896	19 618	12 361	24 535	36 173
Unwrought	13 466	24 778	28 028	24 559	25 563
Unwrought alloys	10 297	9 835	6 731	9 835	12 367
Scrap	35 051	37 974	41 127	71 528	76 338
Cuba					
Unwrought	4 792	4 702	5 154	4 328	...
Mexico					
Unwrought & scrap	43 117	101 882	23 626	13 040	...
USA					
Ores & concentrates (d)	13 756	30 200	93 903	89 272	13 246
Matte (d)	766	2 712	4 251	3 974	* 2 100
Unwrought—					
Unrefined (d)	45 776	73 054	102 211	80 419	60 683
Refined	458 112	354 899	284 773	482 983	504 369
Alloys	2 340	5 664	2 270	6 762	22 544
Scrap	35 226	41 740	41 830	65 091	55 012
Argentina					
Unwrought, refined	38 413	28 065	39 063	...	...
Brazil					
Ores & concentrates	0	0	10 544	89 159	87 553
Unwrought, refined	208 159	152 910	182 841	54 187	93 852
Scrap	3 435	1 483	1 437	441	854
Colombia					
Unwrought	2 768	2 316	888	3 270	...
Uruguay					
Unwrought	217	135	4	8	—
Venezuela					
Unwrought—					
Refined	) 4 046	3 632	2 683	2 000	5 600
Alloys	)	)	256	...	...
China					
Unwrought	128 200	53 689	110 938	485 863	254 045
Hong Kong					
Unwrought	201	1 077	1 093	748	5 789
Scrap	4 927	1 202	2 010	2 896	7 394
India					
Unwrought (e)	51 508	84 850	56 700	61 300	48 600
Scrap	40 286	51 259	...	...	...
Indonesia					
Unwrought	12 002	14 745	17 527	16 678	17 535
Unwrought alloys	246	248	592	289	268
Iran (f)					
Unwrought	568	7 076	3 756	7 553	...
Scrap	1 657	5 345	4 737	565	...
Israel (h)					
Unwrought	135	396	...	(a)* 300	(a)* 1 300
Japan					
Ores & concentrates	3 103 557	3 338 326	3 627 797	3 135 228	2 930 184
Matte & cement	2 574	—	478	4 394	1 311
Unwrought	290 803	331 425	373 748	246 276	535 860
Unwrought alloys	105	31	574	244	2 245
Scrap	49 929	51 866	56 418	57 486	92 595
Korea, Republic of					
Ore	233 999	382 919	394 250	371 278	347 665
Matte & cement	3 341	2 398	8 495	15 865	25 911
Unwrought	15 471	28 675	30 112	37 675	53 966
Scrap	19 632	25 736	94 433	42 787	32 364
Kuwait					
Unwrought	3 011	3 546	7 192	...	...
Malaysia					
Unwrought	34	91	3 288	17 959	...
Pakistan (g)					
Scrap	803	...	810	412	331
Philippines					
Unwrought	4 961	5 734	5 610	5 714	151

## Imports of Copper

Country	1980	1981	1982	1983	1984
Singapore					
Unwrought	554	271	411	255	876
Scrap	5 026	4 551	5 090	4 020	3 436
Syria					
Unwrought	(b) 417	(b) 464	100	57	43
Taiwan					
Ores & concentrates	131 315	215 963	85 427	134 083	212 923
Unwrought	66 186	40 152	27 402	64 006	91 134
Scrap	35 072	32 984	23 367	30 441	34 017
Thailand					
Unwrought	4 468	5 668	6 298	10 778	15 835
Scrap	337	373	222	235	83
Australia					
Unwrought	224	2 059	2 176	4 451	7
Unwrought alloys	18	37	97	27	...
Scrap	2 070	7 748	2 143	1 200	...
New Zealand (g)					
Unwrought	3 071	1 551	2 560	1 883	2 490

Note: In this table the term 'unwrought' copper corresponds to item 682.1 of the Standard International Trade Classification (Revision 2) and includes both unrefined (including blister) and refined copper. Additionally the term 'unwrought' as used here includes alloys unless these are separately specified. The term 'scrap' includes scrap alloys

- (a) BGS estimates, based on known exports from certain countries
- (b) Including matte and scrap
- (c) Including semi-manufactures
- (d) Cu content
- (e) Years ended 31 March following that stated
- (f) Years ended 20 March following that stated
- (g) Years ended 30 June of that stated
- (h) Figures may be incomplete as value only given in Israeli trade return for imports from some countries
- (i) Figure for 1980 is partial figure. Imports from certain countries are confidential

## Production of Diamond

carats

Country	1980	1981	1982	1983	1984
Soviet Union	* 10 850 000	* 10 600 000	* 10 700 000	* 10 800 000	* 11 000 000
Angola	1 485 100	1 400 481	1 225 446	1 033 812	902 431
Botswana	5 146 000	4 860 000	7 562 000	10 897 000	12 904 000
Central African Republic	342 000	311 903	277 000	295 358	337 350
Ghana	1 149 200	836 200	684 200	339 300	341 978
Guinea	* 38 000	* 38 000	* 40 000	* 40 000	* 48 000
Lesotho	53 714	52 921	42 119	—	—
Liberia (a)	298 446	336 023	432 909	329 924	238 877
Namibia	1 559 885	1 247 960	1 014 464	962 752	930 183
Sierra Leone	592 018	305 356	290 000	368 598	107 359
South Africa	8 520 328	9 525 876	9 152 886	10 311 778	10 118 219
Swaziland	—	—	—	—	16 837
Tanzania	269 876	236 500	297 000	215 500	205 000
Zaire	10 334 000	7 161 000	6 164 000	11 982 000	18 459 000
Brazil	666 832	1 089 313	529 760	311 589	800 927
Guyana	10 236	9 533	11 492	12 362	7 496
Venezuela	665 721	490 426	435 272	278 915	* 250 000
China	* 900 000	* 950 000	* 1 000 000	* 1 000 000	* 1 000 000
India	14 432	14 834	13 007	14 286	15 308
Indonesia	* 15 000	* 15 000	* 15 000	* 27 000	* 27 000
Australia	—	—	457 000	6 200 227	5 689 596
World total	42 900 000	39 500 000	40 300 000	55 400 000	63 400 000

Note: This table does not show production of synthetic diamond

(a) Exports

## Exports of Diamond

carats

Country	1980	1981	1982	1983	1984
United Kingdom					
Industrial	9 178 933	5 443 695	6 875 321	3 494 914	2 298 780
Other	62 404 599	21 964 870	24 520 616	29 006 530	30 547 167
Belgium-Luxembourg					
Rough	24 868 056	31 256 619	38 557 375	33 888 227	36 745 317
Cut	2 602 506	2 864 711	3 051 028	3 349 982	3 561 441
Industrial	8 070 087	10 700 324	9 027 296	9 468 688	11 793 810
France					
Rough	2 176	2 071	—	264	2 171
Cut	52 773	41 020	93 426	98 034	46 788
Industrial	177 713	155 999	205 303	148 930	358 172
Dust	199 770	89 155	217 950	304 565	351 830
Germany, Federal Republic of					
Industrial	222 053	286 887	249 798	314 850	431 591
Other	118 523	124 313	134 503	120 698	128 435
Italy					
Industrial	95 854	44 102	23 870	9 300	56 510
Other	75 586	20 346	436 936	2 054	1 230
Netherlands					
Rough	147 508	259 946	220 574	100 716	184 830
Cut	107 228	98 310	202 932	219 956	237 351
Industrial	833 512	677 168	632 768	480 787	661 750
Austria					
Industrial	15 000	10 000	5 000	...	95 000
Other	25 000	25 000	20 000	25 000	20 000
Malta	£900 100	£1 141 000	£1 877 000	£3 105 000	£3 025 000
Portugal	44 630	44 669	51 717	65 539	60 489
Soviet Union (f)	* 485 400	* 553 000	* 551 600	* 364 300	* 618 900
Spain					
Industrial	£108 000	£198 000	£309 000	£632 000	£653 000
Other	£451 000	£214 000	£541 000	£266 000	£334 000
Sweden					
Industrial	£21 600	£36 000	£66 000	£199 000	£56 000
Other	£4 384 300	£5 750 000	£5 350 000	£3 335 000	£2 904 000
Central African Republic	£12 500 000	£13 700 000	£15 000 000	£17 000 000	£22 700 000
Congo	£16 500 000	...	...	...	...
Ghana					
Industrial	897 000	944 000	688 000	605 000	323 000
Ivory Coast	37 180	70 000	...	13 132	23 159
Kenya	212 440	54 740	75 415	1 720	...
Lesotho	105 245	55 718	53 580	—	—
Liberia	298 446	336 019	433 000	329 924	238 877
Sierra Leone					
Industrial	202 425	) 305 356	119 632	247 564	363 049
Other	379 637	)			
South Africa (c)					
Rough	£516 724 000	£357 567 000	£461 436 000	£641 800 000	)
Cut	£168 687 000	£102 560 000	£65 195 000	£96 391 000	) £720 000 000
Industrial	£11 780 000	£11 106 000	£8 634 000	£5 376 000	)
Tanzania	311 215	791 090	...	...	...
Tunisia					
Industrial	145 000	...	60 000	...	125 000
Other	305 000	...	115 000	...	370 000
Zaire	10 435 000	7 161 000	6 164 000	...	...
Canada					
Cut	28 929	60 140	62 578	36 894	56 798
of which: Re-exports	28 433	60 021	62 578	36 894	56 798
Industrial	240 817	265 459	344 780	299 340	102 636
of which: Re-exports	239 470	252 280	344 780	299 340	102 636
Dust	19 795	72 679	191 879	77 850	271 131
of which: Re-exports	19 650	72 479	191 850	74 850	269 340

## Exports of Diamond

carats

Country	1980	1981	1982	1983	1984
USA					
Rough	983 546	2 782 060	2 675 960	2 001 703	1 739 936
of which: Re-exports	983 546	2 782 037	2 675 960	2 001 703	1 737 804
Cut	341 207	432 927	484 347	486 846	532 574
of which: Re-exports	130 564	235 840	299 476	162 473	149 544
Industrial	3 569 318	2 296 978	2 065 215	3 184 601	3 301 116
of which: Re-exports	3 268 170	1 847 016	1 650 510	1 932 607	2 441 922
Dust (b)	28 534 606	28 471 690	30 706 308	42 311 999	47 992 891
of which: Re-exports	372 150	584 451	1 118 829	1 240 924	779 447
Brazil	8 580	12 120	18 360	1 805	20 830
of which: Re-exports	3 180	260	—	—	—
Guyana	...	252	1 749	...	...
Venezuela					
Rough	...	...	65 000	...	...
Industrial	...	...	295 000	...	...
Hong Kong	324 669	444 210	694 234	392 855	405 509
of which: Re-exports	311 603	438 425	685 572	387 548	399 582
India					
Gem (d)	3 228 106	3 933 950	...	...	...
Israel (a)					
Cut	2 649 000	2 662 000	2 459 000	2 565 000	2 633 000
Japan					
Industrial	11 562	2 098	6 123	22 639	29 369
Other	450 471	324	1 038	583	2 173
Malaysia					
Cut	£1 300 000	£1 000 000	£517 000	£2 100 000	...
Singapore					
Rough	£152 000	£111 000	£114 000	£9 000	£595 000
of which: Re-exports	£144 000	£111 000	£108 000	£9 000	£539 000
Cut	£2 181 500	£3 745 000	£7 643 000	£4 908 000	£12 932 000
of which: Re-exports	£1 919 300	£3 231 000	£7 272 000	£3 945 000	£10 943 000
Industrial	£223 000	£493 000	£747 000	£360 000	£938 000
of which: Re-exports	£162 000	£401 000	£513 000	£263 000	£901 000
Taiwan					
Industrial	3 915 000	780 000	310 000	1 615 000	180 000
Other	345 000	275 000	11 075 000	8 380 000	27 990 000
Thailand	8 447	22 453	65 563	49 447	123 814
Australia					
Gem (e)	11 054	8 796	46 274	3 015 385	2 682 585
Industrial	391 297	272 322	269 526	1 046 103	898 480

Note: Carats have been used as the unit in this table except where the only obtainable figure is the value. In these cases the national currency figure has been converted to £ sterling. (See explanatory notes at the front of the volume)

- (a) Figures may be incomplete as value only given in Israeli trade return for exports to some countries
- (b) May include synthetic material
- (c) Values shown are for the common customs area
- (d) Years ended 31 March following that stated
- (e) Re-exports up to 1982
- (f) BGS estimates, based on known imports into certain countries

## Imports of Diamond

carats

Country	1980	1981	1982	1983	1984
United Kingdom	£3 035 607 473	£954 452 214	£969 891 705	£1 398 637 051	£1 438 041 669
Belgium-Luxembourg					
Rough	26 513 377	29 574 750	29 267 085	31 731 755	37 746 620
Cut	2 097 733	1 990 760	2 453 910	2 576 938	2 698 445
Industrial	9 388 064	13 402 937	18 312 529	14 148 153	16 534 385
France					
Rough	21 867	18 060	9 443	89 677	949 325
Cut	705 079	627 869	1 099 717	469 559	298 495
Industrial	689 793	1 170 808	694 744	489 081	479 777
Dust	4 469 740	4 453 265	4 125 495	4 334 170	4 663 900
Germany, Federal Republic of					
Rough	34 540	18 529	18 061	24 967	9 678
Cut	525 976	477 949	474 943	509 479	461 321
Industrial	1 105 324	961 711	864 233	939 371	1 082 628
Irish Republic					
Industrial	20 000	25 000	3 380 000	1 015 000	5 000
Italy					
Industrial	221 140	183 034	169 727	114 613	179 458
Other	173 711	215 246	196 650	171 443	193 540
Netherlands					
Rough	216 867	209 968	332 238	373 147	394 046
Cut	150 071	138 497	160 376	130 338	201 484
Industrial	589 247	493 030	277 335	237 469	545 383
Austria					
Industrial	50 000	25 000	40 000	15 000	65 000
Other	125 000	230 000	115 000	75 000	40 000
Czechoslovakia (a)	* 33 200	* 130 000	* 101 700	* 30 200	* 103 500
Finland					
Industrial	10 000	10 000	10 000	10 000	10 000
Other	20 000	50 000	20 000	15 000	15 000
Malta					
Rough	£1 865 000	£3 066 000	£3 141 000	£3 245 000	£3 734 000
Cut	£1 000	£50	—	£100	—
Industrial	£230 100	£903 400	£286 000	£344 000	£4 000
Norway	65 000	100 000	20 000	45 000	40 000
Portugal	111 210	216 190	250 972	530 834	143 244
Spain					
Rough	£108 200	£521 700	£80 300	£121 000	£121 000
Industrial	£404 500	£347 400	£614 700	£855 000	£829 000
Other	£9 697 700	£8 803 700	£15 614 000	£17 657 000	£11 070 000
Sweden					
Industrial	£471 200	£451 000	£363 000	£425 800	£478 000
Other	£11 337 700	£9 486 700	£12 089 000	£9 836 000	£9 564 000
Yugoslavia					
Industrial	£1 299 000	£742 000	£529 000	£314 000	...
Other	£231 000	£258 000	£205 000	£118 000	...
Dust	£249 000	£332 000	£468 000	£510 000	...
Algeria					
Industrial	£578 000	£271 000	£529 000	£487 000	...
Kenya					
Rough & cut	5 050	280 000	—	—	...
South Africa					
Rough	121 500	142 000	230 500	83 500	82 500
Cut	37 500	23 500	8 000	15 000	18 500
Industrial	2 343 500	2 144 000	1 384 000	1 547 000	280 500
Tunisia					
Industrial	365 000	...	5 000	...	200 000
Other	270 000	...	160 000	...	385 000
Canada					
Cut	133 308	191 293	200 582	275 683	263 143
Industrial	1 343 395	1 503 758	1 090 627	1 168 149	1 382 677
Dust	1 287 451	1 799 297	885 816	1 577 841	2 378 496
Costa Rica					
Industrial	90 000	...	560 000	160 000	330 000

## Imports of Diamond

carats

Country	1980	1981	1982	1983	1984
El Salvador					
Industrial	750 000	955 000	225 000	70 000	...
Honduras					
Industrial	10 000	...	...	...	...
Mexico					
Rough	10 000	...	10 000	—	...
Panama					
Industrial	200 000	370 000	910 000	100 000	625 000
USA					
Rough	1 577 059	933 285	885 735	1 008 851	1 240 982
Cut	2 574 168	3 469 567	3 744 094	5 238 650	2 606 491
Industrial	6 190 096	5 950 703	4 623 637	6 078 997	8 241 025
Bort	59 772	12 072	145 900	45 604	219 295
Dust	3 604 697	3 569 716	3 324 035	3 975 219	6 827 639
Argentina					
Industrial	55 000	305 000	45 000	...	...
Dust	436 550	487 170	490 000	...	...
Brazil					
Rough	5 990	2 000	715	750	—
Cut	8 335	2 085	4 210	1 925	225
Industrial	416 345	160 010	128 305	105 675	48 575
Dust	2 872 070	2 438 630	1 772 635	2 918 510	3 001 360
Venezuela					
Rough	...	...	85 000	...	...
Industrial	...	...	855 000	...	...
Abu Dhabi	40 000	225 000	25 000	50 000	40 000
China					
Industrial	(a)* 191 400	240 616	266 124	358 123	502 298
Other (a)	* 482 700	* 6 900	* 22 200	* 19 100	* 65 600
Cyprus	£138 000	£321 000	£486 000	£675 000	£1 088 000
Dubai					
Industrial	8 740 000	...	...	...	115 000
Other	74 545	91 470	...	...	49 685
Hong Kong					
Rough	121 377	108 528	221 450	118 739	87 054
Cut	1 169 288	1 094 272	1 220 652	1 167 524	1 248 658
Industrial	145 309	9 260	127 489	20 190	148 748
India					
Rough (d)	20 006 377	19 637 202	...	...	...
Industrial & bort	965 000	775 000	...	...	...
Indonesia					
Industrial	1 620 000	200 000	—	—	—
Israel					
Rough (c)	5 884 000	4 259 000	4 662 000	5 693 000	6 437 000
Cut (c)	102 000	72 000	197 000	296 000	401 000
Industrial (c)	2 451 000	2 453 000	2 667 000	3 565 000	4 325 000
Japan					
Rough	29 763	13 363	19 292	17 108	29 605
Cut	683 055	766 890	823 757	906 574	1 042 415
Industrial	681 354	634 540	757 507	793 890	681 713
Dust	828 240	726 815	881 650	987 205	1 399 120
Korea, Republic of					
Cut	£446 000	£236 000	£373 000	£123 000	£171 000
Industrial	£356 700	£407 500	£405 000	£532 000	£721 000
Other	£301 000	£586 000	£207 000	£161 000	452 000
Dust	1 120 235	198 655	28 600	135 000	387 210
Malaysia					
Rough	£1 522 500	£1 246 300	£1 669 000	£402 000	...
Cut	£506 300	£576 100	£1 014 000	£3 637 000	...
Industrial	£158 000	£182 000	£49 000	£325 000	...
Philippines					
Industrial	57 088	73 950	22 900	33 117	150 867
Saudi Arabia					
Industrial	1 805 000	930 000	225 000	110 000	55 000
Other	1 210 000	1 635 000	165 000	585 000	77 000



## Imports of Diamond

Country	1980	1981	1982	1983	1984
Singapore					
Rough	£364 000	£211 500	£164 000	£312 000	£996 000
Cut	£29 404 000	£22 385 500	£27 170 000	£40 868 000	£32 703 000
Industrial	£1 915 000	£1 730 000	£2 030 000	£741 000	£1 409 000
Taiwan					
Industrial	7 270 000	1 460 000	285 000	8 380 000	535 000
Other	—	5 645 000	1 990 000	1 515 000	80 000
Dust	4 245 000	1 865 000	1 735 000	4 615 000	3 930 000
Thailand					
Rough	24 073	122 760	819 056	251 233	963 131
Cut	1 689	68 559	140 161	279 492	214 962
Industrial	72 076	73 427	3 485	1 400	13 261
Australia					
Gem	67 415	78 558	75 801	72 007	97 142
Industrial	1 259 233	1 267 592	1 024 470	1 120 615	1 465 576
New Zealand (b)					
Industrial	£25 200	£82 700	£65 000	£72 000	£93 000
Other	£1 026 800	£1 001 800	£1 699 000	£2 111 000	£2 639 000

Note: Carats have been used as the unit in this table except where the only obtainable figure is the value. In these cases the national currency figure has been converted to £ sterling. (See explanatory notes at the front of the volume)

- (a) BGS estimates, based on known exports from certain countries
- (b) Years ended 30 June of that stated
- (c) Figures may be incomplete as value only given in Israeli trade return for imports from some countries
- (d) Years ended 31 March following that stated

## Production of Diatomite

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	* 1 000	* 1 000	* 500	* 300	* 200
Denmark (a)					
Diatomite	4 443	3 465	3 903	3 518	...
Moler (d)	* 102 400	* 97 000	* 98 500	(e) 70 672	(e) 63 745
France (b)	* 218 000	223 281	244 349	221 300	247 400
Germany, Federal Republic of	52 824	42 400	42 700	44 200	49 000
Italy	18 000	* 25 000	* 20 000	* 25 000	* 24 000
Iceland	19 353	20 644	24 528	25 502	27 265
Portugal	2 710	2 690	1 770	1 870	1 600
Romania	* 40 000	* 40 000	* 40 000	* 40 000	* 40 000
Soviet Union	* 230 000	* 230 000	* 235 000	* 235 000	* 240 000
Spain (b)	25 140	38 111	63 365	55 638	* 54 000
Turkey	* 9 500	* 10 000	2 688	9 600	6 540
Yugoslavia	10 249	...	...	...	...
Algeria	4 093	4 500	* 4 500	* 4 500	* 4 500
Kenya	1 677	1 921	1 783	1 570	1 512
South Africa	623	615	712	1 088	258
Canada	4 000	4 000	2 000	* 2 000	* 2 000
Costa Rica	600	550	470	* 450	* 500
Mexico	56 352	56 600	56 342	43 967	* 45 000
USA (c)	625 000	623 000	556 000	562 000	569 000
Argentina	6 527	4 972	6 789	10 981	* 10 000
Brazil (f)	14 828	8 973	13 146	8 678	* 14 000
Chile	1 147	358	387	741	1 712
Colombia	* 600	* 600	* 600	* 600	* 600
Peru	* 7 300	* 7 300	* 7 300	* 7 300	* 7 300
Korea, Republic of	25 101	42 176	55 249	55 968	48 496
Thailand	1 982	128	80	425	471
Australia	3 010	2 073	1 561	7 921	6 873
World total	1 500 000	1 500 000	1 500 000	1 500 000	1 500 000

Note: In addition to the countries listed, Czechoslovakia, Hungary and Japan are also believed to produce diatomite

(a) Sales

(b) Including tripoli

(c) Sold or used by producers

(d) Moler is an impure diatomite containing a large proportion of clay

(e) Excluding moler used for bricks, blocks etc.

(f) Includes beneficiated and directly shipped material

## Exports of Diatomite

Country	1980	1981	1982	1983	1984
United Kingdom	985	567	377	309	611
Belgium-Luxembourg	7 806	924	65 126	2 297	1 627
Denmark					
Diatomite	4 679	3 515	4 515	) 65 466	67 892
Moler	52 385	56 526	59 943	)	
Moler bricks	28 045	24 696	21 359	20 725	25 895
France	25 852	26 781	26 999	26 984	31 655
Germany, Federal Republic of	3 210	3 542	2 344	2 660	2 021
Italy	885	1 539	2 590	3 231	3 003
Netherlands	657	492	756	1 066	876
Austria	1 135	492	815	1 137	2 425
Czechoslovakia (a)	* 1 000	* 1 250	* 2 100	* 2 400	* 3 100
Finland	42	31	2	4	97
Hungary	* 3 800	* 3 100	* 2 000	(a)* 2 700	(a)* 3 100
Iceland	18 149	19 836	24 966	24 508	26 486
Norway	11	45	1	36	35
Portugal	44	44	29	25	18
Spain	1 673	2 504	1 852	3 268	2 233
Sweden	81	698	690	694	71
Switzerland	19	51	42	86	32
Algeria	400	217	—	—	...
Kenya	581	783	511	382	...
Mexico	14 828	1 549	1 660	3 116	...
USA	156 970	146 681	128 349	132 426	115 282
Japan	1 891	2 321	2 165	1 322	2 200
Korea, Republic of	120	—	—	—	—
Singapore (Re-exports)	91	79	377	795	366
Taiwan	184	112	49	95	226

(a) BGS estimates, based on known imports into certain countries.

## Imports of Diatomite

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	13 602	12 296	14 352	17 601	20 881
Belgium-Luxembourg	9 039	8 368	6 535	6 400	8 008
Denmark	7 205	6 597	7 632	7 966	6 110
France	9 164	9 410	8 709	9 816	8 638
Germany, Federal Republic of	37 506	36 421	37 780	36 791	37 363
Greece	521	1 063	559	744	1 885
Irish Republic	712	472	469	453	329
Italy	5 597	5 019	4 743	5 347	4 658
Netherlands	16 489	16 796	15 275	16 150	24 376
Austria	8 691	8 007	7 958	11 395	11 142
Czechoslovakia	* 800	* 350	(e)* 900	(e)* 2 400	(e)* 2 500
Finland	2 053	2 184	3 925	4 312	4 295
Norway	1 939	1 807	1 609	1 578	1 640
Poland	* 3 500	* 2 100	* 800	(e)* 1 300	(e)* 700
Portugal	4 319	3 932	3 608	3 763	4 000
Romania (e)	* 1 000	* 1 200	* 2 000	* 900	* 800
Spain	2 941	2 778	2 207	2 607	2 579
Sweden	3 824	3 363	3 039	3 148	2 566
Switzerland	9 381	11 169	12 067	10 209	6 244
Turkey	154	321	106	73	142
Yugoslavia	421	544	446	617	...
Algeria	66	403	267	67	...
Cameroon	807	...	...	...	...
Canary Islands	150	159	36	96	...
Gabon	92	132	354	171	...
Ivory Coast	278	258	163	...	...
Kenya	343	499	130	19	...
Morocco	255	331	36	107	247
South Africa	6 465	7 544	7 172	5 849	5 297
Tunisia	150	156	142	...	144
Zaire	328	482	88	248	100
Canada	26 577	25 545	23 130	23 298	23 892
Costa Rica	255	431	361	342	212
Dominican Republic	702	708	479	...	...
El Salvador	310	386	346	544	...
Guatemala	1 101	919	515	549	...
Honduras	302	327	...	...	...
Mexico	801	623	216	266	...
Nicaragua	427	545	234	...	...
Panama	380	439	443	222	306
USA	267	354	229	314	307
Argentina	2 229	2 199	1 662	...	...
Brazil	1 535	2 126	1 829	2 217	1 302
Colombia	488	1 153	1 232	630	...
Ecuador	1 488	567	1 519	...	...
Peru	1 773	2 401	1 353	1 076	...
Uruguay	147	109	49	49	50
Venezuela	7 080	3 864	7 719	...	...
Cyprus	174	123	195	115	176
Hong Kong	364	481	427	484	562
India (d)	156	28	...	...	...
Indonesia	723	435	179	1 188	1 075
Iran (c)	384	742	508	980	...
Israel (b)	304	292	...	(e)* 650	(e)* 600
Japan	7 464	9 429	8 984	10 280	3 985
Malaysia	853	750	1 110	971	...

## Imports of Diatomite

tonnes

Country	1980	1981	1982	1983	1984
Philippines	1 609	1 113	1 259	1 093	474
Saudi Arabia	15 760	37 297	49 756	10 518	6 871
Singapore	619	555	1 061	1 031	1 146
Sri Lanka	3 037	15	13	29	3 419
Taiwan	2 909	3 733	2 743	3 143	4 692
Thailand	35	25	30	60	98
Australia	12 278	12 312	11 477	9 885	11 115
Fiji	81	62	42	87	...
New Zealand (a)	1 224	920	1 384	1 197	1 370

(a) Years ended 30 June of that stated

(b) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(c) Years ended 20 March following that stated

(d) Years ended 31 March following that stated

(e) BGS estimates, based on known exports from certain countries

## Production of Feldspar

tonnes

Country	1980	1981	1982	1983	1984
France	210 000	205 400	200 600	175 200	208 800
Germany, Federal Republic of	380 880	342 100	331 400	256 200	286 200
Italy	344 301	428 485	783 411	826 865	985 573
Austria	10 946	10 357	2 960	1 063	2 554
Finland	69 853	66 980	69 108	53 226	56 265
Norway (d)	67 559	58 311	62 812	57 960	* 50 000
Poland	85 955	82 027	78 176	47 600	46 300
Portugal	48 561	44 007	41 327	33 509	29 003
Romania	* 60 000	* 60 000	* 60 000	* 60 000	* 60 000
Soviet Union	* 310 000	* 320 000	* 330 000	* 330 000	* 330 000
Spain (c)	103 365	129 593	131 071	116 137	* 115 000
Sweden (e)	57 999	40 341	54 669	55 000	* 55 000
Turkey	5 708	5 060	* 5 000	9 212	* 10 000
Yugoslavia	57 710	53 240	43 000	41 000	34 000
Egypt	3 309	3 480	8 436	5 945	* 5 500
Kenya	387	757	—	700	685
Morocco,	1 594	2 156	1 025	* 1 000	* 1 000
Mozambique	921	775	696	317	...
Nigeria	* 5 000	* 5 000	* 5 000	* 5 000	* 5 000
South Africa	52 833	57 052	47 854	45 114	39 018
Zambia	475	452	362	226	184
Zimbabwe	1 263	2 393	866	1 645	1 399
Guatemala	21 529	10 729	5 674	* 6 000	4 986
Mexico	117 214	130 826	115 559	117 518	* 120 000
USA (e)	644 000	603 000	558 000	644 000	644 000
Argentina	32 529	26 118	15 091	20 065	* 20 000
Brazil	123 095	109 797	78 854	64 041	91 667
Chile	2 150	2 506	469	3 356	3 026
Colombia	27 150	27 500	30 091	31 400	* 32 000
Peru	15 600	21 600	25 000	* 25 000	* 25 000
Uruguay	2 820	2 543	838	* 1 000	* 1 000
Venezuela	28 000	37 000	37 000	37 398	...
Burma (a)	2 026	2 572	6 712	6 106	6 200
Hong Kong	2 974	194	1 744	5 275	23 101
India	60 190	52 290	45 981	41 837	* 45 000
Iran (b)	2 500	2 000	2 500	2 600	* 2 700
Japan	470 394	425 007	461 528	451 478	* 460 000
Korea, Republic of	71 972	103 263	85 040	109 896	127 057
Pakistan	10 898	10 494	7 145	5 953	5 992
Philippines	15 925	15 999	15 213	6 524	11 486
Sri Lanka	3 955	3 506	2 922	2 609	* 2 700
Taiwan	25 149	17 215	10 620	11 866	15 452
Thailand	24 158	24 243	19 326	47 908	74 404
Australia	3 648	4 868	4 335	4 244	3 390
World total	3 600 000	3 600 000	3 800 000	3 800 000	4 100 000

Note: In addition to the countries listed, China, Czechoslovakia, Namibia and the United Kingdom are also believed to produce feldspar

- (a) Years ended 31 March following that stated
- (b) Years ended 20 March following that stated
- (c) Including pegmatite
- (d) Underground: production of ground withheld
- (e) Sold or used by producers

## Exports of Feldspar

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	1 067	200	618	452	456
Belgium-Luxembourg	6 494	2	26	—	70
France	56 949	58 571	54 613	54 455	59 566
Germany, Federal Republic of	18 124	15 309	15 176	17 465	16 570
Italy	37 033	34 500	32 930	36 431	35 469
Netherlands	3 501	2 791	1 251	1 124	2 179
Finland (a)	46 998	46 725	41 891	35 498	35 299
Norway	84 729	77 634	61 032	71 040	81 026
Portugal (a)	11 278	11 301	4 398	4 480	1 240
Spain (a)	1 582	1 833	1 858	659	...
Sweden (a)	29 976	28 995	24 516	24 690	29 681
Switzerland (a)	282	183	129	97	169
Turkey	6 510	2 172	3 049	5 045	1 034
Yugoslavia	11 498	3 109	1 010	3 311	...
South Africa	2 407	2 018	1 389	459	620
Guatemala (c)	3 535	2 758	2 162	2 867	...
USA (a)	11 792	12 723	9 793	8 494	9 144
Brazil	4 051	3 001	5 000	4 000	2 400
China (a)(b)(c)	* 31 000	* 26 100	* 27 500	* 29 000	* 38 700
Hong Kong (c)	18 106	11 318	11 665	17 039	36 957
of which: Re-exports	300	11 318	11 665	16 970	24 257
India	* 14 000	* 10 500	...	...	...
Japan	22 889	18 766	24 246	28 886	31 770
Korea, Republic of	19 672	18 409	23 551	31 679	22 988
Singapore (a)	5 850	4 083	2 915	4 894	4 938
of which: Re-exports	5 850	4 068	2 901	4 894	4 928
Thailand	2 874	2 793	3 707	12 621	16 982

(a) May include some leucite and nepheline

(b) BGS estimates, based on known imports into certain countries

(c) Including some fluorspar

## Imports of Feldspar

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	91 087	71 212	83 681	55 737	54 335
Belgium-Luxembourg	35 564	28 294	21 355	21 895	24 778
Denmark	15 535	11 448	5 896	3 873	5 678
France	17 947	16 808	18 844	19 353	19 846
Germany, Federal Republic of	63 213	60 031	54 006	54 355	51 164
Greece (a)	13 908	4 599	2 427	...	...
Italy	17 655	13 866	9 747	14 419	13 117
Netherlands	21 632	14 860	13 038	12 931	21 609
Austria (a)	6 111	5 893	5 095	4 301	4 485
Finland (a)	701	49	67	32	64
German Democratic Republic (a)(f)	* 21 100	* 19 500	* 14 600	* 16 700	* 17 000
Poland	13 786	10 151	7 928	...	9 944
Portugal	(a) 2 022	(a) 2 423	(a) 2 621	295	277
Spain (a)	21 408	19 605	15 972	15 035	...
Sweden (a)	12 845	6 709	9 791	12 465	11 419
Switzerland (a)	12 097	9 754	7 883	7 571	11 890
Yugoslavia	1 154	1 904	1 529	906	...
Algeria (a)	6 255	3 142	3 564	3 642	...
Egypt (a)(c)	6 992	8 868	2 157	1 398	...
Morocco (a)	441	336	565	1 505	1 798
South Africa (a)(c)	80	117	33	33	30
Tunisia (c)	1 871	12 560	1 473	...	2 329
Costa Rica (c)	3 341	2 055	1 814	2 235	2 623
Mexico	3 184	3 651	3 286	680	...
Panama (c)	1 583	1 034	430	1 100	865
Trinidad & Tobago (c)	27	2 493	84	55	59
USA	367	187	44	58	23
Venezuela	(c) 3 141	(c) 4 058	1 205	...	...
Hong Kong (c)	16 373	14 777	14 440	16 267	21 842
Indonesia (a)	13 611	13 133	10 653	7 230	13 522
Iran (a)(c)(e)	* 100	150	62	41	...
Israel (a)(b)	688	459	...	...	...
Japan (a)	5 568	4 981	6 114	7 915	9 611
Jordan (a)(c)	294	485	405	903	2 251
Malaysia (a)(c)	13 700	17 275	12 260	16 572	...
Philippines (a)(c)	3 022	5 176	1 855	2 474	2 667
Singapore (a)	8 312	5 550	6 035	7 856	7 812
Taiwan (a)(c)	54 262	49 606	69 312	99 169	110 482
Thailand (a)	1 872	2 630	2 179	1 499	1 054
Australia (a)	22 999	11 504	2 077	...	...
New Zealand (a)(c)(d)	1 020	800	1 446	1 119	1 385

(a) May include some leucite and nepheline

(b) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(c) Including some fluorspar

(d) Years ended 30 June of that stated

(e) Years ended 20 March following that stated

(f) BGS estimates, based on known exports from certain countries



## Production of Fluorspar

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	186 300	* 185 000	201 000	131 300	137 000
France	258 500	256 200	237 642	195 356	* 262 000
Germany, Federal Republic of	78 152	71 808	78 600	80 700	83 300
Greece	440	370	345	275	83
Italy	151 965	164 235	166 949	177 670	188 261
Czechoslovakia	* 96 000	* 96 000	* 96 000	* 96 000	* 96 000
German Democratic Republic	* 100 000	* 100 000	* 100 000	* 100 000	* 100 000
Romania	* 20 000	* 20 000	* 20 000	* 20 000	* 20 000
Soviet Union	* 520 000	* 530 000	* 540 000	* 540 000	* 550 000
Spain	244 749	302 760	246 972	232 334	* 240 000
Turkey	1 945	1 986	* 2 000	* 2 000	* 2 000
Egypt	1 752	535	750	342	118
Kenya	93 378	90 099	88 726	59 084	46 578
Morocco	64 400	66 700	50 200	60 300	* 60 000
South Africa	522 718	496 521	330 835	267 602	319 206
Tunisia	39 451	34 800	36 900	38 600	44 500
Mexico	1 106 544	1 116 342	735 093	604 781	699 430
USA	84 037	104 693	69 869	* 55 000	* 65 000
Argentina	15 468	20 755	23 727	28 985	* 28 000
Brazil (a)	55 369	56 539	57 371	70 629	75 710
China	* 480 000	* 480 000	* 480 000	* 500 000	* 650 000
India	21 337	22 994	24 902	22 583	22 928
Korea, Dem. P.R. of	* 40 000	* 40 000	* 40 000	* 40 000	* 40 000
Korea, Republic of	6 912	6 464	3 667	6 361	4 672
Mongolia	* 600 000	* 600 000	* 660 000	* 700 000	* 700 000
Pakistan	1 184	200	814	394	* 500
Thailand	232 892	212 492	257 108	206 648	287 379
World total	5 000 000	5 100 000	4 500 000	4 200 000	4 700 000

Note: In addition to the countries listed, Bulgaria is also believed to produce fluorspar

(a) Includes beneficiated and directly shipped material

**Exports of Fluorspar**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	57 230	30 250	18 044	12 034	8 200
Belgium-Luxembourg	4 926	4 697	3 431	3 524	1 902
France	107 392	84 181	71 096	47 356	60 928
Germany, Federal Republic of	14 099	16 210	13 219	12 920	16 518
Italy	83 755	63 934	65 284	61 064	70 801
Netherlands	765	1 176	1 101	135	290
German Democratic Republic (b)	* 46 800	* 48 400	* 43 600	* 48 100	* 46 300
Spain	107 518	152 826	119 570	162 450	...
Sweden	361	1 155	1 013	4 794	1 847
Kenya	56 870	59 297	74 890	48 893	...
Morocco	64 070	54 180	62 024	56 434	74 200
South Africa	469 071	405 807	232 635	246 462	343 432
Tunisia	6 025	...	1 410	...	3 150
Mexico	722 905	604 929	347 621	333 522	...
USA	16 207	10 216	9 592	8 689	11 128
Argentina	312	240	90	149	...
China	(b)* 423 000	522 224	617 702	523 029	634 481
Japan (a)	625	326	486	458	327
Korea, Dem. P.R. of (b)	* 7 900	* 300	...	...	...
Korea, Republic of	500	—	—	—	513
Thailand	226 305	221 838	182 388	183 002	230 407

(a) May include some leucite and nepheline

(b) BGS estimates, based on known imports into certain countries

## Imports of Fluorspar

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	9 573	4 229	1 400	10 759	* 20 000
Belgium-Luxembourg	16 876	12 128	11 988	7 744	8 310
Denmark	1 069	557	502	615	586
France	27 766	12 308	1 571	1 535	15 425
Germany, Federal Republic of	279 058	203 110	205 698	176 124	194 558
Greece	2 135	6 774	2 427	6 024	4 986
Italy	105 531	84 322	57 048	88 099	97 836
Netherlands	14 251	20 361	24 168	18 684	18 330
Albania (b)	* 1 800	* 1 000	* 1 600	* 1 100	...
Austria	17 298	13 001	10 617	11 895	14 416
Bulgaria (b)	* 250	* 200	* 300	* 200	* 800
Finland	4 429	4 104	5 763	4 406	6 455
Hungary	4 655	3 457	7 874	6 305	8 034
Norway	48 843	43 319	35 846	39 084	43 925
Poland	55 328	24 005	35 756	...	20 779
Soviet Union (b)	* 85 300	* 139 900	* 136 400	* 88 300	* 65 500
Sweden	15 052	12 822	12 837	6 476	11 932
Turkey	56	130	70	23	21
Yugoslavia	5 716	6 374	5 801	8 052	...
Algeria	380	62	4 959	14	...
Egypt (a)(c)	6 992	8 868	2 157	1 398	...
South Africa (a)(c)	80	117	33	33	30
Tunisia (c)	1 871	12 560	1 473	...	2 329
Canada	223 940	173 599	126 594	141 928	166 709
Costa Rica (c)	3 441	2 055	1 814	2 235	2 623
Panama (c)	1 583	1 034	430	1 100	865
Trinidad & Tobago (c)	27	2 493	84	55	59
USA	822 283	767 231	500 667	397 580	650 432
Brazil	10 929	13 537	—	5	0
Venezuela	(c) 3 141	(c) 4 058	200	...	...
Hong Kong (c)	16 373	14 777	14 440	16 267	21 842
India	...	272	...	...	...
Iran (a)(c)(e)	* 100	150	62	41	...
Japan	487 455	428 314	413 535	435 383	513 284
Jordan (a)(c)	294	485	405	903	2 551
Korea, Republic of	21 718	23 110	18 352	19 200	29 947
Malaysia (a)(c)	5 273	10 898	8 989	10 911	...
Philippines (a)(c)	3 022	5 176	1 855	2 474	2 667
Taiwan (a)(c)	54 262	49 606	69 312	99 169	110 482
Thailand	879	408	681	1 783	703
Australia	38 369	26 275	20 331	12 676	25 885
New Zealand (a)(c)(d)	1 020	800	1 446	1 119	1 385

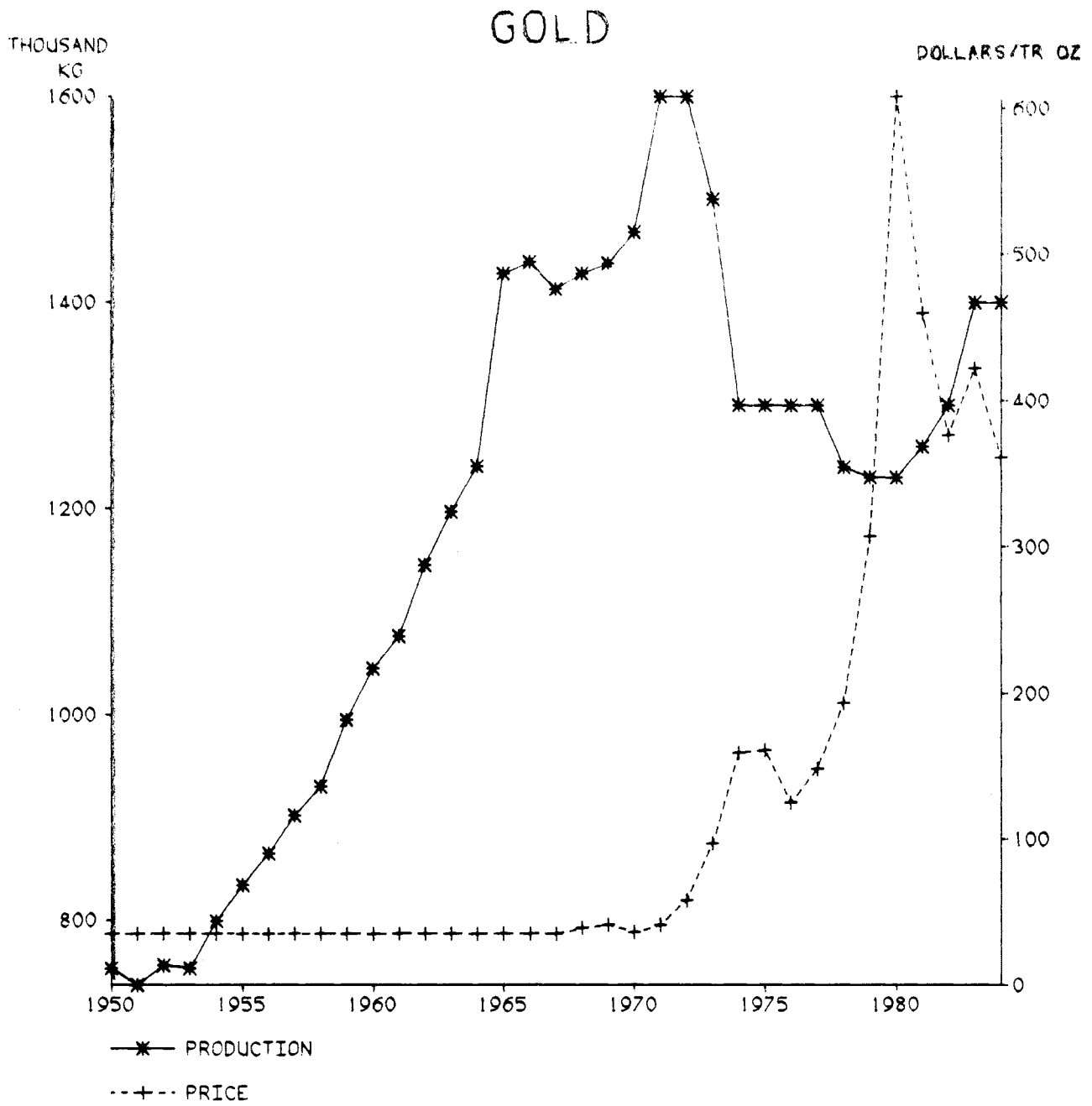
(a) May include some leucite and nepheline

(b) BGS estimates, based on known exports from certain countries

(c) Including some feldspar

(d) Years ended 30 June of that stated

(e) Years ended 20 March following that stated



**Figure 7** World mine production of gold from 1950 to 1984 compared with the actual price expressed in US dollars per fine ounce (London).  
*Prices taken from International Financial Statistics Yearbook (1985) published by the International Monetary Fund.*

## Mine Production of Gold

kilograms (metal content)

Country	1980	1981	1982	1983	1984
France	1 163	1 131	2 180	2 760	2 498
Germany, Federal Republic of	92	95	56	* 60	* 50
Finland	1 303	992	1 144	784	880
Portugal	244	244	211	199	193
Romania	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000
Soviet Union	* 258 000	* 263 000	* 266 000	* 268 000	* 269 000
Spain	3 364	4 201	3 742	5 434	8 037
Sweden	2 027	2 039	2 447	3 369	* 3 800
Yugoslavia (d)	3 304	3 582	4 211	4 238	3 892
Botswana	—	10	15	11	18
Burundi	4	* 3	* 3	11	35
Cameroon	2	10	4	8	* 8
Central African Republic	62	43	31	78	216
Congo	2	4	3	2	3
Ethiopia (b)	373	371	492	* 450	* 500
Gabon	17	* 20	* 20	* 20	* 40
Ghana	10 981	10 595	10 280	8 601	8 923
Kenya	4	1	1	3	4
Liberia (a)	225	525	381	448	328
Madagascar	4	1	3	3	* 3
Mali	* 300	* 500	* 400	* 400	* 400
Rwanda	46	49	15	39	8
Sierra Leone	13	123	271	* 280	* 280
South Africa	675 096	657 670	664 420	679 679	683 358
Sudan	* 10	* 10	* 12	40	30
Tanzania	3	9	7	24	5
Uganda	282	304	215	...	...
Zaire	2 237	2 027	1 869	6 001	2 500
Zambia (c)	257	328	418	316	379
Zimbabwe	11 443	11 691	13 367	14 101	14 877
Canada	50 620	52 034	64 735	73 512	79 486
Costa Rica	* 560	* 620	* 840	* 930	* 1 100
Dominican Republic	11 496	12 685	12 016	11 012	* 10 500
El Salvador	78	121	103	20	* 20
Honduras	63	55	53	67	* 70
Mexico	6 096	6 319	6 104	6 930	7 058
Nicaragua	* 1 870	1 926	1 692	1 444	* 1 100
USA	30 164	42 898	45 589	60 852	64 037
Argentina	341	459	632	727	* 750
Bolivia	1 620	2 064	1 249	1 531	1 278
Brazil	13 752	17 276	25 517	53 684	40 570
Chile	6 836	12 456	16 907	17 759	16 829
Colombia	15 877	16 461	14 702	13 642	22 900
Ecuador	70	73	50	19	* 30
French Guiana	92	167	163	250	* 250
Guyana	342	599	269	143	328
Peru	3 870	4 821	4 305	4 260	* 6 600
Suriname	5	25	17	17	* 20
Venezuela	514	877	902	1 033	1 521
China	* 45 000	* 50 000	* 56 000	* 57 000	* 59 000
India	2 452	2 495	2 244	2 151	2 029
Indonesia	1 716	1 617	2 144	2 262	2 279
Japan	3 183	3 087	3 267	3 139	3 218
Korea, Dem. P.R. of	* 5 000	* 5 000	* 5 000	* 5 000	* 5 000
Korea, Republic of	1 282	1 342	1 734	2 242	2 462
Malaysia	2 050	2 355	2 812	2 628	2 788
Philippines	20 025	23 586	25 954	25 397	24 826
Taiwan	413	1 763	2 232	1 629	1 176

**Mine Production of Gold**

kilograms (metal content)

Country	1980	1981	1982	1983	1984
Australia	17 035	18 374	26 961	30 591	39 086
Fiji	774	956	1 423	1 246	1 676
New Zealand	200	189	242	301	672
Papua New Guinea	14 730	16 806	17 528	18 002	18 895
Solomon Islands	34	33	41	* 35	80
World total	1 230 000	1 260 000	1 300 000	1 400 000	1 400 000

**Notes:**

- 1 In several countries, for example Brazil, Colombia and Indonesia, a certain amount of gold produced in very small operations is not recorded in the official statistics used in compiling this table; in the case of Brazil this amount is thought to be substantial
  - 2 In addition to the countries listed, Bulgaria, Burma, Czechoslovakia, German Democratic Republic, Hungary, Norway, and Thailand are also believed to produce gold
- (a) Exports  
 (b) Years ended 6 July of that stated  
 (c) Contained in blister copper, refinery muds and electrolytic copper  
 (d) Metal production

## Exports of Gold

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal—					
Refined	335 322	681 050	589 437	721 618	523 297
Other	3 095	9 905	5 858	3 319	4 631
Waste & scrap	7 198	32 003	12 493	940	30 962
Belgium-Luxembourg					
Metal	27 234	30 158	50 979	24 400	22 967
Denmark					
Waste & scrap	17 874	12 856	9 779	9 996	11 324
France					
Metal	23 625	23 070	24 972	11 858	27 400
Waste & scrap	13 028	58 624	8 454	54 702	48 696
Germany, Federal Republic of					
Metal	27 438	32 129	65 669	37 660	48 901
Waste & scrap	13 497	2 392	1 819	17 303	10 818
Irish Republic					
Metal	£1 369 000	£605 000	£694 000	£1 004 000	£1 151 000
Waste & scrap	£814 000	£1 065 000	£610 000	£354 000	£564 000
Italy					
Metal	5 333	2 191	1 315	2 715	3 052
Netherlands					
Metal	28 690	30 506	27 807	4 840	3 059
Waste & scrap	74 000	53 000	61 000	75 000	42 000
Austria					
Metal	662	349	559	625	435
Finland					
Metal	603	569	419	659	809
Norway					
Metal	257	461	392	412	433
Soviet Union					
Metal (c)	* 15 700	* 49 200	* 58 800	* 25 800	* 20 900
Spain					
Metal	531	18 462	1 185	40 001	...
Sweden					
Metal	5 000	4 000	3 000	3 000	4 000
Waste & scrap	7 000	8 000	7 000	9 000	7 000
Switzerland					
Metal	556 687	772 691	799 867	557 808	889 793
Ghana					
Metal	10 820	10 764	9 386	8 621	8 880
Liberia					
Metal	225	525	381	448	328
Sierra Leone					
Metal	—	121	311	63	928
South Africa					
Metal (a)	£5 744 000 000	£4 858 000 000	£4 644 000 000	£6 042 000 000	£6 027 000 000
Zaire					
Metal	1 500	800	2 100	...	...
Zimbabwe					
Metal	8 274	6 254	14 280	13 281	...
Canada					
Ores & concentrates (b)	6 299	5 509	5 114	6 273	6 024
Metal	59 865	83 295	88 404	79 323	124 422
Dominican Republic					
Metal (d)	63 421	77 610	82 255	* 55 000	...
Nicaragua					
Metal	1 000	...	1 392	1 222	...
USA					
Ore (b)	719	121	96	404	103
Metal—					
Unrefined	2 283	7 297	5 634	2 177	2 255
Refined	150 450	164 112	68 764	61 148	111 418
Other	3 688	2 555	2 163	2 051	2 212
Waste & scrap	41 229	31 880	36 971	37 266	44 289
Chile					
Metal	...	3 669	6 824	5 863	7 516

## Gold

**Exports of Gold**

kilograms

Country	1980	1981	1982	1983	1984
Colombia					
Ore	96 000	499 184	80 000	141 698	...
Peru					
Metal	...	5 104	4 644	5 095	* 4 000
Hong Kong					
Metal (Re-exports)	29 849	2 288	25 783	35 671	2 174
Japan					
Metal	12 996	7 445	17 999	8 128	6 341
Korea, Dem. P.R. of					
Metal (c)	* 5 300	* 2 200	* 8 500	* 7 200	* 10 800
Philippines					
Ores & concentrates (b)	13 051	14 800	14 706	11 413	9 190
Australia					
Ores, concentrates & unrefined metal (b)	1 214	3 474	3 283	2 872	1 071
Refined metal	5 516	3 912	9 795	17 742	30 461
Fiji					
Metal	781	875	1 426	1 237	...
Papua New Guinea					
Metal	14 730	16 806	17 528	18 002	18 895

Note: In this table the term 'metal' as used here includes both unwrought and partly worked gold and alloys but excludes gold coin

(a) Values shown are for the common customs area

(b) Au content

(c) BGS estimates, based on known imports into certain countries

(d) Officially described as 'dore' (Au/Ag alloy), but contains a higher proportion of silver



## Imports of Gold

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	2 139	14 013	30 945	334	11 544
Metal—					
Unrefined	60 822	5 407	6 400	18 323	3 450
Refined	550 862	624 751	527 311	509 162	436 670
Other	5 489	11 942	8 609	6 193	8 455
Waste & scrap	19 564	28 206	156 360	108 517	175 111
Belgium-Luxembourg					
Metal	57 725	237 233	263 610	240 784	61 809
Denmark					
Metal	622	613	602	686	758
France					
Metal	58 246	60 254	32 290	56 211	92 973
Waste & scrap	8 629	9 652	4 584	2 269	1 242
Germany, Federal Republic of					
Metal	126 569	82 714	120 639	61 113	73 145
Waste & scrap	156 827	125 474	126 366	176 898	97 997
Irish Republic					
Metal	£2 456 000	£3 849 000	£2 534 000	£4 353 000	£3 315 000
Italy					
Metal	69 785	140 193	201 966	151 111	202 668
Netherlands					
Metal	23 690	29 775	28 018	6 947	4 711
Waste & scrap	...	1 000	2 000	2 000	3 000
Austria					
Metal	1 559	2 949	3 623	4 419	3 275
Finland					
Metal	953	895	1 048	1 019	910
Malta					
Metal	123	221	495	162	1 913
Norway					
Metal	1 096	741	854	621	582
Waste & scrap	805	539	16	547	2
Portugal					
Metal	256	309	1 462	105	188
Spain					
Metal	1 143	652	2 269	1 212	...
Sweden					
Metal	£5 050 000	£4 790 000	£4 576 000	£5 382 000	£3 770 000
Waste & scrap	6 000	2 000	...	...	...
Switzerland					
Metal	632 534	820 894	1 017 543	753 593	766 297
Algeria					
Metal	1 285	1 947	3 681	4 520	...
Kenya					
Metal	1 221	442	—	0	...
South Africa					
Metal	191	274	108	267	...
Waste & scrap	33 799	774	86	11	...
Tunisia					
Metal	768	...	882	...	449
Bermuda					
Metal	4 723	448	432	780	...
Canada					
Ores & concentrates (c)	1 894	2 278	445	918	590
Metal	69 949	69 110	51 656	66 023	67 866
USA					
Ore (c)	4 524	5 907	10 579	8 819	7 446
Metal—					
Unrefined (a)	12 056	13 126	15 027	23 582	52 033
Refined	127 232	129 533	131 809	111 950	195 827
Argentina					
Metal	813	334	1	...	...
Brazil					
Metal	868	333	606	1 109	55
Ecuador					
Metal	312	728	2 138	...	...

## Gold

## Imports of Gold

kilograms

Country	1980	1981	1982	1983	1984
Venezuela					
Metal	...	...	237	...	...
Brunei					
Metal	—	115	342	84	...
Cyprus					
Metal	382	563	704	843	1 102
Hong Kong					
Metal	35 872	101 325	122 370	30 173	165 427
Indonesia					
Metal	—	22 278	29 650	450	1 500
Iran (d)					
Metal	595	14	...	296	...
Israel					
Metal	£30 571 300	£48 653 300	£58 833 500	£57 694 000	£91 546 000
Japan					
Metal	31 837	167 325	139 778	104 418	191 984
Waste & scrap	712	1 451	1 071	5 449	1 329
Jordan					
Metal	—	208	2 357	1 074	25 168
Korea, Republic of					
Metal	3 994	797	1 221	1 786	1 954
Malaysia					
Metal	2 304	3 219	3 042	2 779	...
Saudi Arabia					
Metal	14 873	13 274	15 055	22 960	18 675
Syria					
Metal	332	—	—	—	9
Taiwan					
Metal	10 579	22 456	36 667	33 844	52 165
Thailand					
Metal	395	374	13 228	4 535	2 379
Australia					
Metal	1 798	397	2 231	3 161	3 467
New Zealand (b)					
Metal	190	223	358	553	1 062

Note: In this table the term 'metal' as used here includes both unwrought and partly worked gold and alloys but excludes gold coin

(a) Including waste and scrap

(b) Years ended 30 June of that stated

(c) Au content

(d) Years ended 20 March following that stated

## Production of Graphite

tonnes

Country	1980	1981	1982	1983	1984
Germany, Federal Republic of (b)	11 255	10 400	10 600	12 000	12 400
Italy	3 957	3 545	3 209	2 299	—
Austria (a)	36 699	23 807	24 451	40 418	43 789
Czechoslovakia	15 700	20 317	21 977	26 666	* 27 000
Norway	10 406	6 864	7 451	8 063	9 533
Romania	12 500	* 12 500	* 12 500	* 12 600	* 12 400
Soviet Union	* 80 000	* 70 000	* 75 000	* 80 000	* 80 000
Turkey	1 820	3 298	3 360	4 805	* 4 500
Madagascar	9 906	16 045	15 211	13 496	13 973
Zimbabwe	7 385	11 218	8 225	19 862	12 334
Mexico	44 854	42 294	36 174	44 327	* 41 500
Brazil (d)	27 294	33 817	21 544	27 636	* 32 500
Burma (c)	44	116	244	272	234
China	* 160 000	* 180 000	* 185 000	* 185 000	* 185 000
India	54 960	72 796	61 803	41 607	39 106
Korea, Dem. P.R. of	* 25 000	* 25 000	* 25 000	* 25 000	* 25 000
Korea, Republic of	60 586	34 891	26 965	33 266	58 563
Sri Lanka	7 794	7 543	8 804	5 768	* 6 000
Thailand	2 074	1 800	630	86	—
World total	572 000	576 000	548 000	583 000	604 000

## Notes:

- 1 This table includes all forms of amorphous and crystalline graphite but excludes synthetic material
- 2 In addition to the countries listed, Canada, Egypt and Namibia are also believed to produce graphite

(a) Crude

(b) Including production from imported crude graphite

(c) Years ended 31 March following that stated

(d) Includes beneficiated and directly shipped material

## Exports of Graphite

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	2 081	2 923	2 956	3 123	3 862
Belgium-Luxembourg	24	298	31	2 746	3 254
France	889	759	791	891	555
Germany, Federal Republic of	8 038	8 577	10 030	9 978	12 210
Italy	3 472	1 431	1 823	2 742	5 481
Netherlands	515	663	596	152	253
Austria	16 576	14 640	13 384	11 405	11 552
Czechoslovakia	3 000	(a)* 1 600	(a)* 2 000	(a)* 3 000	(a)* 2 500
Norway	10 675	8 274	8 244	7 311	8 888
Soviet Union (a)	* 11 500	* 2 400	* 400	* 600	...
Sweden	47	2 225	135	13	117
Madagascar	11 479	16 326	14 875	11 662	13 624
Mexico	36 773	34 096	28 428	19 787	...
USA	8 083	10 562	9 528	8 729	6 667
Brazil	7 741	7 439	5 395	5 578	5 082
China (a)	* 38 300	* 46 000	* 58 900	* 55 100	* 77 800
Hong Kong (Re-exports)	161	278	188	53	856
India	4 185	3 738	...	...	...
Japan	1 745	1 620	2 084	2 515	2 927
Korea, Dem. P.R. of (a)	* 10 700	* 6 100	* 7 000	* 2 200	* 11 000
Korea, Republic of	45 416	34 348	21 757	32 694	39 864
Sri Lanka	6 604	4 350	2 903	4 223	7 215
Taiwan	505	502	352	100	237

Note: This table excludes synthetic graphite

(a) BGS estimates, based on known imports into certain countries

## Imports of Graphite

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	18 115	15 529	17 862	28 352	19 540
Belgium-Luxembourg	5 832	6 494	811	963	992
Denmark	990	853	1 254	1 225	1 414
France	9 058	4 672	4 677	3 662	4 578
Germany, Federal Republic of	25 124	29 763	32 432	28 869	31 983
Greece	194	378	252	255	229
Italy	5 410	4 046	5 137	4 064	6 280
Netherlands	782	900	863	564	954
Austria	2 301	1 056	2 653	3 738	7 134
Finland	172	2 268	480	263	37
German Democratic Republic	5 632	6 759	7 945	6 359	5 712
Hungary	1 673	1 410	1 481	1 722	1 549
Norway	757	861	693	496	573
Poland	11 386	7 972	6 775	...	7 445
Portugal	388	174	248	146	95
Spain	2 218	1 404	2 446	1 905	2 005
Sweden	914	504	534	401	675
Switzerland	232	149	167	112	141
Turkey	527	273	326	334	474
Yugoslavia	1 843	1 601	1 854	2 996	...
Algeria	312	210	136	263	...
Egypt	101	812	479	227	...
South Africa	1 132	1 261	1 630	2 129	4 127
Mexico	380	1 013	363	194	...
USA	52 284	59 566	48 217	39 540	52 840
Argentina	725	349	241	...	...
Venezuela	776	903	737	...	...
Hong Kong	214	640	549	494	1 545
India	248	220	...	...	...
Indonesia	135	191	231	161	98
Iran (a)	196	596	421	611	...
Japan	69 605	52 697	53 138	54 195	85 009
Korea, Republic of	322	205	414	443	1 260
Malaysia	716	366	531	834	...
Pakistan (b)	1 060	3 944	986	1 418	1 777
Philippines	184	177	206	141	199
Singapore	572	554	583	455	1 125
Taiwan	15 696	10 440	7 942	10 957	6 574
Thailand	913	864	369	733	532
Australia	1 812	1 460	1 429	795	979
New Zealand (b)	133	190	79	67	113

Note: This table excludes synthetic graphite

(a) Years ended 20 March following that stated

(b) Years ended 30 June of that stated

## Production of Gypsum

Country	1980	1981	1982	1983	1984
United Kingdom					
Gypsum	3 371 000	2 896 647	2 674 000	2 916 000	3 082 000
Anhydrite	76 000	48 861	67 261	51 000	56 000
Belgium (a)(d)	174 088	154 425	131 030	—	—
France					
Gypsum	6 491 000	6 146 900	6 102 000	5 557 000	5 401 000
Anhydrite	—	—	—	834 500	800 700
Germany, Federal Republic of					
Gypsum	1 625 366	1 317 100	1 102 500	1 919 500	1 756 700
Anhydrite	624 398	600 000	595 000	620 000	560 000
Greece	485 053	629 489	685 883	* 499 000	* 499 000
Irish Republic	382 000	359 000	371 000	352 400	325 000
Italy	1 634 865	1 514 401	1 331 982	1 388 187	* 1 270 000
Luxembourg	—	702	* 900	* 400	* 400
Austria					
Gypsum	698 652	664 112	585 988	611 224	600 094
Anhydrite	134 765	136 403	141 532	139 697	140 023
Bulgaria	311 164	350 173	375 575	385 000	* 363 000
Czechoslovakia (a)	757 000	766 782	794 000	848 000	842 000
German Democratic Republic (d)	313 181	303 138	309 682	296 932	302 300
Poland (d)	312 000	290 000	224 000	217 000	250 000
Portugal	236 378	243 537	237 364	249 092	* 272 000
Romania	1 611 000	1 633 000	* 1 630 000	* 1 630 000	* 1 814 000
Soviet Union	* 4 900 000	* 4 900 000	* 4 900 000	* 4 900 000	* 4 900 000
Spain	5 222 718	5 288 295	5 048 649	5 620 395	* 5 625 000
Switzerland	* 54 000	* 86 000	* 73 000	* 77 000	* 77 000
Turkey	72 234	90 470	70 227	75 572	47 080
Yugoslavia	619 000	669 000	640 000	623 000	* 699 000
Algeria	* 200 000	* 200 000	* 200 000	* 250 000	* 250 000
Angola	* 25 000	* 20 000	* 20 000	* 20 000	* 18 000
Egypt	690 000	689 000	845 000	721 000	809 893
Ethiopia	900	4 200	* 4 000	* 4 000	* 4 000
Kenya	—	300	300	1 350	—
Libya	180 000	180 000	175 000	180 000	* 180 000
Mauritania	11 920	1 860	—	—	800
South Africa	452 490	544 827	534 991	518 353	535 286
Sudan	10 000	6 000	6 000	8 000	8 000
Tanzania	8 119	11 500	16 000	6 800	7 900
Tunisia	46 000	47 000	24 700	—	—
Canada (a)	7 336 218	7 025 418	5 987 396	7 507 000	8 725 000
Cuba	* 122 000	* 130 000	* 127 000	* 132 000	* 132 000
Dominican Republic	217 584	237 647	278 304	* 280 000	* 280 000
Guatemala	24 519	13 491	20 940	21 623	10 998
Honduras	* 23 000	* 20 000	* 20 000	* 20 000	* 23 000
Jamaica	105 300	180 000	107 500	108 000	180 200
Mexico	2 170 669	2 390 431	2 042 484	2 958 085	* 3 000 000
Nicaragua	* 40 000	* 30 000	* 20 000	* 12 000	* 9 000
USA	11 227 000	10 430 000	9 560 000	11 688 000	12 990 000
Argentina	932 149	670 544	615 540	578 188	* 500 000
Brazil (e)	545 501	597 461	612 096	428 099	556 000
Chile	198 115	237 853	89 636	66 337	167 477
Colombia	262 400	270 200	280 600	224 000	260 000
Ecuador	6 000	2 000	2 000	2 000	2 000
Paraguay	12 000	10 000	* 6 500	* 3 600	* 6 000
Peru	280 000	350 000	* 360 000	* 360 000	* 360 000
Uruguay	16 953	18 400	122 000	151 000	* 150 000
Venezuela	117 477	218 234	297 313	206 469	154 000

## Production of Gypsum

tonnes

Country	1980	1981	1982	1983	1984
Afghanistan	—	—	2 700	* 5 400	* 5 400
Burma (b)	16 949	13 827	18 114	21 507	39 200
China	* 4 000 000	* 4 200 000	* 4 700 000	* 4 260 000	* 4 800 000
Cyprus	43 550	26 300	28 900	32 000	22 100
India	866 000	957 000	965 572	980 156	1 239 000
Iran (c)	* 7 000 000	* 6 000 000	* 5 000 000	* 6 000 000	* 5 500 000
Iraq	* 170 000	* 170 000	* 170 000	* 170 000	* 300 000
Israel	* 80 000	42 700	42 000	42 000	* 42 000
Jordan	65 997	53 054	39 959	41 187	109 763
Lebanon	* 10 000	* 9 000	* 5 000	* 5 000	* 5 000
Mongolia	* 30 000	* 32 000	* 32 000	* 32 000	* 32 000
Pakistan (a)	568 000	317 870	329 055	310 578	339 000
Saudi Arabia	81 429	96 278	92 908	143 524	* 90 000
Syria	72 083	67 917	70 000	78 750	79 580
Taiwan	8 070	6 039	2 045	3 022	1 882
Thailand	411 977	540 383	753 433	760 231	1 110 660
Vietnam	* 15 000	* 15 000	* 25 000	* 25 000	* 25 000
Australia	1 309 321	1 752 266	1 863 719	1 509 800	* 1 995 000
World total	70 100 000	66 900 000	64 600 000	70 700 000	77 800 000

(a) Including anhydrite

(b) Years ended 31 March following that stated

(c) Years ended 20 March following that stated

(d) Calcined

(e) Includes beneficiated and directly shipped material

## Exports of Gypsum

Country	1980	1981	1982	1983	1984
United Kingdom					
Crude	3 647	3 819	3 250	4 018	2 721
Calcined	14 241	14 593	13 273	17 693	13 927
Belgium-Luxembourg					
Crude	45 929	79 490	56 227	69 301	51 816
Calcined	54 678	60 532	57 916	67 627	58 291
Denmark					
Crude & calcined	172	973	371	690	1 855
France					
Crude	901 505	901 883	874 307	785 054	918 172
Calcined	240 915	231 380	271 717	262 936	270 505
Germany, Federal Republic of					
Crude	210 579	191 083	165 578	167 261	131 915
Calcined	179 872	183 637	161 833	142 545	133 486
Greece	19	160	15 150	38 951	312
Irish Republic					
Crude	32 608	19 140	27 143	2 192	831
Calcined	25 208	20 852	27 101	38 983	50 708
Italy					
Crude	21	48	174	897	3 133
Calcined	12 984	13 723	11 094	11 269	11 174
Netherlands					
Crude	133	72	970	26 932	24 520
Calcined	2 037	1 429	1 786	1 877	2 371
Austria					
Crude	136 888	93 495	72 970	105 715	99 577
Calcined	119 217	98 341	93 552	84 748	92 227
German Democratic Republic					
Calcined	78 604	103 009	101 758	84 863	88 663
Norway					
Crude	4 362	—	2 537	—	2 341
Poland	* 100	* 50	* 100	...	66 163
Romania					
Calcined (a)	* 28 700	* 19 700	* 20 000	* 15 100	* 16 900
Soviet Union (a)	* 35 200	* 44 500	* 24 300	* 23 400	* 19 800
Spain					
Crude & calcined	1 119 664	1 075 833	1 119 802	1 935 217	2 274 772
Sweden					
Crude & calcined	266	646	809	789	496
Switzerland					
Crude & calcined	4 100	5 647	13 992	14 027	13 847
Turkey					
Crude & calcined	...	...	254	2 649	852
Egypt	1 500	—	—	—	...
Kenya	600	1	1	1 839	...
Morocco					
Crude	203 140	218 780	221 792	106 020	124 750
Calcined	2 882	2 818	2 932	3 378	2 356
South Africa	1 092	2 604	2 769	3 003	2 184
Canada					
Crude	4 960 241	5 094 845	4 775 755	5 187 032	6 229 110
Dominican Republic	185 849	116 278	65 345	...	...
Guatemala	15 400	14 270	13 275	10 664	...
Jamaica	78 525	162 293	87 634	57 730	170 553
Mexico	1 607 674	1 563 281	1 329 917	1 904 494	...
Nicaragua	13 424	9 206	2 100	...	...
USA					
Crude	6 378	7 082	5 123	4 237	5 284
Calcined	73 770	135 665	106 626	101 976	113 491
Argentina	1 665	6 202	1 612	4 224	...
Bolivia	1 200	748	756	...	...
Brazil	3 544	3 118	113	54	30
Colombia	11 226	660	463	200	...
Venezuela	7 650	10 154	8 633	...	...

## Gypsum

## Exports of Gypsum

tonnes

Country	1980	1981	1982	1983	1984
China (a)	* 4 600	* 2 700	* 4 800	* 6 600	* 3 400
Cyprus					
Crude	2 540	506	—	—	2 045
Calcined	5 608	5 185	7 629	4 932	4 883
Hong Kong (Re-exports)	1 430	1 172	2 185	6 738	1 677
Japan					
Crude	647	394	2 636	4 483	4 137
Calcined	5 723	7 234	6 537	5 556	5 521
Korea, Republic of					
Crude	26 336	9 068	3 368	85	96
Calcined	55 484	151 817	351 928	59 074	24 130
Saudi Arabia					
Crude & calcined	6 127	20 806	38 361	39 976	29 517
Singapore					
Crude & calcined	1 251	1 076	1 483	1 784	2 316
of which: Re-exports	1 082	1 013	1 417	1 649	2 076
Syria	44 790	31 509	22 090	30 565	181
Taiwan	1 582	1 049	350	734	228
Thailand					
Crude	145 415	213 876	370 695	484 755	771 194
Calcined	1 754	2 749	6 454	6 372	8 514
Australia					
Crude & calcined	391 267	647 002	606 891	803 144	732 222

Note: In this table the term 'crude' as used here may include some anhydrite

(a) BGS estimates, based on known imports into certain countries



## Imports of Gypsum

Country	1980	1981	1982	1983	1984
United Kingdom					
Crude	34 768	13 769	26 492	37 357	30 566
Calcined	39 138	34 814	51 623	48 225	56 521
Belgium-Luxembourg					
Crude	236 820	215 297	209 920	203 107	267 177
Calcined	184 806	161 157	161 263	161 155	153 351
Denmark					
Crude	303 737	220 123	165 100	196 319	196 217
Calcined	4 257	4 937	53 890	77 382	11 912
France					
Crude	15 639	16 026	24 916	24 812	17 626
Calcined	5 747	7 258	8 382	8 534	8 195
Germany, Federal Republic of					
Crude	548 553	640 316	596 588	623 347	686 562
Calcined	140 930	133 199	116 301	135 146	136 688
Greece					
Crude	51	106	109	73	97
Calcined	1 123	1 138	879	739	698
Irish Republic					
Crude	722	9 017	1 526	1 488	1 454
Calcined	3 989	5 147	3 948	3 424	3 653
Italy					
Crude	147	258	242	132	187
Calcined	20 814	21 606	14 682	11 487	9 283
Netherlands					
Crude	290 445	255 123	213 734	279 596	280 379
Calcined	134 778	206 281	114 643	93 586	137 184
Austria					
Crude	4 715	5 426	3 134	2 499	5 344
Calcined	6 668	6 542	6 493	6 418	5 908
Czechoslovakia	25 000	22 000	21 000	21 000	24 000
Finland					
Crude	148 039	135 283	130 437	173 302	175 509
Calcined	3 162	4 379	3 753	2 960	2 820
Hungary					
Calcined	86 584	85 653	89 583	79 940	87 973
Iceland	9 501	8 311	3 747	8 183	5 174
Norway					
Crude	136 210	104 702	130 707	128 265	172 412
Calcined	32 255	20 012	14 755	14 445	6 798
Portugal					
Crude	34 943	46 733	38 995	33 280	36 478
Calcined	210	231	728	771	945
Spain					
Crude & calcined	4 662	2 092	1 279	753	13 659
Sweden					
Crude	344 877	267 111	299 097	251 654	293 204
Calcined	5 568	5 231	4 960	5 478	5 820
Switzerland					
Crude	41 238	37 781	32 013	32 989	30 580
Ground & calcined	34 106	35 121	34 229	34 535	35 825
Algeria					
Crude & calcined	1 716	548	168	110	...
Cameroon					
Crude & calcined	15 648	...	...	...	...
Egypt	727	625	1 354	622	...
Gabon					
Crude & calcined	347	260	6 998	8 668	...
Ivory Coast					
Crude	47 792	39 357	) 56 896	...	...
Calcined	6 695	5 881	)	...	...
Kenya	38 479	40 071	15 745	25 997	...
Liberia					
Crude & calcined	1 073	...	...	...	...
Libya					
Crude & calcined	332	1 737	368	...	...

## Imports of Gypsum

tonnes

Country	1980	1981	1982	1983	1984
Madagascar	2 358	18	4	...	...
Mauritius					
Crude & calcined	1 081	1 535	1 302	600	...
Melilla	785	823	598	496	...
Mozambique					
Crude & calcined	29 059	13 212	4 585	20 040	...
Senegal					
Crude	4 657	7 266	15 219	18 910	23 592
Calcined	168	219	216	86	314
South Africa					
Crude & calcined	7 283	8 049	7 026	9 523	8 612
Togo					
Crude	7	22 440	...	...	...
Calcined	907	537	...	...	...
Tunisia					
Crude & calcined	474	141	381	...	680
Zaire					
Crude & calcined	5 257	7 512	5 460	9 557	463
Zimbabwe	2 872	4 126	2 293	1 619	...
Bahamas	2 134	168	...	1 389	...
Canada					
Crude	154 717	143 499	93 843	100 939	131 809
Calcined	18 902	18 851	18 925	24 728	21 427
Costa Rica					
Crude	27 511	19 055	6 859	9 464	17 761
Calcined	569	635	769	571	930
El Salvador					
Crude	14 377	15 813	15 039	10 443	...
Calcined	174	151	242	152	...
Guadeloupe	6 122	...	...	...	...
Martinique	4 412	...	...	...	...
Mexico					
Crude	18 833	32 981	13 772	243	...
Calcined	9 036	11 438	3 631	3 997	...
Nicaragua	223	17	21	...	...
Panama	18 196	9 284	9 530	18 172	15 961
Trinidad & Tobago					
Crude & calcined	6 132	8 497	6 084	8 860	2 048
USA					
Crude	6 681 812	6 887 972	6 094 265	7 285 451	8 078 000
Ground & calcined	2 070	1 883	2 234	4 297	10 000
Brazil	1 706	1 001	801	1	1
Colombia	68 731	66 830	63 860	40 522	...
Ecuador	6 903	8 249	...	...	...
Uruguay					
Crude & ground	5 582	11 146	2 074	699	874
Venezuela	28 094	29 893	78 704	...	...
Bahrain	2 405	10 839	12 967	18 477	2 429
Hong Kong	86 119	71 441	104 289	77 842	89 364
Indonesia	318 607	316 158	294 349	356 155	384 301
Iran (a)	823	1 290	75	...	...
Israel (c)	507	110	...	(d)* 1 200	(d)* 1 100
Japan					
Crude	32 793	202 829	222 286	201 326	255 426
Calcined	442	309	524	825	827
Jordan	2 456	1 984	2 178	3 182	2 383
Korea, Republic of	8 424	741	17 337	218 722	222 204
Kuwait	25 380	25 127	85 634	...	...
Malaysia					
Crude & calcined	125 316	97 316	125 499	137 754	...
Philippines					
Crude	60 376	68 525	60 075	74 739	68 289
Calcined	5 295	7 071	3 890	4 749	3 577
Saudi Arabia					
Crude	6 148	2 952	17 945	4 961	47 778
Calcined	19 938	27 882	41 195	91 827	63 394
Singapore					
Crude & calcined	76 910	83 527	117 305	149 291	141 613

## Imports of Gypsum

tonnes

Country	1980	1981	1982	1983	1984
Sri Lanka	198 965	16 043	2 623	14 998	7 037
Taiwan					
Crude	23 421	69 222	123 611	180 328	260 406
Calcined	203 856	291 744	189 282	168 896	72 290
Thailand					
Crude & calcined	562	250	1 830	662	570
Australia	1 713	1 105	1 136	1 555	1 158
Fiji	122	1 335	3 566	3 056	...
New Zealand (b)					
Crude	92 672	106 477	135 138	102 488	130 006
Calcined	484	234	516	470	394

Note: In this table the term 'crude' as used here may include some anhydrite

(a) Years ended 20 March following that stated

(b) Years ended 30 June of that stated

(c) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(d) BGS estimates, based on known exports from certain countries

**Production of Iodine**

kilograms

Country	1980	1981	1982	1983	1984
Soviet Union	* 2 000 000	* 2 000 000	* 2 000 000	* 2 000 000	* 2 000 000
USA	* 700 000	* 800 000	* 800 000	* 900 000	* 800 000
Chile	2 601 000	2 688 000	2 596 000	2 792 500	2 661 000
China	* 450 000	* 450 000	* 450 000	* 450 000	* 450 000
Indonesia	29 306	25 360	28 920	* 26 000	24 970
Japan	6 525 000	6 862 000	7 180 000	7 273 000	7 302 000
World total	12 300 000	12 800 000	13 100 000	13 400 000	13 200 000

**Exports of Iodine**

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom	224 309	105 773	132 869	96 046	96 738
Belgium-Luxembourg	47 100	112 100	154 700	171 100	123 300
Denmark	2 700	3 500	400	1 600	6 500
France	138 000	140 000	72 000	48 000	52 000
Germany, Federal Republic of	75 600	73 200	44 600	49 500	74 400
Italy	9 160	23 799	237	1 100	3 000
Netherlands	11 000	35 000	15 000	34 000	17 000
Portugal	500	100	...	100	200
Spain	1 000	7	1 000	200	...
Chile	(a)* 2 300 000	(a)* 1 900 000	2 186 000	3 265 000	2 856 000
Indonesia	28 850	9 500	17 900	2 000	28 000
Japan (b)	5 707 255	5 442 205	5 198 774	6 281 747	5 229 939

(a) BGS estimates, based on known imports into certain countries

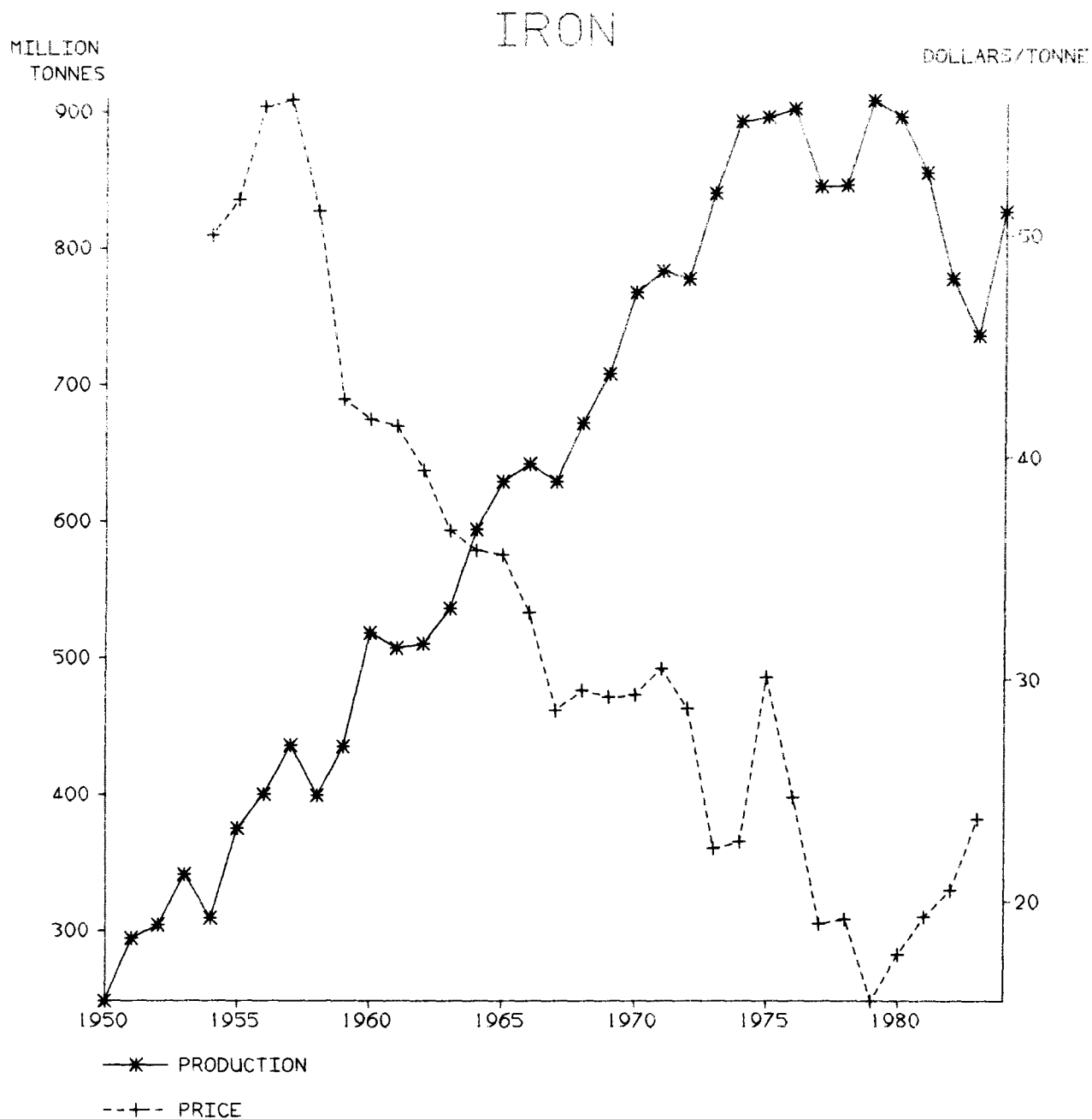
(b) Includes fluorine and bromine but is thought to be mainly iodine

## Imports of Iodine

Country	1980	1981	1982	1983	1984
United Kingdom	1 593 742	1 358 447	1 470 589	2 043 114	2 069 652
Belgium-Luxembourg	96 600	95 700	139 900	226 200	194 200
Denmark	2 400	2 700	2 100	2 400	4 400
France	1 100 000	899 000	1 032 000	1 122 000	880 000
Germany, Federal Republic of	1 139 900	1 290 300	1 133 800	1 190 200	961 300
Greece	1 000	1 000	2 000	1 000	1 000
Italy	301 156	172 765	315 200	213 100	293 900
Netherlands	216 000	258 000	206 000	322 000	367 000
Hungary	33 900	53 900	88 800	48 600	35 000
Portugal	10 800	9 700	12 500	20 200	10 800
Spain	152 000	175 000	158 000	168 000	...
Turkey	3 200	6 322	...	...	...
Yugoslavia	60 121	86 000	51 000	73 000	...
Algeria	4 139	794	625	1 532	...
Morocco	419	444	697	359	695
Canada	270 659	180 892	111 000	193 000	275 000
Dominican Republic	3 851	1 269	2 299	...	...
USA	2 848 630	2 782 193	2 144 907	2 840 530	2 298 400
Argentina	16 433	22 737	24 000	...	...
Brazil	176 261	129 620	201 678	147 002	222 540
Colombia	4 188	8 102	6 530	5 373	...
Ecuador	783	1 079	2 342	...	...
Peru	2 425	1 671	965	1 077	...
Uruguay	—	—	400	500	1 100
Venezuela	...	...	48 588	...	...
India (a)	166 231	184 924	...	...	...
Indonesia	34 420	25 552	39 692	54 491	11 486
Korea, Republic of	3 120	3 884	6 632	10 901	15 536
Pakistan (b)	—	—	1 600	7 741	11 153
Saudi Arabia	30 117	...	—	—	—
Taiwan	7 663	5 621	4 504	11 844	18 739
Thailand	1 917	2 002	1 824	1 569	2 895

(a) Years ended 31 March following that stated

(b) Years ended 30 June of that stated



**Figure 8** World production of iron ore from 1950 to 1984 compared with the yearly average price of 60% Swedish ore c.i.f. Rotterdam expressed in constant 1980 US dollars from 1955.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Production of Iron Ore

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	915 900	731 200	470 100	384 000	403 400
France	28 981 000	21 598 000	19 411 000	15 930 000	15 012 000
Germany, Federal Republic of (f)	1 945 000	1 572 000	1 304 000	976 000	977 000
Italy	434 374	345 604	195 034	67 700	237 700
Luxembourg	560 165	429 080	—	—	—
Albania (b)	* 550 000	* 600 000	* 600 000	* 650 000	* 650 000
Austria	3 200 000	3 050 000	3 330 000	3 540 000	3 600 000
Bulgaria	1 886 000	1 754 000	1 552 000	1 803 000	2 063 000
Czechoslovakia	1 927 000	1 935 000	1 861 000	1 903 000	1 869 000
Finland	810 000	871 360	883 800	865 715	889 500
German Democratic Republic	51 000	41 000	41 000	40 000	36 000
Hungary	426 000	422 000	467 000	441 000	383 000
Norway	3 883 600	4 137 680	3 545 120	3 545 477	3 723 111
Poland	104 000	105 000	49 300	10 000	10 900
Portugal (f)	56 623	37 096	27 100	35 500	36 000
Romania	2 333 000	2 304 000	2 146 000	1 987 000	1 916 000
Soviet Union	244 713 000	242 417 000	244 411 000	245 200 000	247 104 000
Spain	9 226 813	8 483 212	8 261 826	7 939 654	7 981 174
Sweden	26 968 000	23 201 000	14 744 000	13 212 000	18 123 000
Turkey	2 578 948	2 935 265	3 055 090	3 629 563	4 049 425
Yugoslavia	4 530 000	4 794 000	5 106 000	5 018 000	5 321 000
Algeria	3 454 000	3 480 000	3 705 000	3 684 000	3 664 000
Egypt	1 776 000	1 943 000	2 140 000	2 223 000	1 900 756
Liberia	17 900 000	19 773 000	18 029 000	15 599 000	14 857 000
Mauritania	8 939 000	8 473 000	7 660 000	7 402 000	9 526 576
Morocco	78 020	73 112	223 820	252 475	* 250 000
South Africa (c)	26 312 480	28 318 856	24 553 600	16 604 923	24 495 995
Tunisia	389 485	395 952	274 457	314 000	309 623
Zimbabwe	1 621 681	1 097 697	837 316	926 472	1 127 001
Canada (g)	49 068 000	49 551 000	33 197 561	32 958 678	41 065 321
Mexico	7 630 660	8 019 105	8 154 908	8 039 000	8 317 000
USA	70 730 000	74 348 000	36 002 000	38 165 000	52 092 000
Argentina	436 555	397 649	586 852	608 557	512 000
Brazil (a)	114 732 491	97 860 171	93 159 018	88 715 604	110 200 000
Chile	8 834 577	8 514 176	6 469 670	5 973 672	7 115 792
Colombia	506 269	433 411	469 850	456 000	* 460 000
Peru	5 704 000	6 069 000	5 774 000	4 347 000	4 076 000
Venezuela	16 221 000	15 722 000	11 680 000	9 297 000	13 046 000
China	* 75 000 000	* 70 000 000	* 71 000 000	* 72 000 000	* 77 000 000
India	41 936 000	41 460 000	41 997 000	37 584 000	41 570 000
Indonesia (d)	74 742	86 626	137 000	124 903	82 967
Iran (e)	600 000	600 000	750 000	* 850 000	* 850 000
Japan (d)	477 555	441 735	362 449	295 503	325 000
Korea, Dem. P.R. of	* 8 000 000	* 8 000 000	* 8 000 000	* 8 000 000	* 8 000 000
Korea, Republic of	618 900	593 600	620 100	655 300	625 200
Malaysia	371 186	532 455	340 300	113 700	193 827
Philippines	—	5 746	5 573	2 645	—
Thailand	84 966	62 472	26 750	40 304	60 670
Australia	95 534 000	84 661 000	87 694 000	71 037 000	88 969 000
New Zealand	3 638 449	3 253 153	2 791 621	2 203 380	2 417 113
World total	897 000 000	856 000 000	778 000 000	736 000 000	827 000 000

Note: In addition to the countries listed, Cuba and Vietnam are also believed to produce iron ore

- (a) Includes beneficiated and direct shipping ore
- (b) Nickeliferous iron ore
- (c) Including by-product magnetite
- (d) Including iron sand
- (e) Years ended 20 March following that stated
- (f) Including manganiferous iron ore
- (g) Including shipments of by-product iron ore

## Exports of Iron Ore

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	1 156	20	685	965	343
Belgium-Luxembourg					
Iron ore	60 237	18 692	401	1 433	302
Burnt pyrites	10 291	10 173	21 597	50 696	50 314
Denmark					
Iron ore	8 638	8 867	14 551	11 565	6 647
France					
Iron ore	8 647 431	6 378 303	5 836 355	5 030 858	4 752 054
Germany, Federal Republic of					
Iron ore	4 467	6 538	6 424	9 190	3 732
Burnt pyrites	155 875	76 826	51 219	38 932	32 478
Greece					
Burnt pyrites	22 603	14 500	14 300	...	...
Irish Republic					
Iron ore	27 092	17 296	1 980	23	—
Italy					
Iron ore	1 424	22	165	87	678
Burnt pyrites	46 559	45 750	39 271	28 679	45 045
Netherlands (b)	273 706	239 761	148 920	13 850	45 392
Finland	14 628	22 965	—	—	—
Norway					
Iron ore	2 721 777	3 482 274	2 166 227	2 945 494	3 083 237
Burnt pyrites	53 609	177 740	168 208	142 899	136 340
Portugal					
Burnt pyrites	20 531	14 315	12 000	—	0
Soviet Union	38 108 000	34 917 000	33 201 000	33 245 000	35 293 000
Spain					
Iron ore	2 087 589	1 141 192	1 868 923	1 579 639	1 973 000
Burnt pyrites	(d) 313 193	1 198	2 712	569	...
Sweden					
Iron ore	20 998 000	17 709 000	12 597 000	14 191 000	17 615 000
Burnt pyrites	271 000	306 000	57 000	0	0
Switzerland (b)	88	222	2 772	41	75
Yugoslavia					
Burnt pyrites	74 168	109 597	58 454	61 195	46 000
Algeria					
Iron ore	1 475 012	1 479 368	1 419 991	1 398 182	1 051 000
Canary Islands					
Burnt pyrites	58 460	28 700	28 200	—	...
Liberia	17 199 068	20 694 290	16 370 251	15 703 974	16 870 127
Mauritania	8 727 000	8 609 000	7 753 000	7 402 000	9 527 000
Morocco					
Burnt pyrites	143 503	64 383	237 400	139 637	116 538
South Africa	13 140 469	13 713 984	11 355 632	7 811 402	11 869 778
Swaziland	553 494	—	—	—	—
Canada	39 020 983	41 451 829	27 281 255	25 527 958	30 737 477
USA (b)	5 780 534	5 635 191	3 228 955	3 841 931	5 073 164
Bolivia (c)	—	4 113	4 891	...	...
Brazil	78 957 860	85 797 917	84 408 515	74 199 952	90 294 409
Chile	7 600 000	6 639 843	5 767 067	4 594 000	5 230 000
Peru	5 500 329	5 156 000	5 596 000	4 182 000	4 091 000
Venezuela	11 752 000	12 423 000	6 616 000	6 245 000	8 456 000
India	25 691 382	19 824 364	24 372 000	20 682 000	24 312 000
Malaysia	10 042	31 288	25 445	31 075	...
Philippines					
Iron ore	4 263 809	3 550 826	3 751 608	3 284 801	4 050 631
Burnt pyrites	59 535	35 408	18 423	15 408	13 709
Australia	79 754 000	71 147 000	72 711 000	74 088 000	85 480 000
New Zealand (a)	3 499 168	2 819 828	2 705 667	2 355 001	2 067 668

(a) Years ended 30 June of that stated

(b) Including burnt pyrites

(c) Fe content of concentrates

(d) Includes burnt cupreous pyrites



## Imports of Iron Ore

Country	1980	1981	1982	1983	1984
United Kingdom					
Iron ore	8 557 148	14 581 627	10 572 403	13 164 214	14 138 152
Burnt pyrites	218 230	265 906	210 265	230 660	295 647
Belgium-Luxembourg					
Iron ore	22 181 965	21 148 340	18 613 043	17 519 395	19 701 313
Burnt pyrites	103 415	94 312	59 996	38 721	55 160
Denmark					
Iron ore	3 446	127 226	183 114	62 855	1 330
Burnt pyrites	16 288	18 928	15 304	14 000	20 348
France					
Iron ore	18 642 578	16 510 764	14 942 736	12 552 833	16 088 410
Burnt pyrites	70 041	57 248	51 978	82 404	70 196
Germany, Federal Republic of					
Iron ore	49 833 550	44 288 124	38 909 559	35 497 187	42 568 169
Burnt pyrites	14 930	29 293	20 224	62 426	51 184
Greece	288 442	...	...	...	...
Italy (a)	16 912 643	15 210 597	16 131 078	13 799 673	19 243 947
Netherlands (a)	7 585 635	6 659 598	6 160 403	4 979 959	7 238 702
Albania (d)	* 182 100	* 101 900	* 158 900	* 172 900	* 102 100
Austria					
Iron ore	3 336 303	3 423 021	3 241 201	2 390 940	3 889 886
Burnt pyrites	48 448	45 515	33 962	20 882	10 411
Bulgaria	2 235 000	2 280 000	2 360 000	2 313 000	2 286 000
Czechoslovakia	12 819 000	12 166 000	11 640 000	11 683 000	11 108 000
Finland	1 736 929	1 495 401	1 493 211	1 299 321	1 856 315
German Democratic Republic (b)	2 088 000	2 335 000	1 932 000	1 842 000	1 971 000
Hungary	3 285 591	3 765 125	3 756 651	3 966 804	4 169 685
Norway	87 101	11 196	47 293	225 640	39 813
Poland	20 150 000	15 870 000	13 493 000	13 787 000	17 110 000
Portugal	494 937	524 098	262 723	470 415	147 431
Romania	15 984 000	15 016 000	14 397 000	14 477 000	14 963 000
Spain	4 757 201	4 687 152	4 620 000	4 202 000	4 221 000
Sweden	...	1 000	5 000	19 000	38 000
Switzerland (a)	49 431	49 487	21 050	8 016	10 049
Turkey	810 541	1 049 888	1 170 757	1 329 494	1 692 056
Yugoslavia	1 639 947	1 359 660	1 476 539	1 567 500	1 566 000
Kenya	22 603	12 747	29	15	...
Libya	3 412	—	15 727	...	...
Nigeria (a)	...	95 000	96 716	...	...
Tanzania	1 061	—	20	...	...
Tunisia	11 402	11 665	32 305	...	—
Canada	5 875 293	5 794 604	3 359 286	4 013 109	4 946 892
Mexico	381 418	446 627	1 076	157	...
Trinidad & Tobago	63 255	198 997	201 746	246 596	199 755
USA (a)	25 460 384	28 788 679	14 951 482	13 541 778	17 435 339
Argentina	2 390 698	2 558 037	2 105 789	1 670 000	2 199 000
Abu Dhabi	173 897	51 120	31 248	30 419	...
China (d)*	4 789 000	3 355 142	3 752 273	3 924 101	5 957 437
Dubai	12 400	47 800	10 000	26 499	24 000
India	1 169	160	...	...	...
Indonesia					
Iron ore	285 047	701 574	121 039	127 999	198 460
Burnt pyrites	0	112 650	178 786	60 450	1 268 438
Japan					
Iron ore (c)	133 721 259	123 379 351	121 827 155	109 180 816	125 372 449
Korea, Republic of					
Iron ore	9 129 893	10 687 712	11 509 940	10 121 155	10 287 389
Burnt pyrites	11 600	—	45 543	49 394	131
Pakistan (e)	15	244 649	707 833	765 091	924 405
Philippines	4 650 570	3 286 333	3 825 051	2 277 767	3 615 003

**Imports of Iron Ore**

tonnes

Country	1980	1981	1982	1983	1984
Qatar	220 281	—	—	...	619 371
Saudi Arabia	49 127	42 565	95 695	294 657	1 044 173
Singapore	9 605	30 576	25 256	13 013	7 441
Taiwan					
Iron ore	2 843 526	2 413 058	4 048 764	4 956 581	5 199 177
Burnt pyrites	49 142	55 079	21 014	13 757	15 151
Australia	47 175	46 912	90 956	46 757	52 101

(a) Including burnt pyrites

(b) Fe content of concentrates

(c) Including manganiferous iron ore

(d) BGS estimates, based on known exports from certain countries

(e) Years ended 30 June of that stated

## Production of Pig-Iron

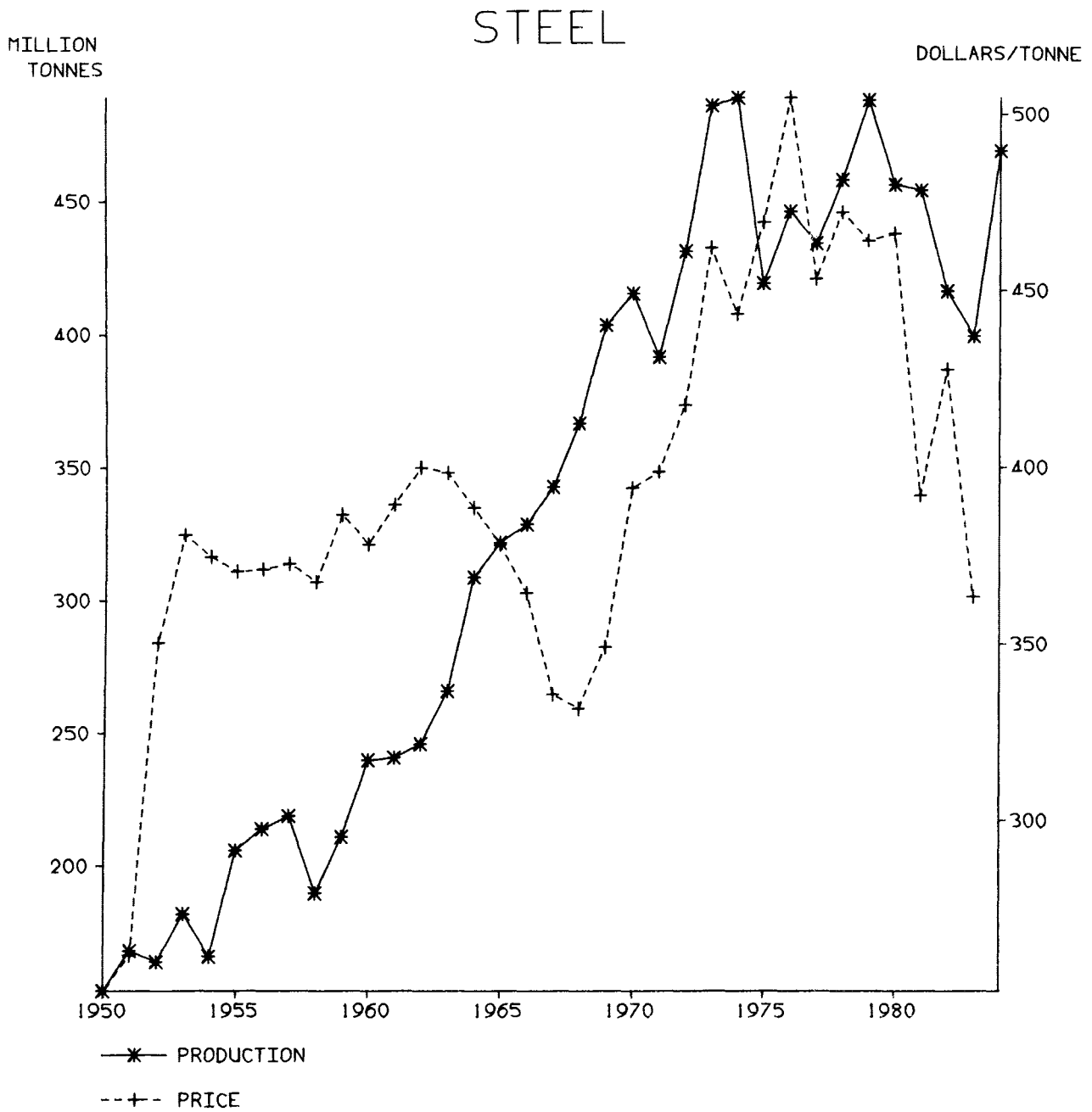
tonnes

Country	1980	1981	1982	1983	1984
United Kingdom (a)	6 315 600	9 554 000	8 388 300	9 559 800	9 562 300
Belgium	9 846 000	9 786 000	7 836 000	8 034 000	8 968 000
France (a)	19 159 000	17 274 000	15 046 000	13 770 000	15 040 000
Germany, Federal Republic of (a)	33 873 000	31 876 000	27 308 000	26 526 000	30 046 000
Greece	* 303 000	* 300 000	* 300 000	* 300 000	* 300 000
Italy	12 218 530	12 319 324	11 595 712	10 362 410	11 666 788
Luxembourg	3 567 743	2 889 320	2 586 820	2 316 300	2 767 930
Netherlands	4 327 700	4 599 600	3 616 600	3 747 400	4 925 600
Austria	3 485 161	3 477 257	3 114 985	3 320 260	3 745 315
Bulgaria	1 529 248	1 514 447	1 564 590	1 626 878	1 577 797
Czechoslovakia	9 819 000	9 903 000	9 525 000	9 466 000	9 561 000
Finland	2 019 000	1 965 000	1 943 800	1 898 458	2 033 700
German Democratic Republic (a)	2 458 400	2 440 900	2 149 400	2 206 800	2 356 700
Hungary	2 214 000	2 193 000	2 181 000	2 047 000	2 096 000
Norway	611 660	586 584	456 490	565 392	571 566
Poland (a)	11 953 000	9 351 000	8 523 000	9 719 000	9 981 000
Portugal	370 813	314 274	193 411	365 000	* 400 000
Romania	9 012 000	8 857 000	8 637 000	8 190 000	9 557 000
Soviet Union (a)	107 283 000	107 766 000	106 723 000	110 453 000	110 893 000
Spain	6 364 467	6 250 776	5 843 148	5 667 252	5 319 000
Sweden	2 638 214	1 987 796	1 967 697	2 109 000	2 323 000
Switzerland	33 000	33 000	10 000	10 000	54 000
Turkey	2 040 366	1 954 076	2 379 497	2 952 754	3 014 847
Yugoslavia	2 425 000	2 817 000	2 703 000	2 845 000	2 855 000
Algeria	669 000	897 000	1 097 000	1 100 000	* 1 100 000
Egypt	650 000	650 000	113 000	196 000	159 248
South Africa	7 210 000	7 369 000	6 804 000	4 998 000	5 254 800
Tunisia	146 400	149 900	93 300	141 200	143 500
Zimbabwe	600 000	400 000	478 017	584 000	* 700 000
Canada	10 892 628	9 743 499	8 000 149	8 566 621	9 643 260
Mexico	5 274 661	5 483 000	5 103 000	5 035 000	5 348 000
Trinidad & Tobago	21 500	179 500	217 900	302 300	239 000
USA	62 323 000	66 909 000	39 319 000	44 243 000	47 138 000
Argentina	1 806 400	1 735 900	1 940 300	1 862 000	1 821 000
Brazil	12 960 076	11 021 569	11 053 828	13 199 122	17 464 382
Chile	648 400	582 200	453 300	538 600	593 300
Colombia	279 000	233 000	246 000	241 000	* 270 000
Peru	296 000	241 000	204 000	140 000	62 000
Venezuela	2 367 000	2 230 000	2 357 000	2 246 000	* 2 450 000
China	38 020 000	34 170 000	35 551 000	37 380 000	40 000 000
India	8 493 000	9 463 000	9 606 000	9 126 000	9 464 000
Iran (b)	800 000	500 000	600 000	* 700 000	* 700 000
Japan	87 041 000	80 048 000	77 658 000	72 936 000	80 403 000
Korea, Dem. P.R. of	* 5 400 000	* 5 000 000	* 5 300 000	* 5 500 000	* 5 700 000
Korea, Republic of	5 578 000	7 928 000	8 445 000	8 024 000	8 763 000
Taiwan	235 931	197 539	161 112	183 625	213 483
Thailand	17 738	10 310	6 338	159	—
Australia	6 959 000	6 830 000	5 956 000	5 045 000	5 328 000
World total	513 000 000	502 000 000	455 000 000	460 000 000	493 000 000

Note: The data in this table include sponge iron and direct reduced iron (DRI), where these have been separately identified

(a) Includes blast-furnace ferro-alloys

(b) Years ended 20 March following that stated



**Figure 9** Production of steel ingots and castings in the non-communist world from 1950 to 1984 compared with the yearly average price of Bessemer bars delivered Oberhausen expressed in constant 1980 US dollars.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Production of Steel Ingots and Castings

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	11 277 000	15 573 000	13 704 000	14 986 000	15 121 000
Belgium	12 424 507	12 379 729	9 995 850	10 157 031	11 303 381
Denmark	734 000	612 000	560 000	493 000	548 000
France	23 176 000	21 258 000	18 402 000	17 582 000	19 010 000
Germany, Federal Republic of	43 838 000	41 610 000	35 880 000	35 729 000	39 389 000
Greece	935 000	909 000	910 000	920 000	* 920 000
Irish Republic	* 40 000	* 40 000	* 60 000	* 140 000	* 168 000
Italy	26 501 381	24 777 415	24 009 490	21 810 787	24 061 187
Luxembourg	4 618 650	3 790 320	3 750 495	3 415 538	4 470 220
Netherlands	5 271 800	5 472 100	4 345 800	4 477 300	5 738 700
Austria	4 623 773	4 655 504	4 258 156	4 410 907	4 869 841
Bulgaria	2 565 000	2 484 000	2 584 000	2 831 000	2 878 412
Czechoslovakia	15 225 000	15 270 000	14 992 000	15 024 000	14 831 000
Finland	2 509 000	2 427 000	2 413 943	2 415 931	2 632 000
German Democratic Republic	7 308 300	7 466 900	7 168 500	7 218 800	7 573 300
Hungary	3 764 000	3 643 000	3 702 000	3 616 000	3 750 000
Norway	865 597	847 170	767 991	895 019	915 037
Poland	19 485 100	15 719 000	14 794 700	16 235 900	16 532 600
Portugal	663 258	556 651	443 006	628 512	687 000
Romania	13 175 000	13 025 000	13 055 000	12 593 000	14 437 000
Soviet Union	147 941 000	148 445 000	147 165 000	152 514 000	154 238 000
Spain	12 586 148	13 168 140	12 742 560	13 711 656	13 379 000
Sweden	4 237 000	3 781 000	3 936 000	4 116 000	4 705 000
Switzerland	929 000	966 000	950 000	953 000	978 000
Turkey	1 700 367	1 744 051	1 997 631	2 478 875	2 753 392
Yugoslavia	3 634 000	3 976 000	3 850 000	4 135 000	4 236 000
Algeria	384 000	522 000	550 000	700 000	* 700 000
Egypt	800 000	900 000	480 000	* 600 000	* 600 000
Nigeria	20 000	22 000	90 000	182 000	187 000
South Africa	8 361 000	8 397 000	8 036 000	7 248 000	7 509 000
Tunisia	177 900	173 000	104 900	162 800	166 200
Zimbabwe	800 000	691 421	589 721	* 550 000	420 890
Canada	15 901 243	14 811 223	11 871 374	12 832 477	14 699 204
Cuba	303 837	329 835	301 200	363 700	338 200
Mexico	7 156 069	7 673 000	7 056 000	6 948 000	7 543 000
Trinidad & Tobago	3 200	53 100	179 200	209 600	172 000
USA	101 455 000	109 613 000	67 655 000	76 761 000	83 940 000
Argentina	2 687 100	2 517 100	2 897 400	2 942 800	2 621 700
Brazil	15 337 310	13 226 128	12 995 241	14 659 281	18 385 164
Chile	695 000	625 500	478 400	593 200	662 800
Colombia	420 000	402 000	423 000	482 000	500 000
Peru	447 000	364 000	274 000	299 000	336 000
Uruguay	17 200	15 400	28 100	46 300	40 800
Venezuela	1 784 000	2 030 000	2 216 000	2 319 000	2 672 000
Bangladesh (b)	137 557	139 343	108 624	47 401	72 600
China	37 120 000	35 600 000	37 160 000	40 020 000	43 360 000
Hong Kong	* 120 000	* 120 000	* 120 000	* 120 000	* 120 000
India	9 358 000	10 602 000	10 834 000	9 903 000	10 549 000
Indonesia	360 000	500 000	500 000	800 000	* 1 000 000
Iran	1 180 000	1 180 000	* 1 180 000	* 1 360 000	* 1 180 000
Israel	115 000	114 000	87 000	83 000	92 000
Japan	111 395 000	101 676 000	99 548 000	97 179 000	105 586 000
Jordan	89 786	123 418	156 369	148 196	112 502
Korea, Dem. P.R. of	* 5 800 000	* 5 500 000	* 5 800 000	* 6 000 000	* 6 500 000
Korea, Republic of	7 386 000	9 841 000	10 863 000	11 227 000	12 734 000
Malaysia	236 339	233 128	245 683	241 057	* 250 000
Philippines	330 000	350 000	350 000	200 000	* 250 000
Qatar	450 449	458 147	483 245	477 000	* 500 000
Saudi Arabia	50 000	72 000	70 000	275 000	842 000
Singapore	340 000	350 000	350 000	350 000	362 000
Syria	* 110 000	* 110 000	99 000	* 80 000	* 80 000
Taiwan	3 417 000	3 157 000	4 152 000	5 031 000	5 010 000
Thailand	450 000	300 000	312 158	243 900	* 250 000
Vietnam	* 120 000	* 110 000	* 120 000	* 100 000	* 50 000

**Production of Steel Ingots and Castings**

tonnes

Country	1980	1981	1982	1983	1984
Australia (a)	7 594 000	7 635 000	6 371 000	5 626 000	6 299 000
New Zealand	217 360	231 384	251 847	233 413	273 840
World total	713 000 000	705 000 000	642 000 000	661 000 000	707 000 000

Note: The figures in this table refer to crude steel and cast semi-manufactures are not included

(a) Includes recovery from scrap

(b) Years ended 30 June of that stated

## Production of Ferro-alloys

Country	1980	1981	1982	1983	1984
United Kingdom					
Ferro-manganese	51 700	83 900	61 400	82 800	75 200
Belgium					
Ferro-manganese	85 000	90 000	* 90 000	* 90 000	* 95 000
France					
Blast furnace ferro-alloys—					
Spiegeleisen & ferro-manganese	480 126	312 237	332 223	270 331	329 447
Electric furnace & aluminothermic ferro-alloys—					
Ferro-chrome & ferro-silico-chrome	88 703	32 038	38 121	19 827	* 20 000
Ferro-silicon (50% Si)	245 957	189 062	168 858	193 250	205 092
Silico-spiegeleisen & ferro-silico-manganese	20 683	10 180	29 655	32 710	* 30 000
Ferro-titanium, ferro-tungsten, ferro-molybdenum, ferro-vanadium (a)	4 246	2 860	4 826	4 232	) 130 000
Other ferro-alloys	119 996	111 858	96 608	99 875	)
Silicon metal	59 930	57 500	57 200	64 500	70 500
Germany, Federal Republic of					
Blast furnace ferro-alloys—					
Spiegeleisen & ferro-manganese	200 000	214 000	) 242 000	174 000	309 000
Ferro-silicon	64 000	50 000	)		
Electric furnace ferro-alloys—					
Ferro-chrome	* 58 000	* 50 000	* 42 000	* 38 000	* 70 000
Ferro-manganese & ferro-silico-manganese	* 24 000	* 19 000	* 19 000	* 17 000	* 25 000
Ferro-silicon	* 50 000	* 42 000	* 34 000	* 31 000	* 60 000
Other ferro-alloys	* 50 000	* 43 000	* 36 000	* 33 000	* 65 000
Greece					
Electric furnace ferro-alloys—					
Ferro-chrome	—	—	—	18 000	20 000
Ferro-nickel	51 407	51 000	* 51 000	* 50 000	* 50 000
Italy					
Blast furnace ferro-alloys—					
Spiegeleisen	4 990	832	957	494	935
Ferro-manganese	64 298	59 302	57 366	49 200	34 815
Silicon pig-iron(10—12% Si)	1 896	1 694	1 024	580	342
Electric furnace ferro-alloys—					
Ferro-chrome	41 150	10 333	36 541	45 414	49 942
Ferro-silico-chrome	—	800	—	...	...
Ferro-silico-magnesium	400	100	...	...	...
Ferro-manganese	18 794	12 468	15 987	12 647	15 651
Ferro-silico-manganese	44 914	54 563	58 118	37 244	72 779
Ferro-molybdenum	2 096	807	235	...	1 422
Ferro-phosphorus	53	60	...	...	...
Ferro-silicon	71 857	55 144	63 947	51 913	71 157
Ferro-titanium & ferro-silico-titanium	1 020	1 456	1 243	1 876	2 158
Ferro-vanadium	354	148	68	...	79
Calcium-silicide	9 260	8 147	8 982	5 778	9 075
Silicon metal	18 852	19 595	14 012	11 737	* 14 000
Albania					
Electric furnace ferro-alloys—					
Ferro-chrome	* 3 500	* 28 000	* 30 000	* 35 000	* 40 000
Austria					
Electric furnace ferro-alloys	10 000	12 000	14 000	14 000	13 000
Bulgaria					
Electric furnace ferro-alloys—					
Ferro-manganese & ferro-silico-manganese	* 28 000	* 34 000	* 34 000	* 34 000	* 34 000
Ferro-silicon	* 16 000	* 20 000	* 20 000	* 20 000	* 20 000
Other ferro-alloys	* 1 000	* 1 000	* 1 000	* 1 000	* 1 000

**Production of Ferro-alloys**

tonnes

Country	1980	1981	1982	1983	1984
<b>Czechoslovakia</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	28 155	28 025	29 751	29 135	* 29 000
Ferro-manganese	58 800	58 113	53 708	62 549	) * 100 000
Ferro-silico-manganese	* 39 000	* 40 000	* 40 000	* 40 000	) * 20 000
Ferro-silicon	28 582	31 012	25 876	19 507	* 9 000
Other ferro-alloys	* 9 000	* 9 000	* 9 000	* 9 000	* 5 400
Silicon metal	* 5 400	* 5 400	* 5 400	* 5 400	
<b>Finland</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	52 722	51 624	54 533	58 698	58 644
Other ferro-alloys	21 439	10 375	15 476	23 259	52 000
<b>German Democratic Republic</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	* 19 000	* 20 000	* 20 000	* 17 000	* 21 000
Ferro-manganese & ferro-silico-manganese	* 70 000	* 67 000	* 63 000	* 63 000	* 65 000
Ferro-silicon	* 26 000	* 25 000	* 24 000	* 24 000	* 25 000
Other ferro-alloys	* 18 000	* 19 000	* 15 000	* 18 000	* 16 000
Silicon metal	* 4 000	* 4 000	* 3 000	* 4 000	* 4 000
<b>Hungary</b>					
Electric furnace ferro-alloys—					
Ferro-silicon	10 390	11 077	10 493	9 458	10 297
Silicon metal	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000
<b>Iceland</b>					
Electric furnace ferro-alloys—					
Ferro-silicon	28 299	33 411	41 077	49 446	58 443
<b>Norway</b>					
Electric furnace ferro-alloys—					
Ferro-chrome & ferro-silico-chrome	11 729	12 422	* 13 000	* 11 000	* 11 000
Ferro-manganese	295 706	233 390	203 256	283 492	228 185
Ferro-silico-manganese	167 490	214 534	215 732	194 784	252 464
Ferro-silicon	319 983	313 736	296 071	368 817	410 405
Other ferro-alloys	19 795	4 530	* 12 000	15 400	* 18 000
Silicon metal	63 287	59 202	64 882	76 856	90 618
<b>Poland</b>					
Blast furnace ferro-alloys—					
Spiegeleisen	8 900	6 410	4 370	4 500	4 000
Ferro-manganese	122 700	103 692	87 372	81 400	87 900
Electric furnace ferro-alloys—					
Ferro-chrome	* 47 000	* 47 000	* 47 000	* 47 000	* 47 000
Ferro-manganese & ferro-silico-manganese	* 47 000	* 47 000	* 47 000	* 47 000	* 47 000
Ferro-silicon	* 50 000	* 50 000	* 50 000	* 50 000	* 50 000
Other ferro-alloys	* 15 000	* 15 000	* 15 000	* 15 000	* 15 000
Silicon metal	* 10 000	* 10 000	* 10 000	* 10 000	* 10 000
<b>Portugal</b>					
Electric furnace ferro-alloys—					
Ferro-tungsten	131 812	51 276	89 029	77 165	* 65 000
Other ferro-alloys	199	244	211	176	183
Silicon metal	* 33 000	* 32 000	* 32 000	* 33 000	* 30 000
<b>Romania</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	* 34 000	* 36 000	* 39 000	* 42 000	* 45 000
Ferro-manganese	* 65 000	* 70 000	* 75 000	* 80 000	* 87 000
Ferro-silico-manganese	* 31 000	* 33 000	* 35 000	* 38 000	* 41 000
Ferro-silicon	* 39 000	* 42 000	* 45 000	* 48 000	* 52 000
Silicon metal	* 3 000	* 4 000	* 4 000	* 4 000	* 5 000



## Production of Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Soviet Union</b>					
Blast furnace ferro-alloys—					
Spiegeleisen	* 50 000	* 50 000	* 50 000	* 50 000	* 50 000
Ferro-manganese	* 550 000	* 550 000	* 550 000	* 550 000	* 550 000
Other ferro-alloys	* 100 000	—	—	—	—
Electric furnace ferro-alloys—					
Ferro-chrome	* 390 000	* 400 000	* 415 000	* 415 000	* 420 000
Ferro-silico-chrome	* 10 000	* 10 000	* 10 000	* 12 000	* 12 000
Ferro-manganese	* 970 000	* 1 034 000	* 1 089 000	* 1 152 000	* 1 197 000
Ferro-silico-manganese	* 32 000	* 32 000	* 32 000	* 33 000	* 35 000
Ferro-silicon	* 630 000	* 650 000	* 680 000	* 720 000	* 750 000
Other ferro-alloys	* 200 000	* 209 000	* 225 000	* 227 000	* 227 000
Silicon metal	* 59 000	* 64 000	* 64 000	* 64 000	* 64 000
<b>Spain</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	16 505	17 605	17 066	9 348	* 14 000
Ferro-manganese	122 541	95 738	81 994	114 456	* 85 000
Ferro-silico-manganese	94 047	70 007	69 933	73 224	* 70 000
Ferro-silicon	123 433	85 559	62 847	50 460	* 60 000
Other ferro-alloys	6 042	5 362	5 283	5 000	* 5 000
Silicon metal	* 20 000	* 18 000	* 18 000	* 17 000	* 15 000
<b>Sweden</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	144 089	145 716	116 724	119 491	* 125 000
Ferro-silico-chrome	26 329	22 516	19 954	18 377	* 20 000
Ferro-molybdenum	805	726	552	641	...
Ferro-silicon	7 741	18 619	14 177	19 406	* 15 000
Ferro-tungsten	423	377	365	...	...
Ferro-vanadium	348	129	8	—	...
Silicon metal	18 457	14 340	14 852	20 340	* 16 000
<b>Switzerland</b>					
Electric furnace ferro-alloys—					
Ferro-silicon	* 3 000	* 3 000	* 3 000	* 2 000	* 3 000
Silicon metal	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000
<b>Turkey</b>					
Electric furnace ferro-alloys—					
Ferro-chrome (f)	8 650	7 586	* 9 000	7 895	...
<b>Yugoslavia</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	68 564	69 194	50 591	63 807	* 80 000
Ferro-silico-chrome	10 326	5 873	6 129	5 998	* 7 200
Ferro-manganese	33 738	51 126	38 895	39 677	* 42 000
Ferro-silico-manganese	33 097	28 600	20 286	26 254	* 25 000
Ferro-nickel	—	—	1 500	1 000	1 800
Ferro-silicon	66 171	80 201	70 888	78 014	* 100 000
Other ferro-alloys	630	1 072	2 497	9 216	* 3 200
Silicon metal	30 094	28 358	29 818	26 256	45 000
<b>Egypt</b>					
Electric furnace ferro-alloys—					
Ferro-silicon	* 4 500	* 4 500	* 5 000	* 5 000	* 6 000
<b>South Africa</b>					
Ferro-chrome	754 854	642 508	460 360	699 576	886 000
Ferro-silico-chrome	* 38 000	* 20 000	* 20 000	* 18 000	* 26 000
Ferro-manganese	* 520 000	586 582	502 565	* 350 000	* 383 000
Ferro-silico-manganese	* 70 000	* 50 000	* 40 000	* 30 000	* 35 000
Ferro-silicon	* 162 000	* 110 000	74 054	47 200	* 110 000
Other ferro-alloys	* 900	* 900	* 900	* 900	* 900
Silicon metal	* 30 000	* 30 000	* 30 000	22 000	* 25 000
<b>Zimbabwe</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	194 630	192 110	189 737	148 178	177 800
Ferro-silico-chrome	25 116	32 692	25 692	27 542	42 500
Ferro-manganese	2 164	2 200	2 132	2 085	1 845

## Production of Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Canada</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	* 86 000	* 109 000	* 105 000	* 107 000	* 116 000
Ferro-silicon	139 000	110 000	* 105 000	* 85 000	* 80 000
Other ferro-alloys	* 25 000	* 28 000	—	—	—
Silicon metal	39 000	28 000	* 27 000	* 25 000	* 25 000
<b>Dominican Republic</b>					
Electric furnace ferro-alloys—					
Ferro-nickel	43 018	49 970	14 375	52 278	64 400
<b>Mexico</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	—	3 018	6 320	2 518	* 7 000
Ferro-silico-magnesium	1 436	1 953	(d)	(d)	(d)
Ferro-manganese	125 751	140 953	135 374	138 953	* 160 000
Ferro-silico-manganese	30 544	25 694	31 850	41 338	* 43 000
Ferro-silicon	27 634	22 685	24 111	23 892	* 23 000
Other ferro-alloys	102	166	* 1 000	1 211	* 1 800
<b>USA</b>					
Ferro-chrome	167 292	148 815	83 375	18 078	...
Ferro-silico-chrome (e)	49 176	56 659	24 839	14 942	...
Ferro-manganese	171 886	174 805	108 136	77 954	...
Ferro-silico-manganese	170 838	157 182	62 475	...	...
Ferro-niobium	1 413	805	...	...	...
Ferro-phosphorus	105 671	73 071	55 835	68 032	82 660
Ferro-silicon	507 000	526 245	271 200	284 958	444 856
Other ferro-alloys (b)	114 509	124 873	67 788	128 854	89 820
Silicon metal	115 000	117 764	69 493	110 577	127 792
<b>Argentina</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	20 479	25 451	30 586	28 724	28 016
Ferro-silico-manganese	11 875	12 780	15 679	13 523	* 14 000
Ferro-silicon	11 953	9 932	8 850	12 296	16 884
Other ferro-alloys	2 084	1 523	2 089	4 005	* 4 000
<b>Brazil</b>					
Electric furnace ferro-alloys—					
Ferro-calcium-silicon	8 025	7 481	9 656	7 400	(g)
Ferro-chrome	93 443	118 781	96 646	74 486	125 000
Ferro-silico-chrome	8 086	8 654	2 598	5 526	7 300
Ferro-manganese	140 496	107 872	120 743	103 446	106 000
Ferro-silico-manganese	134 243	142 743	172 358	178 887	* 185 000
Ferro-molybdenum	802	797	337	129	(d)
Ferro-nickel	11 280	10 744	10 597	8 513	33 659
Ferro-niobium	17 530	14 632	11 506	9 665	16 524
Ferro-silicon	109 140	120 662	115 314	154 399	171 064
Ferro-silico-magnesium	13 734	11 001	11 275	10 031	)
Ferro-titanium	698	499	430	166	)
Ferro-vanadium	807	296	239	104	) 19 843
Other ferro-alloys	1 059	944	1 998	2 518	)
Silicon metal	12 379	18 023	16 917	19 604	27 000
<b>Chile</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	5 684	5 254	2 982	5 209	4 757
Ferro-silico-manganese	219	104	—	—	...
Ferro-molybdenum	515	656	1 456	1 712	1 500
Ferro-silicon	5 385	2 477	1 413	4 885	* 4 900
<b>Colombia</b>					
Ferro-nickel	—	—	* 5 600	* 35 500	...
<b>Venezuela</b>					
Ferro-manganese	1 500	1 518	* 2 000	* 2 000	* 2 000
Ferro-silico-manganese	600	9 002	* 9 000	* 9 000	* 9 000
Ferro-silicon	59 200	43 986	42 136	46 636	* 45 000
<b>China</b>					
Ferro-chrome	* 120 000	* 120 000	* 120 000	* 120 000	* 120 000
Ferro-manganese	* 590 000	* 526 000	* 472 000	* 490 000	* 490 000
Ferro-silicon	* 195 000	* 195 000	* 195 000	* 195 000	* 195 000
Other ferro-alloys	* 72 000	* 73 000	* 72 000	* 72 000	* 72 000
Silicon metal	* 22 000	* 22 000	* 22 000	* 22 000	* 22 000

## Production of Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>India</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	16 494	31 903	40 540	31 119	26 280
Ferro-silico-chrome	4 050	4 339	4 468	11	4 224
Ferro-manganese	158 308	205 571	151 234	125 594	158 314
Ferro-silico-manganese	12 525	16 190	14 213	10 946	10 000
Ferro-silicon	54 319	60 354	36 060	41 187	52 931
Other ferro-alloys	653	775	427	1 042	1 266
Silicon metal	2 498	3 868	656	—	—
<b>Indonesia</b>					
Electric furnace ferro-alloys—					
Ferro-nickel	18 314	19 884	21 501	20 835	22 727
<b>Japan</b>					
Electric furnace ferro-alloys—					
Ferro-calcium-silicon	3 859	2 590	3 834	2 357	—
Ferro-chrome	402 997	306 104	328 480	304 053	324 000
Ferro-silico-chrome	20 531	10 469	9 845	7 152	—
Ferro-manganese	569 147	567 746	538 355	389 381	485 000
Ferro-silico-manganese	310 714	282 852	269 379	222 204	233 000
Ferro-molybdenum	4 367	3 056	3 413	3 104	—
Ferro-nickel	276 829	244 135	214 523	180 826	217 000
Ferro-niobium	1 159	825	1 039	530	—
Ferro-silicon	303 754	234 524	192 372	157 939	153 000
Ferro-tungsten	242	362	329	200	—
Ferro-vanadium	3 526	4 063	4 465	2 821	—
Other ferro-alloys	10 360	3 167	2 309	2 159	—
Silicon metal	15 751	11 906	8 124	—	—
<b>Korea, Dem. P.R. of</b>					
Ferro-manganese	* 70 000	* 70 000	* 70 000	* 70 000	* 70 000
Ferro-silicon	* 30 000	* 30 000	* 30 000	* 30 000	* 30 000
Other ferro-alloys	* 20 000	* 20 000	* 20 000	* 20 000	* 20 000
<b>Korea, Republic of</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	54 279	68 300	60 306	52 896	58 600
Ferro-silicon	29 712	32 000	32 478	32 489	35 300
Other ferro-alloys	24 994	27 185	33 240	43 824	49 000
<b>Philippines</b>					
Electric furnace ferro-alloys—					
Ferro-chrome	* 10 000	* 10 000	* 12 000	* 21 500	* 32 500
Ferro-silicon	* 20 000	* 22 400	* 27 500	* 20 000	* 18 000
<b>Taiwan</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	21 010	19 175	18 665	21 763	19 803
Ferro-silico-manganese	22 607	14 376	21 311	18 509	23 082
Ferro-silicon	28 390	17 523	16 930	18 304	23 714
<b>Thailand</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	112	369	—	—	—
Ferro-silicon	60	280	—	—	—
<b>Australia (c)</b>					
Electric furnace ferro-alloys—					
Ferro-manganese	94 146	67 563	54 717	53 500	75 000
Ferro-silico-manganese (60% Mn)	18 376	29 916	29 548	22 000	31 000
Ferro-silicon	18 435	18 313	19 678	18 700	* 25 000
<b>New Caledonia</b>					
Electric furnace ferro-alloys—					
Ferro-nickel	131 281	109 679	112 028	86 868	116 632

(a) Ti, W, Mo, V content

(b) Includes ferro-boron and other complex boron additive alloys, ferro-nickel, ferro-molybdenum, ferro-tungsten, ferro-vanadium, spiegeleisen, ferro-zirconium and other miscellaneous alloys

(c) Years ended 30 November of that stated

(d) Included with 'other ferro-alloys'

(e) Includes other chromium alloys

(f) Public sector only

(g) Included with ferro silicon

**Exports of Iron, Steel and Ferro-alloys**

tonnes

Country	1980	1981	1982	1983	1984
<b>United Kingdom</b>					
Pig-iron	30 266	14 892	7 010	45 841	33 730
Sponge & powder	534	248	430	348	451
Ferro-aluminium, ferro-silico- aluminium & ferro-silico- mangano-aluminium	3 587	2 216	2 490	2 736	1 717
Ferro-chrome	626	1 927	678	2 609	642
Ferro-silico-chrome	—	—	64	93	45
Ferro-manganese	971	21 589	23 902	14 039	687
Ferro-silico-manganese	615	—	54	233	1 027
Ferro-molybdenum	2 179	1 206	1 214	1 876	3 561
Ferro-nickel	—	315	—	—	5
Ferro-niobium & ferro- niobium-tantalum	416	95	51	49	51
Ferro-silicon	1 352	2 889	1 173	1 699	1 223
Ferro-titanium & ferro- silico-titanium	3 790	4 355	4 084	4 864	4 965
Ferro-tungsten & ferro- silico-tungsten	78	—	19	130	192
Ferro-vanadium	75	94	69	164	163
Other ferro-alloys	4 228	2 566	2 760	1 893	2 646
Ingots, blooms, billets	186 558	193 183	282 032	573 964	480 443
Scrap (a)	2 784 953	3 367 085	3 052 174	3 793 696	4 315 393
<b>Belgium-Luxembourg</b>					
Pig-iron	7 593	8 574	4 176	2 419	3 479
Spiegeleisen	85	482	106	10	119
Sponge & powder	410	632	372	526	882
Ferro-aluminium, ferro-silico- aluminium & ferro-silico- mangano-aluminium	91	335	64	733	423
Ferro-chrome	1 544	3 858	1 960	3 909	2 913
Ferro-manganese	37 282	12 128	13 230	13 892	23 741
Ferro-silicon	3 283	4 633	4 270	2 627	877
Ferro-titanium & ferro- silico-titanium	925	1 861	1 774	984	1 289
Ferro-tungsten & ferro- silico-tungsten	0	16	—	0	165
Ferro-silico-manganese, ferro- molybdenum & ferro-vanadium	29 659	31 093	18 546	15 947	17 740
Other ferro-alloys	1 169	1 251	1 024	1 259	891
Ingots, blooms, billets	708 304	595 099	510 538	575 747	732 514
Scrap	536 641	578 482	497 550	681 748	773 706
<b>Denmark</b>					
Ingots, blooms, billets	4 057	158	5 521	2 778	11 624
Scrap	100 358	185 200	117 849	174 883	234 208
<b>France</b>					
Pig-iron	284 909	195 674	178 644	135 620	192 206
Spiegeleisen	850	633	565	952	233
Sponge & powder	245	88	210	927	350
Ferro-aluminium, ferro-silico- aluminium & ferro-silico- mangano-aluminium	1 761	1 126	1 040	1 712	2 241
Ferro-chrome	1 300	4 742	605	516	1 452
Ferro-silico-chrome	2 217	2 095	1 884	898	121
Ferro-manganese	321 477	383 596	177 151	282 508	314 111
Ferro-silico-manganese	9 361	11 507	5 657	6 530	21 551
Ferro-molybdenum	486	1 115	829	1 022	1 333
Ferro-nickel	61 560	48 611	45 034	48 464	56 408
Ferro-silicon	80 342	70 137	68 003	86 022	82 294
Ferro-silico-magnesium	6 916	4 914	5 045	6 271	8 263
Ferro-silico-zirconium	3 144	2 914	2 369	3 408	3 368
Ferro-titanium & ferro- silico-titanium	1 412	1 400	858	648	659
Ferro-tungsten & ferro- silico-tungsten	339	167	201	15	230
Ferro-vanadium	184	254	418	415	1 249
Other ferro-alloys	23 299	25 664	20 533	23 850	29 239
Ingots, blooms, billets	365 400	265 725	305 786	455 035	854 911
Scrap	3 312 235	3 183 184	3 081 840	3 226 788	4 103 281

## Exports of Iron, Steel and Ferro-alloys

Country	1980	1981	1982	1983	1984
Germany, Federal Republic of					
Pig-iron	1 032 770	838 279	609 071	455 427	530 871
Spiegeleisen	4 763	1 834	1 346	1 280	98
Sponge & powder	30 671	80 765	204 114	72 531	40 189
Ferro-chrome	33 482	55 675	53 989	55 902	61 218
Ferro-silico-chrome	1 417	1 179	2 920	3 179	4 184
Ferro-manganese	36 762	48 876	32 975	48 197	96 692
Ferro-silico-manganese	5 598	7 832	5 729	5 134	4 380
Ferro-molybdenum	1 227	912	1 010	1 025	819
Ferro-nickel	86	555	50	274	1 034
Ferro-niobium	1 146	980	837	351	521
Ferro-silicon	55 714	60 956	59 192	59 052	79 569
Ferro-titanium & ferro-silico-titanium	541	881	507	263	340
Ferro-tungsten & ferro-silico-tungsten	140	187	184	238	222
Ferro-vanadium	887	2 470	1 973	2 329	1 440
Other ferro-alloys	10 372	11 302	5 759	8 596	11 297
Ingots, blooms, billets	1 487 341	1 289 142	1 078 932	1 069 487	1 799 574
Scrap	3 169 547	3 513 775	3 047 940	3 171 874	3 444 821
Greece					
Ferro-chrome	--	--	--	11 966	29 410
Ferro-nickel	49 468	49 350	19 852	33 583	77 149
Irish Republic					
Scrap	84 458	73 308	58 753	21 279	42 973
Italy					
Pig-iron	1 925	855	3 039	22 108	10 144
Sponge & powder	3 453	1 607	1 874	4 013	2 638
Ferro-chrome & ferro-silico-chrome	10 331	8 805	9 195	23 496	20 165
Ferro-manganese	1 897	672	2 818	1 391	319
Ferro-silico-manganese	862	8 382	3 027	5 360	11 561
Ferro-molybdenum	1 273	430	221	96	786
Ferro-silicon	5 579	6 626	4 361	6 965	14 004
Ferro-silico-magnesium	1 093	1 056	1 360	1 326	3 137
Ferro-titanium	931	1 241	969	1 520	1 732
Ferro-vanadium	190	65	58	4	47
Other ferro-alloys	1 098	2 041	2 503	2 287	3 905
Ingots, blooms, billets	188 443	243 745	345 612	319 434	330 131
Scrap	8 584	22 628	17 150	17 545	19 425
Netherlands					
Pig-iron	9 694	4 828	4 648	12 045	7 999
Sponge & powder	55	26	46	298	484
Ferro-chrome	6 641	18 243	13 990	3 308	4 087
Ferro-manganese	351	1 059	141	74	562
Ferro-silico-manganese	2 022	377	2 064	--	115
Ferro-molybdenum	143	103	14	145	83
Ferro-nickel	0	139	--	650	8
Ferro-silicon	2 616	2 391	1 234	5 176	13
Ferro-vanadium	49	19	--	33	--
Other ferro-alloys	172	256	223	200	203
Ingots, blooms, billets	880 096	986 573	615 084	856 475	1 315 698
Scrap	1 194 467	1 251 711	1 180 248	1 521 860	1 683 958
Albania					
Ferro-chrome (f)	* 3 000	* 32 700	* 25 700	* 25 900	* 26 300
Austria					
Pig-iron	236	--	100	26	64
Ferro-alloys	8 904	10 904	12 085	12 771	12 669
Ingots & blooms	8 272	11 200	11 304	15 792	39 499
Scrap	12 721	12 315	8 840	12 642	20 910
Bulgaria					
Pig-iron	34 000	34 000	16 000	38 000	263 000
Ferro-alloys	23 000	31 000	28 000	23 000	15 000
Ingots, blooms, billets (f)	* 175 300	* 111 900	* 107 500	* 107 700	* 191 200
Scrap	155 000	79 000	57 000	38 000	48 000

## Exports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Czechoslovakia</b>					
Ferro-chrome (f)	* 7 800	* 6 000	* 5 800	* 5 300	* 3 300
Ferro-manganese (f)	* 25 700	* 22 800	* 14 300	* 15 700	* 12 500
Other ferro-alloys (f)	* 3 000	* 3 100	* 1 400	* 3 900	* 4 900
Scrap (f)	* 101 000	* 103 200	* 96 000	* 124 400	* 160 400
<b>Finland</b>					
Pig-iron	14 845	275	114	57	717
Ferro-chrome & ferro-silico-chrome	16 637	25 459	22 705	18 483	7 677
Other ferro-alloys	345	1	2	41	6
Blooms & billets	129 462	206 019	139 922	118 775	(f)* 102 000
Scrap	194	206	126	107	9 466
<b>German Democratic Republic</b>					
Pig-iron (f)	* 28 200	* 33 800	* 15 000	* 9 000	* 5 000
Ferro-silicon (f)	* 4 700	* 5 600	* 7 500	* 10 200	* 7 000
Other ferro-alloys (f)	* 2 500	* 2 400	* 2 600	* 1 800	* 700
Ingots, blooms, billets (f)	* 384 900	* 534 900	* 401 100	* 396 200	* 334 400
Scrap (f)	* 16 900	* 12 500	* 21 100	* 13 700	* 15 700
<b>Hungary</b>					
Pig-iron	2 149	—	—	4 810	20 922
Scrap	30 955	32 283	53 172	49 761	79 152
<b>Iceland</b>					
Ferro-silicon	25 309	32 082	42 174	49 238	57 252
Scrap	2 906	3 125	4 518	10 268	9 784
<b>Malta</b>					
Scrap	5 828	3 727	6 366	7 252	12 744
<b>Norway</b>					
Pig-iron	140 260	70 568	64 524	43 456	27 832
Ferro-chrome	8 009	10 540	9 515	6 632	601
Ferro-silico-chrome	13 332	948	1 173	732	349
Ferro-manganese	245 525	209 631	196 746	198 288	204 540
Ferro-silico-manganese	164 019	183 737	172 105	172 893	217 817
Ferro-silicon	268 894	271 438	287 766	347 911	427 489
Ferro-vanadium	788	420	288	9	—
Other ferro-alloys	8 554	8 324	6 822	12 069	10 842
Ingots, blooms, billets	211 615	227 655	192 602	233 956	199 137
Scrap	38 691	32 536	32 569	35 430	21 326
<b>Poland</b>					
Scrap	* 14 900	79 787	257 912	146 138	176 150
<b>Portugal</b>					
Pig-iron	9	41	792	1 229	29
Ferro-manganese	56 456	26 617	13 890	9 918	46 123
Ferro-silico-manganese	21 038	13 570	22 020	59 820	38 512
Ferro-silicon	7 455	5 577	13 153	18 951	6 177
Ferro-tungsten	222	245	223	168	193
Other ferro-alloys	—	—	—	1 220	—
Scrap	4 477	4 734	9 167	9 710	9 177
<b>Romania</b>					
Pig-iron & ferro-alloys	* 15 600	* 10 400	* 2 800	...	...
Ingots, blooms, billets (f)	* 119 300	* 71 500	* 18 600	* 19 500	* 25 600
Scrap (f)	* 1 500	* 600	* 200	* 4 400	...
<b>Soviet Union</b>					
Pig-iron (f)	* 1 597 000	* 1 624 000	* 1 927 000	* 1 773 000	* 1 545 500
Ferro-chrome & ferro-silico-chrome (f)	* 13 600	* 20 800	* 22 800	* 27 100	* 21 600
Ferro-manganese & ferro-silico-manganese (f)	* 33 300	* 30 800	* 34 300	* 40 500	* 33 000
Ferro-silicon (f)	* 15 700	* 22 800	* 27 200	* 44 300	* 45 700
Ferro-titanium & ferro-silico-titanium (f)	* 1 500	* 1 100	* 1 600	* 1 600	* 2 500
Other ferro-alloys (f)	* 8 800	* 13 800	* 10 000	* 12 100	* 10 800
Ingots, blooms, billets (f)	* 185 300	* 118 200	* 181 600	* 356 900	* 247 800
Scrap	2 505 260	2 681 421	2 859 053	3 369 905	3 407 062

## Exports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Spain</b>					
Pig-iron	31 290	18 950	—	5 605	928
Ferro-silico-aluminium, ferro-silico-mangano- aluminium & ferro-silico- alumino-calcium	—	1 733	3 668	811	(c)
Ferro-chrome	8 035	8 927	8 179	4 332	(c)
Ferro-manganese	31 333	32 031	22 057	15 842	24 577
Ferro-silico-manganese	24 666	6 583	10 282	5 569	(c)
Ferro-molybdenum	520	291	269	638	(c)
Ferro-silicon	54 703	42 834	16 534	3 442	8 233
Ferro-titanium & ferro- silico-titanium	—	—	—	30	) 21 892
Other ferro-alloys	2 142	88	9	23	
Ingots, blooms, billets	488 915	475 400	576 608	623 478	549 854
<b>Sweden</b>					
Pig-iron	179 571	45 103	29 626	26 285	3 048
Sponge & powder	97 749	97 631	96 795	103 986	110 068
Ferro-chrome	92 305	105 676	80 576	105 736	95 793
Ferro-silico-chrome	1 125	182	1 037	362	2 279
Ferro-manganese	1 025	769	674	668	673
Ferro-silico-manganese	—	80	16	1	11
Ferro-molybdenum	760	794	413	737	193
Ferro-nickel	17	0	—	0	0
Ferro-silicon	3 683	15 160	6 533	18 990	20 564
Ferro-titanium	552	911	371	305	389
Ferro-tungsten	184	247	120	107	93
Ferro-vanadium	231	156	44	53	15
Other ferro-alloys	628	841	104	68	436
Ingots, blooms, billets	408 431	258 883	313 182	237 485	465 732
Scrap	16 231	14 351	18 341	20 317	21 668
<b>Switzerland</b>					
Pig-iron	670	789	701	501	659
Sponge & powder	551	463	493	444	558
Ferro-silicon	126	112	157	119	140
Other ferro-alloys	596	896	674	676	207
Ingots, blooms, billets	8 465	2 106	3 281	9 260	9 038
Scrap	63 738	128 334	105 915	149 484	106 296
<b>Turkey</b>					
Pig-iron	8 000	6 254	254	16 052	60 169
Ferro-chrome	27 500	27 850	37 457	32 803	27 000
Ingots, blooms, billets	—	718	2 486	65 727	185 870
<b>Yugoslavia</b>					
Pig-iron	47 362	22 674	7 441	3 258	5 000
Ferro-chrome	50 130	63 087	30 661	53 864	...
Ferro-manganese	8 049	21 304	12 165	10 946	12 000
Ferro-silico-manganese	23 240	17 847	11 709	16 620	...
Ferro-silicon	37 705	61 583	43 569	46 783	...
Other ferro-alloys	2 435	1 157	—	1 290	...
Ingots, blooms, billets	21 405	23 750	19 348	11 015	49 000
Scrap	44 833	59 229	63 342	70 384	142 000
<b>Algeria</b>					
Pig-iron	128 699	244 872	174 484	212 615	...
Scrap	65 513	43 402	56 148	55 388	...
<b>Cameroon</b>					
Scrap	9 630	...	...	...	...
<b>Ivory Coast</b>					
Scrap	23 925	18 434	16 025	...	...
<b>Morocco</b>					
Scrap	34 667	50 945	51 942	65 512	91 900
<b>Senegal</b>					
Scrap	9 632	14 291	11 179	12 685	7 478

## Exports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
South Africa					
Pig-iron (f)	* 92 000	* 104 400	* 85 000	* 75 600	* 122 300
Ferro-chrome	579 111	555 686	393 544	723 641	863 180
Ferro-manganese	431 680	495 481	411 711	312 832	367 037
Ferro-silicon	) 54 986	40 089	46 719	22 000	) * 82 308
Other ferro-alloys	)	)	)	32 860	)
Ingots, blooms, billets (f)	* 86 700	* 46 300	* 158 000	* 189 600	* 144 400
Scrap (f)	* 5 700	* 1 600	* 4 700	* 46 400	* 46 300
Sudan					
Scrap	3 929	230	3 452	50	...
Tunisia					
Scrap	791	1 717	1 200	...	790
Zimbabwe					
Pig-iron	36 041	10 195	5 001	144	...
Ferro-chrome	231 143	188 329	163 919	228 395	...
Ferro-silico-chrome	26 163	22 051	18 704	18 316	...
Blooms & billets	305 545	207 827	252 525	286 263	...
Scrap	2 190	2 424	8 261	4 799	...
Canada					
Pig-iron	562 351	466 422	485 661	348 278	393 893
Sponge	178 352	123 282	29 065	36 974	45 715
Ferro-manganese	11 298	57 182	11 739	4 160	9 202
Ferro-silicon	52 377	52 455	40 860	45 728	35 299
Other ferro-alloys	8 418	6 333	5 129	5 188	5 202
of which: Re-exports	2 184	1 017	71	1 006	151
Ingots, blooms, billets	327 140	894 634	255 611	579 096	249 086
Scrap	784 798	577 756	627 773	875 168	795 060
Dominican Republic					
Ferro-nickel	46 614	49 073	14 161	53 825	...
Mexico					
Ferro-alloys	39 464	25 688	17 351	19 412	...
Scrap	3 368	1 970	19 741	3 197	...
Trinidad & Tobago					
Sponge	18 000	79 316	27 185	42 253	64 482
USA					
Pig-iron	79 807	19 186	50 268	6 441	54 645
Sponge & powder	23 780	16 581	12 818	13 005	13 487
Ferro-chrome & ferro-silico-chrome	29 807	13 906	4 900	6 111	15 217
Ferro-manganese	11 419	14 026	9 177	7 832	6 470
Ferro-silico-manganese	6 094	1 726	3 204	5 864	4 902
Ferro-molybdenum	799	257	123	78	295
Ferro-phosphorus	40 544	6 771	3 663	24 435	35 928
Ferro-silicon	25 039	14 379	13 281	12 565	26 661
Ferro-vanadium	728	394	308	705	425
Other ferro-alloys	4 297	5 890	5 996	5 318	25 080
Ingots, blooms, billets	829 493	505 588	331 774	107 451	72 700
Scrap (a)	10 174 603	5 927 684	6 215 378	6 844 187	8 643 090
Argentina					
Ingots, blooms, billets	121 873	186 432	133 697	...	...
Brazil					
Pig-iron	841 331	714 446	692 529	1 801 472	2 474 329
Ferro-chrome	45 921	67 330	51 770	38 048	53 880
Ferro-manganese	37 832	36 490	31 435	49 511	21 302
Ferro-nickel	—	1 800	1 529	15 494	11 175
Ferro-niobium	14 566	14 542	11 036	9 256	13 771
Ferro-silicon	29 664	68 800	64 518	111 846	89 874
Ferro-silico-spiegeleisen & silico-manganese	35 580	62 976	64 501	123 708	100 388
Ferro-silico-manganese-aluminium	400	—	—	—	—
Other ferro-alloys	5 839	8 130	7 878	7 761	13 552
Ingots, blooms, billets	285 072	130 955	160 243	429 601	1 374 833
Colombia					
Ferro-nickel	—	—	1 303	26 959	...
Venezuela					
Sponge & powder	188 462	301 781	239 799	...	...
Ferro-silicon	21 879	2 484	43 707	...	...



## Exports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
Brunei					
Scrap	177	5 131	4 979	8 640	...
China					
Pig-iron (f)	* 257 400	* 987 400	* 904 100	* 61 700	* 6 300
Ferro-silicon (f)	* 1 400	* 56 400	* 38 600	* 17 500	* 3 900
Other ferro-alloys (f)	* 1 100	* 39 400	* 136 800	* 6 300	* 18 300
Ingots, blooms, billets (f)	* 53 300	* 233 000	* 193 000	* 12 200	* 1 500
Scrap (f)	* 9 900	* 146 500	* 102 300	* 36 700	* 23 400
Cyprus					
Scrap (Re-exports)	5 877	8 444	7 341	8 300	13 223
Hong Kong					
Pig-iron (Re-exports)	117	6 166	6 966	4 398	67
Ferro-manganese (Re-exports)	—	—	813	102	5 430
Ferro-silicon (Re-exports)	5	488	1 187	610	—
Other ferro-alloys (Re-exports)	382	1 150	200	162	114
Ingots, blooms, billets (Re-exports)	13 975	9 800	3 896	24 217	41 574
Scrap	329 649	364 360	296 651	329 556	300 067
India					
Pig-iron	1 225	118	...	...	...
Ferro-chrome	550	...	...	...	...
Ferro-manganese	1 620	...	...	...	...
Ferro-silicon	3	...	...	...	...
Ingots, blooms, billets (d)	3 294	34	...	...	...
Scrap	1 897	29 571	...	...	...
Indonesia					
Sponge & powder	92 574	82 041	117 080	119 941	69 557
Israel (b)					
Scrap	13 942	...	...	(f)* 4 100	(f)* 8 600
Japan					
Pig-iron	5 852	1 510	49 333	332 386	276 749
Sponge & powder	2 578	3 847	3 208	4 150	6 798
Ferro-chrome	8 896	3 470	3 137	5 429	2 095
Ferro-manganese	40 271	34 866	26 683	22 202	22 822
Ferro-silico-manganese	420	1 158	583	107	93
Ferro-nickel	17 125	20 742	21 405	13 369	4 365
Ferro-silicon	2 695	2 199	1 042	1 135	1 199
Ferro-vanadium	97	84	132	168	122
Other ferro-alloys	1 035	1 318	975	1 479	2 276
Ingots, blooms, billets	188 933	117 990	132 527	129 722	136 026
Scrap	159 366	186 783	174 787	115 822	146 473
Korea, Dem. P.R. of					
Pig-iron (f)	* 83 200	* 67 100	* 50 900	* 31 500	* 67 700
Korea, Republic of					
Pig-iron	150 674	1 169 188	41 324	9 671	10 110
Ferro-manganese	35	—	—	701	338
Ferro-silico-manganese	220	—	—	1 241	350
Ferro-silicon	348	165	335	180	71
Other ferro-alloys	1 897	3	9	3 032	3 035
Ingots, blooms, billets	942 779	339 834	364 193	551 689	440 171
Scrap	9 675	25 109	140 608	284 597	135 288
Kuwait					
Scrap	62 200	24 691	18 394	...	...
Malaysia					
Scrap	10 805	11 843	6 450	12 724	...
Philippines					
Ferro-silicon	14 691	25 582	28 364	22 827	20 856
Other ferro-alloys	3 310	5 686	4 219	28 656	45 414
Saudi Arabia					
Scrap	15 931	52 193	28 680	62 228	89 836
Singapore					
Pig-iron	9 164	7 502	9 242	6 514	6 580
of which: Re-exports	9 114	7 490	9 229	6 485	6 557
Ferro-alloys	333	1 149	2 119	601	607
of which: Re-exports	304	1 137	2 102	587	603
Ingots & blooms	6 641	10 463	3 519	4 362	4 752
of which: Re-exports	4 345	1 997	2 528	3 549	3 783
Scrap	5 475	1 602	7 876	119 468	108 948

**Exports of Iron, Steel and Ferro-alloys**

tonnes

Country	1980	1981	1982	1983	1984
Taiwan					
Pig-iron	761	713	246	2 890	562
Ferro-chrome	691	—	—	—	5
Ferro-manganese	9 107	2 028	3 175	785	191
Ferro-silicon	7 910	764	508	515	2 211
Other ferro-alloys	5 574	5 790	3 088	5 022	3 445
Ingots, blooms, billets	120 237	204 568	294 275	250 617	107 725
Scrap	12 863	128 251	402 215	279 854	202 414
Australia					
Pig-iron	514 898	158 262	101 399	468 626	71 000
Ferro-alloys	30 225	39 715	36 178	50 548	46 000
Ingots, blooms, billets	306 074	378 418	217 714	383 671	294 000
Scrap	749 203	665 067	749 106	507 546	...
Fiji					
Scrap	1 772	1 883	1 132	857	...
of which: Re-exports	858	1 164	—	429	...
New Caledonia					
Ferro-nickel	128 796	109 300	139 000	91 600	121 900
New Zealand (e)					
Ingots, blooms, billets	24 475	13 620	48 455	36 176	42 380
Scrap	2 159	2 152	2 759	2 206	3 113

Note: In this table the term 'ingots, blooms, billets' corresponds to items 672.4 and 5 of the Standard International Trade Classification (Revision 2) which includes those of alloy and high carbon steel

- (a) Excluding ships intended for breaking up
- (b) Figures may be incomplete as value only given in Israeli trade return for exports to some countries
- (c) Included with 'other ferro-alloys'
- (d) Years ended 31 March following that stated
- (e) Years ended 30 June of that stated
- (f) BGS estimates, based on known imports into certain countries

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Pig-iron	168 631	110 682	125 066	91 188	86 804
Sponge & powder	21 694	16 137	39 062	13 054	13 975
Ferro-chrome	42 927	62 901	72 198	86 660	68 086
Ferro-silico-chrome	435	104	102	437	—
Ferro-manganese	52 003	56 443	58 031	99 436	37 625
Ferro-silico-manganese	24 651	22 307	31 107	28 934	28 062
Ferro-molybdenum	597	825	608	383	403
Ferro-nickel	2 449	6 128	9 564	9 187	16 437
Ferro-niobium	744	756	719	459	731
Ferro-silicon	68 997	75 454	75 484	69 735	81 960
Ferro-titanium & ferro-silico-titanium	174	58	173	494	992
Ferro-tungsten & ferro-silico-tungsten	124	83	103	23	41
Ferro-vanadium	483	868	593	636	827
Other ferro-alloys	10 630	9 800	9 575	11 795	10 663
Ingots, blooms, billets	350 357	332 649	290 645	239 468	273 412
Scrap (a)	26 452	20 760	37 317	11 181	33 796
Belgium-Luxembourg					
Pig-iron	97 605	91 522	90 715	46 835	94 478
Spiegeleisen	892	166	259	686	579
Sponge & powder	14 035	1 595	2 618	1 545	2 733
Ferro-aluminium, ferro-silico-aluminium & ferro-silico-mangano-aluminium	1 555	1 239	949	1 238	892
Ferro-chrome	27 588	25 474	26 231	35 337	44 974
Ferro-silico-chrome	1 340	1 527	1 229	1 909	3 189
Ferro-manganese	71 291	91 262	54 012	53 479	52 460
Ferro-silico-manganese	23 454	19 956	19 609	21 326	35 439
Ferro-molybdenum	260	446	254	312	298
Ferro-nickel	2 660	3 226	3 316	6 407	6 322
Ferro-silicon	32 584	38 202	33 831	33 056	29 170
Ferro-titanium & ferro-silico-titanium	219	225	257	437	494
Ferro-tungsten & ferro-silico-tungsten	15	21	7	4	4
Ferro-vanadium	121	125	60	172	226
Other ferro-alloys	1 655	1 679	1 127	5 850	2 779
Ingots, blooms, billets	665 631	443 721	333 886	376 995	629 469
Scrap	859 319	955 710	887 417	1 045 194	1 672 749
Denmark					
Pig-iron	36 649	48 574	62 825	29 275	35 793
Sponge & powder	1 677	484	503	593	4 031
Ferro-aluminium, ferro-silico-aluminium & ferro-silico-mangano-aluminium	2 844	1 473	1 618	158	1 035
Ferro-chrome & ferro-silico-chrome	1 198	380	370	817	249
Ferro-manganese	6 258	3 708	3 091	1 968	2 707
Ferro-silico-manganese	2 534	1 891	2 892	2 911	3 540
Ferro-molybdenum	16	20	13	18	14
Ferro-silicon	4 673	3 114	3 500	3 250	3 140
Other ferro-alloys	63	112	98	103	120
Ingots, blooms, billets	82 652	65 271	6 347	3 153	8 779
Scrap	216 791	180 402	87 494	67 493	131 676

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>France</b>					
Pig-iron	450 491	405 921	370 359	364 216	412 064
Spiegeleisen	1 137	56	1 080	1 094	340
Sponge & powder	47 475	21 208	16 913	71 650	11 298
Ferro-aluminium, ferro-silico- aluminium & ferro-silico- mangano-aluminium	134	62	123	177	14
Ferro-chrome	113 914	113 284	119 203	113 135	154 506
Ferro-silico-chrome	334	157	1 635	1 030	849
Ferro-manganese	48 575	33 820	29 374	22 722	40 990
Ferro-silico-manganese	33 778	34 275	30 942	27 144	41 018
Ferro-molybdenum	1 471	1 630	1 269	1 445	1 367
Ferro-nickel	115 864	83 279	73 555	76 983	93 980
Ferro-silicon	20 647	28 720	29 075	26 420	136 656
Ferro-silico-magnesium	332	191	164	206	665
Ferro-titanium & ferro- silico-titanium	265	436	817	894	1 458
Ferro-tungsten & ferro- silico-tungsten	116	90	166	208	335
Ferro-vanadium	449	683	636	408	625
Other ferro-alloys	1 397	1 710	1 340	1 152	2 668
Ingots, blooms, billets	999 268	628 525	831 521	677 740	806 508
Scrap	455 082	346 541	273 020	306 757	406 539
<b>Germany, Federal Republic of</b>					
Pig-iron	257 772	221 784	223 125	180 874	213 032
Spiegeleisen	99	—	—	—	—
Sponge & powder	39 341	17 345	19 107	19 374	21 239
Ferro-aluminium, ferro-silico- aluminium & ferro-silico- mangano-aluminium	266	210	268	148	502
Ferro-chrome	301 020	148 161	221 879	297 662	244 644
Ferro-silico-chrome	12 844	12 870	7 570	5 753	12 520
Ferro-manganese	136 651	103 111	96 809	98 242	87 111
Ferro-silico-manganese	129 854	121 177	110 704	115 360	122 635
Ferro-molybdenum	4 863	5 111	4 317	4 583	5 401
Ferro-nickel	71 714	64 805	33 358	73 107	99 327
Ferro-niobium	2 363	3 172	2 836	2 405	3 363
Ferro-silicon	221 465	146 695	198 505	195 001	241 656
Ferro-titanium & ferro- silico-titanium	2 947	3 199	3 359	3 085	3 533
Ferro-tungsten & ferro- silico-tungsten	553	411	228	147	532
Ferro-vanadium	1 199	1 698	1 577	1 682	2 644
Other ferro-alloys	4 042	6 714	4 299	5 756	5 755
Ingots, blooms, billets	913 601	1 048 650	793 435	840 318	1 070 142
Scrap	1 517 824	1 343 331	1 296 305	1 299 764	1 765 151
<b>Greece</b>					
Pig-iron	9 511	12 136	13 952	14 826	6 562
Ferro-manganese	2 673	2 370	4 322	1 563	2 751
Ferro-silico-manganese	8 693	4 477	8 173	4 271	...
Ferro-silicon	2 488	3 892	2 425	1 737	2 812
Other ferro-alloys	118	259	324	326	322
Ingots, blooms, billets	260 064	32 939	119 678	708 011	538 752
Scrap	239 004	288 110	432 021	516 525	327 571
<b>Irish Republic</b>					
Pig-iron	907	809	768	263	600
Ferro-alloys	651	1 038	827	2 186	2 188
Ingots, blooms, billets	10 352	1 521	861	369	557
Scrap	7 926	3 845	2 424	70 309	87 580

## Imports of Iron, Steel and Ferro-alloys

Country	1980	1981	1982	1983	1984
<b>Italy</b>					
Pig-iron	665 678	282 477	346 595	270 644	310 388
Spiegeleisen	4 190	2 101	880	615	2 777
Sponge & powder	53 169	52 025	53 991	34 520	75 591
Ferro-aluminium, ferro-silico-aluminium & ferro-silico-mangano-aluminium	2 389	1 284	1 847	1 825	1 844
Ferro-chrome	86 905	73 434	85 215	66 973	106 703
Ferro-silico-chrome	4 491	1 960	2 497	1 273	518
Ferro-silico-magnesium	1 630	1 591	933	1 107	1 242
Ferro-manganese	120 184	99 488	114 113	64 719	115 780
Ferro-silico-manganese	35 837	28 784	34 701	24 914	27 968
Ferro-molybdenum	694	798	1 355	1 307	1 248
Ferro-nickel	18 259	11 671	15 331	13 375	16 134
Ferro-niobium	2 783	2 101	2 483	1 622	2 376
Ferro-silicon	52 901	55 103	54 864	46 081	65 506
Ferro-titanium & ferro-silico-titanium	776	591	630	408	1 064
Ferro-tungsten & ferro-silico-tungsten	233	80	48	71	97
Ferro-vanadium	822	622	691	753	816
Other ferro-alloys	2 093	762	1 961	690	1 593
Ingots, blooms, billets	1 063 357	590 751	612 086	515 581	533 637
Scrap	7 413 441	5 539 587	5 571 298	4 446 066	5 485 656
<b>Netherlands</b>					
Pig-iron	54 797	32 322	34 620	29 601	44 078
Sponge & powder	3 273	3 066	3 270	2 832	3 562
Ferro-aluminium, ferro-silico-aluminium & ferro-silico-mangano-aluminium	19	22	92	87	82
Ferro-chrome	9 028	19 889	16 206	3 406	5 523
Ferro-silico-chrome	433	99	43	66	57
Ferro-manganese	19 031	16 902	18 916	12 065	26 629
Ferro-silico-manganese	6 536	3 606	7 463	3 758	6 656
Ferro-molybdenum	127	126	47	147	122
Ferro-nickel	61	64	103	1 148	890
Ferro-silicon	9 877	7 884	6 609	8 683	5 203
Ferro-titanium & ferro-silico-titanium	137	159	74	72	241
Ferro-tungsten & ferro-silico-tungsten	3	12	1	17	1
Ferro-vanadium	30	43	84	80	75
Other ferro-alloys	792	459	878	602	541
Ingots, blooms, billets	169 594	117 001	286 994	185 543	220 102
Scrap	153 115	236 806	221 641	363 733	479 712
<b>Albania</b>					
Ferro-alloys (g)	* 4 600	* 4 600	* 1 800	* 1 100	* 1 300
<b>Austria</b>					
Pig-iron	91 133	77 097	69 481	32 630	43 839
Sponge & powder	10 373	3 447	6 607	3 903	5 403
Ferro-chrome	24 578	16 827	23 625	18 524	25 904
Ferro-manganese	23 070	21 804	24 467	22 710	25 430
Ferro-molybdenum	109	31	59	67	63
Ferro-nickel	(d)	(d)	(d)	3 337	4 580
Ferro-niobium & ferro-niobio-tantalum	202	336	346	271	292
Ferro-silicon	14 020	13 368	14 413	13 670	14 726
Ferro-titanium	414	506	502	491	479
Ferro-tungsten	64	98	8	6	253
Ferro-vanadium	207	170	157	174	33
Other ferro-alloys	11 810	10 220	8 075	4 477	8 409
Ingots & blooms	141 810	108 583	81 100	59 246	72 248
Scrap	143 216	169 751	380 562	218 822	363 084
<b>Bulgaria</b>					
Pig-iron	413 478	434 601	399 488	407 482	665 000
Ingots, blooms, billets	* 595 000	* 708 000	* 675 000	* 570 000	* 451 000

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Czechoslovakia</b>					
Pig-iron	809 000	843 000	901 000	780 000	745 000
Ingots, blooms, billets	* 25 000	* 17 000	* 16 000	* 22 000	* 154 000
Scrap (g)	* 228 000	* 252 000	* 74 000	* 156 000	* 84 000
<b>Finland</b>					
Pig-iron	36 881	19 727	17 823	9 589	6 729
Sponge & powder	4 285	1 737	1 336	1 090	880
Ferro-chrome & ferro-silico-chrome	4 698	2 592	1 233	1 387	6 339
Ferro-manganese	3 881	3 606	5 465	3 779	5 825
Ferro-silico-manganese	17 148	13 873	17 999	15 776	17 291
Ferro-molybdenum	375	287	186	163	345
Ferro-silicon	10 125	9 195	8 838	7 442	10 198
Ferro-titanium	239	272	178	173	248
Ferro-vanadium	78	104	76	55	84
Other ferro-alloys	1 171	7 210	8 999	12 255	21 342
Ingots, blooms, billets	5 914	5 241	4 970	7 174	6 891
Scrap	104 581	62 095	50 594	37 293	32 516
<b>German Democratic Republic</b>					
Pig-iron	675 900	646 500	821 400	834 800	863 900
Ferro-alloys	66 000	74 000	78 000	68 000	78 000
Ingots, blooms, billets	2 142 000	2 312 000	2 320 000	...	...
Scrap	908 000	693 000	455 000	672 000	1 035 000
<b>Hungary</b>					
Pig-iron	255 823	289 546	234 024	293 562	279 461
Ferro-chrome	7 662	6 547	7 540	9 098	8 801
Ferro-manganese	62 023	44 431	45 008	39 980	37 794
Ferro-molybdenum	397	548	227	407	255
Ferro-silicon	6 556	6 863	7 783	6 654	6 373
Other ferro-alloys	10 818	15 237	12 120	13 186	12 564
Ingots, blooms, billets	7 083	2 956	702	—	5 602
Scrap	4 000	144 000	14 188	28 347	20 084
<b>Malta</b>					
Ingots, blooms, billets	5 552	3 734	5 852	6 755	7 804
<b>Norway</b>					
Pig-iron	10 835	11 712	7 611	5 641	5 859
Ferro-silicon	1 157	2 460	2 961	5 261	553
Other ferro-alloys	768	646	237	428	732
Ingots, blooms, billets	36 975	3 392	9 800	5 593	826
Scrap	52 925	23 571	4 950	15 140	12 888
<b>Poland</b>					
Pig-iron & ferro-alloys	1 584 372	1 545 215	1 377 391	1 232 283	1 219 000
Scrap	20 000	51 339	4 494	3 668	5 543
<b>Portugal</b>					
Pig-iron	10 116	12 260	13 865	8 858	7 421
Ferro-manganese	154	111	160	105	94
Ferro-silico-manganese	35	41	41	10	8
Ferro-silicon	518	679	657	205	643
Other ferro-alloys	699	543	660	255	487
Ingots, blooms, billets	17 510	59 811	204 929	46 968	11 099
Scrap	150 265	91 781	124 826	106 203	120 120
<b>Romania</b>					
Pig-iron	634 000	285 900	285 400	212 800	165 000
Ferro-alloys	145 100	148 900	163 700	148 700	152 000
Ingots, blooms, billets	* 189 000	* 155 000	* 141 000	* 391 000	* 218 000
<b>Soviet Union</b>					
Pig-iron (g)	* 67 700	* 196 000	* 95 600	...	...
Sponge & powder (g)	* 3 100	* 4 800	* 4 500	* 5 600	* 4 000
Ferro-silicon (g)	* 2 900	* 2 700	* 2 800	* 3 100	* 2 500
Other ferro-alloys (g)	* 900	* 850	* 850	* 400	* 1 700

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
Spain					
Pig-iron	53 163	41 502	103 748	100 513	54 533
Sponge & powder	116 714	117 548	97 515	116 341	81 012
Ferro-aluminium & ferro-silico-aluminium	—	1	27	37	)
Ferro-chrome	31 364	21 442	29 634	35 606	) (d)
Ferro-silico-chrome	1 125	1 271	2 394	1 679	)
Ferro-manganese	4 326	508	1 444	1 893	) 1 046
Ferro-silico-manganese	267	104	405	2 000	)
Ferro-molybdenum	178	78	133	110	) (d)
Ferro-nickel	3 085	3 563	4 296	6 028	)
Ferro-silicon	2 156	3 259	2 650	2 684	2 750
Ferro-titanium & ferro-silico-titanium	319	138	191	172	)
Ferro-tungsten & ferro-silico-tungsten	35	93	10	21	) 68 296
Ferro-vanadium	250	253	189	112	)
Other ferro-alloys	1 944	1 887	2 695	3 095	)
Ingots, blooms, billets	93 513	158 971	115 322	51 946	130 408
Scrap	3 907 449	3 894 493	4 536 095	4 538 232	5 020 318
Sweden					
Pig-iron	45 921	36 902	58 159	38 042	38 593
Sponge & powder	2 152	1 441	1 250	842	379
Ferro-chrome	27 798	23 246	39 819	36 007	47 632
Ferro-silico-chrome	3 638	634	2 396	1 344	1 450
Ferro-manganese	32 686	33 071	29 139	28 744	31 582
Ferro-silico-manganese	10 296	9 956	12 109	12 085	12 221
Ferro-molybdenum	1 691	1 199	1 243	1 091	1 634
Ferro-nickel	17 530	12 426	9 619	12 875	21 483
Ferro-niobium	184	214	255	253	280
Ferro-silicon	32 538	24 186	21 802	23 757	27 814
Ferro-titanium	1 909	1 130	1 740	1 226	1 308
Ferro-tungsten	453	398	112	44	301
Ferro-vanadium	920	781	876	733	955
Other ferro-alloys	1 252	524	687	727	982
Ingots, blooms, billets	108 268	105 464	115 663	100 276	79 635
Scrap	75 431	244 585	529 095	450 132	839 377
Switzerland					
Pig-iron	85 383	64 686	73 690	72 248	71 123
Sponge & powder	10 276	15 447	4 617	4 295	5 113
Ferro-aluminium	213	204	206	338	286
Ferro-silicon	6 715	5 538	4 726	5 954	8 049
Other ferro-alloys	14 825	11 271	11 744	12 854	17 269
Ingots, blooms, billets	73 897	42 034	32 512	63 226	93 993
Scrap	136 853	113 138	106 433	146 802	272 801
Turkey					
Pig-iron	8 315	22 663	50 889	66 937	43 381
Ferro-manganese	22 851	18 846	29 640	20 905	25 619
Ferro-silicon	6 422	9 530	57 765	12 636	) 26 680
Other ferro-alloys	384	835	3 509	9 004	)
Ingots, blooms, billets	112 607	199 562	209 459	705 911	1 235 018
Scrap	346 455	525 054	748 280	1 073 575	1 038 108
Yugoslavia					
Pig-iron	46 554	70 917	82 286	61 323	66 000
Sponge & powder	1 961	26 929	15 989	2 188	...
Ferro-chrome	130	118	113	917	(d)
Ferro-manganese	903	539	425	2 482	2 000
Ferro-molybdenum	740	522	719	600	)
Ferro-phosphorus	376	625	291	120	)
Ferro-silicon	1 519	1 556	1 194	2 084	) 8 000
Ferro-tungsten	57	120	80	162	)
Ferro-vanadium	224	287	313	354	)
Other ferro-alloys	2 934	2 208	2 135	2 090	)
Ingots, blooms, billets	456 789	439 896	318 341	472 994	488 000
Scrap	395 759	479 327	507 770	738 095	781 000

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Algeria</b>					
Pig-iron	9 943	19 284	9 798	12 209	...
Ferro-chrome	540	321	644	551	...
Ferro-manganese	2 528	1 800	8 681	919	...
Ferro-silico-manganese	410	276	437	870	...
Ferro-phosphorus	67	254	475	347	...
Ferro-silicon	2 774	1 636	6 038	3 902	...
Ferro-vanadium	75	20	179	150	...
Other ferro-alloys	1 189	187	343	264	...
Ingots, blooms, billets	313 446	228 347	197 550	27 352	...
<b>Cameroon</b>					
Ingots & blooms	25 005	...	40 471	...	...
<b>Egypt</b>					
Pig-iron & spiegeleisen	5 660	30 706	33 677	43 004	...
Ferro-alloys	310	1 894	6 810	3 364	...
Ingots & billets	58 233	12 699	16 108	821	...
Scrap	37 095	13 804	12 259	2 140	...
<b>Ethiopia</b>					
Ingots, blooms, billets	3 697	7 844	13 173	4 739	...
Scrap	673	...	572	462	...
<b>Ghana</b>					
Scrap	1 492	...	...	...	...
<b>Ivory Coast</b>					
Ingots, blooms, billets	3 028	4 503	...	997	...
<b>Kenya</b>					
Pig-iron & ferro-alloys	1 445	720	3 541	348	...
Ingots & blooms	31 868	10 966	14 145	9 587	...
<b>Libya</b>					
Pig-iron & ferro-alloys (c)	8 672	18 933	195	...	...
Ingots, blooms, billets	16 778	20 364	8 356	...	...
<b>Mauritius</b>					
Pig-iron & ingots	15 286	11 781	5 440	10 869	...
<b>Morocco</b>					
Pig-iron	1 423	1 281	2 291	2 147	2 764
Ferro-chrome	66	82	21	99	68
Ferro-manganese	180	177	189	206	133
Ferro-silico-manganese	—	20	26	30	20
Ferro-silicon	142	73	116	176	126
Ingots, blooms, billets	13 046	12 233	17 596	26 108	177 746
Scrap	174	1 703	2 683	2 298	896
<b>Nigeria</b>					
Pig-iron & spiegeleisen	...	30 635	6 833	...	...
Ferro-manganese	...	5 061	11 107	...	...
Other ferro-alloys	...	5 719	3 439	...	...
Ingots & blooms	...	115 525	249 893	...	...
<b>South Africa</b>					
Pig-iron	28 066	18 901	7 231	323	247
Sponge & powder	2 388	2 583	2 016	2 182	...
Ferro-chrome	6 973	6 027	7 626	8 088	5 632
Ferro-silicon	1 824	2 601	1 955	932	513
Other ferro-alloys	2 251	1 268	931	1 251	2 559
Ingots & blooms	6 831	14 526	39 064	50 299	...
Scrap	27 922	12 462	27 462	7 274	...
<b>Sudan</b>					
Ingots, blooms, billets	6 150	3 965	3 263	7 967	...
<b>Tanzania</b>					
Pig-iron & ferro-alloys	1 244	1 307	769	1 325	...
Ingots & blooms	5 878	8 357	...	2 861	...
<b>Tunisia</b>					
Pig-iron	733	...	1 274	...	1 753
Ferro-alloys	785	...	1 116	...	1 524
Ingots, blooms, billets	110	10 116	70 020	...	15 292
Scrap	49	992	5 303	...	—
<b>Zaire</b>					
Ferro-alloys	209	417	452	471	251
<b>Zimbabwe</b>					
Ferro-chrome	1 833	2 249	582	1 838	...
Ferro-manganese	2 459	1 994	2 600	1 892	...
Other ferro-alloys	279	365	216	1 597	...



## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
Canada					
Pig-iron	2 075	6 965	2 262	4 856	5 269
Sponge & powder	8 676	9 770	6 257	6 614	8 151
Ferro-chrome	41 369	31 579	21 785	32 565	33 091
Ferro-manganese & spiegeleisen	26 704	36 656	25 088	18 263	29 805
Ferro-silico-manganese & silico-spiegeleisen	20 901	12 669	2 877	464	6 830
Ferro-silicon	18 508	18 630	9 860	13 088	24 777
Ferro-tungsten	7	5	5	2	5
Ferro-vanadium	520	562	241	172	245
Other ferro-alloys	10 506	17 804	4 806	7 057	11 810
Ingots, blooms, billets	104 647	167 067	16 322	37 161	184 224
Scrap	1 015 606	835 070	454 403	665 867	1 131 172
Costa Rica					
Ingots, blooms, billets	25 051	17 433	21 134	25 593	45 933
Cuba					
Pig-iron	149 051	162 218	164 296	182 213	...
Dominican Republic					
Ferro-alloys	938	660	112	...	...
Ingots, blooms, billets	5 212	307	57 864	51 377	...
Scrap	29 566	27 048	565	1 232	...
El Salvador					
Ingots, blooms, billets	889	182	747	2 000	...
Scrap	4 611	7 660	233	186	...
Guatemala					
Ingots, blooms, billets	14 781	28 231	19 075	12 068	...
Haiti (i)					
Ingots, blooms, billets	10 215	19 553	5 915	...	...
Honduras					
Ingots & blooms	5 630	1 607	324	...	...
Jamaica					
Ingots & blooms	2 981	7 655	5 689	7 553	3 596
Mexico					
Pig-iron	98 335	147 927	41 225	2 084	...
Sponge & powder	38 259	3 708	1 883	1 677	...
Ferro-alloys	11 296	28 293	4 800	1 530	...
Ingots, blooms, billets	381 637	403 284	89 299	40 375	...
Scrap	280 384	213 560	420 903	353 789	...
Nicaragua					
Ingots, blooms, billets	10 372	7 645	13 269	...	...
Panama					
Ingots, blooms, billets	22 938	21 337	14 657	13 330	10 288
Trinidad & Tobago					
Ingots, blooms, billets	16 139	8 094	11	37	16 434
USA					
Pig-iron	362 904	392 823	296 198	220 549	639 706
Spiegeleisen	2 586	3 169	39	142	199
Sponge & powder	59 688	66 406	45 792	122 761	159 113
Ferro-chrome	269 634	403 801	129 741	243 717	386 287
Ferro-silico-chrome	4 610	15 511	2 690	1 305	7 205
Ferro-manganese	549 484	614 986	428 753	308 391	371 320
Ferro-silico-manganese	67 686	122 853	56 821	126 343	125 640
Ferro-molybdenum	21	533	778	473	946
Ferro-nickel	46 939	63 370	19 369	38 753	39 052
Ferro-niobium	4 130	4 234	2 183	1 772	3 031
Ferro-silicon	64 580	137 863	70 873	144 353	130 318
Ferro-titanium & ferro-silico-titanium	550	397	121	798	525
Ferro-tungsten & ferro-silico-tungsten	247	185	86	60	357
Ferro-vanadium	298	1 121	776	767	1 315
Ferro-zirconium	925	810	981	570	689
Ingots, blooms, billets	141 965	721 262	650 078	746 144	1 375 079
Scrap	506 353	507 770	429 207	578 672	518 919

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
<b>Argentina</b>					
Pig-iron	152 609	10 101	121 792	206 000	177 000
Ferro-chrome	2 270	1 711	2 390	...	...
Ferro-manganese	2 193	620	269	...	...
Ferro-molybdenum	7	58	6	...	...
Ferro-silicon	156	441	—	...	...
Ferro-titanium	347	87	21	...	...
Other ferro-alloys	760	714	1 154	...	...
Blooms & billets	185 857	93 138	55 900	...	...
Scrap	1 574	2 168	1 807	...	...
<b>Brazil</b>					
Sponge & powder	11 676	80 672	57 931	4 736	4 226
Ferro-chrome	220	564	881	292	197
Ferro-silico-chrome	254	224	255	181	—
Ferro-silicon	1 214	862	8	6	61
Other ferro-alloys	815	4 516	83	41	67
Ingots, blooms, billets	20 069	291 728	190 184	48	—
Scrap	21 909	6 828	7 185	0	30 506
<b>Colombia</b>					
Ferro-chrome	156	466	189	184	...
Ferro-manganese	6 564	2 500	2 500	2 332	...
Ferro-silico-manganese	1 255	620	1 462	405	...
Ferro-silicon	2 310	1 676	1 506	2 181	...
Other ferro-alloys	232	163	434	332	...
Ingots, blooms, billets	25 993	37 279	26 507	11 872	...
Scrap	13 926	29 968	26 982	46 199	...
<b>Ecuador</b>					
Ingots, blooms, billets	148 861	42 419	137 216	...	...
<b>Peru</b>					
Ferro-chrome	206	144	146	127	...
Ferro-manganese	3 289	1 758	2 087	3 241	...
Ferro-silico-manganese	1 497	67	1 031	—	...
Ferro-silicon	1 037	733	354	1 194	...
Ingots, blooms, billets	25 618	26 130	6 662	9 209	...
Scrap	32 610	7 046	16 236	166	...
<b>Suriname</b>					
Ferro-alloys	5 387	8 614	8 483	...	...
Ingots, blooms, billets	4 402	6 985	6 874	...	...
Scrap	8 126	8 575	6 705	...	...
<b>Uruguay</b>					
Ferro-alloys	253	143	249	472	843
Ingots, blooms, billets	38 583	32 903	16 593	948	6 800
<b>Venezuela</b>					
Pig-iron	2 731	67	4	...	...
Ferro-manganese	35 333	16 497	19 059	...	...
Ferro-silico-manganese	)	)	2 420	...	...
Ferro-silicon	) 8 787	4 272	20	...	...
Other ferro-alloys	)	)	549	...	...
Ingots, blooms, billets	236 219	89 524	112 915	...	...
Scrap	32 473	50 328	20 491	...	...
<b>China</b>					
Pig-iron (g)	* 403 800	* 85 400	...	* 688 900	* 1 019 000
Ferro-alloys (g)	* 2 000	* 1 300	...	* 20 000	* 18 200
Ingots, blooms, billets (g)	* 8 200	* 23 000	* 20 900	* 112 600	* 380 900
Scrap (g)	* 2 000	* 2 100	* 2 200	* 1 100	* 67 400
<b>Cyprus</b>					
Pig-iron	—	1 000	500	1 334	356
<b>Hong Kong</b>					
Pig-iron	18 711	22 509	12 425	12 028	5 635
Ferro-manganese	3	511	1 976	563	6 326
Ferro-silicon	244	854	1 750	1 259	1 067
Other ferro-alloys	1 676	2 180	1 864	1 240	1 547
Ingots, blooms, billets	156 083	127 018	91 326	72 371	147 722
Scrap	87 326	94 411	64 112	26 883	27 748

## Imports of Iron, Steel and Ferro-alloys

Country	1980	1981	1982	1983	1984
<b>India</b>					
Ferro-chrome	1 210	615	...	...	...
Ferro-manganese	224	208	...	...	...
Ferro-molybdenum	960	156	...	...	...
Ferro-nickel	2 827	1 357	...	...	...
Ferro-phosphorus	94	54	...	...	...
Ferro-silicon	1 827	7 377	...	...	...
Other ferro-alloys	1 109	5 466	...	...	...
Ingots, blooms, billets (e)	50 929	237 886	...	...	...
Scrap	125 842	522 844	600 000	600 000	* 600 000
<b>Indonesia</b>					
Pig-iron	34 963	73 157	83 249	86 587	94 910
Ferro-manganese	3 142	2 744	5 680	7 437	20 727
Ferro-silicon (d)		3 360	7 335	8 444	7 769
Other ferro-alloys	12 303	126	501	1 471	2 170
Ingots, blooms, billets	468 238	496 556	220 468	157 487	118 883
Scrap	39 009	62 693	226 894	257 890	243 121
<b>Iran (f)</b>					
Pig-iron	* 600	* 600	5 152	30 597	...
Ferro-alloys	2 614	1 949	797	8 592	...
Ingots, blooms, billets	94 495	136 813	9 124	458 718	...
<b>Israel (b)</b>					
Pig-iron	352	594	...	(g)* 1 500	(g)* 1 000
Spiegeleisen	—	336	...	...	...
Ferro-manganese	667	469	...	(g)* 150	(g)* 700
Other ferro-alloys	690	1 333	...	(g)* 500	(g)* 700
Ingots, blooms, billets	6 199	23 713	67 631	76 675	126 081
Scrap	20 501	26 635	12 188	(g)* 13 900	(g)* 2 100
<b>Japan</b>					
Pig-iron	738 528	1 068 400	1 337 082	951 571	777 318
Sponge & powder	42 231	17 092	43 955	48 448	44 869
Ferro-chrome	257 157	189 928	214 313	297 533	395 381
Ferro-silico-chrome	23 210	9 764	6 662	5 379	8 665
Ferro-manganese	2 662	6 505	11 965	15 832	14 102
Ferro-silico-manganese (d)		(d)	75 627	115 533	114 082
Ferro-molybdenum	448	266	374	460	591
Ferro-nickel	31 119	26 493	29 758	36 750	44 754
Ferro-niobium	1 419	1 586	2 326	1 778	2 050
Ferro-silicon	122 012	196 487	237 541	273 907	338 646
Ferro-tungsten	186	45	72	192	268
Ferro-vanadium	306	830	698	741	566
Other ferro-alloys	38 774	71 120	4 685	5 287	8 870
Ingots, blooms, billets	448 961	195 666	96 483	105 001	232 911
Scrap	2 986 171	1 790 950	2 025 440	3 905 649	4 017 591
<b>Jordan</b>					
Pig-iron	17 787	20 443	65 131	12 961	241
Ingots, blooms, billets	59 270	123 785	111 816	181 996	145 510
Scrap	4 471	5 573	2 468	4 978	2 551
<b>Korea, Republic of</b>					
Pig-iron	16 971	63 914	72 399	104 976	203 169
Sponge & powder	6 000	1 922	2 056	2 338	3 090
Ferro-chrome	2 550	1 340	3 821	4 390	6 222
Ferro-manganese	857	4 625	5 812	9 004	4 084
Ferro-silicon	1 989	4 024	3 868	4 745	5 899
Other ferro-alloys	1 337	1 141	1 237	2 482	5 229
Ingots & blooms	74 693	116 980	126 024	88 724	99 779
Scrap	1 932 127	2 310 403	1 808 880	1 895 975	2 080 765
<b>Kuwait</b>					
Scrap	1 182	1 595	384	...	...
<b>Malaysia</b>					
Pig-iron	13 978	12 803	11 573	13 021	...
Ferro-manganese	3 794	3 427	3 371	3 965	...
Ferro-silicon	1 308	2 101	1 681	2 257	...
Other ferro-alloys	577	682	1 345	929	...
Ingots, blooms, billets	233 020	157 690	241 166	560 949	...
Scrap	4 162	54 878	25 465	49 791	...

**Imports of Iron, Steel and Ferro-alloys**

tonnes

Country	1980	1981	1982	1983	1984
<b>Pakistan (h)</b>					
Ferro-manganese	3 194	3 072	50 707	4 526	4 927
Ferro-silicon	2 741	2 743	(d)	13 566	7 716
Other ferro-alloys	14 724	328	50 317	863	21 003
Scrap	213 243	572 661	219 419	115 702	136 908
<b>Philippines</b>					
Pig-iron	19 939	1 241	3 014	3	90
Ferro-manganese	3 214	1 079	2 167	3 315	894
Ferro-silicon	697	496	718	499	3
Other ferro-alloys	969	629	586	736	449
Ingots, blooms, billets	292 534	293 801	488 516	558 790	280 712
Scrap	8 966	8 789	25 031	142	1 568
<b>Qatar</b>					
Scrap	129 875	244 760	614 677	11 900	6 954
<b>Saudi Arabia</b>					
Pig-iron	36 314	14 228	39 041	256 990	103 153
Sponge & powder	8 741	14 381	48 931	90 703	342
Ferro-alloys	11 680	346	356	140	192
Ingots, blooms, billets	82 618	79 765	132 218	99 422	20 463
Scrap	1 198	424	1 278	—	552
<b>Singapore</b>					
Pig-iron	31 490	61 245	101 222	55 536	7 559
Ferro-manganese	3 534	505	3 611	287	1 101
Ferro-silicon	1 298	2 113	1 662	986	1 319
Other ferro-alloys	3 580	6 957	5 612	3 440	8 334
Ingots & blooms	96 126	43 599	200 469	210 160	113 806
Scrap	172 028	78 214	93 028	94 511	78 646
<b>Sri Lanka</b>					
Ingots, blooms, billets	56 745	24 004	9 293	6 342	6 397
<b>Syria</b>					
Pig-iron	7 411	5 389	7 791	4 513	5 797
Ingots, blooms, billets	94 125	60 969	27 903	43 687	72 604
Scrap	8 603	17 313	24 856	6 451	1 778
<b>Taiwan</b>					
Pig-iron	152 464	173 185	142 036	218 323	211 151
Sponge & powder	9 962	10 921	3 753	2 441	2 932
Ferro-chrome	556	785	335	5 613	9 261
Ferro-manganese	799	591	2 615	856	975
Ferro-silicon	669	1 378	2 142	3 498	3 096
Other ferro-alloys	902	670	374	674	2 435
Ingots, blooms, billets	266 435	71 727	136 155	127 290	238 682
Scrap	1 232 365	880 789	650 988	735 515	577 658
<b>Thailand</b>					
Pig-iron	4 621	26 783	14 103	14 510	13 641
Ferro-manganese	3 933	2 874	2 973	4 017	3 386
Ferro-silico-manganese	463	1 291	397	731	1 186
Ferro-silicon	3 392	3 303	3 003	3 538	3 606
Other ferro-alloys	778	879	228	2 377	1 682
Ingots, blooms, billets	44 270	58 033	23 045	36 118	14 581
Scrap	337 670	417 183	389 928	641 288	494 354
<b>Australia</b>					
Ferro-chrome	16 044	7 189	2 521	5 438	15 000
Ferro-manganese (c)	7 203	3 916	1 834	1 318	2 989
Ferro-silico-manganese	532	217	462	(d)	(d)
Ferro-molybdenum	283	171	175	115	168
Ferro-nickel	430	1 637	106	807	864
Ferro-silicon	14 598	9 716	10 761	7 174	9 461
Other ferro-alloys	2 551	7 311	1 382	1 343	2 055
Ingots & billets	36 157	1 255	1 451	802	5 920
Scrap (h)	1 255	853	736	348	226

## Imports of Iron, Steel and Ferro-alloys

tonnes

Country	1980	1981	1982	1983	1984
Fiji					
Ingots, blooms, billets	11 213	8 413	9 109	9 335	...
New Zealand (h)					
Pig-iron	841	444	268	356	259
Ferro-manganese	1 570	585	957	1 185	665
Other ferro-alloys	3 012	2 835	2 754	2 526	2 475
Ingots, blooms, billets	4 307	3 782	5 897	4 402	4 312
Scrap	938	1 937	6 599	3 538	2 391

Note: In this table the term 'ingots, blooms, billets' corresponds to items 672.4 and 5 of the Standard International Trade Classification (Revision 2) which includes those of alloy and high carbon steel

- (a) Excluding ships intended for breaking up
- (b) Figures may be incomplete as value only given in Israeli trade return for imports from some countries
- (c) Including powder
- (d) Included with 'other ferro-alloys'
- (e) Years ended 31 March following that stated
- (f) Years ended 20 March following that stated
- (g) BGS estimates, based on known exports from certain countries
- (h) Years ended 30 June of that stated
- (i) Years ended 30 September of that stated

## Production of Kaolin

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom (a)	2 839 000	2 629 000	2 421 000	2 722 000	* 2 990 000
Belgium	60 800	54 400	52 600	60 000	* 55 000
France	268 000	402 700	324 900	289 200	306 600
Germany, Federal Republic of (g)	367 000	370 000	378 000	361 000	370 000
Greece	50 259	40 033	50 096	66 781	101 783
Italy	66 711	74 084	53 495	50 450	53 004
Austria	83 882	79 214	77 286	83 560	91 669
Bulgaria	208 000	221 000	237 000	242 000	* 240 000
Czechoslovakia (c)	518 000	508 000	527 000	539 000	540 000
German Democratic Republic	* 200 000	* 200 000	* 210 000	* 200 000	* 170 000
Hungary (c)	59 000	60 000	52 000	45 000	* 47 000
Poland	51 026	43 207	52 128	54 200	52 900
Portugal	83 145	107 968	94 437	101 594	87 225
Romania	402 800	* 410 000	* 410 000	* 410 000	* 410 000
Soviet Union	* 2 500 000	* 2 500 000	* 2 500 000	* 2 600 000	* 2 800 000
Spain (h)	181 116	189 990	165 936	191 632	...
Sweden (h)(i)	357	289	305	300	...
Turkey	60 263	44 795	37 841	35 496	60 882
Yugoslavia	197 124	224 797	236 485	206 254	* 220 000
Algeria	8 251	* 19 000	* 15 000	* 17 000	8 000
Burundi	* 2 000	4 180	* 2 000	4 053	1 990
Egypt	45 000	32 113	49 787	100 176	140 825
Ethiopia	55 235	9 000	* 9 000	* 9 000	* 9 000
Kenya	1 487	301	1 077	650	295
Madagascar	2 858	1 746	—	4	5
Nigeria	940	765	560	604	286
South Africa	141 509	155 003	129 368	130 806	136 160
Tanzania	7 434	5 400	2 800	1 600	2 900
Zimbabwe	4 450	4 657	2 441	4 470	1 350
Mexico	271 041	207 824	172 390	162 000	* 163 000
USA (e)	7 147 703	6 949 472	5 771 694	6 534 184	7 214 541
Argentina	91 417	66 821	72 421	145 098	* 140 000
Brazil (b)	477 858	556 753	600 632	501 706	* 530 000
Chile	59 452	56 778	21 086	40 812	48 608
Ecuador	4 000	3 000	5 872	3 449	* 3 000
Paraguay	50 000	70 000	* 55 000	* 45 000	* 44 000
Peru	5 500	* 6 000	* 6 000	* 6 000	* 6 000
Venezuela	11 000	* 66 000	27 000	11 250	* 23 000
Bangladesh (d)	7 046	5 005	5 862	2 269	3 600
Hong Kong	748	2 040	286	834	70
India (c)	459 589	504 473	548 105	564 065	623 000
Indonesia	75 558	80 904	77 207	60 000	67 795
Iran	* 150 000	* 100 000	* 110 000	* 100 000	* 100 000
Israel	9 495	37 299	12 000	26 844	* 27 000
Japan	169 748	153 544	144 234	173 480	225 000
Jordan	25 147	10 439	14 565	10 351	26 035
Korea, Republic of	272 944	223 424	174 918	232 276	* 200 000
Malaysia	46 324	44 084	44 363	57 432	72 472
Pakistan	27 162	40 934	32 483	23 412	17 127
Sri Lanka	6 614	7 315	8 206	7 976	* 8 000
Taiwan	79 802	90 836	87 532	102 895	79 411
Thailand	19 934	14 086	17 846	36 350	58 616
Australia (c)(f)	219 070	170 472	152 133	115 526	* 200 000
New Zealand	46 112	49 307	23 957	23 917	25 098
World total	18 200 000	17 900 000	16 300 000	17 500 000	19 000 000

Note: In addition to the countries listed, China, Colombia, Lebanon and Vietnam are also believed to produce kaolin

(a) Sales

(b) Includes beneficiated and directly shipped material

(c) Partly beneficiated material

(d) Years ended 30 June of that stated

(e) Sold or used by producers

(f) White clays; including kaolin and ball clay

(g) Washed and dried

(h) Beneficiated

(i) By-product, total production not reported

## Exports of Kaolin

Country	1980	1981	1982	1983	1984
United Kingdom	2 402 400	2 196 529	2 105 753	2 131 469	2 559 668
Belgium-Luxembourg	12 605	8 362	16 324	25 079	31 728
Denmark	990	732	644	639	686
France	181 593	167 284	139 029	143 859	147 872
Germany, Federal Republic of	102 005	92 602	91 488	96 395	91 955
Greece	16 486	10 819	11 812	13 827	...
Italy	30 013	20 562	23 858	19 981	33 918
Netherlands	79 203	81 526	94 327	108 861	106 473
Austria	29 075	24 987	27 863	35 664	49 853
Bulgaria (a)	* 10 700	* 6 900	* 10 600	* 7 200	* 9 400
Czechoslovakia	367 000	347 000	369 000	390 000	389 000
German Democratic Republic	133 984	15 883	146 062	111 417	147 848
Hungary	6 496	6 615	5 995	6 115	6 603
Soviet Union (a)	* 32 800	* 28 700	* 55 500	* 40 600	* 44 400
Spain	79 407	51 809	51 156	54 363	...
Sweden	886	560	403	160	5 505
Turkey	7 631	18 287	...	...	...
Yugoslavia	6 587	—	22	3	...
South Africa	1 798	1 346	1 387	979	638
Mexico	1 504	1 428	29	234	...
USA	1 263 341	1 281 771	1 178 866	1 214 153	1 286 750
Argentina	133	486	10	...	...
Brazil	183 025	133 779	143 358	181 555	195 830
China (a)	* 16 500	* 34 900	* 31 400	* 25 700	* 58 600
Hong Kong	10 250	9 983	9 936	2 997	10 275
of which: Re-exports	9 750	9 677	9 346	2 122	9 670
India	4 904	4 763	...	...	...
Indonesia	5 313	9 310	2 063	3 796	10 920
Japan	4 522	2 502	2 785	4 439	4 476
Korea, Republic of	76 920	88 127	51 423	51 092	67 702
Malaysia	17 361	11 541	14 156	29 636	...
Singapore	1 941	1 840	2 797	—	—
of which: Re-exports	1 858	1 732	2 722	—	—

(a) BGS estimates, based on known imports into certain countries

## Imports of Kaolin

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	4 535	3 396	3 462	4 287	4 187
Belgium-Luxembourg	259 510	237 297	267 577	247 264	275 863
Denmark	38 428	35 912	37 452	37 690	38 167
France	338 622	280 343	303 345	325 242	360 501
Germany, Federal Republic of	859 571	834 114	851 426	863 565	910 816
Greece	104 756	56 790	43 752	37 921	...
Italy	791 218	646 354	599 598	596 700	603 297
Netherlands	469 562	403 112	415 497	460 289	453 660
Austria	107 643	110 763	94 299	95 035	102 598
Bulgaria (c)	* 1 500	* 1 600	* 2 300	* 2 000	* 1 300
Czechoslovakia (c)	* 7 600	* 6 900	* 6 600	* 7 100	* 7 300
Finland	390 021	365 051	370 054	429 672	518 724
German Democratic Republic	15 200	11 200	6 700	4 600	3 100
Hungary	34 903	30 868	37 772	40 232	60 843
Norway	80 144	67 529	71 914	67 224	75 477
Poland	151 252	139 379	137 028	...	123 782
Portugal	9 943	10 885	11 455	7 765	8 249
Romania (c)	* 25 600	* 23 400	* 16 100	* 8 400	* 4 400
Spain	167 245	166 780	176 301	164 424	...
Sweden	273 914	283 761	297 454	336 310	403 377
Turkey	962	5 327	...	...	...
Yugoslavia	86 363	76 214	80 845	81 076	...
Algeria (d)	12 699	17 260	4 842	8 015	...
Ivory Coast	198	114	...	...	...
Morocco	3 455	5 398	8 133	7 228	9 908
Tunisia	7 129	...	6 641	...	7 975
Zimbabwe	2 099	2 012	2 114	...	...
Canada	254 387	231 760	205 955	249 834	253 080
Mexico	82 749	80 289	67 233	60 430	...
USA	14 362	12 357	8 554	6 757	9 669
Argentina	16 116	10 964	12 815	...	...
Brazil	3 614	2 935	2 045	1 976	1 369
Colombia	3 246	5 566	4 260	6 197	...
Peru	5 968	3 451	3 511	2 154	...
Uruguay	3 205	2 461	394	1 086	2 848
Venezuela	...	...	24 757	...	...
Hong Kong	22 078	28 501	25 336	13 234	42 503
India	186	122	...	...	...
Indonesia	13 318	13 688	13 218	20 347	29 956
Iran (a)	7 352	9 941	8 272	15 622	...
Japan	565 404	521 681	560 071	549 763	684 405
Korea, Republic of	19 557	46 292	129 624	36 258	36 032
Malaysia	919	2 012	2 182	2 024	...
Pakistan (b)	5 592	4 811	5 262	5 385	5 136
Philippines	9 023	7 872	7 530	9 098	6 115
Saudi Arabia	885	1 579	3 582	3 937	4 570
Singapore	5 286	6 573	8 635	—	—
Taiwan	66 753	54 261	52 357	58 509	82 337
Thailand	3 800	4 173	4 016	2 661	2 668
Australia	3 083	11 294	12 714	9 401	...
New Zealand (b)	1 280	615	669	974	210

(a) Years ended 20 March following that stated

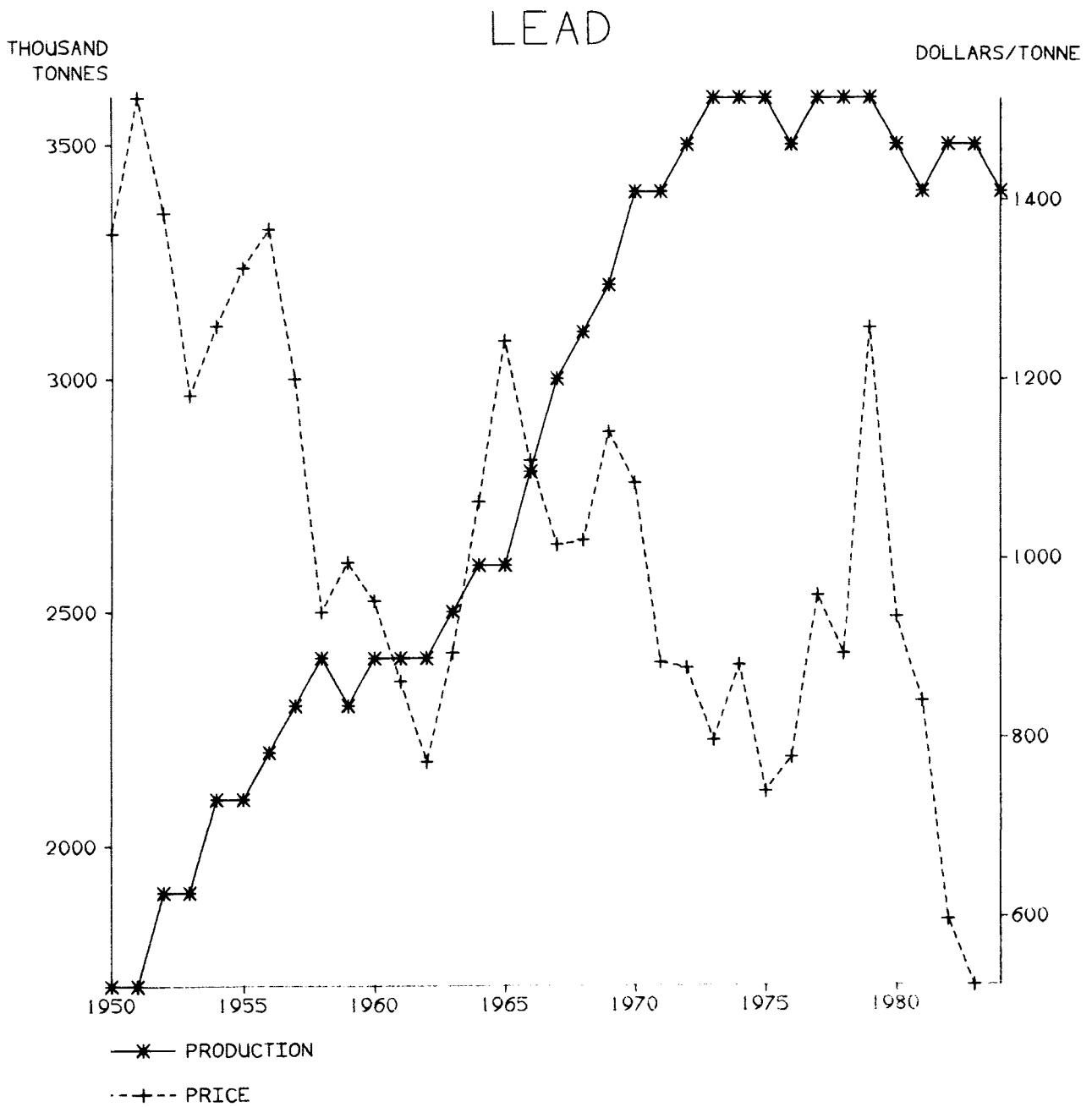
(b) Years ended 30 June of that stated

(c) BGS estimates, based on known exports from certain countries

(d) Including bentonite







**Figure 10** World mine production of lead from 1950 to 1984 compared with the yearly average domestic producer price of pig on the New York Market expressed in constant 1980 US dollars.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Mine Production of Lead

tonnes (metal content)

Country	1980	1981	1982	1983	1984
United Kingdom	3 600	6 965	3 993	3 797	2 431
France	28 847	19 186	5 860	1 511	2 260
Germany, Federal Republic of (a)	23 000	21 600	23 500	23 500	21 000
Greece	22 097	22 400	19 470	20 090	22 154
Irish Republic	58 000	29 000	39 000	34 000	37 200
Italy	23 600	21 300	16 300	23 500	21 500
Austria	5 475	5 683	5 574	5 750	5 574
Bulgaria	100 000	90 000	95 000	95 000	95 000
Czechoslovakia	2 904	2 675	2 649	2 652	* 3 000
Finland	1 779	2 007	2 384	2 137	2 478
Greenland	29 800	27 000	26 500	21 600	17 800
Hungary	1 064	937	583	671	587
Norway	2 469	2 973	4 002	4 309	3 531
Poland	47 500	44 200	45 300	47 000	52 800
Romania	* 23 000	* 20 000	* 27 000	* 28 500	* 29 000
Soviet Union	* 580 000	* 570 000	* 575 000	* 580 000	* 570 000
Spain	87 105	83 909	73 271	82 032	96 726
Sweden	72 132	88 103	86 767	85 762	80 500
Turkey	7 777	8 385	10 675	9 087	14 600
Yugoslavia	121 465	118 556	113 100	114 400	113 600
Algeria	2 400	3 200	3 000	3 000	3 600
Congo	7 000	7 682	4 000	4 000	4 000
Morocco	114 823	112 612	99 133	97 150	100 100
Namibia	47 700	46 500	34 900	33 800	42 600
Nigeria	* 400	* 200	* 300	* 300	* 300
South Africa	86 059	98 901	90 288	87 533	94 764
Tunisia	8 800	6 000	5 300	4 900	4 100
Zambia	14 131	18 018	23 198	25 695	20 310
Canada	296 641	332 045	341 212	251 383	307 406
Guatemala (b)	92	110	100	60	60
Honduras	13 763	13 654	12 417	* 15 000	* 16 000
Mexico	145 549	157 384	145 844	167 405	181 968
USA (a)	550 366	445 535	512 516	449 216	321 897
Argentina	32 606	32 652	32 777	31 684	28 500
Bolivia	17 225	16 757	12 433	12 105	7 400
Brazil	21 754	21 650	19 360	18 821	19 200
Chile	461	223	1 552	1 679	4 284
Colombia	187	154	235	185	* 200
Peru (a)	189 133	186 735	175 771	205 100	198 400
Burma	5 900	4 900	9 100	8 900	8 300
China	* 160 000	* 160 000	* 160 000	* 160 000	* 165 000
India	14 433	15 200	14 000	19 900	18 600
Iran (c)	12 000	20 000	25 000	20 000	20 000
Japan	43 209	45 882	45 225	46 994	48 735
Korea, Dem. P.R. of	* 100 000	* 90 000	* 90 000	* 95 000	* 110 000
Korea, Republic of	11 406	13 635	12 166	12 225	10 837
Philippines	1 812	1 066	—	—	—
Thailand	10 560	17 273	18 580	21 019	16 662
Australia	397 491	388 122	455 338	480 626	440 293
World total	3 500 000	3 400 000	3 500 000	3 500 000	3 400 000

(a) Recoverable

(b) Smelter

(c) Years ended 20 March following that stated

Lead

**Production of Refined Lead**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	324 790	333 361	306 194	322 196	338 374
Belgium (a)	127 908	109 932	99 720	134 152	127 711
Denmark (b)	23 018	24 030	15 927	10 052	13 128
France	218 831	227 998	208 559	198 388	205 701
Germany, Federal Republic of	350 300	348 300	350 500	352 500	357 200
Greece	21 067	20 900	3 200	—	11 600
Irish Republic	7 000	* 13 000	* 10 000	* 8 000	9 000
Italy	133 657	132 956	133 660	126 829	140 458
Netherlands	28 000	33 900	32 500	25 600	33 600
Austria	18 062	16 640	18 706	18 241	20 081
Bulgaria	* 118 000	* 123 000	* 118 000	* 116 000	* 114 000
Czechoslovakia	20 014	20 663	21 071	21 030	21 134
Finland	5 751	5 535	5 214	6 000	4 500
German Democratic Republic	* 42 000	* 43 000	* 38 000	* 36 000	* 35 000
Norway	284	161	69	37	—
Poland	82 000	69 000	78 800	81 000	83 400
Portugal	5 600	3 000	4 000	6 000	6 000
Romania	40 991	40 665	45 675	49 298	42 000
Soviet Union	* 780 000	* 800 000	* 800 000	* 800 000	* 800 000
Spain	120 700	117 200	131 600	144 700	147 600
Sweden	47 123	21 795	63 690	62 805	73 200
Switzerland	5 000	3 500	3 000	2 000	2 000
Turkey	2 800	2 500	3 100	4 000	4 000
Yugoslavia	101 751	86 401	81 248	97 531	82 815
Algeria	5 000	5 000	5 500	5 000	5 000
Morocco	42 400	52 300	58 600	57 600	48 300
Namibia	42 700	41 700	40 600	35 400	28 900
Nigeria	2 000	2 000	2 000	1 500	2 500
South Africa	35 400	26 900	30 400	23 600	24 000
Tunisia	19 195	17 822	15 511	10 513	8 399
Zambia	10 047	9 866	14 645	14 572	8 825
Canada	234 580	238 108	238 882	241 957	254 380
Jamaica	* 2 000	* 1 000	* 1 000	* 1 000	* 1 000
Mexico	184 300	188 600	171 200	193 500	195 000
Trinidad & Tobago	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000
USA	1 150 469	1 067 579	1 032 230	(c) 964 006	(c) 920 698
Argentina	41 700	34 600	30 600	31 300	31 300
Brazil	84 950	65 686	49 350	49 520	62 500
Colombia	* 3 000	* 3 000	* 3 000	* 3 000	* 3 400
Peru	87 300	84 200	82 000	65 100	71 200
Venezuela	10 000	10 000	10 000	* 10 000	* 10 000
Burma	6 014	4 068	7 829	7 636	6 995
China	* 175 000	* 175 000	* 175 000	* 195 000	* 200 000
India	25 581	25 406	23 193	21 556	23 100
Japan	304 941	317 017	302 200	321 642	362 948
Korea, Dem. P.R. of	* 65 000	* 65 000	* 75 000	* 80 000	* 95 000
Korea, Republic of	15 000	21 200	16 100	19 400	19 200
Malaysia	5 200	3 500	3 000	4 000	9 000
Philippines	4 800	4 000	6 000	6 000	4 000
Taiwan	16 800	30 000	35 000	38 000	44 300
Thailand	5 000	5 000	5 000	5 000	6 200
Australia	233 654	239 169	247 112	223 335	220 347
New Zealand	7 000	7 000	6 000	6 000	6 000
World total	5 400 000	5 300 000	5 300 000	5 300 000	5 300 000

Note: Figures relate to both primary and secondary refined lead and include the lead content of antimonial lead. Metal recovered from secondary materials by remelting alone is excluded

(a) Including alloys

(b) Sales

(c) Excludes Pb content of primary antimonial lead

# Exports of Lead

Lead  
tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	3 535	2 378	2 496	10 096	2 644
Unwrought	127 930	104 513	94 800	88 231	116 686
Unwrought alloys	14 108	25 608	33 235	24 816	26 395
Scrap	30 662	18 221	22 607	22 314	34 383
Belgium-Luxembourg					
Ore	8 058	—	75	37	—
Unwrought	72 012	59 904	63 230	63 887	69 709
Unwrought alloys	12 250	10 675	11 418	12 501	14 993
Scrap	16 718	13 417	13 811	6 063	7 427
Denmark					
Ore	—	—	—	220	—
Unwrought	4 375	5 986	2 655	356	602
Unwrought alloys	10 723	8 822	7 289	7 580	10 235
Scrap	1 707	1 889	5 977	8 040	14 179
France					
Ore	69	140	44	3 096	122
Unwrought	42 618	45 841	41 083	33 888	35 781
Unwrought alloys	15 007	16 348	14 734	15 761	18 055
Scrap	7 851	10 635	8 928	10 674	17 973
Germany, Federal Republic of					
Ore	2 000	300	55	741	3
Unwrought	65 952	63 278	62 711	76 969	66 093
Unwrought alloys	32 810	33 084	37 911	43 361	40 467
Scrap	20 041	18 550	13 588	17 194	15 756
Greece					
Ore	39 124	21 580	28 700	36 800	33 706
Irish Republic					
Ores & concentrates	110 238	63 779	49 383	59 606	61 114
Unwrought (a)	1 857	3 612	1 715	177	294
Scrap	1 881	2 226	3 858	2 995	5 107
Italy					
Ore	21 353	17 319	21 549	21 023	30 906
Unwrought (a)	4 199	4 434	4 573	5 896	8 806
Scrap	21	180	496	1 168	320
Netherlands					
Unwrought	6 023	1 676	2 448	1 141	2 547
Unwrought alloys	13 673	12 090	11 697	12 056	12 826
Scrap	36 153	33 604	26 835	25 946	30 024
Austria					
Unwrought	391	334	837	767	467
Scrap	3	4	111	2	93
Bulgaria					
Unwrought (a)(f)	* 7 900	* 4 600	* 5 800	* 2 100	* 1 600
Czechoslovakia					
Ores & concentrates (f)	* 4 700	* 5 800	* 5 700	* 5 700	* 5 800
Finland					
Ore	2 047	3 135	17	42 708	7 494
Unwrought (a)	869	853	1 088	1 345	25
Greenland					
Ores & concentrates	43 199	31 399	34 424	34 216	29 376
Hungary					
Scrap	6 865	6 953	6 220	2 594	2 614
Norway					
Ore	3 754	5 161	7 449	6 898	6 732
Unwrought (a)	126	31	29	131	28
Scrap	8 753	8 020	6 507	6 706	8 159
Portugal					
Ore	1 420	956	1 193	1 049	1 048
Soviet Union					
Unwrought (a)(f)	* 40 900	* 27 500	* 24 200	* 17 200	* 23 000
Spain					
Ore	9 394	32 182	20 364	153	42 323
Unwrought (a)	7 632	21 003	33 342	39 544	61 487

Lead

**Exports of Lead**

tonnes

Country	1980	1981	1982	1983	1984
Sweden					
Ore	56 788	91 258	49 246	51 326	47 918
Unwrought	39 856	24 276	51 149	52 204	55 450
Unwrought alloys	2 754	2 099	3 264	3 207	7 956
Scrap	65	23	69	513	458
Switzerland					
Unwrought	4 063	4 847	5 101	7 694	6 815
Scrap	8 174	7 311	6 725	5 980	10 077
Turkey					
Ore (e)	4 275	—	2 022	2 725	76
Yugoslavia					
Concentrates	10 070	12 864	9 116	4 274	...
Unwrought	24 322	13 583	17 769	17 623	) 13 900
Unwrought alloys	3 243	2 114	1 152	483	)
Algeria					
Ore	4 556	3 889	6 485	2 655	...
Congo					
Ore	2 604	...	...	...	...
Ivory Coast					
Unwrought	630	649	175	...	...
Scrap	522	844	82	1 567	...
Morocco					
Ore	111 637	89 735	61 930	72 119	85 272
Unwrought	32 806	42 488	51 908	55 697	46 107
Senegal					
Scrap	36	153	141	93	431
South Africa					
Concentrates (b)	64 957	93 945	99 931	85 984	81 377
Unwrought (f)	* 24 400	* 18 200	* 17 100	* 17 600	* 10 600
Scrap (f)	* 700	* 400	* 200	* 700	* 1 400
Sudan					
Scrap	718	...	...	...	...
Tunisia					
Unwrought	11 943	10 821	10 102	...	5 949
Scrap	338	513	4 275	...	621
Zambia					
Unwrought	8 749	8 300	11 200	12 700	7 600
Canada					
Ore (b)	147 008	146 307	106 744	85 548	72 937
Unwrought	126 539	119 816	146 168	147 281	124 528
Scrap	21 106	9 921	15 895	8 535	5 960
Honduras					
Ores & concentrates (b)	12 185	11 909	8 634	11 581	* 14 000
Mexico					
Ores & concentrates	1 343	6 497	0	370	...
Unwrought	61 770	57 177	61 883	78 987	...
Panama					
Unwrought (a)	428	410	520	175	30
USA					
Ores & concentrates (b)	38 021	33 050	29 105	20 123	11 858
Unwrought	148 355	14 485	47 374	13 245	3 745
Unwrought alloys	9 216	2 334	3 846	4 443	1 232
Scrap	119 759	59 454	52 269	50 920	45 097
Argentina					
Ores & concentrates	15 180	18 007	17 549	21 414	...
Bolivia					
Ore (b)	15 936	15 613	11 557	9 342	...
Colombia					
Ore	361	92	331	—	...
Peru					
Ores & concentrates	156 720	173 748	231 748	298 870	274 137
Unwrought (a)	74 227	87 000	66 946	55 000	54 400

## Exports of Lead

Lead  
tonnes

Country	1980	1981	1982	1983	1984
Burma (d)					
Unwrought	5 509	6 101	8 984	6 668	...
Hong Kong					
Scrap	1 891	2 522	2 291	2 596	3 097
Iran (c)					
Ore	15 538	7 906	60	9 263	...
Japan					
Ores & concentrates	6 139	7 810	4 807	3 001	14 172
Unwrought (a)	6 296	2 900	7 530	15 501	17 454
Scrap	3 711	690	...	129	548
Korea, Dem.P.R. of					
Unwrought (a)(f)	* 40 300	* 12 500	* 23 500	* 9 900	* 16 300
Korea, Republic of					
Ore	4 000	8 400	800	—	3 000
Philippines					
Concentrates	3 232	1 801	—	—	—
Singapore					
Unwrought (a)	1 680	730	1 550	2 265	1 472
of which: Re-exports	1 615	707	1 441	1 668	1 154
Scrap	2 256	3 524	2 812	1 862	3 597
Taiwan					
Unwrought	11 370	14 078	14 790	16 033	15 925
Thailand					
Ore	21 653	37 460	37 636	42 737	42 004
Australia					
Ores & concentrates	58 449	63 233	91 312	91 227	150 687
Unwrought—					
Base bullion (b)	163 598	136 593	165 433	159 390	201 104
Refined (a)	168 495	176 664	201 335	185 664	150 441
Scrap	9 563	5 299	1 986	4 549	1 924

Note: In this table the term 'unwrought' lead corresponds to item 685.1 of the Standard International Trade Classification (Revision 2) and comprises base bullion, pigs, unwrought bars, etc

- (a) Including alloys
- (b) Pb content
- (c) Years ended 20 March following that stated
- (d) Years ended 31 March following that stated
- (e) Complex lead-zinc ore
- (f) BGS estimates, based on known imports into certain countries

## Lead

## Imports of Lead

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	56 060	59 832	39 216	34 571	* 50 000
Unwrought	199 516	159 393	169 653	138 146	173 092
Unwrought alloys	4 701	3 031	3 997	1 786	2 581
Scrap	10 571	754	953	1 246	1 482
Belgium-Luxembourg					
Ore	75 709	83 142	106 078	85 480	67 774
Unwrought	47 458	35 147	37 319	55 356	50 579
Unwrought alloys	6 828	6 087	6 572	7 945	7 372
Scrap	11 944	7 520	11 238	13 485	15 053
Denmark					
Unwrought	3 231	2 270	4 225	10 268	9 337
Unwrought alloys	3 292	1 322	3 246	2 912	6 736
Scrap	16 546	18 161	7 706	6 757	5 876
France					
Ore	139 029	142 392	167 556	144 346	158 366
Unwrought	47 455	33 848	35 113	33 303	41 588
Unwrought alloys	7 633	6 767	8 308	15 829	13 661
Scrap	31 187	21 058	19 836	13 246	4 870
Germany, Federal Republic of					
Ore	181 679	214 800	192 371	217 753	206 723
Unwrought	135 259	100 570	140 184	103 830	130 402
Unwrought alloys	25 390	15 219	13 793	14 840	14 281
Scrap	43 309	34 594	35 606	30 886	69 865
Greece					
Ore	7 022	3	39	...	8 531
Unwrought (a)	7 806	5 772	16 440	21 569	12 455
Irish Republic					
Unwrought (a)	3 352	1 389	1 478	973	2 204
Scrap	4 203	7 455	7 689	3 918	4 700
Italy					
Ore	44 264	26 213	5 420	5 589	11 329
Unwrought (a)	173 137	132 783	128 363	133 498	124 744
Scrap	44 139	15 268	24 626	21 642	14 188
Netherlands					
Unwrought	49 325	30 280	40 392	30 587	23 060
Unwrought alloys	13 295	11 112	6 668	6 152	9 140
Scrap	9 752	11 483	11 614	15 220	22 045
Austria					
Ore	4 156	1 728	6 993	4 611	7 730
Unwrought	32 396	35 740	32 549	31 362	39 271
Scrap	2 628	3 605	2 367	2 925	4 332
Bulgaria					
Ore (f)	* 24 500	* 34 000	* 16 200	* 13 000	...
Czechoslovakia					
Unwrought (a)	40 000	38 000	30 000	28 000	27 000
Finland					
Unwrought (a)	20 498	21 422	20 282	12 319	14 940
Hungary					
Unwrought & semi-manufactures	12 891	11 033	13 647	11 930	9 343
Norway					
Unwrought	8 430	6 571	6 189	6 100	8 156
Unwrought alloys	5 179	5 208	6 107	6 076	5 994
Poland					
Unwrought	6 654	3 060	6 358	1 600	6 133
Portugal					
Unwrought (a)	16 638	19 244	20 143	24 321	21 175
Scrap	1 050	21	222	5	3
Soviet Union					
Ore (f)	* 49 800	* 35 900	* 14 800	* 49 800	* 22 400
Unwrought (a)(f)	* 59 300	* 32 000	* 67 900	* 57 200	* 57 600
Spain					
Ore	28 081	28 190	66 115	64 599	88 050
Unwrought (a)	4 324	7 172	6 495	5 268	4 937
Scrap	129	1 908	370	1 486	227



## Imports of Lead

tonnes

Country	1980	1981	1982	1983	1984
Sweden					
Ore	—	300	—	12 551	21 845
Unwrought	590	7 043	1 717	1 852	457
Unwrought alloys	1 165	1 279	2 444	2 048	2 876
Scrap	3 984	4 340	5 040	2 984	10 170
Switzerland					
Unwrought	17 981	10 155	12 867	10 429	8 167
Turkey					
Unwrought (a)	5 451	5 358	3 828	8 735	10 179
Scrap	1 059	101	50	—	—
Yugoslavia					
Concentrates	2 731	1 023	—	6 537	...
Unwrought	10 060	12 117	15 623	10 731	8 900
Algeria					
Unwrought	8 529	11 803	6 996	4 276	...
Unwrought alloys	314	1 231	600	562	...
Egypt					
Unwrought & scrap	9 106	7 106	11 520	16 881	...
Kenya					
Unwrought (a)	162	198	178	188	...
Libya					
Unwrought	725	679	2 380	...	...
Madagascar					
Unwrought (a)	189	60	184	...	...
Mozambique					
Unwrought	225	199	268	300	...
Nigeria					
Unwrought (a)	...	457	360	...	...
South Africa					
Ore	950	17	15	—	7 277
Unwrought	9 303	9 405	3 976	5 438	9 913
Scrap	6 212	7 752	12 734	216	791
Sudan					
Unwrought	302	90	103	40	...
Tunisia					
Ore	9 985	19 400	18 733	...	6 319
Canada					
Unwrought	2 602	9 221	5 661	2 551	6 314
Costa Rica					
Unwrought (a)	177	21	72	72	252
Mexico					
Unwrought & scrap	1 264	1 050	1 014	242	...
Trinidad & Tobago					
Unwrought (a)	175	198	50	...	14
USA					
Ores & concentrates (b)	44 095	58 545	35 807	47 514	68 800
Unwrought —					
Base bullion	315	449	19	53	45
Other	71 640	92 166	80 743	113 602	148 411
Alloys	11 693	11 570	12 001	19 149	14 871
Scrap	2 018	1 930	4 107	2 630	2 873
Argentina					
Unwrought	4 708	1 397	1 450	...	...
Brazil					
Ore	34 801	15 405	—	6 591	10 724
Unwrought (a)	12	151	611	649	652
Scrap	1 409	1 770	—	2 849	6 543
Colombia					
Unwrought (a)	2 612	1 944	1 504	1 328	...
Uruguay					
Unwrought	2 663	1 619	966	476	1 169
Venezuela					
Unwrought (a)	5 006	6 697	6 079	...	...
Scrap	3 225	404	—	...	...
China					
Refined (f)	* 37 100	* 27 600	* 13 800	* 9 200	* 6 300

## Imports of Lead

tonnes

Country	1980	1981	1982	1983	1984
Hong Kong					
Unwrought (a)	2 065	1 460	2 026	2 591	1 893
Scrap	471	377	205	157	287
India					
Unwrought (c)	23 640	24 192	...	...	...
Unwrought alloys (c)	3 050	2 874	...	...	...
Indonesia					
Unwrought (a)	7 397	8 083	6 923	12 717	14 410
Iran (d)					
Unwrought	4 439	1 120	19 717	768	...
Israel (g)					
Unwrought	1 089	1 932	1 752	1 909	1 753
Japan					
Ore	258 634	255 765	225 654	237 807	249 226
Unwrought	73 129	57 464	52 442	52 752	97 982
Unwrought alloys	17 583	10 008	9 336	8 457	10 466
Scrap	5 020	2 668	2 762	1 012	450
Jordan					
Unwrought & scrap	2 028	1 377	1 078	745	332
Korea, Republic of					
Unwrought	19 687	17 920	217 007	23 261	22 900
Unwrought alloys	929	22 236	10 129	15 133	8 566
Scrap	23 387	4 301	5 704	6 661	6 534
Malaysia					
Unwrought (a)	6 174	7 941	7 288	9 177	...
Scrap	486	294	23	280	...
Pakistan (e)					
Unwrought (a)	2 670	948	2 337	2 096	2 284
Philippines					
Unwrought (a)	5 422	7 019	6 323	9 600	2 756
Singapore					
Unwrought (a)	8 095	3 900	3 163	5 873	6 349
Syria					
Unwrought & scrap	1 624	1 573	1 638	2 680	1 204
Taiwan					
Unwrought (a)	10 777	7 419	8 805	17 540	12 170
Scrap	44 690	38 796	35 142	48 215	56 773
Thailand					
Unwrought	14 417	10 589	10 260	16 718	11 655
Unwrought alloys	2 363	2 060	981	1 135	777
New Zealand (e)					
Unwrought (a)	6 758	6 557	5 375	5 873	5 220

Note: In this table the term 'unwrought' lead corresponds to item 685.1 of the Standard International Trade Classification (Revision 2) and comprises base bullion, pigs, unwrought bars, etc

(a) Including alloys

(b) Pb content

(c) Years ended 31 March following that stated

(d) Years ended 20 March following that stated

(e) Years ended 30 June of that stated

(f) BGS estimates, based on known exports from certain countries

(g) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

## Production of Lithium Minerals

tonnes

Country	1980	1981	1982	1983	1984
Portugal					
Lepidolite	1 200	1 200	905	* 700	* 600
Soviet Union	* 55 000	* 55 000	* 55 000	* 55 000	* 55 000
Namibia	...	1 263	1 040	780	* 800
Rwanda					
Amblygonite	* 30	* 25	—	—	—
Zimbabwe	21 030	16 444	9 786	19 193	22 548
USA (a)(b)	* 5 000	* 5 000	* 3 500	* 4 500	* 5 000
Argentina	80	25	113	152	* 145
Brazil					
Amblygonite	182	277	66	113	* 115
Lepidolite	51	2	74	1	* 5
Petalite	2 487	2 080	2 293	1 892	* 2 000
Spodumene	98	243	341	116	* 120
Chile (c)	—	—	—	—	2 110
China	* 14 000	* 14 000	* 14 000	* 15 000	* 15 000
Australia					
Spodumene	—	—	* 80	2 492	* 6 500
World total (a)	* 6 900	* 6 800	* 5 200	* 6 400	* 7 400

(a) Li content

(b) Mostly spodumene

(c) Carbonate

**Exports of Lithium**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	0	3	17	97	163
Oxides	67	7	98	117	222
Carbonate	9	19	73	72	38
Belgium-Luxembourg					
Oxides	20	54	67	2	—
France					
Oxides	52	47	105	62	79
Germany, Federal Republic of					
Metal	23	19	40	60	59
Oxides	859	490	510	610	692
Carbonate	785	876	929	914	1 294
Netherlands					
Oxides	34	70	188	145	14
Carbonate	175	125	299	432	31
South Africa					
Lithium minerals (a)	* 4 000	...	...	...	...
Zimbabwe					
Lithium minerals	18 373	16 163	9 739	16 172	...
USA					
Oxides	3 035	2 740	2 381	2 594	3 721
Carbonate	...	...	4 721	8 065	8 213
Brazil					
Lithium minerals	2 000	2 244	2 805	17	8

(a) BGS estimates, based on known imports into certain countries

## Imports of Lithium

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	5	...	...	7	12
Oxides	428	340	1 046	1 533	1 188
Carbonate	393	375	375	430	431
Belgium-Luxembourg					
Metal	1	7	16	2	1
Oxides	255	133	209	160	156
Carbonate	174	126	199	239	257
France					
Metal	27	6	8	8	29
Oxides	451	467	520	602	474
Carbonate	328	335	358	440	548
Germany, Federal Republic of					
Metal	8	7	14	13	21
Oxides	568	1 205	1 684	641	674
Carbonate	4 162	4 597	3 858	4 014	5 026
Italy					
Metal	9	1	0	2	5
Oxides	277	293	120	215	416
Carbonate	315	286	340	297	361
Netherlands					
Metal	1	2	3	2	21
Oxides	81	132	278	143	68
Carbonate	408	392	497	697	244
Spain					
Lithium minerals	366	433	233	53	...
Metal	1	0	11	0	...
Oxides	127	120	101	170	...
Carbonate	122	90	122	163	...
South Africa					
Lithium minerals	5 327	870	1 163	1 228	1 146
USA					
Lithium minerals	5 247	708	13	7	54
Brazil					
Oxides	280	416	220	346	271
Japan					
Metal	20	30	35	30	32
Oxides	603	631	670	766	858
Carbonate	1 999	3 229	3 189	3 626	3 773
Korea, Republic of					
Carbonate	77	121	22	32	159

**Production of Magnesite**

tonnes

Country	1980	1981	1982	1983	1984
Greece	1 500 454	817 375	901 988	890 510	1 043 606
Austria	1 318 156	1 158 852	1 031 404	1 005 768	1 183 409
Czechoslovakia	666 000	664 000	672 000	662 000	660 000
Poland	19 610	11 282	17 047	16 100	20 600
Soviet Union	* 2 000 000	* 2 100 000	* 2 150 000	* 2 200 000	* 2 200 000
Spain	505 532	476 392	533 595	597 137	* 600 000
Turkey	825 876	783 966	910 249	724 541	723 268
Yugoslavia	261 841	299 676	328 436	303 965	326 000
South Africa	78 808	56 557	31 927	22 560	33 059
Zimbabwe	78 217	60 194	60 660	24 072	21 642
Canada (b)	53 127	49 545	35 250	* 28 000	* 30 000
Brazil (c)	316 910	285 885	226 772	231 297	* 232 000
Colombia	1 582	* 1 600	* 1 600	* 1 600	* 1 600
China	* 2 000 000	* 2 000 000	* 2 000 000	* 2 000 000	* 2 000 000
India	380 113	462 534	417 900	434 072	417 979
Iran (a)	* 4 000	* 4 000	* 5 000	* 5 000	* 5 000
Korea, Dem. P.R. of	* 1 900 000	* 1 900 000	* 1 900 000	* 1 900 000	* 1 900 000
Pakistan	778	1 551	1 206	1 844	3 207
Australia	32 198	26 445	29 671	20 539	* 23 000
World total	11 900 000	11 200 000	11 300 000	11 100 000	11 400 000

Note: In addition to the countries listed, Bulgaria, Egypt, Kenya, New Caledonia and USA are also believed to produce magnesite

(a) Years ended 20 March following that stated

(b) Officially described as magnesitic dolomite and brucite

(c) Includes beneficiated and directly shipped material

## Exports of Magnesite

Country	1980	1981	1982	1983	1984
United Kingdom					
Crude	115	70	491	42	50
Calcined	4 850	7 261	30 532	7 394	28 374
Belgium-Luxembourg					
Crude	30 640	80	1 293	365	404
Calcined	3 769	1 418	1 536	1 210	2 553
France					
Crude	142	53	1 610	66	222
Calcined	1 153	1 363	662	2 208	1 549
Germany, Federal Republic of					
Crude	42	47	21	168	133
Calcined	11 367	22 879	17 093	18 890	17 285
Greece					
Crude	46 830	37 420	24 983	25 068	) 427 322
Calcined	374 335	243 415	326 249	350 192	)
Irish Republic	73 395	77 361	70 861	33 127	(a)* 55 600
Italy					
Crude	274	965	35 604	1 134	946
Calcined	49 737	58 296	1 772	28 669	60 217
Netherlands					
Crude	2 024	1 561	1 302	1 875	1 554
Calcined	28 601	26 169	28 001	25 678	25 122
Austria					
Crude	) 137 837	96 636	160 567	1 461	697
Calcined	)			129 583	167 799
Czechoslovakia	385 000	305 000	303 000	291 000	428 000
Norway	17 120	19 247	12 865	9 575	9 870
Soviet Union (a)	* 25 100	* 14 900	* 16 900	* 15 500	* 9 200
Spain					
Crude & calcined	91 166	98 749	105 443	111 996	123 568
Sweden	225	169	266	240	502
Turkey					
Crude	4 520	16 169	19 521	10 003	) 164 614
Calcined	73 320	99 437	116 212	82 067	)
Yugoslavia	24 321	29 360	24 524	5 049	6 857
South Africa (c)	£136 000	£35 000	£477 000	£670 000	...
Zimbabwe	56 877	52 923	54 801	22 678	...
Brazil					
Calcined	88 847	106 189	78 849	73 802	97 267
China (a)	* 212 800	* 211 100	* 308 600	* 312 400	* 412 100
Hong Kong					
Crude & calcined (Re-exports)	5 074	8 988	10 977	15 416	18 399
India					
Crude	25	104	...	...	...
Calcined	6 821	2 219	...	...	...
Israel (b)	4 168	—	...	(a)* 24 800	(a)* 22 700
Japan	1 482	2 560	2 974	3 728	4 109
Korea, Dem. P.R. of (a)	* 289 100	* 222 600	* 210 100	* 231 800	* 209 000
Korea, Republic of					
Crude & calcined	1 000	—	—	—	—
Singapore	337	333	187	151	602
of which: Re-exports	325	125	42	151	602
Australia	4 627	2 617	2 831	2 808	3 984

## Notes:

- 1 So far as possible sea water magnesia has been excluded from this table if specifically identified in trade accounts. Countries known to produce sea water magnesia and which do not specifically identify it in their trade accounts are Irish Republic, Israel and Norway
  - 2 The term 'calcined', as used here, includes dead-burned, sintered and caustic-burned (caustic calcined) material
- (a) BGS estimates, based on known imports into certain countries  
(b) Figures may be incomplete as value only given in Israeli trade return for exports to some countries  
(c) Values shown are for the common customs area

## Imports of Magnesite

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Crude	12 296	11 707	13 769	15 282	12 420
Calcined	60 799	75 500	69 766	107 420	119 216
Belgium-Luxembourg					
Crude	759	663	711	1 500	524
Calcined	12 037	10 862	11 953	13 901	18 295
Denmark					
Crude	395	1 393	660	6	24
Calcined	13 024	9 010	9 274	10 583	9 877
France					
Crude	1 022	395	172	5 691	80
Calcined	106 225	106 019	121 048	157 645	158 681
Germany, Federal Republic of					
Crude	2 097	733	797	4 395	5 779
Calcined	408 462	340 779	319 561	356 929	390 625
Greece					
Crude	65	)			
Calcined	711	) 275	393	7 139	10 036
Irish Republic	32 116	19 816	37 114	40 042	43 948
Italy					
Crude	15 531	11 955	31 320	16 096	23 141
Calcined	89 262	56 653	30 167	73 908	83 935
Netherlands					
Crude	2 203	2 971	1 792	3 187	4 408
Calcined	68 356	54 815	59 874	54 923	60 868
Austria					
Crude	6	52	5	111	221
Calcined	125 512	104 440	99 694	95 445	116 497
Bulgaria (b)	* 20 100	* 17 100	* 7 100	* 8 200	* 24 000
Finland	15 865	16 775	19 973	21 336	14 359
German Democratic Republic (b)	* 70 000	* 40 600	* 50 100	* 33 000	* 63 200
Hungary					
Calcined	118 258	103 865	101 161	98 312	91 467
Norway	4 508	3 840	5 620	5 142	6 110
Poland					
Calcined	317 120	227 767	223 455	243 021	222 513
Portugal	1 596	1 486	1 542	1 678	741
Romania (b)	* 39 000	* 23 100	* 25 800	* 29 700	* 78 300
Soviet Union					
Calcined	539 601	593 015	705 112	618 370	569 887
Spain					
Crude & calcined	72 725	78 660	56 516	47 918	65 623
Sweden	20 024	21 767	22 214	20 752	29 965
Switzerland					
Calcined	4 186	4 753	4 212	4 221	4 524
Yugoslavia					
Crude	30 232	31 505	10 771	26 883	...
Calcined	46 197	58 665	29 138	19 663	...
Algeria	803	433	527	237	...
Egypt	106	6 134	5 470	1	...
Morocco	140	115	163	42	162
South Africa					
Crude & calcined	98 384	94 090	105 916	59 213	79 924
Tanzania	300	165	421	...	...
Zaire	2 357	539	1 234	447	627
Canada					
Calcined	76 599	59 018	37 657	42 054	49 943
Mexico					
Crude & calcined	29 099	13 212	13 081	...	...
USA					
Crude & calcined	77 267	91 754	75 758	101 994	191 255



## Imports of Magnesite

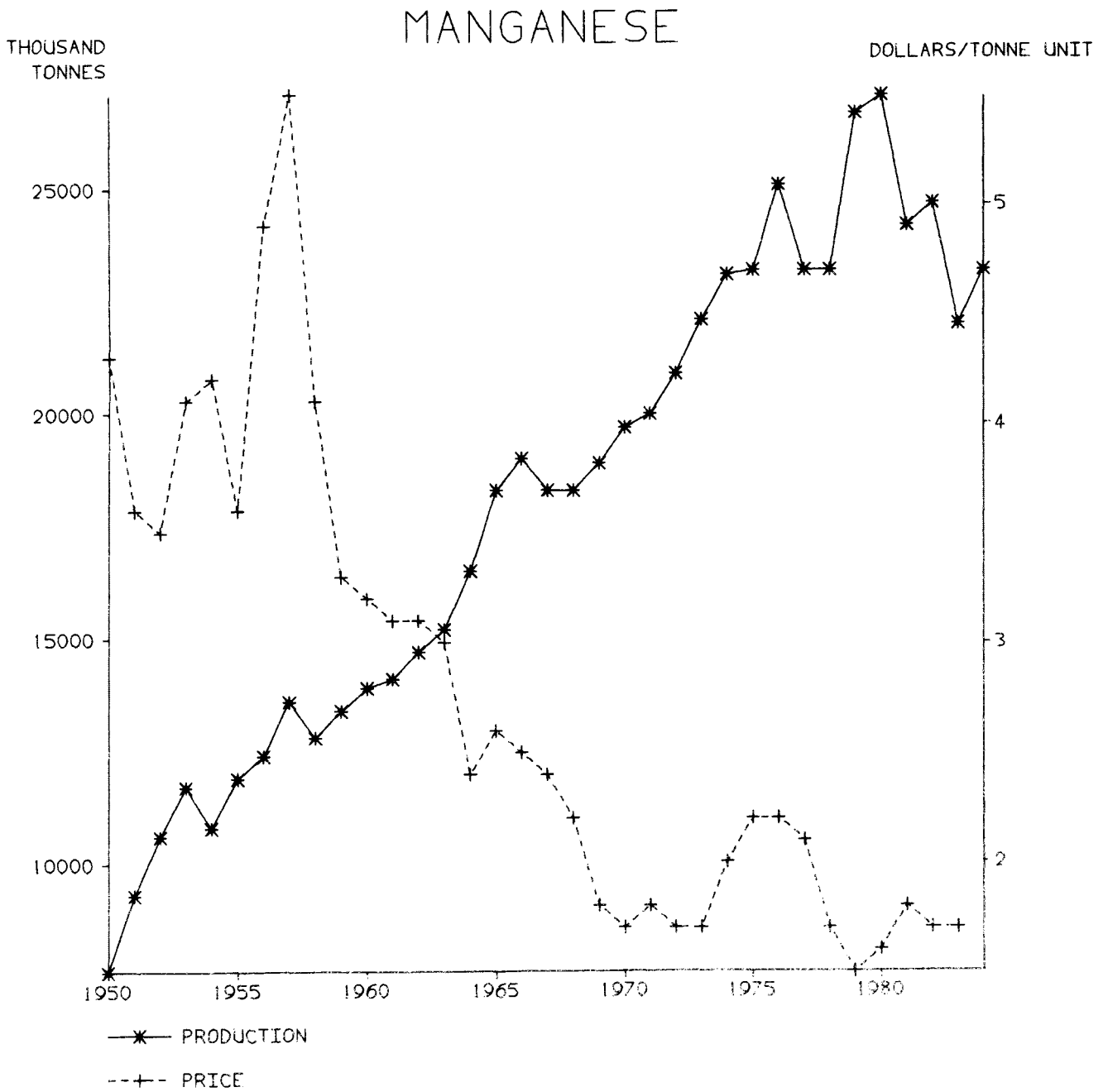
Country	1980	1981	1982	1983	1984
Argentina					
Calcined	8 794	2 404	8 887	...	...
Brazil					
Crude & calcined	3 193	849	1 446	697	1 268
Peru					
Crude & calcined	9 230	7 041	2 016	1 689	...
Venezuela					
Crude & calcined	5 163	3 014	580	...	...
Hong Kong	8 493	11 332	17 826	20 378	22 593
India	33 369	3 384	...	...	...
Indonesia	1 085	2 580	3 613	3 955	3 690
Iran	414	1 050	975	394	...
Israel	1 426	544	295	(b)* 200	(b)* 1 200
Japan					
Crude	38 017	30 764	57 432	44 778	50 420
Calcined	142 433	168 592	192 516	238 958	268 207
Korea, Republic of	123	7 346	7 575	7 232	335 380
Malaysia	5 580	3 008	2 429	2 866	...
Pakistan (a)	1 381	1 918	2 370	20 003	1 513
Philippines					
Crude & calcined	6 856	3 198	5 404	6 051	6 039
Singapore	638	431	603	371	567
Syria	87	523	60	10	15
Taiwan	7 685	7 446	11 918	17 736	20 264
Thailand					
Crude	9 609	4 627	1 243	4 376	7 426
Calcined	1 061	944	1 637	2 095	3 771
Australia					
Calcined	20 782	21 016	11 235	11 706	...
New Zealand (a)	6 190	2 622	1 841	1 944	5 691

## Notes:

- 1 So far as possible sea water magnesia has been excluded from this table if specifically identified in trade accounts
- 2 The term 'calcined', as used here, includes dead-burned, sintered and caustic-burned (caustic calcined) material

(a) Years ended 30 June of that stated

(b) BGS estimates, based on known exports from certain countries



**Figure 11** World production of manganese ore from 1950 to 1984 compared with the yearly average price of Indian 46–48% Mn ore c.i.f. US ports expressed in constant 1980 US dollars per metric ton unit.  
*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Production of Manganese Ore

tonnes

Country		1980	1981	1982	1983	1984
Greece	(50%)	5 555	5 800	5 600	4 636	5 447
Italy	(30%)	9 165	8 756	8 727	7 205	9 528
Austria (e)		58 141	55 876	61 549	65 284	67 037
Bulgaria	(30%)	49 000	45 000	45 000	45 000	45 000
Czechoslovakia (d)	(17%)	* 900	* 900	* 900	* 900	* 900
Hungary	(30%)	82 564	70 833	82 855	58 606	65 928
Romania	(22%)	* 81 600	* 81 600	* 81 600	* 81 600	* 81 600
Soviet Union	(35%)	9 750 000	9 150 000	9 821 000	9 876 000	10 089 000
Turkey	(40%)	41 634	14 932	7 310	3 200	42 796
Yugoslavia	(34%)	30 250	31 149	27 000	32 000	21 000
Gabon	(50%)	2 146 752	1 487 783	1 511 000	1 856 586	2 102 868
Ghana	(40%)	249 900	223 100	159 900	173 100	267 996
Morocco	(50%)	130 662	109 645	96 529	73 515	56 786
South Africa						
Metallurgical	(40%)	5 695 426	5 039 687	5 216 517	2 626 672	2 857 619
Chemical	(55%)	366 689	340 856	337 820	259 291	191 750
Zaire	(48%)	6 350	17 610	—	—	—
Mexico	(36%)	447 128	578 314	508 667	369 456	* 503 000
USA (a)	(13%)	157 748	158 540	28 584	30 412	80 216
Argentina	(30%)	6 146	2 706	3 900	6 926	* 6 500
Brazil (b)	(45%)	2 281 450	2 042 144	2 340 974	2 091 631	2 200 000
Chile	(38%)	27 701	25 557	16 111	26 050	26 172
China	(30%)	* 1 600 000	* 1 600 000	* 1 600 000	* 1 600 000	* 1 600 000
India (c)	(35%)	1 692 000	1 528 000	1 480 952	1 263 241	1 099 000
Indonesia	(50%)	4 299	2 587	17 894	...	700
Japan	(35%)	79 579	86 178	78 160	75 543	62 000
Malaysia (d)		4 003	—	—	—	—
Philippines	(44%)	2 556	3 113	1 556	2 242	1 174
Thailand	(45%)	54 310	10 917	7 758	6 710	8 695
Australia	(48%)	2 019 511	1 448 977	1 127 085	1 370 233	1 717 000
World total		27 100 000	24 200 000	24 700 000	22 000 000	23 200 000

## Notes:

- 1 Estimated average manganese content is given in parentheses for each country, relating where possible to the later years
  - 2 In addition to the countries listed, Colombia, Cuba and Vietnam are also believed to produce manganese ore
- (a) Shipments of manganiferous iron ore only  
(b) Includes beneficiated and direct shipping ore  
(c) Includes ore grading 54% to less than 35% Mn  
(d) Manganiferous iron ore  
(e) Mn content of domestic iron ore

## Manganese

## Exports of Manganese

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ore (a)	8 331	6 197	6 659	1 413	1 934
Metal	405	147	878	1 232	1 001
Belgium-Luxembourg					
Ore	5 929	8 333	8 546	2 882	2 757
Metal	306	141	265	1 185	1 489
France					
Ore (a)	6 397	17 242	11 136	20 907	76 454
Metal	2 276	2 987	4 188	4 949	6 434
Germany, Federal Republic of					
Ore (a)	1 406	2 174	1 497	4 020	757
Metal	124	43	99	143	131
Greece					
Ore	750	1 500	300	1 429	350
Italy					
Ore (a)	3	1 327	1 345	1 009	1 919
Netherlands					
Ore	39 536	44 913	42 077	43 208	46 597
Metal	2 487	3 266	3 845	2 257	1 338
Bulgaria					
Ore (c)	* 8 000	* 8 000	* 10 000	* 39 000	* 36 000
Hungary					
Ore	37 745	221 066	15 865	9 608	11 657
Norway					
Ore	1 955	2 561	5	1 522	5
Portugal					
Ore	650	3 410	450	4 625	—
Soviet Union					
Ore	1 255 000	1 194 000	1 144 000	1 079 000	1 081 000
Sweden					
Ore	7	115	182	509	—
Metal	77	79	68	111	68
Turkey					
Ore	8 960	—	—	—	—
Yugoslavia					
Ore	—	1 274	3 030	5 175	7 000
Gabon					
Ore	2 136 000	1 548 000	1 419 000	...	...
Ghana					
Ore	162 800	142 000	97 000	127 000	237 000
Morocco					
Ore	112 317	99 668	81 594	57 860	69 665
South Africa					
Ore	3 380 685	3 187 136	2 870 875	1 995 649	3 038 301
Metal (c)	* 26 200	* 27 400	* 17 400	* 24 600	* 27 000
Zaire					
Ore	* 42 000	* 13 000	* 16 300	(c)* 27 600	(c)* 19 700
Mexico					
Ore	135 901	207 347	169 891	142 533	...
USA					
Ore	222 483	80 284	34 475	21 299	223 197
Metal	11 374	4 394	3 266	5 937	3 718
Brazil					
Ore	1 037 438	1 018 355	845 991	747 436	878 976
China					
Ore (c)	* 24 000	* 22 400	* 23 200	* 22 700	* 12 800
Metal (c)	* 500	* 600	* 300	* 850	* 200
India					
Ore (b)	243 548	429 882	...	...	...
Indonesia					
Ore (a)	9 574	29 018	8 400	27 670	26 260
Japan					
Ore	1 855	991	1 557	1 973	2 476
Malaysia					
Ore	—	2 000	10	—	...

**Exports of Manganese**

Country	1980	1981	1982	1983	1984
Philippines					
Ore (a)	1 000	2 800	—	1 315	—
Singapore					
Ore	32 788	27 203	19 104	27 449	25 492
of which: Re-exports	13 858	6 236	3 668	8 065	12 230
Thailand					
Ore	50 820	16 920	2 000	1	4 100
Australia					
Ore	1 328 203	899 687	906 416	1 003 513	1 460 000
Vanuatu					
Ore	3 520	—	—	—	—

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Includes manganiferous iron ore

(b) Includes ferruginous manganese ore

(c) BGS estimates, based on known imports into certain countries

## Manganese

## Imports of Manganese

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ore (b)	126 610	278 056	178 946	367 206	269 865
Metal	3 292	1 962	2 741	3 424	3 113
Belgium-Luxembourg					
Ore	299 848	244 784	227 057	162 653	221 559
Metal	1 178	711	1 467	1 757	2 333
Denmark					
Ore	819	611	510	322	416
France					
Ore (b)	1 225 909	880 817	921 816	745 625	1 007 721
Metal	6 930	984	1 173	1 461	1 184
Germany, Federal Republic of					
Ore (b)	489 548	606 851	393 546	434 261	535 843
Metal	5 731	5 146	5 989	5 468	6 102
Greece					
Ore	29 277	5	26 157	...	...
Irish Republic					
Ore (b)	32 391	16 103	10 815	21 152	28 072
Italy					
Ore (b)	409 846	354 225	333 064	385 550	273 192
Metal	1 397	1 711	1 713	1 974	2 653
Netherlands					
Ore	46 779	53 392	67 628	44 389	50 386
Metal	2 558	3 474	4 102	2 170	1 560
Austria					
Ore	1 726	459	439	362	441
Bulgaria					
Ore	99 700	114 000	81 900	96 800	94 000
Czechoslovakia					
Ore	525 000	480 000	502 000	506 000	482 000
Finland					
Ore	10 735	337	1 733	10 154	7 005
German Democratic Republic					
Ore (a)	46 600	46 000	39 800	27 400	21 800
Hungary					
Ore	15 537	150	404	343	340
Norway					
Ore	807 700	484 640	764 085	623 305	737 061
Metal	713	351	320	1 579	1 121
Poland					
Ore	664 187	583 207	689 370	574 194	648 163
Portugal					
Ore	173 823	109 916	122 071	68 587	227 526
Spain					
Ore	432 648	253 987	260 600	213 765	417 653
Metal	1 565	2 869	454	676	...
Sweden					
Ore	354	531	25 835	24 527	486
Metal	1 459	708	1 331	1 442	977
Turkey					
Ore	2 429	722	1 952	1 910	1 348
Yugoslavia					
Ore	131 053	87 741	109 043	130 169	148 000
Ivory Coast					
Ore	1 007	900	1 800	1 250	...
Kenya					
Ore (b)	1 404	2 089	1 407	1 739	...
South Africa					
Ore	3 972	7 052	4 351	5 542	7 971
Zimbabwe					
Ore	5 295	4 149	6 795	4 174	...
Canada					
Ore (a)	95 161	119 748	71 658	42 260	77 545
Metal	6 957	10 371	781	2 652	3 011
Mexico					
Ore	99 298	64 238	59 320	...	...

## Imports of Manganese

Country	1980	1981	1982	1983	1984
USA					
Ore	633 228	587 244	208 390	334 151	306 714
Metal	6 937	7 573	5 049	5 606	12 033
Argentina					
Ore	58 891	56 211	126 250	...	...
Brazil					
Ore	28 501	15 289	11 324	19 206	1 006
Metal	1 019	754	1 020	1 174	1 217
Colombia					
Ore	4 603	3 993	4 284	1 477	...
Peru					
Ore	963	1 638	1 442	625	...
Venezuela					
Ore	5 552	23 386	54 436	...	...
Hong Kong					
Ore	374	—	5	204	135
India					
Ore	17 881	900	...	...	...
Metal	136	258	...	...	...
Indonesia					
Ore (b)	11 968	9 513	4 890	2 889	1 545
Japan					
Ore (c)	2 953 309	2 492 728	2 146 444	1 623 244	2 212 243
Korea, Dem. P.R. of					
Ore (d)	* 29 100	* 15 000	* 28 200	* 20 200	* 21 000
Korea, Republic of					
Ore	208 200	282 015	236 585	196 457	255 364
Malaysia					
Ore	2 351	1 557	1 332	1 499	...
Philippines					
Ore (b)	6 626	1 984	3 021	3 981	3 438
Singapore					
Ore	60 468	80 900	68 209	44 840	35 095
Sri Lanka					
Ore	1 744	1 147	1 120	867	1 342
Taiwan					
Ore	142 975	62 742	135 556	106 195	97 160
Thailand					
Ore	9	9	2 932	—	73
Australia					
Ore	2 422	2 139	451	1 004	1 298
Metal	1 838	1 693	567	1 144	1 561

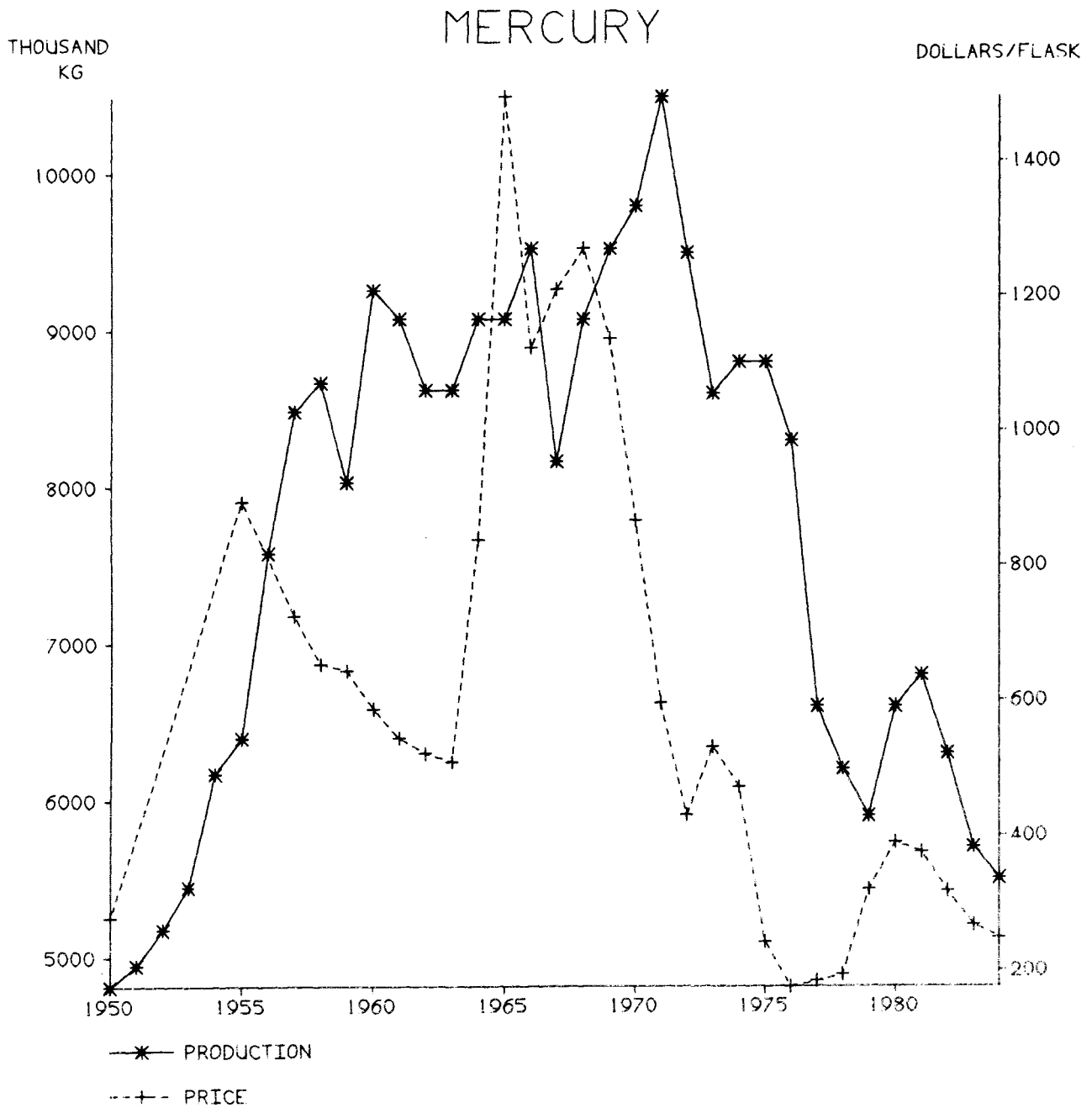
Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Mn content

(b) Includes manganese iron ore

(c) Includes ferruginous manganese ore

(d) BGS estimates, based on known exports from certain countries



**Figure 12** World production of mercury from 1950 to 1984 compared with the annual average price (USA) expressed in constant 1980 US dollars.  
*Constant commodity prices derived from those quoted in Metals Week using the CPI for the USA published in International Financial Statistics Yearbook (1985).*



**Production of Mercury**

Country	1980	1981	1982	1983	1984
Germany, Federal Republic of	56 000	76 000	53 000	—	—
Italy	3 303	251 643	159 350	—	—
Czechoslovakia	159 000	153 000	151 000	144 000	152 000
Finland	75 000	67 189	71 000	64 000	79 000
Soviet Union	* 1 800 000	* 1 700 000	* 1 700 000	* 1 700 000	* 1 600 000
Spain	1 656 000	1 560 469	1 656 000	1 416 156	1 519 898
Turkey	153 801	204 345	246 262	161 667	182 125
Yugoslavia	—	—	—	51 750	72 000
Algeria	841 904	* 863 000	* 379 500	* 345 000	* 345 000
Mexico	145 000	240 000	295 000	221 000	* 242 000
USA	1 056 839	961 935	888 025	864 239	656 642
China	* 700 000	* 700 000	* 700 000	* 700 000	* 700 000
World total	6 600 000	6 800 000	6 300 000	5 700 000	5 500 000

**Exports of Mercury**

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom	79 888	69 515	212 975	131 004	43 392
Belgium-Luxembourg	19 900	14 200	34 200	77 200	26 800
Denmark	4 000	7 200	4 300	5 100	7 600
France	38 000	23 000	8 000	107 000	79 000
Germany, Federal Republic of	219 600	137 000	278 500	573 200	199 300
Italy	229 977	49 791	98 700	379 800	82 000
Netherlands	189 000	149 000	113 000	418 000	420 000
Austria	5 200	6 600	3 500	3 600	6 200
Finland	55 000	52 000	62 000	66 000	177 000
Norway	98 000	69 000	133 000	63 000	57 000
Spain	665 000	741 000	615 000	903 000	1 591 000
Sweden	29 000	9 000	10 000	114 000	97 000
Switzerland	9 023	4 652	3 216	951	7 993
Turkey	135 110	156 042	317 229	241 708	270 649
Yugoslavia	...	100 000	...	2 000	...
Algeria	370 530	142 899	252 195	501 544	...
Dominican Republic	10 308	5 102	1 620	...	...
Mexico	385 876	238 995	188 508	215 792	...
USA (a)	* 110 000	* 84 000	* 121 000	* 256 000	* 134 000
China (a)	* 415 900	* 556 400	* 358 000	* 243 400	* 154 000
Hong Kong (Re-exports)	30 855	133 614	26 769	76 176	5 813
Japan	321 970	238 448	251 503	25 453	74 785
Singapore	2 337	13 724	50 287	15 357	6 703
of which: Re-exports	1 936	13 582	50 277	15 309	6 703

(a) BGS estimates, based on known imports into certain countries

## Imports of Mercury

Country	1980	1981	1982	1983	1984
United Kingdom	231 607	205 412	260 929	185 052	287 637
Belgium-Luxembourg	224 200	178 800	285 200	262 200	329 400
Denmark	10 100	8 900	7 900	8 100	11 900
France	145 000	108 000	105 000	171 000	148 000
Germany, Federal Republic of	436 400	212 200	242 700	560 300	426 100
Greece	3 000	1 000	4 000	2 000	2 000
Irish Republic	7 600	2 700	15 400	11 800	1 100
Italy	152 577	80 710	37 100	27 700	103 500
Netherlands	205 000	158 000	131 000	344 000	170 000
Austria	19 500	15 200	10 000	12 700	11 400
Finland	4 000	4 000	38 000	...	1 000
German Democratic Republic (e)	* 308 000	* 158 000	* 230 000	* 321 000	* 205 000
Hungary	38 000	77 000	132 000	77 000	97 000
Norway	1 000	1 000	16 000	4 000	9 000
Poland	* 13 000	...	* 5 000	...	(e)* 18 000
Portugal	32 300	29 300	70 200	8 200	15 300
Romania (e)	* 132 000	* 9 000	* 2 000	* 143 000	* 115 000
Sweden	16 000	23 000	12 000	32 000	20 000
Switzerland	38 114	21 884	30 317	40 076	61 656
Yugoslavia	18 636	45 000	50 000	67 000	...
Algeria	1 299	999	928	1 196	...
Egypt	20 000	14 000	46 000	...	...
Morocco	9 903	8 699	9 854	6 699	7 477
South Africa	103 000	94 300	63 400	41 900	29 300
Tunisia	188	7 004	343	...	7 965
Canada	50 485	48 217	53 000	74 000	75 000
USA	472 523	455 112	529 512	505 215	918 488
Argentina	35 070	29 653	59 600	...	...
Brazil	201 443	93 372	125 800	91 956	177 005
Colombia	22 303	47 013	28 201	55 079	...
Peru	37 707	24 714	16 946	11 454	...
Uruguay	4 800	2 400	900	400	200
Venezuela	8 000	4 000	5 173	...	...
Burma (d)	26 000	99 000	160 000	...	...
Hong Kong	91 690	98 927	70 077	99 546	15 390
India	354 533	353 409	...	...	...
Indonesia	53 997	23 645	18 052	22 119	11 118
Iran (b)	5 942	228 846	6 948	6 863	...
Israel (a)	14 000	11 000	...	(e)* 6 300	(e)* 4 000
Japan	91 759	69 509	81 309	123 525	52 470
Korea, Dem. P.R. of (e)	...	* 104 000	* 70 300	* 79 900	* 10 000
Korea, Republic of	28 805	22 635	19 107	19 218	13 983
Malaysia	103 320	6 560	20 980	4 500	...
Pakistan (c)	31 754	50 798	43 134	93 867	77 718
Philippines	354	4 655	3 484	1 784	16 842
Saudi Arabia	1 684 392	83 241	11 721	21 750	—
Singapore	3 099	14 301	74 938	27 910	14 181
Sri Lanka	450	12 211	183	406	1 333
Syria	2 594	—	—	—	5
Taiwan	12 848	14 604	15 570	8 743	11 185
Thailand	12 583	19 987	10 850	8 472	5 219
Australia	38 874	57 791	35 033	40 045	34 439

(a) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(b) Years ended 20 March following that stated

(c) Years ended 30 June of that stated

(d) Years ended 31 March following that stated

(e) BGS estimates, based on known exports from certain countries

## Production of Mica

tonnes

Country	1980	1981	1982	1983	1984
France (e)	8 838	9 059	7 950	9 286	10 854
Norway (b)	* 4 500	* 4 600	* 3 600	* 4 000	* 4 000
Soviet Union	* 46 000	* 47 000	* 48 000	* 49 000	* 49 000
Spain (e)	4 831	3 524	3 428	1 300	* 1 400
Yugoslavia	249	265	1 403	946	* 1 500
Madagascar					
Phlogopite (c)	1 642	588	1 300	1 096	719
Morocco	331	1 805	512	* 500	* 1 200
Mozambique	226	300	147	309	* 200
South Africa					
Waste	2 528	2 395	1 762	2 672	4 478
Sudan	1 500	183	165	10	100
Zimbabwe	1 022	1 406	844	547	960
Canada	10 002	11 284	* 9 500	* 11 000	* 11 000
Mexico	3 600	2 077	510	1 560	* 1 500
USA (d)					
Waste (e)	105 000	121 000	96 000	127 000	146 000
Argentina					
Sheet	218	44	24	28	* 25
Waste	616	459	218	285	* 270
Brazil (a)	4 818	1 950	1 077	3 408	3 265
India					
Crude	7 934	8 534	8 822	7 284	6 409
Waste	4 393	4 456	4 493	3 700	* 3 700
Sri Lanka	145	182	291	170	* 200
Taiwan	338	85	44	311	304
Australia	3 546	3 365	2 773	266	...
World total	212 000	225 000	193 000	225 000	247 000

Note: In addition to the countries listed, China, Namibia, Pakistan and Romania are also believed to produce mica

(a) Exports

(b) Crude only

(c) Block and splittings

(d) Sold or used by producers

(e) Including mica recovered from mica schists and/or kaolin beneficiation

## Exports of Mica

Country	1980	1981	1982	1983	1984
United Kingdom					
Unmanufactured	966	412	508	105	89
Ground	2 647	1 871	1 243	1 169	754
Waste	162	643	1 697	2 403	2 563
Belgium-Luxembourg	64	38	18	32	26
Denmark					
Ground	30	12	8	13	0
France					
Unmanufactured	354	2 119	1 473	1 832	5 050
Ground	3 462	3 895	3 608	3 969	4 548
Germany, Federal Republic of					
Unmanufactured	20	71	20	13	52
Ground	640	1 020	859	906	1 203
Italy					
Unmanufactured	440	324	580	227	194
Ground	687	423	677	271	362
Netherlands					
Unmanufactured	75	676	589	383	315
Ground	906	2 407	2 521	2 451	458
Austria	230	448	602	829	829
Norway	2 112	2 298	1 820	2 009	2 009
Portugal	—	189	145	206	823
Spain	6 059	2 683	2 021	465	49
Sweden	11	7	1	58	28
Switzerland	117	27	115	75	75
Madagascar	1 148	998	1 408	...	781
Morocco	485	1 353	1 570	—	1 434
Mozambique	127	275	62	...	...
South Africa					
Ground	1 091	) (a)* 900	(a)* 1 150	(a)* 950	(a)* 850
Waste	—	)			
Zimbabwe					
Ground	759	758	518	111	...
USA					
Unmanufactured	6 103	3 892	2 584	2 185	1 909
Ground	7 427	6 364	7 619	7 453	5 236
Argentina	846	71	11	4	...
Brazil	4 818	1 950	1 077	3 408	3 265
China (a)	* 10 700	* 10 200	* 11 800	* 13 100	* 15 900
India					
Block	1 153	1 367	...	...	...
Splittings	4 468	4 313	...	...	...
Condenser films	117	116	...	...	...
Waste	12 494	10 575	...	...	...
Japan	326	373	149	158	455
Singapore	272	351	200	363	396
of which: Re-exports	271	350	161	194	350
Sri Lanka	628	1 393	1 007	1 043	631
Taiwan	85	121	50	413	295

Note: This table shows unmanufactured mica and includes sheet, block, splittings, ground and waste, unless these are separately specified. Mica powder is included under the term 'ground'

(a) BGS estimates, based on known imports into certain countries

## Imports of Mica

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Block	89	19	72	) 144	169
Splittings	475	200	262	)	
Ground	6 824	2 180	2 117	3 323	6 334
Waste	13 835	11 495	11 622	12 941	12 391
Belgium-Luxembourg					
Unmanufactured	3 755	410	750	890	1 138
Ground	1 250	1 202	1 054	882	2 866
Denmark	175	179	167	223	254
France					
Unmanufactured	5 943	3 930	4 340	1 156	3 022
Ground	1 013	989	1 124	1 097	1 025
Germany, Federal Republic of					
Unmanufactured	7 098	5 044	6 684	5 133	4 620
Ground	3 233	4 030	4 661	5 381	6 222
Greece	271	192	210	139	263
Irish Republic	358	313	375	168	241
Italy					
Unmanufactured	437	495	283	269	313
Ground	654	786	698	628	985
Netherlands					
Unmanufactured	69	49	203	348	330
Ground	1 930	3 865	3 782	3 704	1 589
Austria	318	231	222	203	205
Finland	253	177	187	239	198
German Democratic Republic	1 424	1 224	1 616	1 350	1 042
Norway					
Unmanufactured	657	283	214	190	178
Waste	1 512	1 588	1 932	1 763	2 113
Poland	1 844	1 442	1 066	779	1 750
Portugal	347	466	375	320	283
Soviet Union	* 550	* 550	* 575	...	...
Spain	1 421	1 343	1 136	1 300	1 271
Sweden	408	337	422	438	422
Switzerland	546	655	682	480	753
Turkey	52	22	23	39	25
Yugoslavia	686	539	243	977	...
Egypt	83	180	205	27	...
Kenya	40	119	10	22	...
South Africa	1 187	948	545	486	1 075
Tunisia	94	107	166	...	106
Canada	2 597	3 133	2 860	2 791	2 395
Jamaica	37	73	77	134	59
Mexico	99	153	129	46	...
Trinidad & Tobago	181	176	184	197	176
USA					
Block	32	14	58	8	76
Splittings	1 916	1 097	809	164	559
Ground	5 046	6 064	4 910	4 673	5 812
Waste	33	186	450	518	) 4 730
Other unmanufactured	3 439	3 946	2 392	1 889	)
Brazil	153	170	76	109	—
Colombia	49	80	980	105	...
Peru	42	160	49	30	...
Uruguay	184	71	16	19	23
Venezuela	1 338	1 316	1 969	...	...
Brunei	58	25	13	24	...
Hong Kong	31	33	42	19	48
Indonesia	260	389	587	547	704
Iran (a)	113	253	0	51	...
Japan					
Block	2 620	1 344	886	783	2 963
Splittings	708	516	598	1 301	2 611
Waste	3 502	4 833	4 008	4 395	3 554
Other unmanufactured	4 830	5 905	9 017	3 226	3 873

## Imports of Mica

Country	1980	1981	1982	1983	1984
Korea, Republic of	134	121	185	434	569
Malaysia	111	73	83	114	...
Philippines	109	77	173	84	67
Saudi Arabia	1 038	908	1 584	1 032	670
Singapore	1 415	1 250	1 392	1 553	2 027
Taiwan					
Unmanufactured	92	34	33	50	51
Ground	245	258	224	174	243
Thailand	119	82	91	172	319
Australia					
Unmanufactured	338	243	) 474	335	204
Ground	621	562	)		
New Zealand (b)	£44 000	£70 000	£92 000	£91 000	£122 000

Note: This table shows unmanufactured mica and includes sheet, block, splittings, ground and waste, unless these are separately specified. Mica powder is included under the term 'ground'

(a) Years ended 20 March following that stated

(b) Years ended 30 June of that stated

**Mine Production of Molybdenum**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
Bulgaria	* 150	* 150	* 150	* 150	* 150
Soviet Union	* 10 400	* 10 700	* 11 000	* 11 100	* 11 200
Turkey	100	* 100	* 100	* 100	—
Niger	122	116	42	40	57
Canada	11 889	12 850	13 961	10 194	10 865
Mexico	74	451	5 190	5 866	* 2 150
USA	68 350	63 458	38 275	15 238	47 022
Chile	13 668	15 360	20 048	15 264	16 861
Peru	2 407	3 054	2 873	2 563	3 081
China	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000
Japan	60	79	103	102	* 120
Korea, Republic of	302	467	363	143	159
Mongolia	487	660	* 800	* 950	* 1 000
Philippines	91	94	80	40	—
World total	110 000	110 000	95 000	64 000	95 000

Note: In addition to the countries listed, Australia, India, Democratic P.R. of Korea, and Romania are also believed to produce molybdenum



## Exports of Molybdenum

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	2 290	4 257	5 769	6 120	4 906
Metal	174	261	365	460	414
Oxides	1 937	1 086	1 854	1 035	1 614
Belgium-Luxembourg					
Ores & concentrates	5 542	9 093	9 300	8 649	10 847
Metal	117	183	67	90	90
Oxides	176	154	53	35	39
France					
Ores & concentrates	1 180	1 481	502	364	227
Metal	133	180	165	284	288
Oxides	21	1	...	...	...
Germany, Federal Republic of					
Ores & concentrates	6 984	5 428	7 442	6 898	5 291
Metal	488	319	431	622	680
Italy					
Ores & concentrates	175	209	348	298	—
Metal	11	6	20	150	49
Netherlands					
Ores & concentrates (b)	29 159	16 768	14 047	8 905	15 801
Metal	181	148	247	184	122
Oxides	2 247	1 546	1 683	1 504	1 631
Austria					
Metal	1 017	1 018	1 047	1 201	1 284
Finland					
Ores & concentrates	1	340	425	310	488
Sweden					
Ores & concentrates	1 346	1 691	1 970	1 458	745
Metal	7	38	7	5	71
Canada					
Ores & concentrates (a)	14 584	13 688	17 429	11 349	8 896
USA					
Ores & concentrates (a)	31 011	23 291	22 581	21 350	28 764
Metal	937	1 643	998	826	907
Chile					
Ores & concentrates (a)	7 312	9 109	11 187	3 793	4 717
Oxides	...	...	...	16 250	11 538
Peru					
Ores & concentrates (a)	2 995	* 2 500	* 2 500	* 2 000	* 1 500
Japan					
Metal	37	54	54	51	41
Korea, Republic of					
Ores & concentrates	322	651	360	—	—
Philippines					
Ores & concentrates	180	139	155	122	—

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Mo content

(b) May include other ores

## Imports of Molybdenum

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	13 672	15 149	17 738	14 419	18 042
Metal	237	176	178	308	489
Oxides	296	432	195	191	102
Belgium-Luxembourg					
Ores & concentrates	15 922	20 772	20 469	22 976	21 952
Metal	149	126	162	278	173
Oxides	17	120	192	298	282
France					
Ores & concentrates	7 094	9 078	7 713	5 650	6 246
Metal	263	117	166	225	243
Oxides	227	62	29	35	77
Germany, Federal Republic of					
Ores & concentrates	18 087	18 138	21 524	19 061	18 597
Metal	1 102	984	766	749	964
Oxides	453	502	265	274	192
Italy					
Ores & concentrates	6 039	4 522	2 768	2 360	4 438
Metal	163	120	110	174	189
Oxides	158	68	232	47	86
Netherlands					
Ores & concentrates (a)	28 247	21 501	19 677	13 816	20 741
Metal	175	148	172	235	178
Oxides	107	83	19	29	9
Austria					
Metal	366	188	38	143	109
Oxides	1 527	1 493	1 896	1 748	2 063
Finland					
Ores & concentrates	675	454	488	558	671
Metal	5	4	6	3	6
Soviet Union					
Ores & concentrates (b)	* 300	* 1 000	...	* 1 000	* 300
Spain					
Ores & concentrates	...	1 817	2 283	2 787	...
Metal	33	17	36	24	39
Sweden					
Ores & concentrates	6 034	5 618	6 397	5 254	6 347
Metal	73	43	59	33	71
Oxides	44	169	483	232	138
Switzerland					
Metal	24	20	29	9	21
Yugoslavia					
Metal	15	15	15	23	...
South Africa					
Metal	19	11	11	26	23
Oxides	312	170	138	10	188
Canada					
Oxides	362	423	193	141	238
Mexico					
Ores & concentrates	289	927	240	...	...
Metal	151	204	52	...	...
USA					
Ores & concentrates	2 050	2 672	2 488	924	21
Metal	305	247	183	271	323
Oxides	1 481	1 191	2 087	3 548	3 992
Argentina					
Oxides	296	250	509	...	...
Brazil					
Ores & concentrates	2 123	2 240	1 303	1 465	2 590
Metal	115	44	42	28	51

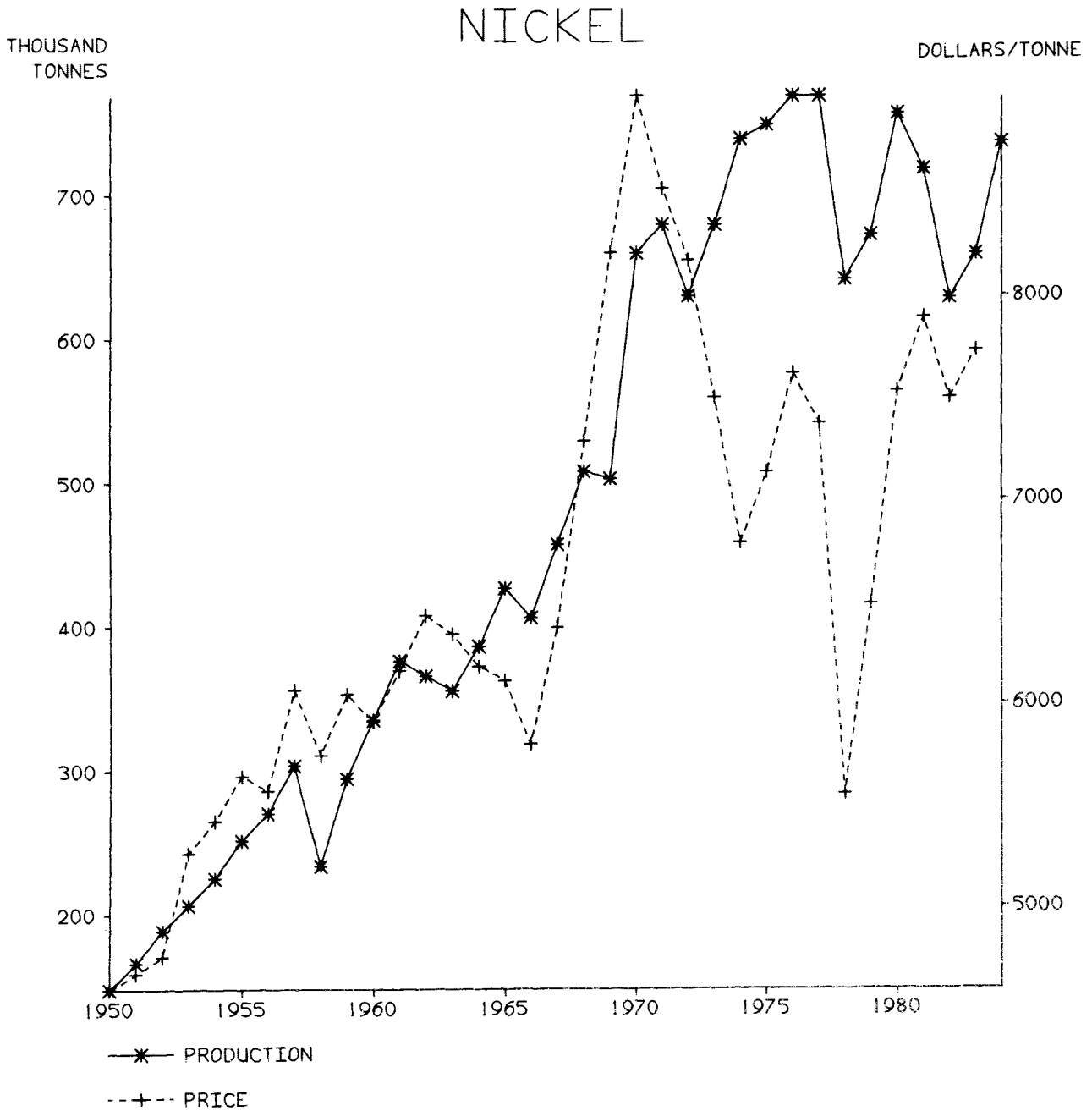
## Imports of Molybdenum

Country	1980	1981	1982	1983	1984
India					
Metal	17	30	...	...	...
Japan					
Ores & concentrates	20 388	16 290	17 245	18 737	18 246
Metal	146	219	296	203	423
Oxides	826	660	635	549	578
Korea, Republic of					
Metal	20	7	11	67	15
Philippines					
Metal	4	127	13	30	20
Singapore					
Metal	1	1	9	19	11
Taiwan					
Metal	44	44	45	70	90
Australia					
Ores & concentrates	326	155	116	...	...

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) May include other ores

(b) BGS estimates, based on known exports from certain countries



**Figure 13** World mine production of nickel from 1950 to 1984 compared with the yearly average f.o.b. contract price of Canadian electrolytic cathodes expressed in constant 1980 US dollars.  
*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Mine Production of Nickel

tonnes (metal content)

Country	1980	1981	1982	1983	1984
Greece (d)	13 900	10 900	5 000	12 900	13 600
Albania	8 500	8 800	9 000	9 000	9 000
Finland	6 550	7 557	4 746	5 214	6 323
German Democratic Republic	2 700	2 700	2 500	2 200	2 000
Norway	508	489	405	359	600
Poland	* 1 100	* 1 000	* 700	* 300	—
Soviet Union	* 143 000	* 150 000	* 170 000	* 172 000	* 175 000
Yugoslavia	* 500	* 2 000	* 3 500	* 1 600	* 2 200
Botswana	15 442	18 279	17 763	18 214	18 562
Morocco	500	500	500	—	—
South Africa (a)	* 25 700	* 25 000	* 20 500	* 20 500	* 22 500
Zimbabwe	15 075	13 018	13 301	10 146	10 251
Canada (b)	184 802	160 247	88 581	125 022	161 831
Cuba (c)	38 207	40 260	37 603	39 257	33 200
Dominican Republic (d)	16 350	19 020	5 958	20 200	24 220
Guatemala	6 744	—	—	—	—
USA	13 293	10 976	2 906	—	13 190
Brazil	5 838	6 567	14 451	15 561	21 670
Colombia	—	—	2 244	14 183	16 460
Burma (e)	14	20	* 20	* 20	* 20
China	* 11 000	* 11 000	* 13 500	* 15 000	* 17 500
Indonesia	40 600	49 400	48 500	41 200	47 800
Philippines	47 114	29 247	19 634	13 900	11 894
Australia	74 323	74 355	87 552	76 625	76 889
New Caledonia (c)	86 592	78 090	60 101	46 162	53 651
World total	758 000	719 000	629 000	660 000	738 000

(a) Refined nickel and nickel in matte

(b) Refined nickel and nickel in oxide and salts plus nickel in matte and concentrate exported

(c) Ni and Co content

(d) Ni content of ferro-nickel

(e) Ni content of nickel speiss. Years ended 31 March following that stated

**Smelter/Refinery Production of Nickel**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	19 300	25 400	6 902	23 200	22 300
France	9 792	10 051	7 360	4 878	5 217
Greece	13 880	10 860	4 778	12 858	15 829
Albania	* 4 500	* 4 500	* 4 500	4 500	4 000
Czechoslovakia	* 2 200	* 1 600	* 1 500	* 3 000	* 4 500
Finland	12 646	13 051	12 304	14 514	15 282
German Democratic Republic	* 3 000	* 2 800	* 3 000	* 3 000	* 3 000
Norway	37 123	36 954	25 833	28 619	35 548
Poland	* 1 800	* 1 500	* 700	* 300	—
Soviet Union	* 165 000	* 170 000	* 190 000	* 192 000	* 193 000
Yugoslavia	—	—	1 500	1 000	1 800
South Africa	18 100	17 200	17 300	19 200	20 500
Zimbabwe	15 100	12 400	14 600	13 000	10 400
Canada	142 155	106 406	61 544	84 935	102 421
Cuba	20 020	20 850	21 001	21 135	20 000
Dominican Republic (a)	16 552	18 679	5 484	21 202	24 219
USA	40 120	44 275	40 783	(b) 30 300	40 763
Brazil	2 504	2 334	4 813	10 741	12 716
Colombia	—	—	1 463	13 100	16 500
China	* 11 000	* 12 000	* 12 500	* 16 500	* 17 000
Indonesia	4 421	4 703	5 000	4 900	4 800
Japan	109 300	93 600	87 300	82 300	89 400
Philippines	22 731	19 353	10 200	6 100	3 500
Australia	35 309	42 505	45 931	41 800	38 660
New Caledonia	32 580	27 989	28 007	21 717	29 158
World total	739 000	699 000	614 000	675 000	731 000

Note: Data relate to refined nickel plus the nickel content of ferro-nickel and nickel oxide

(a) Shipments of ferro-nickel (Ni content)

(b) Excludes production from domestic ores

## Exports of Nickel

Country	1980	1981	1982	1983	1984
United Kingdom					
Mattes, sinters etc.	2 911	4 941	2 010	572	184
Unwrought	9 654	18 329	10 166	12 696	10 527
Unwrought alloys	1 332	2 051	1 259	1 039	1 849
Scrap	4 404	4 195	5 136	5 637	5 842
Oxides	58	162	294	150	88
Belgium-Luxembourg					
Unwrought	258	62	562	229	173
Unwrought alloys	55	56	127	213	80
Scrap	1 440	1 432	984	708	843
Denmark					
Scrap	95	32	47	58	76
France					
Mattes, sinters etc.	272	3	12	4	19
Unwrought	5 873	4 711	3 600	4 504	4 316
Unwrought alloys	884	553	759	912	1 266
Scrap	2 179	2 461	2 064	2 070	3 602
Oxides	547	235	390	62	80
Germany, Federal Republic of					
Mattes, sinters etc.	302	52	136	5 553	1 786
Unwrought	3 441	2 632	6 175	11 497	6 651
Unwrought alloys	2 995	1 869	3 286	2 861	3 695
Scrap	5 317	7 780	7 700	7 637	9 404
Oxides	135	95	135	2 437	76
Greece					
Scrap	90	311	22	590	21
Italy					
Unwrought (a)	169	131	209	713	141
Scrap	271	318	290	165	169
Netherlands					
Mattes, sinters etc.	3 686	2 602	3 115	2 782	...
Unwrought (a)	4 446	3 087	2 495	2 013	426
Scrap	2 168	1 564	1 808	2 206	3 015
Oxides	572	264	375	781	...
Austria					
Scrap	302	451	255	457	774
Finland					
Mattes, sinters etc.	1 657	2 690	2 051	955	—
Unwrought (a)	11 104	11 135	9 757	11 322	13 247
Scrap	—	—	392	4 628	2 269
Norway					
Ore	13 773	11 360	10 824	9 952	8 231
Unwrought	31 250	36 931	29 270	30 014	37 812
Scrap	391	583	197	107	49
Soviet Union					
Unwrought (b)	* 30 800	* 31 700	* 34 500	* 35 500	* 35 300
Spain					
Scrap	168	78	24	36	329
Sweden					
Mattes, sinters etc.	—	—	106	117	—
Unwrought (a)	1 906	1 397	717	482	622
Scrap	511	525	573	1 620	613
Switzerland					
Unwrought, mattes, sinters etc.	180	16	23	27	12
Scrap	233	247	241	318	422
Yugoslavia					
Scrap	288	148	170	93	...
Botswana					
Mattes, sinters etc.	43 025	46 185	41 587	52 117	86 587
South Africa					
Slurry, mattes, sinters etc. (b)	* 54 900	* 79 500	* 48 600	* 36 200	* 46 000
Unwrought (a)(b)	* 23 400	* 17 900	* 16 800	* 15 400	* 16 300
Scrap	* 200	* 100	* 200	* 100	* 400
Canada					
Ores, concentrates, mattes etc. (c)	59 636	68 265	40 164	51 273	79 492
Unwrought	88 493	79 987	62 463	67 386	80 508
Scrap	2 664	2 927	3 283	2 988	9 606

**Exports of Nickel**

tonnes

Country	1980	1981	1982	1983	1984
Cuba					
Oxide, sinter & sulphide (e)	37 776	39 076	38 005	37 807	...
USA					
Unwrought (a)	13 854	15 657	31 283	20 309	23 815
Scrap	18 806	9 834	10 100	12 056	11 934
Hong Kong					
Unwrought (Re-exports)	2 169	2 895	2 793	4 277	3 020
Scrap	209	435	487	378	293
Indonesia					
Ore	883 055	842 045	721 518	514 972	579 284
Mattes, sinters etc.	42 763	44 947	37 951	46 010	49 848
Japan					
Unwrought (a)	1 330	1 262	298	286	349
Philippines					
Ores & concentrates	608 825	557 583	408 712	346 973	527 205
Unwrought (a)	18 823	15 469	5 869	10 362	2 344
Singapore					
Unwrought	1 392	1 201	2 774	9 440	4 717
of which: Re-exports	1 392	1 201	2 774	9 409	4 685
Scrap	561	503	533	413	160
Taiwan					
Unwrought	54	36	38	111	3
Scrap	572	947	1 198	1 423	1 825
Australia (d)	* 53 000	* 51 600	* 54 500	* 62 000	* 60 900
New Caledonia					
Ores	2 012 082	1 600 877	1 498 837	1 065 479	1 332 945
Mattes, sinters etc.	21 980	22 500	10 200	4 700	8 300

## Notes:

- 1 In this table the term 'unwrought' nickel corresponds to item 683.1 of the Standard International Trade Classification (Revision 2) which excludes all electro-plating anodes
  - 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Including alloys  
(b) BGS estimates, based on known imports into certain countries  
(c) Ni content  
(d) BGS estimates; unwrought metal and Ni content of ores, concentrates, matte etc., based on known imports into certain countries  
(e) Ni-Co content (mainly nickel)



## Imports of Nickel

Country	1980	1981	1982	1983	1984
United Kingdom					
Mattes, sinters etc.	38 325	41 232	15 015	25 937	39 891
Unwrought	16 762	16 431	14 778	10 423	13 280
Unwrought alloys	1 478	526	474	467	2 079
Scrap	2 174	2 390	3 359	2 298	2 810
Oxides	1 020	257	216	511	553
Belgium-Luxembourg					
Mattes, sinters etc.	300	446	338	423	2 402
Unwrought	2 624	2 176	3 149	2 993	2 079
Unwrought alloys	437	273	969	1 347	971
Scrap	519	983	499	327	601
Oxides	164	106	88	349	384
Denmark					
Unwrought	131	115	159	222	193
Unwrought alloys	49	0	2	22	156
France					
Mattes, sinters etc.	15 050	19 374	10 756	7 092	8 649
Unwrought	18 029	16 802	16 377	17 893	18 094
Unwrought alloys	4 525	3 109	3 121	2 659	4 604
Scrap	763	983	466	529	917
Oxides	244	262	243	545	283
Germany, Federal Republic of					
Mattes, sinters etc.	14 116	12 361	13 847	11 999	12 239
Unwrought (a)	39 329	39 929	40 576	44 830	48 284
Scrap	7 552	5 469	6 419	4 902	8 389
Oxides	391	315	193	186	383
Greece					
Unwrought	182	41	153	100	72
Irish Republic					
Unwrought (a)	254	188	187	142	220
Italy					
Mattes, sinters etc.	2 670	1 766	1 870	2 676	4 261
Unwrought	17 969	11 502	16 847	13 593	19 811
Unwrought alloys	785	651	1 063	664	473
Scrap	685	335	320	143	87
Oxides	2 534	2 897	2 430	2 300	2 106
Netherlands					
Mattes, sinters etc.	3 695	2 633	...	...	...
Unwrought	5 518	3 681	3 312	3 054	1 604
Unwrought alloys	49	54	78	62	30
Scrap	1 021	1 377	1 527	1 320	3 737
Oxides	1 127	1 075	1 245	267	152
Austria					
Mattes, sinters etc.	1 279	734	833	622	1 122
Unwrought (a)	2 378	2 586	2 129	2 888	3 105
Scrap	1 597	567	357	222	608
Czechoslovakia					
Unwrought (a)	7 919	8 347	6 741	8 060	6 483
Finland					
Ore	14 676	12 402	11 579	12 188	7 325
Mattes, sinters etc.	7 522	6 270	7 853	9 901	8 786
Unwrought (a)	4 299	2 460	2 869	4 973	4 661
Scrap	1 944	1 449	1 959	1 987	2 489
Norway					
Mattes, sinters etc.	89 855	84 252	62 419	63 140	93 459
Unwrought (a)	79	188	85	281	146
Scrap	7	21	31	8	73
Portugal					
Unwrought (a)	139	246	297	275	223
Spain					
Mattes, sinters etc.	1 779	2 244	2 353	2 625	2 377
Unwrought (a)	6 104	3 668	5 036	4 982	4 776
Sweden					
Mattes, sinters etc.	4 453	3 113	2 603	4 059	2 935
Unwrought	10 518	7 754	10 553	9 224	12 551
Unwrought alloys	292	284	308	372	381
Scrap	2 609	2 082	2 930	3 365	4 556

## Nickel

**Imports of Nickel**

tonnes

Country	1980	1981	1982	1983	1984
Switzerland					
Unwrought, mattes, sinters etc.	1 340	1 164	1 034	895	901
Scrap	164	240	242	94	70
Yugoslavia					
Unwrought	1 960	2 150	1 074	1 394	...
South Africa					
Mattes, sinters etc.	0	150	560	455	577
Unwrought	542	522	103	40	57
Scrap	89	27	0	—	0
Canada					
Ores, concentrates & scrap (b)	26 149	23 760	22 355	29 281	24 736
Unwrought (a)	5 224	2 927	3 403	3 355	4 102
Mexico					
Mattes, sinters etc.	3 208	4 049	4 312	1 225	...
Oxides	505	511	268	...	...
USA					
Ore	4 701	8 354	1 813	—	0
Slurry, mattes, sinters etc.	66 043	85 994	50 165	54 552	* 70 900
Unwrought (a)	107 497	109 804	74 328	84 709	93 456
Scrap	3 240	4 741	3 901	5 507	5 623
Oxides	3 794	3 928	2 852	3 818	5 013
Argentina					
Unwrought	636	395	443	...	...
Brazil					
Unwrought (a)	5 850	4 950	1 747	174	341
Colombia					
Unwrought	121	245	121	231	...
Venezuela					
Unwrought	185	207	185	...	...
Hong Kong					
Unwrought	3 487	4 534	3 312	5 008	4 494
India					
Unwrought (c)	2 872	5 598	...	...	...
Unwrought alloys (c)	380	2 130	...	...	...
Scrap	2 261	2 992	...	...	...
Japan					
Ore	3 950 321	3 462 801	2 996 755	2 297 076	2 834 813
Mattes, sinters etc.	51 751	36 608	41 812	38 323	50 510
Unwrought	15 202	17 732	19 689	26 822	31 377
Unwrought alloys	415	151	218	237	172
Scrap	1 806	2 252	2 938	3 668	3 242
Oxides	1 797	1 439	—	—	—
Korea, Republic of					
Unwrought	2 853	3 811	2 451	2 002	2 306
Scrap	10	4	318	167	224
Malaysia					
Unwrought (a)	3 322	2 010	499	296	...
Singapore					
Unwrought	1 195	1 415	1 414	11 385	917
Taiwan					
Unwrought (a)	2 230	2 479	2 822	4 060	4 497
Australia					
Mattes, sinters etc.	1 928	0	31	51	0
Unwrought	1 359	838	1 261	178	1 038
Unwrought alloys	276	646	682	77	132
New Zealand (d)					
Unwrought (a)	107	116	142	10	105

## Notes:

- 1 In this table the term 'unwrought' nickel corresponds to item 683.1 of the Standard International Trade Classification (Revision 2) which excludes all electro-plating anodes
- 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Including alloys  
(b) Ni content

(c) Years ended 31 March following that stated  
(d) Years ended 30 June of that stated

## Production of Crude Petroleum

thousand tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	78 917	87 946	100 311	110 839	121 180
Denmark (e)	280	760	1 663	2 149	2 219
France	1 405	1 676	1 646	1 660	2 064
Germany, Federal Republic of	4 631	4 459	4 255	4 116	4 055
Greece	—	204	1 020	1 240	* 1 350
Italy	1 800	1 465	1 728	2 198	2 240
Netherlands	1 280	1 348	1 637	2 589	3 102
Albania	* 1 590	* 2 190	* 2 310	* 4 000	* 3 000
Austria	1 475	1 338	1 290	1 269	1 205
Bulgaria	* 250	* 290	* 300	* 300	* 300
Czechoslovakia	93	89	89	93	91
German Democratic Republic	* 60	* 60	* 60	* 60	* 60
Hungary	2 031	2 024	2 027	2 004	2 007
Norway	24 451	23 450	24 515	30 483	35 043
Poland	329	315	241	210	189
Romania	11 511	11 644	11 742	11 593	* 12 000
Soviet Union	603 207	608 820	612 600	616 300	612 700
Spain	1 595	1 253	1 531	2 977	2 245
Turkey	2 330	2 364	2 333	2 204	2 087
Yugoslavia	4 229	4 375	4 340	4 125	4 044
Algeria	51 280	44 570	43 700	42 300	43 200
Angola	6 778	6 452	6 481	8 905	10 190
Cameroon	2 790	4 420	5 410	5 650	6 900
Congo	3 067	3 811	4 382	4 240	4 500
Egypt	29 450	32 100	33 200	38 300	45 200
Gabon	8 895	7 650	7 720	7 920	7 800
Ivory Coast	70	380	620	1 000	1 000
Libya	86 619	57 423	50 510	54 400	53 500
Nigeria	100 286	69 927	62 633	61 000	69 400
Tunisia	5 627	5 407	5 146	5 532	5 480
Zaire	906	1 068	1 167	1 286	1 200
Canada	76 088	68 009	67 319	71 839	76 263
Cuba	273	253	541	742	770
Guatemala	210	207	318	354	238
Mexico	100 367	119 581	142 080	138 983	145 091
Trinidad & Tobago	10 956	9 791	9 154	8 265	8 789
USA	428 091	444 682	448 676	450 699	460 608
Argentina	26 059	26 296	25 952	25 977	25 318
Bolivia	1 262	1 174	1 293	1 172	* 1 000
Brazil	9 636	11 298	13 756	17 461	23 800
Chile	1 763	2 191	2 266	2 083	2 040
Colombia	6 486	6 896	7 308	7 657	8 586
Ecuador	10 423	10 708	10 834	12 044	13 240
Peru	9 619	9 495	9 598	8 419	9 370
Venezuela	114 788	111 688	100 391	95 526	* 95 500
Abu Dhabi	65 600	55 628	44 215	40 800	39 800
Bahrain	2 402	2 304	2 195	2 086	2 500
Brunei	10 458	8 258	8 950	8 650	8 320
Burma (d)	1 404	1 475	1 380	1 435	1 660
China (a)	105 950	101 220	102 120	106 070	* 114 500
Dubai	16 968	17 595	17 910	16 900	17 800
India	9 397	14 925	19 712	25 235	26 250
Indonesia	76 345	77 380	64 590	64 896	68 403
Iran	74 250	93 425	117 860	120 450	* 109 300
Iraq	127 900	43 050	40 900	52 800	* 54 100
Israel	21	17	13	12	17
Japan	459	416	426	449	434
Kuwait	83 567	56 589	41 408	53 016	58 578
Malaysia	13 124	12 329	14 479	18 304	21 403
Neutral Zone (c)	28 040	19 160	15 550	16 200	21 900
Oman	14 143	16 339	16 721	19 354	20 786
Pakistan	497	474	615	650	* 900
Philippines	510	350	425	680	600

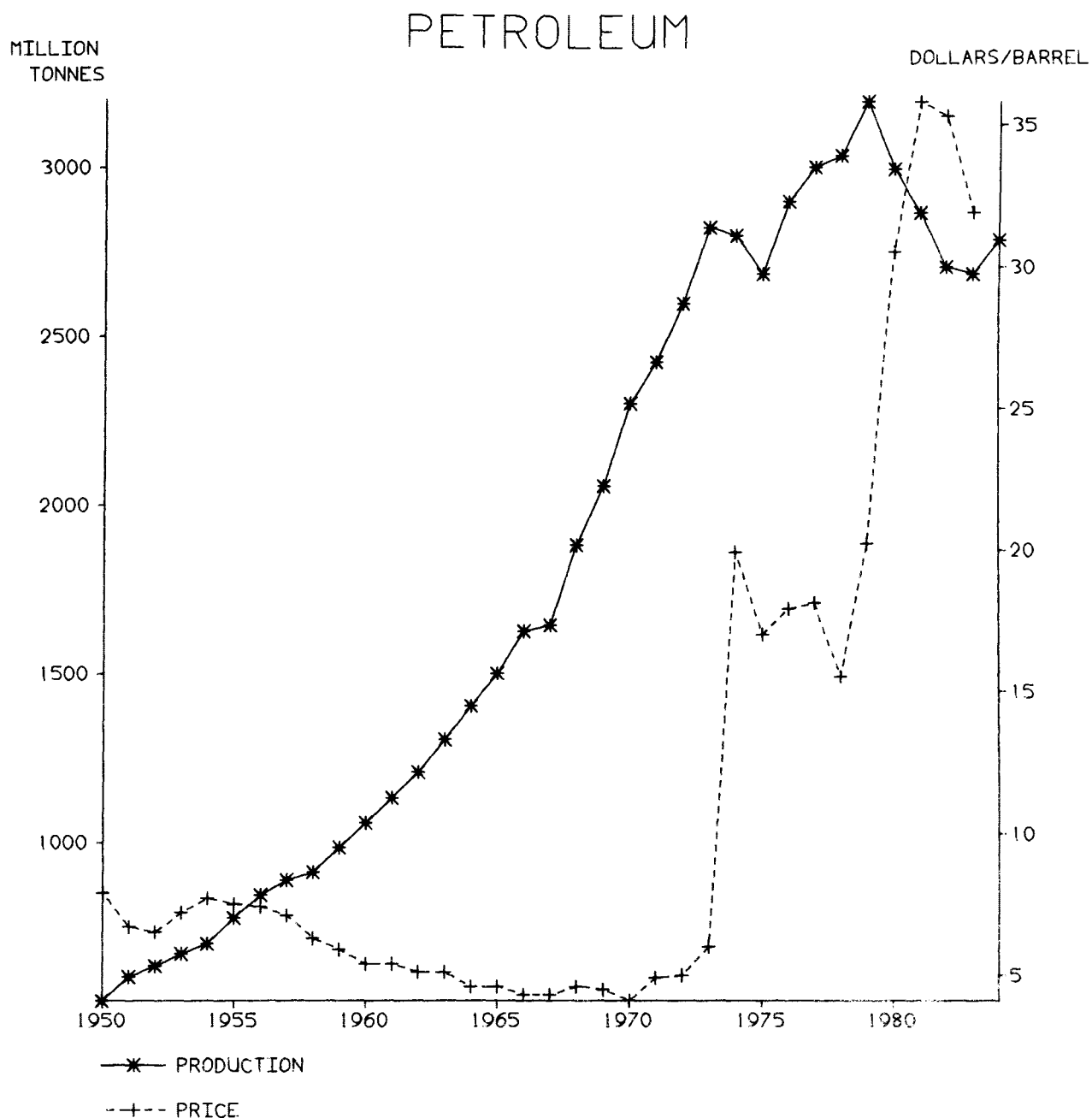
**Production of Crude Petroleum**

thousand tonnes

Country	1980	1981	1982	1983	1984
Qatar	22 467	19 277	15 610	13 993	20 100
Saudi Arabia	487 702	490 209	323 687	226 784	229 600
Sharjah	606	457	303	1 850	* 2 700
Syria	8 391	8 660	8 219	8 538	8 590
Taiwan	193	167	127	123	124
Australia	19 451	19 799	18 839	21 969	26 376
New Zealand (b)	328	418	674	650	837
World total	3 000 000	2 870 000	2 710 000	2 690 000	2 790 000

Note: The figures shown in this table exclude natural gasoline

- (a) Including oil from shale and coal
- (b) Petroleum condensate
- (c) Neutral zone of Kuwait and Saudi Arabia
- (d) Years ended 31 March following that stated
- (e) Sales



**Figure 14** World production of crude petroleum from 1950 to 1984 compared with the weighted yearly average price f.o.b. OPEC countries of light crude expressed in constant 1980 US dollars. (prior to 1973, f.o.b. Ras Tanura)  
*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Production of Natural Gas

Million m<sup>3</sup>

Country	1980	1981	1982	1983	1984
United Kingdom	38 716	38 755	42 603	(e) 39 539	(e) 38 604
Belgium	47	43	36	23	47
France	7 536	7 086	6 583	6 662	6 344
Germany, Federal Republic of	18 645	19 058	16 110	17 623	15 950
Irish Republic	922	1 415	2 037	2 194	2 327
Italy	12 531	13 961	14 520	12 991	13 836
Netherlands	91 153	84 617	72 035	76 536	77 251
Albania	* 370	* 380	* 450	* 420	...
Austria	1 903	1 437	1 324	1 213	1 272
Bulgaria	190	137	* 140	* 135	* 100
Czechoslovakia	626	662	656	613	740
German Democratic Republic	* 9 000	* 9 900	* 8 200	* 7 400	* 9 000
Hungary	6 142	6 011	6 641	6 510	6 898
Norway	25 973	26 162	25 534	25 831	27 482
Poland	6 329	6 172	5 555	5 491	6 087
Romania	35 171	37 022	37 417	38 106	40 000
Soviet Union	435 217	465 262	500 700	535 700	587 400
Yugoslavia	1 820	1 651	1 703	2 090	1 998
Algeria	11 650	13 200	29 700	46 700	* 35 000
Angola	* 70	* 70	* 70	* 70	...
Egypt	* 1 700	* 2 000	* 2 200	* 2 700	* 3 000
Gabon	72	76	65	* 135	* 135
Libya	5 168	3 058	3 256	* 4 300	* 4 300
Morocco	68	85	79	83	...
Nigeria	1 343	2 454	2 549	* 3 000	...
Tunisia	355	391	423	412	400
Canada	87 109	85 530	87 102	83 311	89 904
Mexico	28 562	30 120	31 458	31 271	* 32 000
Trinidad & Tobago	2 733	2 834	3 532	4 013	4 133
USA (f)	549 435	543 153	502 843	453 990	492 500
Argentina	9 409	9 789	11 304	13 137	14 323
Bolivia	2 227	2 438	2 297	1 889	...
Brazil	1 000	900	1 041	1 570	* 1 900
Chile	* 3 800	* 3 700	3 530	* 3 600	...
Colombia	3 357	3 400	* 3 700	* 3 700	...
Peru	* 595	* 595	* 595	* 625	...
Venezuela	16 679	16 643	17 608	17 165	* 17 000
Afghanistan (c)	2 790	2 675	2 300	2 400	2 400
Bahrain	3 495	3 482	3 696	3 945	...
Bangladesh (d)	1 285	1 414	1 834	2 042	2 353
Brunei	9 290	8 850	8 678	8 900	8 496
Burma (b)	420	421	493	515	702
China	14 270	12 740	11 930	12 210	12 250
India	1 462	1 997	2 412	2 856	3 200
Indonesia	29 612	31 820	31 486	33 546	43 083
Iran	7 080	6 270	6 520	6 700	...
Iraq	2 237	1 760	* 1 700	* 1 700	* 1 700
Israel	142	175	73	66	53
Japan	2 197	2 102	2 047	2 085	2 133
Kuwait (a)	6 895	5 334	4 129	4 837	5 199
Malaysia	827	* 750	1 338	...	...
Pakistan	8 134	8 937	9 771	9 728	10 100
Qatar	3 143	4 587	5 040	5 341	...
Saudi Arabia (a)	* 14 600	* 14 600	* 12 200	* 10 900	...
Taiwan	1 708	1 502	1 232	1 237	1 266
Australia	9 567	11 260	11 595	11 914	12 600
New Zealand	1 150	1 390	2 388	2 552	3 233
World total	1 500 000	1 600 000	1 600 000	1 600 000	1 700 000

Note: So far as possible the figures in this table exclude flared gas

(a) Includes one-half of the output of the Neutral Zone

(b) Years ended 31 March following that stated

(c) Years ended 20 March following that stated

(d) Years ended 30 June of that stated

(e) Excluding heavier natural gases and condensates

(f) Dry gas

## Exports of Crude Petroleum

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	38 595 732	52 548 820	60 320 953	68 278 840	75 858 236
Belgium-Luxembourg	2	58 553	181 564	80 139	78 082
Denmark	0	0	6	1 117 767	803 941
France	76	89	584 076	436 279	68 181
Germany, Federal Republic of	1 257 056	1 071 236	1 141 828	1 114 665	1 097 809
Netherlands	14 683	46 633	101 802	254 572	535 170
Czechoslovakia	328 000	209 000	481 000	428 000	...
Hungary	885 000	534 000	1 796 000	* 1 800 000	...
Norway	23 197 329	20 453 396	20 665 923	25 623 382	30 064 286
Soviet Union (a)	* 89 724 000	* 96 479 000	* 104 133 000	* 116 660 000	* 124 815 000
Spain	144 995	114 303	170 228	191 202	166 000
Algeria	46 528 964	34 558 354	24 457 899	25 172 102	* 24 000 000
Angola	* 6 204 000	* 5 858 000	* 5 300 000	* 6 800 000	...
Cameroon	1 612 180	1 434 000	1 871 770	1 950 000	...
Congo	3 408 606	2 829 853	4 572 827	* 5 160 000	* 5 500 000
Egypt	8 005 645	7 187 997	7 863 837	7 800 450	...
Gabon	7 687 100	6 300 000	6 650 000	6 820 000	* 7 000 000
Libya	89 864 479	57 024 881	48 170 000	* 46 606 000	...
Nigeria	96 760 000	61 641 579	51 285 599	53 650 000	* 55 000 000
Tunisia	4 609 280	4 991 407	3 843 815	3 929 200	3 820 750
Zaire	625 433	1 016 488	1 109 801	...	...
Bahamas (Re-exports)	...	...	...	9 105 083	...
Canada	11 349 029	8 670 665	11 096 318	15 305 074	19 002 707
Guatemala	53 984	93 209	157 639	265 719	...
Mexico	42 794 441	56 767 375	77 140 785	79 462 516	79 037 000
Netherlands Antilles	608 000	...	...	653 000	...
Trinidad & Tobago	6 710 020	6 144 774	4 448 184	4 962 501	4 319 975
USA	5 259 570	2 468 931	1 859 470	963 724	822 058
Brazil	58 812	606 665	1 087 486	48 771	—
Ecuador	5 613 596	4 745 501	4 596 933	6 429 297	5 908 353
Peru	1 883 910	1 348 779	1 525 083	* 1 000 000	...
Venezuela	67 782 000	66 138 000	55 456 000	51 132 000	52 720 000
Brunei	11 218 160	8 028 719	8 287 805	8 504 468	12 018 000
China	(a)* 11 300 000	13 870 000	14 680 000	14 830 000	22 010 000
Indonesia	50 886 849	50 130 321	56 069 961	54 894 367	50 055 502
Iran (b)	39 367 000	(a)* 31 900 000	(a)* 68 700 000	(a)* 110 500 000	(a)* 74 750 000
Iraq	120 909 000	34 154 000	39 787 000	* 38 179 000	...
Kuwait	63 509 634	36 567 575	18 578 330	27 425 811	* 29 000 000
Malaysia	11 226 921	10 143 173	11 973 851	14 223 964	...
Oman	13 911 620	16 380 250	16 149 000	* 18 635 000	* 18 500 000
Qatar	22 506 645	18 854 784	15 565 840	13 480 912	* 18 000 000
Saudi Arabia	454 661 000	451 431 337	281 943 763	196 229 411	159 340 130
Singapore	75 652	50 440	276 145	465 105	331 656
of which: Re-exports	75 247	50 440	276 143	465 105	330 811
Syria	* 6 316 000	5 542 000	5 317 062	5 864 738	5 126 778
United Arab Emirates	82 557 606	70 498 723	* 59 323 000	* 52 239 000	* 51 000 000
Australia	84 425	55 663	88 831	119 002	...

(a) BGS estimates, based on known imports into certain countries

(b) Years ended 20 March following that stated

## Imports of Crude Petroleum

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	44 541 358	32 990 199	28 256 208	22 802 643	25 002 401
Belgium-Luxembourg	29 913 668	27 213 278	23 484 441	19 984 899	17 869 509
Denmark	5 764 051	5 017 574	4 492 081	5 312 410	5 296 283
France	109 722 147	90 095 874	76 456 847	69 207 937	72 974 771
Germany, Federal Republic of	96 875 766	79 246 855	72 541 789	65 212 699	66 933 641
Greece	10 167 382	8 904 377	11 539 098	11 091 382	9 989 000
Irish Republic	2 113 988	652 678	495 803	1 064 969	1 171 185
Italy	88 534 643	84 365 702	77 357 540	72 813 911	63 408 561
Netherlands	50 448 982	39 662 317	38 160 400	40 274 160	44 976 426
Austria	8 318 277	7 532 649	6 158 356	5 358 960	5 906 643
Bulgaria	* 13 000 000	* 12 500 000	* 12 500 000	* 12 500 000	...
Czechoslovakia	19 262 000	18 500 000	17 300 000	17 100 000	...
Finland	12 876 406	10 774 257	9 699 907	10 303 753	9 343 190
German Democratic Republic	21 876 000	22 734 000	21 745 000	22 648 000	23 236 000
Hungary	8 336 292	7 754 183	8 775 705	8 863 853	8 815 537
Norway	6 197 743	3 899 913	3 014 340	1 758 493	2 025 324
Poland	16 347 000	13 510 000	13 223 000	14 074 000	13 612 000
Portugal	8 032 076	7 467 653	7 553 258	7 247 627	7 546 090
Romania	15 961 000	12 915 000	10 924 000	12 395 000	...
Soviet Union	* 5 000 000	* 5 000 000	* 8 000 000	* 13 000 000	* 15 000 000
Spain	43 465 852	40 348 159	37 789 437	36 809 954	41 781 000
Sweden	17 898 000	14 685 000	13 273 939	14 857 526	13 724 116
Switzerland	3 832 443	3 241 634	3 636 660	4 046 305	3 973 667
Turkey	12 053 569	11 601 750	14 162 083	14 259 426	15 466 759
Yugoslavia	10 944 393	9 353 863	8 490 444	9 397 515	9 692 891
Canary Islands	6 143 221	5 427 477	4 516 127	5 498 185	...
Ethiopia	636 415	749 340	749 828	733 050	...
Ghana	1 030 000	1 095 000	1 043 000	* 1 050 000	...
Ivory Coast	1 861 844	1 520 979	1 433 774	1 062 192	...
Kenya	3 119 466	2 556 771	2 232 533	1 849 725	...
Liberia	592 466	388 943	351 192	* 350 000	...
Madagascar	130 237	162 934	355 222	* 400 000	...
Morocco	4 001 187	4 476 243	4 408 065	4 157 646	4 581 284
Mozambique	631 327	377 600	635 700	88 216	...
Senegal	248 678	684 784	723 814	930 016	1 045 618
Sierra Leone	187 224	40 962	...	...	...
South Africa	* 15 000 000	* 17 000 000	* 16 200 000	* 15 000 000	...
Sudan	690 834	809 590	736 512	718 486	...
Tanzania	621 572	541 270	480 417	298 197	...
Togo	349 736	* 300 000	* 350 000	* 320 000	...
Tunisia	1 146 325	1 521 800	369 989	1 200	—
Zaire	* 180 000	* 160 000	125 282	179 062	870 171
Zambia	762 000	751 000	* 700 000	* 700 000	...
Bahamas	43 012 011	32 546 299	...	15 962 682	...
Barbados	100 000	* 164 000	160 000	* 130 000	...
Canada	29 861 177	28 052 880	17 944 468	13 147 644	13 546 224
Costa Rica	485 423	477 783	396 156	374 608	366 407
Cuba	6 025 000	6 355 000	6 247 000	6 861 000	...
Dominican Republic	1 457 172	1 612 837	1 360 624	1 569 881	...
El Salvador	702 885	741 599	798 568	731 480	...
Guatemala	680 421	615 071	625 875	444 197	...
Honduras	460 081	246 792	94 005	315 565	* 440 000
Jamaica	982 578	796 013	908 707	1 119 837	653 408
Martinique	149 841	48 780	155 742	315 372	335 466
Netherlands Antilles	26 834 000	* 27 000 000	* 26 500 000	21 945 000	...
Nicaragua	587 670	* 560 000	581 797	* 570 000	...
Panama	1 926 424	1 492 014	1 640 769	1 650 405	1 442 745
Trinidad & Tobago	6 977 141	6 928 339	3 668 903	101 491	50
USA	269 747 141	250 578 675	201 826 026	183 885 542	187 567 864
Argentina	2 219 366	1 169 439	666 557	...	...
Brazil	43 590 021	42 209 325	39 766 369	36 451 896	32 243 757
Chile	3 283 606	2 673 485	1 222 000	1 881 000	...
Colombia	699 612	1 530 673	849 546	2 034 343	* 1 500 000
Paraguay	197 391	250 538	222 849	173 413	162 877
Uruguay	1 107 793	1 758 619	1 731 545	1 235 504	* 1 200 000

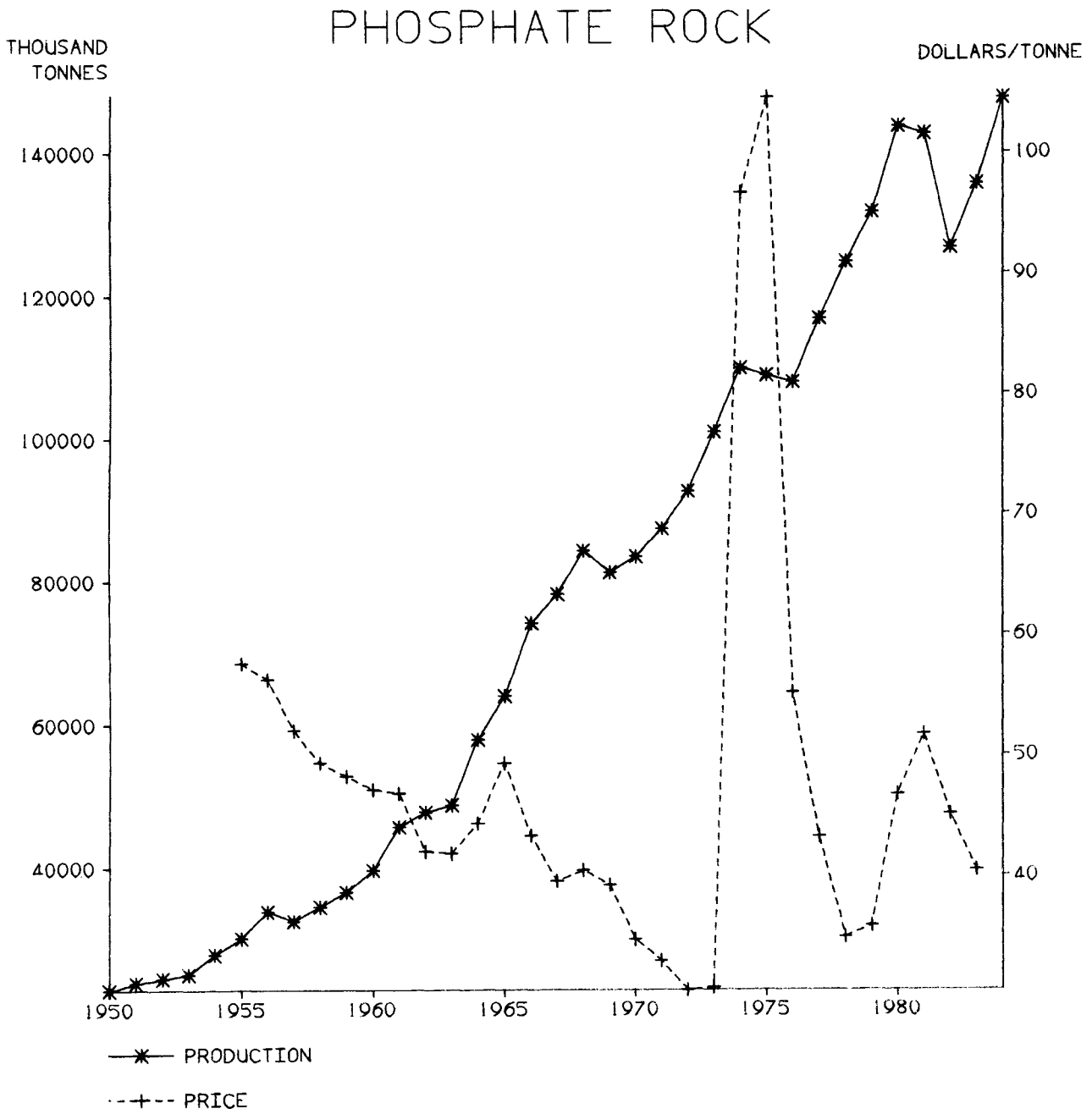


## Imports of Crude Petroleum

tonnes

Country	1980	1981	1982	1983	1984
Bahrain	9 548 000	10 638 000	7 518 000	* 6 583 000	...
Bangladesh	1 278 000	1 305 000	1 178 000	1 030 000	1 003 938
Cyprus	624 353	623 950	543 772	511 928	640 411
India	16 415 355	15 528 267	17 327 000	15 552 000	...
Indonesia	5 186 501	2 690 592	4 331 889	3 371 276	5 607 778
Israel	7 399 000	6 887 000	8 266 000	7 326 000	...
Japan	223 917 000	202 897 396	190 019 797	186 845 724	192 528 887
Jordan	1 753 648	2 159 972	2 572 769	2 545 246	2 442 436
Korea, Republic of	24 844 075	24 529 305	24 808 174	25 307 519	26 758 353
Lebanon	* 2 047 000	* 1 521 000	* 487 000	* 500 000	...
Malaysia	3 960 733	3 551 916	2 539 982	3 071 072	...
Pakistan	4 619 075	3 954 967	4 478 376	4 018 741	4 108 039
Philippines	8 831 761	8 694 957	7 706 454	8 504 954	7 932 194
Singapore	25 152 506	31 730 998	30 311 873	30 875 283	32 381 136
Sri Lanka	1 860 653	1 698 503	1 940 543	19 453 439	1 918 070
Syria	3 558 344	4 954 216	5 224 110	6 076 426	6 223 190
Taiwan	18 107 629	17 183 443	15 900 414	18 711 695	17 696 377
Thailand	8 995 207	8 759 983	7 841 296	7 978 734	7 258 687
Yemen, People's Dem. Rep. of	467 387	488 899	547 045	343 172	...
Australia	10 012 576	10 079 169	12 640 695	7 994 736	7 675 457
New Zealand (a)	2 643 022	2 675 467	2 257 447	1 307 138	1 734 032

(a) Years ended 30 June of that stated



**Figure 15** World production of phosphate rock from 1950 to 1984 compared with the yearly average price of Moroccan phosphate f.a.s. Casablanca expressed in constant 1980 US dollars from 1955.

Trend line analysis of the production data indicates a growth rate of approximately 6% per annum over 35 years.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Production of Phosphate Rock

Country	1980	1981	1982	1983	1984
France	25 400	28 700	24 400	—	—
Finland	139 837	227 964	233 053	381 216	477 000
Soviet Union	* 30 300 000	* 30 700 000	* 31 300 000	* 31 600 000	* 31 900 000
Sweden	88 000	113 000	87 000	96 000	128 000
Turkey	21 300	43 000	26 345	50 350	95 600
Algeria	1 025 400	916 000	947 000	892 800	1 000 200
Egypt	658 300	720 300	707 600	646 700	1 043 400
Morocco	18 824 243	18 562 162	17 834 900	19 842 300	21 244 900
Senegal					
Phosphate rock	1 289 543	1 878 090	901 400	1 255 209	1 986 000
Aluminium phosphate (a)	83 060	199 218	279 181	251 274	270 000
Seychelles					
Guano (b)	4 285	1 440	—	—	...
South Africa	3 283 184	3 036 273	3 161 141	2 887 034	2 496 038
Togo	2 932 845	2 215 363	2 035 400	2 080 674	2 695 600
Tunisia	4 501 907	4 924 000	4 729 391	5 924 000	5 385 000
Zimbabwe	130 337	122 235	121 608	132 911	134 447
Mexico	396 646	503 252	653 050	785 038	* 750 000
Netherlands Antilles (b)	14 634	...	...	3 525	...
USA	54 415 000	53 624 000	37 414 000	42 573 000	49 197 000
Brazil	2 611 641	2 710 604	* 2 800 000	3 240 603	* 3 900 000
Colombia	6 370	17 329	20 393	16 944	* 28 000
Peru	13 900	98 364	29 100	3 000	12 700
Venezuela	38 000	52 000	...	8 216	...
China	10 726 000	10 862 000	11 728 000	11 630 000	* 11 800 000
Christmas Island (b)(c)	1 638 315	1 357 838	1 345 462	1 036 081	1 257 576
India	543 004	565 277	631 082	787 392	* 816 000
Indonesia	* 5 000	* 5 000	* 5 000	* 5 000	* 6 000
Israel	2 307 100	1 918 700	2 147 800	1 965 700	2 064 500
Jordan	3 911 166	4 243 643	4 390 343	4 745 931	6 119 591
Korea, Dem. P.R. of	* 500 000	* 500 000	* 500 000	* 500 000	* 500 000
Philippines					
Phosphate rock	17 679	8 413	5 944	4 135	* 5 000
Guano	24 836	2 055	15 259	610	* 1 000
Syria	1 319 000	1 319 000	1 461 000	1 231 000	1 515 000
Thailand	5 570	2 610	4 265	5 158	3 075
Vietnam	* 90 000	* 110 000	* 160 000	* 150 000	* 200 000
Australia	6 621	21 997	211 463	4 868	10 000
Nauru (b)	2 086 676	1 479 900	1 333 300	1 684 000	1 358 520
World total	144 000 000	143 000 000	127 000 000	136 000 000	148 000 000

(a) Including lime phosphates

(b) Exports

(c) Including phosphate dust

## Phosphates

**Exports of Phosphate Rock**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	94	785	966	10 393	20 253
Belgium-Luxembourg	11 291	14 779	10 379	28 715	19 287
France	15 498	3 441	3 804	4 953	1 931
Germany, Federal Republic of	1 555	1 959	1 602	1 925	2 446
Netherlands	64 064	26 250	23 926	39 478	32 944
Soviet Union (c)	* 4 080 000	* 4 347 000	* 3 909 000	* 3 898 000	* 3 708 000
Sweden	60 675	92 575	81 414	77 198	91 286
Algeria	807 829	677 309	641 031	559 586	567 700
Egypt	25 945	55 817	174 320	200 802	205 000
Morocco	16 527 145	15 635 480	13 976 076	13 976 192	14 951 346
Senegal					
Calcium phosphate	1 483 273	1 206 539	1 102 411	1 268 529	1 514 014
Aluminium phosphate	77 430	50 819	52 166	69 072	—
Seychelles					
Guano	4 285	1 440	—	—	...
South Africa	2 841	21 521	124 180	251 214	471 723
Togo	2 818 806	2 212 495	2 055 000	2 008 000	2 761 000
Tunisia	1 338 715	951 028	1 115 147	1 090 900	1 140 360
Mexico	0	8 000	34 428	21 846	...
Netherlands Antilles	14 634	...	...	3 525	...
USA	14 320 352	10 553 611	9 735 025	12 197 310	11 319 562
Christmas Island (a)	1 638 315	1 357 838	1 345 462	1 036 081	1 257 576
Israel (b)	601 887	1 215 523	1 664 339	1 916 879	2 071 012
Jordan	3 623 069	3 529 381	3 569 701	3 701 053	4 695 015
Singapore	18 653	29 988	23 791	14 395	5 095
of which: Re-exports	14 702	27 812	20 374	12 298	4 723
Syria	744 034	955 497	705 279	1 002 104	951 055
Australia	116	—	33 974	4 600	...
Nauru	2 086 676	1 479 900	1 333 300	1 684 000	1 358 520

(a) Including phosphate dust

(b) Figures may be incomplete as value only given in Israeli trade return for exports to some countries

(c) BGS estimates, based on known imports into certain countries

## Imports of Phosphate Rock

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	1 755 115	1 456 130	1 312 124	1 489 067	1 340 133
Belgium-Luxembourg	2 326 081	2 251 950	2 088 573	2 316 777	2 472 435
Denmark	312 163	338 153	260 205	286 185	315 994
France	5 449 733	4 551 522	4 455 205	4 516 315	4 652 290
Germany, Federal Republic of	2 560 313	2 210 349	1 930 572	2 031 054	1 933 425
Greece	244 260	214 317	156 986	126 193	379 040
Irish Republic	87 059	36 859	9 669	3 405	7 369
Italy	1 739 719	1 377 281	1 161 597	1 553 599	1 448 556
Netherlands	2 485 238	2 137 710	1 949 370	2 158 927	2 366 108
Austria	409 810	421 341	351 615	442 367	470 133
Bulgaria (b)	* 328 000	* 387 200	* 286 100	* 291 200	* 306 300
Czechoslovakia (a)	323 000	271 000	280 000	281 000	276 000
Finland	613 628	410 231	495 418	443 613	387 694
German Democratic Republic (a)	533 500	416 100	420 100	418 800	425 200
Hungary	671 784	674 150	567 966	648 880	645 820
Norway	477 212	402 098	461 447	414 847	507 213
Poland	3 242 000	2 938 000	3 280 000	3 176 000	2 965 000
Portugal	457 055	342 560	396 953	301 863	364 752
Romania (a)	896 800	951 200	820 800	989 000	* 910 000
Spain	2 604 073	2 399 392	2 391 303	2 484 904	2 894 662
Sweden	597 445	618 932	678 932	724 394	774 210
Switzerland	13 055	9 799	7 344	5 873	6 423
Turkey	856 070	1 268 261	625 537	922 641	727 758
Yugoslavia	1 382 685	1 057 978	1 265 072	1 801 832	1 561 600
Canary Islands	2 745	6	—	—	...
Ivory Coast	3 630	6 100	8 785	7 575	3 000
Mozambique	4 000	6 000	2 000	3 000	3 000
Nigeria	15 000	32 000	21 000	14 000	17 000
Tanzania	36 000	7	32 053	15 557	...
Zimbabwe	—	7 881	14 396	27 758	8 000
Canada	3 816 514	3 245 430	2 477 187	2 662 725	3 169 613
Mexico	1 000 013	1 181 437	1 035 723	1 115 000	1 186 200
USA	487 049	16 801	31 336	8 811	23 223
Brazil	772 154	466 308	234 643	5	9 449
Colombia	40 758	37 849	67 286	51 444	49 800
Uruguay	68 540	50 560	29 860	18 856	35 967
Venezuela	95 040	54 290	74 898	34 200	54 000
Bangladesh	139 000	111 000	100 000	145 000	92 800
China	579 000	301 000	427 000	579 000	573 000
India	1 076 639	1 371 000	1 552 000	1 396 000	1 725 000
Indonesia	105	260 593	294 731	361 759	636 509
Japan	2 762 404	2 255 714	2 216 490	2 437 819	2 322 869
Korea, Dem. P.R. of	197 000	159 000	109 000	167 000	41 000
Korea, Republic of	1 670 321	1 136 814	1 505 459	1 591 814	1 651 629
Lebanon	313 000	322 000	5 000	—	—
Malaysia	344 892	219 165	208 008	274 539	264 000
Pakistan (c)	143 777	115 454	183 321	237 076	280 621
Philippines	30 011	5	12	10 588	13 574
Singapore	20 393	20 250	27 129	16 149	9 528
Sri Lanka	27 500	13 300	17 767	9 406	20 110
Taiwan	297 797	314 016	288 081	228 636	367 089
Australia	2 692 422	1 961 897	1 975 348	2 198 000	1 606 000
New Zealand (c)	1 209 305	1 024 671	1 025 368	915 071	898 605

(a) P<sub>2</sub>O<sub>5</sub> content

(b) BGS estimates, based on known exports from certain countries

(c) Years ended 30 June of that stated

**Mine Production of Platinum Group Metals**

kilograms (metal content)

Country	1980	1981	1982	1983	1984
Finland (a)	28	112	274	139	67
Soviet Union	* 101 000	* 104 000	* 109 000	* 112 000	* 115 000
Yugoslavia					
Platinum (a)	13	15	13	6	* 10
Palladium (a)	140	97	90	91	* 95
Ethiopia (c)	4	—	1	* 4	* 4
South Africa	* 96 400	* 96 700	91 803	83 606	* 90 200
Zimbabwe					
Platinum	93	72	53	53	24
Palladium	211	162	86	74	38
Canada (b)	12 776	11 902	7 105	6 965	10 831
USA	104	228	250	195	455
Colombia	446	460	370	320	314
Japan					
Platinum (a)	385	327	479	667	* 630
Palladium (a)	901	800	867	1 155	* 1 090
Australia					
Platinum	64	65	74	* 60	* 60
Palladium	328	401	416	* 370	* 370
World total	213 000	215 000	211 000	206 000	219 000

**Notes:**

- 1 Wherever possible, figures relate to quantities of platinum group metals thought to be recovered from ores originating in the country stated. Figures for metal production are only given for countries where recovery is thought to be based predominantly on domestic materials or on imported materials which have not been recorded as mine production elsewhere in the table
  - 2 In addition to the countries listed, Bulgaria, China, Indonesia, Papua New Guinea and Philippines are also believed to produce platinum group metals
- (a) Metal production  
 (b) Platinum metals content of concentrates (produced from Ni-Cu ores), residues and matte exported  
 (c) Years ended 6 July of that stated

## Exports of Platinum Group Metals

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom					
Platinum	28 967	26 165	27 232	29 933	31 137
Palladium	10 375	13 544	11 515	11 828	16 530
Other platinum metals	14 176	2 890	3 645	5 199	5 589
Waste & scrap	1 275	104	1 781	80	7 003
Belgium-Luxembourg					
Platinum	1 204	1 592	1 674	30 952	2 239
Platinum metals	2 901	4 214	4 828	6 200	6 757
Denmark					
Platinum	80	148	368	125	75
Waste & scrap	—	2 388	1 768	4 235	829
France					
Platinum	3 120	2 865	12 560	20 639	33 539
Platinum metals	915	1 196	1 911	2 241	2 783
Waste & scrap	7 701	1 222	3 070	6 507	3 146
Germany, Federal Republic of					
Platinum	8 676	7 431	7 378	7 004	9 287
Palladium	3 267	2 941	4 461	3 584	5 057
Other platinum metals	2 579	2 334	2 822	3 179	4 477
Waste & scrap	37 568	137	211	212	43
Irish Republic					
Platinum & platinum metals	1 446	593	1 388	930	415
Italy					
Platinum	1 973	1 687	1 552	4 275	2 455
Platinum metals	1 757	747	233	846	766
Netherlands					
Platinum	813	735	1 010	1 234	1 719
Platinum metals	449	255	562	721	717
Waste & scrap	...	2 000	4 000	7 000	14 000
Austria					
Platinum & platinum metals	320	288	335	357	13 295
Finland					
Platinum & platinum metals	11	42	26	80	36
Norway					
Platinum & platinum metals	833	1 060	1 033	1 270	1 385
Soviet Union					
Platinum & platinum metals (a)	* 46 100	* 46 500	* 53 200	* 53 400	* 57 600
Spain					
Platinum & platinum metals	311	593	7 285	15 457	...
Sweden					
Platinum & platinum metals	£3 348 400	£2 041 400	£1 321 600	£2 708 500	£1 382 700
Switzerland					
Platinum	18 389	29 233	24 816	24 053	38 988
Yugoslavia					
Platinum	126	—	...	...	...
South Africa					
Platinum & platinum metals (a)	* 89 500	* 87 600	* 79 800	* 73 900	* 91 000
Waste & scrap (a)	* 300	* 400	* 1 000	* 2 200	* 500
Canada					
Ores & concentrates (b)	12 369	10 094	7 172	5 757	8 465
Platinum metals	1 165	1 001	954	3 151	4 260
of which: Re-exports	9	0	8	276	353
Waste & scrap	1 431	3 394	1 583	1 219	5 110
USA					
Ores & concentrates (b)	87	296	303	1 096	1 400
Platinum	8 608	10 459	7 612	7 597	5 651
of which: Re-exports	693	278	3 706	3 276	133
Palladium	5 897	5 393	5 828	5 748	6 350
of which: Re-exports	308	734	622	908	667
Other platinum metals	4 022	2 729	2 902	2 447	5 774
of which: Re-exports	616	184	264	230	623
Waste & scrap	5 296	6 398	12 529	24 139	17 535

**Exports of Platinum Group Metals**

kilograms

Country	1980	1981	1982	1983	1984
Colombia					
Platinum	—	37	—	75	...
Hong Kong					
Platinum & platinum metals (Re-exports)	441	124	193	272	431
Japan					
Platinum	1 101	1 884	1 632	1 017	1 192
Platinum metals	1 780	1 388	3 405	3 918	2 449
Australia					
Platinum & platinum metals	256	146	878	...	...

Note: In this table the term 'Platinum' and/or 'Platinum metals' as used here includes unwrought, partly worked and alloys

(a) BGS estimates, based on known imports into certain countries

(b) Platinum metals content



## Imports of Platinum Group Metals

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates (a)	* £187 731 000	* £169 072 000	* £90 722 000	* £185 481 000	* £202 429 000
Platinum	8 025	4 643	11 209	5 658	6 084
Palladium	7 444	4 464	6 636	3 609	3 995
Other platinum metals	4 317	1 203	1 145	998	2 127
Waste & scrap	10 512	15 560	56 188	67 137	15 709
Belgium-Luxembourg					
Platinum	2 137	2 008	1 989	1 558	1 564
Platinum metals	537	838	858	497	525
Denmark					
Platinum & platinum metals	501	612	609	661	824
France					
Platinum	6 340	5 568	6 401	3 582	10 863
Platinum metals	5 465	9 858	18 330	22 378	5 150
Waste & scrap	3 092	3 479	1 536	1 467	1 830
Germany, Federal Republic of					
Platinum	12 930	13 475	24 180	15 300	17 144
Palladium	11 443	9 022	26 553	11 123	17 656
Other platinum metals	3 723	3 012	3 013	5 305	8 410
Waste & scrap	59 061	23 064	38 547	49 951	41 868
Greece					
Platinum & platinum metals	£692 000	£285 000	£264 000	£359 000	...
Irish Republic					
Platinum & platinum metals	935	552	367	866	1 249
Italy					
Platinum	3 574	2 392	2 130	2 493	2 513
Platinum metals	3 942	2 977	3 368	2 775	3 358
Waste & scrap	...	34 335	2 646	1 300	500
Netherlands					
Platinum	1 379	1 059	1 318	1 643	1 653
Platinum metals	586	545	798	1 098	1 213
Austria					
Platinum & platinum metals	813	687	893	513	453
Bulgaria					
Platinum & platinum metals (e)	* 600	* 300	* 200	* 400	* 500
Czechoslovakia					
Platinum & platinum metals (e)	* 500	* 150	* 50	* 50	* 20
Finland					
Platinum & platinum metals	182	55	88	73	106
German Democratic Republic					
Platinum & platinum metals (e)	* 200	* 300	* 1 000	* 500	* 600
Hungary					
Platinum & platinum metals (e)	* 400	* 500	* 600	* 300	* 300
Norway					
Platinum & platinum metals	172	237	339	456	786
Poland					
Platinum & platinum metals (e)	* 100	* 50	* 500	* 200	* 400
Portugal					
Platinum & platinum metals	271	243	133	157	249
Romania					
Platinum & platinum metals (e)	* 300	* 400	* 100	* 50	* 150
Spain					
Platinum & platinum metals	15 185	8 245	1 362	15 186	...
Sweden					
Platinum & platinum metals	4 000	2 000	3 000	3 000	2 000
Switzerland					
Platinum	30 876	26 348	30 474	37 949	55 501
Turkey					
Platinum & platinum metals	862	1 348	63	6 441	244
Yugoslavia					
Platinum	202	...	1 000	1 000	...

## Imports of Platinum Group Metals

kilograms

Country	1980	1981	1982	1983	1984
Algeria					
Platinum & platinum metals	92	103	305	194	...
Nigeria					
Platinum & platinum metals	...	822	93	...	...
South Africa					
Platinum & platinum metals	715	810	1 901	1 451	...
Canada					
Platinum & platinum metals (c)	4 998	2 058	1 742	2 191	2 238
Costa Rica					
Platinum & platinum metals	434	562	350	278	332
Mexico					
Platinum	3	1	3	3	...
Palladium	107	58	90	33	...
Other platinum metals	34	101	121	24	...
Trinidad & Tobago					
Platinum & platinum metals	151	15	52	65	34
USA					
Ores & concentrates (d)	425	93	48	194	10
Platinum	44 715	33 288	25 100	34 933	50 292
Platinum metals —					
Palladium	40 952	38 285	34 214	41 437	60 776
Iridium, osmium & osmiridium	1 280	669	855	811	695
Rhodium	3 430	2 347	2 176	4 081	4 842
Ruthenium	3 063	5 612	4 162	5 089	6 167
Unspecified	8 846	1 120	499	591	275
Waste & scrap	11 711	17 940	10 547	12 984	16 384
Argentina					
Platinum	18	22	30	...	...
Palladium	940	227	26	...	...
Other platinum metals	990	46	46	...	...
Brazil					
Platinum	164	143	35	61	124
Palladium	658	334	561	478	357
China					
Platinum & platinum metals (e)	* 300	* 200	* 200	* 100	* 150
Hong Kong					
Platinum & platinum metals	1 544	2 448	2 264	335	1 226
India					
Platinum	478	323	...	...	...
Indonesia					
Platinum & platinum metals	17	497	15	325	4
Iran (f)					
Platinum & platinum metals	£874 100	£897 500	£655 000	£65 000	...
Israel					
Platinum metals	136	187	...	(e)* 230	(e)* 200
Japan					
Platinum	31 410	38 078	34 673	29 869	37 452
Platinum metals	26 074	32 000	35 380	37 509	43 748
Korea, Republic of					
Platinum & platinum metals	2 350	56 339	829	635	3 385
Malaysia					
Platinum & platinum metals	536	685	1 853	1 734	...
Singapore					
Platinum	600	3 963	990	283	56

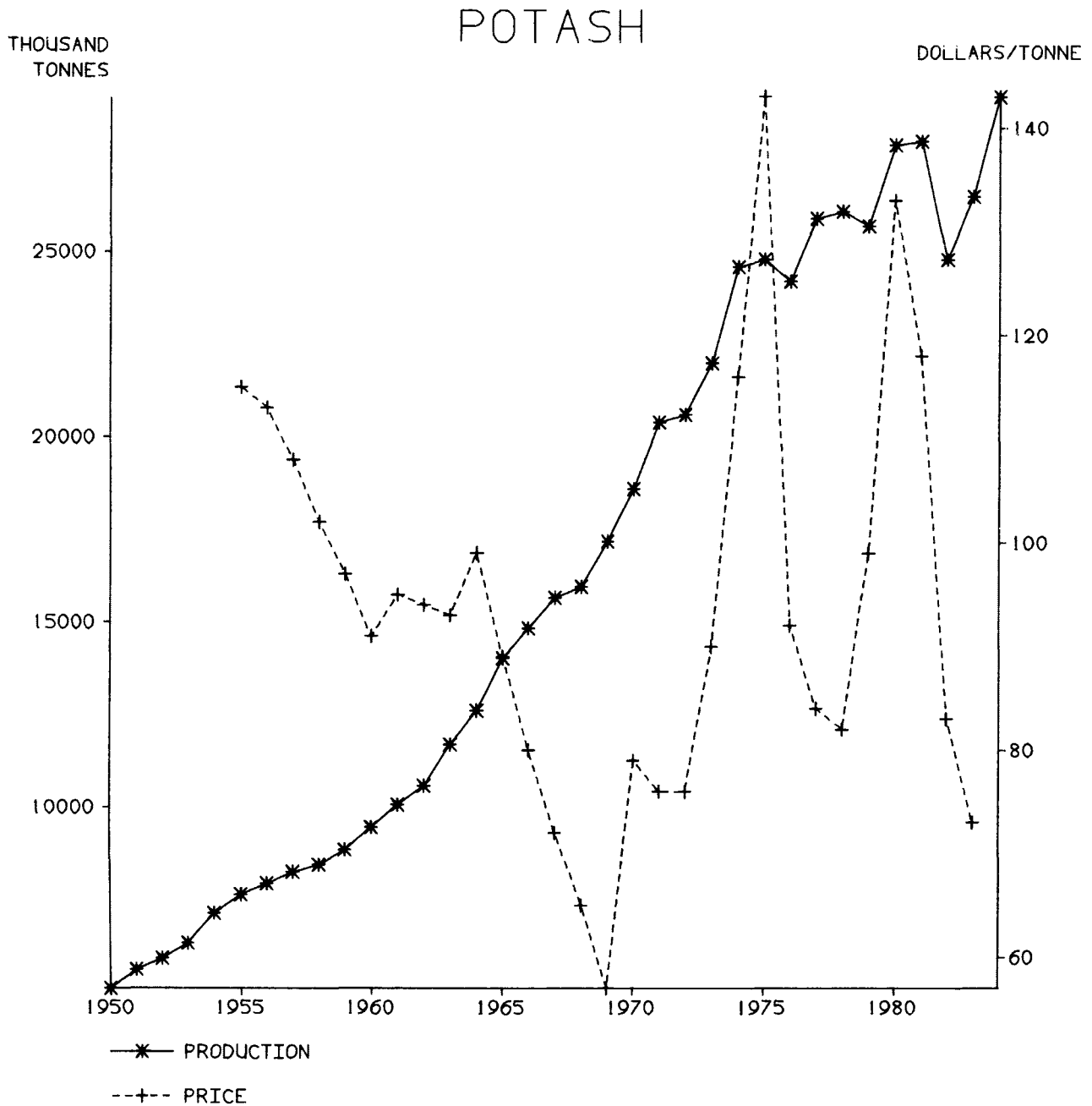
**Imports of Platinum Group Metals**

kilograms

Country	1980	1981	1982	1983	1984
Taiwan					
Platinum & platinum metals	3 203	3 541	2 998	1 763	2 482
Thailand					
Platinum & platinum metals	38	5	40	47	865
Australia					
Platinum metals	25 663	23 422	3 831	1 869	...
New Zealand (b)					
Platinum & platinum metals	56	93	71	37	116

Note: In this table the term 'Platinum' and/or 'Platinum metals' as used here includes unwrought, partly worked and alloys

- (a) Values shown refer to imports of 'ores and concentrates of silver, platinum and platinum metals'; it is assumed that the imports of silver ores and concentrates are negligible
- (b) Years ended 30 June of that stated
- (c) Derived from Canadian ores and concentrates exported for treatment
- (d) Platinum metals content
- (e) BGS estimates, based on known exports from certain countries
- (f) Years ended 20 March following that stated



**Figure 16** World production of potash from 1950 to 1984 compared with the annual price (Vancouver) expressed in constant 1982 US dollars from 1955. Trend line analysis of the production data indicates a growth rate of approximately 5½% per annum over 35 years. *Constant commodity prices derived from those quoted in International Financial Statistics Yearbook (1985) using the CPI for the USA from the same source.*

## Production of Potash

tonnes (K<sub>2</sub>O content)

Country	1980	1981	1982	1983	1984
United Kingdom					
Chloride	321 469	294 150	252 936	318 213	335 440
France					
Potassic salts	2 039 000	1 969 000	1 824 000	1 651 000	1 870 000
Germany, Federal Republic of					
Potassic salts	2 737 000	2 592 000	2 057 000	2 419 000	2 645 000
Italy					
Potassic salts	143 181	155 958	160 598	184 175	162 958
German Democratic Republic					
Potassic salts	3 422 000	3 460 000	3 434 000	3 431 000	3 465 000
Soviet Union	8 064 000	8 449 000	8 079 000	9 294 000	9 776 000
Spain					
Potassic salts	791 498	860 891	822 696	773 174	* 677 000
Canada					
Chloride	7 302 901	7 146 629	5 351 786	5 929 567	7 500 000
USA					
Potassic salts	2 239 000	2 156 000	1 784 000	1 429 000	1 564 000
Chile					
Nitrate	* 25 300	* 21 400	* 21 800	* 21 300	* 18 500
China	* 12 000	* 20 000	* 26 000	* 29 000	* 40 000
Israel					
Chloride	797 000	839 000	1 004 000	* 1 000 000	* 1 100 000
World total	27 900 000	28 000 000	24 800 000	26 500 000	29 200 000

## Potash

## Exports of Potash

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Sulphate	473	1 237	1 093	288	2 305
Chloride	200 240	91 216	76 552	145 704	96 633
Potassic chemicals	1 745	1 758	2 159	2 319	11 720
Belgium-Luxembourg					
Fertiliser salts (a)	729	713	112	137	293
Sulphate (a)	325 076	291 287	...	...	...
Chloride (a)	6 060	5 849	15 367	13 781	12 446
Potassic chemicals	1 700	2 113	3 279	2 051	3 131
France					
Fertiliser salts	13 293	8 807	11 892	11 088	3 378
Chloride	311 855	345 239	447 959	433 980	425 826
Other potassic fertilisers	23 553	21 825	17 604	22 527	32 049
Potassic chemicals	18 981	21 655	22 152	2 497	1 749
Germany, Federal Republic of					
Fertiliser salts	35 585	39 882	38 562	38 254	42 459
Potassic fertilisers	2 503 623	2 348 198	1 996 789	2 193 135	2 595 451
Potassic chemicals	32 413	38 012	37 656	37 212	42 548
Greece					
Potassic fertilisers	499	18 800	4 500	—	22 739
Italy					
Sulphate	72 040	40 426	39 789	86 143	126 802
Potassic chemicals	214	20 656	25 941	5 183	5 364
Netherlands					
Chloride (a)	3 423	3 456	2 330	2 209	1 421
Potassic chemicals	1 351	1 912	1 505	1 750	2 708
Czechoslovakia					
Potassic chemicals (b)	* 28 500	* 29 100	* 28 500	* 25 000	* 25 400
German Democratic Republic					
Fertiliser salts (a)	2 817 000	2 860 000	2 834 000	2 905 000	2 776 000
Poland					
Potassic chemicals	14 000	...	2 365	...	3 026
Portugal					
Sulphate	100	—	196	0	—
Other potassic fertilisers	1 295	—	196	0	2
Soviet Union					
Fertiliser salts	6 604 707	5 244 747	4 956 288	4 512 795	5 435 118
Spain					
Sulphate	78 485	95 436	66 766	66 529	68 501
Chloride	495 867	512 038	668 424	662 595	518 391
Potassic chemicals	13 478	6 313	8 266	11 872	...
Sweden					
Chloride	1	8	56	179	0
Potassic chemicals	3 714	3 719	4 821	5 260	5 614
Yugoslavia					
Potassic chemicals	2 115	2 611	3 892	2 728	...
Canada					
Chloride	10 565 401	10 068 019	7 221 497	8 963 870	11 215 114
USA					
Sulphate	147 731	99 363	99 758	98 027	78 363
Chloride	1 174 548	712 887	717 970	395 523	623 184
Other potassic fertilisers	324 265	279 607	288 074	235 989	246 067
Potassic chemicals	34 155	27 206	8 901	10 120	10 513
Chile					
Fertiliser salts	...	...	102 758	125 669	100 509
Hong Kong					
Potassic chemicals (Re-exports)	1 012	846	891	426	555
India					
Potassic chemicals (c)	794	641	725	...	...
Israel					
Potassic chemicals (b)	* 74 700	* 76 500	* 157 900	* 85 900	* 90 500

## Exports of Potash

Country	1980	1981	1982	1983	1984
Japan					
Sulphate	3	4 300	1 020	2	0
Chloride	3	3 918	55	56	576
Potassic chemicals	7 096	5 433	6 421	8 001	4 751
Korea, Republic of					
Potassic fertilisers	—	2 500	2 000	10 389	28 466
Potassic chemicals	3	10	2 664	4 300	6 573
Singapore					
Sulphate	468	737	2 005	4 519	4 553
of which: Re-exports	468	737	1 979	4 519	4 553
Chloride	2 349	4 553	5 354	8 102	6 485
of which: Re-exports	2 098	3 852	5 054	8 002	6 405
Other potassic fertilisers	185 837	261 224	182 649	192 808	157 790
of which: Re-exports	185 736	261 090	182 539	192 759	157 675
Taiwan					
Potassic fertilisers	1 000	5 589	13 037	10 250	6 600
Potassic chemicals	1 172	685	516	1 256	693

Note: So far as possible the term 'potassic chemicals', as used in this table, relates to items 522. 54,523. 1 and 2 of the Standard International Trade Classification (Revision 2) and includes caustic potash, carbonate, chlorate, nitrate and sulphate

- (a) K<sub>2</sub>O content
- (b) BGS estimates, based on known imports into certain countries
- (c) Years ended 31 March following that stated

## Imports of Potash

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Fertiliser salts	25 428	25 011	22 492	25 720	36 038
Sulphate	17 889	12 664	14 126	11 821	12 951
Chloride	534 836	467 011	481 542	472 538	509 166
Potassic chemicals	22 379	18 290	22 596	25 069	26 595
Belgium-Luxembourg					
Fertiliser salts (a)	8 010	7 388	5 925	5 548	5 837
Sulphate (a)	12 005	13 024	13 862	7 963	13 983
Chloride (a)	655 843	569 324	518 526	587 359	630 109
Potassic chemicals	8 205	7 338	10 227	11 345	11 263
Denmark					
Fertiliser salts	849	875	1 775	1 275	2 750
Sulphate	46 855	68 020	35 752	30 467	42 330
Chloride	192 380	179 635	198 684	231 477	245 684
Potassic chemicals	5 785	5 764	6 632	6 363	8 115
France					
Sulphate	177 714	154 368	143 318	146 296	160 925
Chloride	276 936	197 175	212 627	705 431	702 795
Potassic chemicals	27 403	15 450	24 137	22 638	22 642
Germany, Federal Republic of					
Chloride	216 961	172 867	171 274	82 992	79 962
Potassic chemicals	17 102	13 744	21 783	15 159	26 055
Greece					
Sulphate	48 480	5 076	2 317	3 597	39 823
Potassic chemicals	3 596	4 378	4 765	6 789	7 583
Irish Republic					
Sulphate	7 559	8 204	9 250	7 354	9 917
Chloride	258 761	311 562	248 368	295 984	322 772
Other potassic fertilisers	6 092	20	402	10	126
Potassic chemicals (f)	677	1 305	1 121	1 220	1 057
Italy					
Fertiliser salts	16 983	12 719	11 341	11 687	10 757
Sulphate	41 925	50 904	27 502	32 664	44 735
Chloride	631 323	480 139	461 404	563 626	612 727
Other potassic fertilisers	32 114	21 220	21 998	18 852	13 756
Potassic chemicals	16 738	15 248	26 242	28 853	31 945
Netherlands					
Fertiliser salts (a)	578	175	462	322	209
Sulphate (a)	30 961	37 928	28 541	37 736	45 294
Chloride (a)	157 754	166 019	184 046	164 677	175 810
Potassic chemicals	28 277	25 695	26 196	30 297	33 470
Austria					
Fertiliser salts	12 216	13 531	10 963	16 598	11 628
Sulphate	25 547	28 913	33 283	19 866	24 001
Chloride	269 149	260 144	224 644	221 256	225 143
Other potassic fertilisers	1 508	2 151	3 948	4 502	6 536
Potassic chemicals	4 676	5 489	5 795	6 325	6 437
Bulgaria					
Fertiliser salts (e)	* 193 600	* 206 900	* 245 100	* 132 500	* 144 100
Czechoslovakia					
Fertiliser salts (a)	578 000	639 100	639 000	580 000	556 000
Finland					
Sulphate	17 544	30 339	187	171	311
Chloride	288 983	262 794	302 511	374 727	405 553
Other potassic fertilisers	2	5 018	6 305	0	0
Potassic chemicals	3 504	2 204	3 294	3 521	2 985
Hungary					
Fertiliser salts	2 312	2 719	3 131	2 906	4 135
Potassic fertilisers	1 322 200	1 396 505	1 189 723	1 416 228	1 272 665
Potassic chemicals	1 754	961	1 634	757	942
Iceland					
Sulphate	200	2 687	3 450	2 851	4 528
Chloride	6 999	5 697	5 579	8 182	5 831
Potassic chemicals	177	190	198	145	240
Norway					
Sulphate	122 527	103 185	67 872	78 776	82 057
Chloride	196 714	184 502	215 797	233 462	292 775
Other potassic fertilisers	231	376	687	1 480	820
Potassic chemicals	2 265	2 432	3 256	2 087	2 158



## Imports of Potash

Country	1980	1981	1982	1983	1984
Poland					
Fertiliser salts	2 428 000	2 865 000	2 377 000	1 685 000	2 444 000
Chloride	18 230	13 409	17 796	...	16 736
Potassic chemicals	10 856	7 046	6 838	...	6 131
Portugal					
Sulphate	2 300	4 350	5 895	3 636	1 000
Chloride	83 826	86 507	61 490	71 050	58 710
Potassic chemicals	2 726	2 896	3 294	2 668	3 820
Romania					
Fertiliser salts (a)	150 100	226 300	314 000	337 600	209 500
Spain					
Potassic chemicals	4 892	14 774	11 542	9 044	...
Sweden					
Fertiliser salts	459	1 026	1 323	1 701	1 863
Potassic fertilisers	616	418	893	660	1 098
Potassic chemicals	3 549	2 583	2 090	3 094	3 798
Switzerland					
Fertiliser salts	87 735	85 990	86 356	96 524	111 788
Potassic chemicals	9 413	8 175	8 652	9 907	12 042
Turkey					
Sulphate	23 064	51 381	39 941	6 990	) 60 526
Other potassic fertilisers	3 792	2	16 990	31 392	)
Potassic chemicals	4 901	3 563	...	...	...
Yugoslavia					
Sulphate	13 582	13 850	14 508	13 440	) * 520 000
Chloride	448 216	431 091	436 709	533 936	)
Potassic chemicals	260 310	194 298	188 244	206 261	...
Algeria					
Sulphate	47 045	78 468	30 611	39 612	...
Potassic chemicals	371	318	338	352	...
Cameroon					
Fertiliser salts	5 000	...	...	...	...
Potassic fertilisers	8 297	...	40 057	...	...
Canary Islands					
Potassic chemicals	2	2 400	1 179	2 769	...
Egypt					
Potassic fertilisers	5 025	24 814	5 003	25 047	...
Gabon					
Fertiliser salts	1 610	569	444	1 863	...
Potassic fertilisers	1 339	1 540	1 693	1 053	...
Ivory Coast					
Sulphate	2 708	8 150	) 44 070	41 059	...
Chloride	16 015	35 327	)	...	...
Kenya					
Potassic fertilisers	613	5 855	20 951	15 260	...
Liberia					
Potassic fertilisers	202	139	55	5	890
Libya					
Potassic fertilisers	38 814	8 860	16	...	...
Madagascar					
Potassic fertilisers	3 286	678	8 278	...	...
Malawi					
Potassic fertilisers	9 553	6 637	...	...	...
Mauritius					
Potassic fertilisers	22 694	23 198	22 764	21 433	21 632
Morocco					
Sulphate	36 734	43 141	47 226	41 533	43 180
Chloride	41 660	31 216	24 620	34 803	41 129
Potassic chemicals	1 436	1 577	1 610	1 809	946
Mozambique					
Potassic fertilisers	1 709	5 898	2 999	2 400	...
Potassic chemicals	3 886	1 981	3 694	3 460	...
Nigeria					
Potassic fertilisers	...	5 092	63 677	...	...
Senegal					
Potassic fertilisers	196	17 230	4 002	9 091	14 925

## Imports of Potash

tonnes

Country	1980	1981	1982	1983	1984
South Africa					
Potassic fertilisers	244 573	272 883	209 679	230 354	294 345
Potassic chemicals	4 402	4 285	5 529	4 704	5 103
Sudan					
Potassic chemicals	202	...	11	779	...
Tanzania					
Potassic fertilisers	8 333	4 525	...	...	...
Tunisia					
Potassic fertilisers	15 112	5 638	5 522	...	4 665
Zaire					
Potassic fertilisers	934	...	140	...	227
Zimbabwe					
Sulphate	31 207	20 428	16 817	10 931	...
Chloride	...	24 171	31 311	18 760	...
Belize					
Potassic fertilisers	—	377	335	671	660
Canada					
Sulphate	9 414	18 288	20 045	15 411	10 138
Chloride	28 889	8 596	1 881	2 277	1 772
Other potassic fertilisers	44 549	52 956	57 651	47 367	68 185
Potassic chemicals	7 824	7 078	6 964	8 834	8 079
Costa Rica					
Potassic fertilisers	63 106	49 625	42 537	36 250	29 663
Cuba					
Sulphate	24 757	22 683	22 419	24 706	...
Chloride	295 815	330 195	311 345	315 502	...
Dominica					
Potassic fertilisers	1 155	698	1 766	5 058	5 051
Dominican Republic					
Sulphate	6 690	8 302	1 818	) 20 194	...
Other potassic fertilisers	36 744	25 963	9 405	)	...
El Salvador					
Potassic fertilisers	140	80	17 195	240	...
Guadeloupe					
Potassic fertilisers	3 617	3 211	2 346	...	...
Guatemala					
Potassic fertilisers	17 724	20 740	6 976	6 525	...
Honduras					
Potassic fertilisers	5 623	8 550	...	...	...
Jamaica					
Potassic fertilisers	2 869	13 687	8 477	6 726	15 048
Martinique					
Potassic fertilisers	648	14 586	10 966	18 514	21 322
Mexico					
Sulphate	28 109	18 454	20 028	33 957	...
Chloride	120 564	149 868	95 895	124 142	...
Potassic chemicals	3 288	3 384	1 983	...	...
Nicaragua					
Potassic fertilisers	12 932	20 971	3 297	...	...
Panama					
Potassic fertilisers	4 976	1 480	7 501	6 289	8 600
St. Kitts-Nevis-Anguilla					
Potassic fertilisers	0	499	481	1 383	...
Trinidad & Tobago					
Potassic fertilisers	5 266	6 511	1 540	973	8 230
USA					
Fertiliser salts	35 788	38 789	23 068	33 605	35 106
Sulphate	45 302	36 756	12 147	61 409	55 104
Chloride	8 039 331	7 803 130	6 489 641	7 144 557	7 775 921
Other potassic fertilisers	2 878	137	33	167	150
Potassic chemicals	12 259	14 786	11 750	16 370	...
Argentina					
Sulphate	8 200	5 172	8 168	...	...
Chloride	6 360	4 040	5 632	...	...
Potassic chemicals	1 608	5 161	5 091	...	...

## Imports of Potash

Country	1980	1981	1982	1983	1984
<b>Brazil</b>					
Sulphate	65 975	50 647	68 334	28 490	48 824
Chloride	2 119 950	1 222 908	1 425 443	1 188 262	1 745 156
Potassic chemicals	29 735	15 572	12 389	4 977	11 296
<b>Chile</b>					
Sulphate	8 250	5 600	1 651	...	...
Chloride	22 600	14 100	18 849	...	...
<b>Colombia</b>					
Sulphate	19 057	8 142	13 003	9 233	...
Chloride	135 749	89 034	148 770	123 366	...
Potassic chemicals	1 759	1 910	2 437	1 769	...
<b>Ecuador</b>					
Chloride	25 901	6 808	18 862	...	...
Other potassic fertilisers	1 873	1 271	5 218	...	...
<b>Guyana</b>					
Potassic fertilisers	518	2 024	2 251	...	...
<b>Peru</b>					
Sulphate	7 053	4 489	3 167	—	...
Chloride	14 211	16 523	6 304	5 253	...
Potassic chemicals	1 067	635	850	929	...
<b>Uruguay</b>					
Sulphate	1 934	1 500	—	310	—
Chloride	7 480	6 028	3 134	4 539	5 030
Potassic chemicals	144	113	22	67	108
<b>Venezuela</b>					
Potassic fertilisers	48 430	74 790	6 949	...	...
Potassic chemicals	...	...	2 337	...	...
<b>China</b>					
Potassic fertilisers (e)	* 397 000	* 762 000	* 230 400	* 712 000	* 813 000
<b>Cyprus</b>					
Potassic fertilisers	408	671	2 144	271	1 164
<b>Hong Kong</b>					
Potassic chemicals	1 589	1 621	1 336	859	979
<b>India (b)</b>					
Sulphate	99 356	46 122	...	...	...
Chloride	640 706	780 378	...	...	...
Other potassic fertilisers	149 201	130 904	...	...	...
Potassic chemicals	613	282	...	...	...
<b>Indonesia</b>					
Sulphate	5 852	32 631	19 022	6 601	2 300
Chloride	) 136 415	) 27 509	77 867	182 775	163 640
Other potassic fertilisers	) 901	) 153 537	126 879	66 125	110 490
Potassic chemicals	901	1 424	1 304	3 189	1 982
<b>Iran (c)</b>					
Potassic chemicals	(e)* 100	(e)* 300	68	...	...
<b>Japan</b>					
Sulphate	234 658	190 651	201 623	223 754	238 242
Chloride	1 263 195	978 037	1 049 094	1 059 323	1 032 574
Other potassic fertilisers	35 547	40 275	49 341	55 572	74 929
Potassic chemicals	9 566	12 461	15 340	21 191	5 080
<b>Jordan</b>					
Potassic fertilisers	144	274	1 117	348	18
<b>Korea, Dem. P.R. of</b>					
Potassic fertilisers (e)	* 82 900	* 81 700	* 53 200	* 99 000	* 67 500
<b>Korea, Republic of</b>					
Sulphate	27 800	11 926	24 801	1 999	—
Chloride	231 237	217 104	365 366	308 604	358 851
Other potassic fertilisers	—	40 548	—	22 920	1
Potassic chemicals	4 827	5 631	2 937	2 738	2 281
<b>Malaysia</b>					
Fertiliser salts	1 188	2 055	313	367	...
Sulphate	6 026	9 607	5 486	7 018	...
Chloride	196 461	81 656	146 634	86 645	...
Other potassic fertilisers	273 254	163 441	178 337	258 643	...
<b>Philippines</b>					
Sulphate	4 899	8 365	10 300	6 988	6 058
Chloride	129 474	79 175	88 391	40 993	42 963
Other potassic fertilisers	1 102	1 436	1 490	16 235	2 393
Potassic chemicals	1 128	1 439	1 734	1 433	1 600

## Imports of Potash

tonnes

Country	1980	1981	1982	1983	1984
Saudi Arabia					
Sulphate	599	798	1 577	3 998	36 773
Other potassic fertilisers	3 181	2 154	6 359	23 749	44 134
Singapore					
Sulphate	22 570	8 225	2 000	11 510	3 501
Chloride	45 754	14 814	39 411	64 955	10 783
Other potassic fertilisers	239 303	234 276	220 091	192 670	158 402
Sri Lanka					
Chloride	75 018	61 701	51 038	32 563	26 716
Other potassic fertilisers	19 915	10 650	19 720	36 801	38 615
Syria					
Potassic fertilisers	4 863	2 992	12 917	11 673	19 765
Taiwan					
Chloride	224 387	247 244	138 206	152 833	186 908
Potassic chemicals	6 512	7 361	4 807	7 911	8 749
Thailand					
Sulphate	10 500	12 005	11 600	13 015	750
Chloride	18 505	22 278	8 985	424	1 039
Other potassic fertilisers	500	200	30 379	59 280	39 882
Potassic chemicals	4 643	5 674	10 356	3 599	10 519
Australia					
Sulphate	19 013	22 172	7 613	8 647	12 900
Chloride	183 522	178 467	227 844	181 303	263 000
Other potassic fertilisers	24 332	725	1 014	6	200
Potassic chemicals (d)	9 512	9 419	6 135	10 942	13 545
Fiji					
Potassic fertilisers	2 767	4 389	3 592	2 289	...
New Zealand (d)					
Sulphate	1 874	1 418	817	1 717	973
Chloride	149 752	198 806	168 381	123 142	150 811
Other potassic fertilisers	72	4 933	1 821	13 654	28 251
Potassic chemicals	1 292	632	1 163	941	2 041

Note: So far as possible the term 'potassic chemicals', as used in this table, relates to items 522. 54,523.1 and 2 of the Standard International Trade Classification (Revision 2) and includes caustic potash, carbonate, chlorate, nitrate and sulphate

- (a) K<sub>2</sub>O content
- (b) Years ended 31 March following that stated
- (c) Years ended 20 March following that stated
- (d) Years ended 30 June of that stated
- (e) BGS estimates, based on known exports from certain countries
- (f) May include some sodium peroxide

## Production of Rare Earth Minerals

tonnes

Country	1980	1981	1982	1983	1984
Madagascar					
Bastnaesite	* 23	* 23	* 23	* 23	* 23
Nigeria					
Monazite	* 20	—	—	—	—
Zaire					
Monazite	51	35	32	8	5
USA					
Bastnaesite (a)	15 986	17 082	17 501	17 083	25 311
Monazite (a)	* 700	* 850	* 950	* 1 000	* 1 500
Brazil					
Monazite	2 532	2 460	1 814	5 256	* 6 000
India					
Monazite (d)	3 395	3 704	* 4 000	* 4 000	* 4 000
Malaysia					
Monazite (b)	327	320	582	1 034	4 451
Xenotime (b)	—	24	76	10	384
Sri Lanka					
Monazite	63	* 60	368	292	* 300
Thailand					
Monazite	152	107	162	257	298
Xenotime	52	45	46	38	28
Australia					
Monazite	14 079	13 282	9 562	15 141	* 15 000
Xenotime	27	52	46	24	...
World total (c)	48 500	50 000	47 500	56 200	75 200
World total (REO content)	* 29 000	* 29 900	* 28 400	* 33 700	* 44 900

## Notes:

- 1 With the exception of the data for USA, figures in this table refer to gross tonnage of rare earth concentrates
  - 2 Rare earth minerals are also believed to be produced in China and the Soviet Union (about 2 300 tonnes REO per annum) and possibly, on a small scale, in Indonesia, Democratic P.R. of Korea and South Africa
- (a) REO content  
(b) Exports  
(c) Expressed as weight of concentrates produced; USA production has been grossed up to concentrate equivalent on the assumption that both its bastnaesite and monazite concentrates contain 60% REO  
(d) Years ended 31 March following that stated

## Exports of Rare Earths

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ferro-cerium & other pyrophoric alloys	31	9	25	19	12
Metals	56	34	65	41	26
Belgium-Luxembourg					
Ferro-cerium & other pyrophoric alloys	—	47	24	—	1
Denmark					
Ferro-cerium & other pyrophoric alloys	4	2	241	131	107
France					
Ferro-cerium & other pyrophoric alloys	13	82	56	127	108
Metals	34	24	18	59	* 110
Germany, Federal Republic of					
Cerium compounds	1 874	1 712	880	218	157
Other rare earth compounds	86	66	53	13	29
Ferro-cerium & other pyrophoric alloys	75	55	54	50	63
Metals	157	147	253	170	22
Italy					
Ferro-cerium & other pyrophoric alloys	...	—	15	7	0
Metals	26	10	10	55	43
Austria					
Metals	196	275	378	385	675
Soviet Union					
Rare earth compounds (b)	* 300	* 350	* 400	* 600	* 500
Spain					
Ferro-cerium & other pyrophoric alloys	32	9	23	0	43
Algeria					
Cerium metal	47	—	—	—	...
South Africa (a)					
Rare earth compounds	£1 000	£1 200	—	£540	...
USA					
Ores & concentrates	9 115	9 587	4 836	5 102	8 033
Ferro-cerium & other pyrophoric alloys	16	10	27	66	33
Brazil					
Cerium compounds	0	15	310	875	79
Ferro-cerium & other pyrophoric alloys	451	235	174	290	284
Metals	18	70	68	124	102
China					
Rare earth compounds (b)	* 2 100	* 1 100	* 800	* 1 000	* 2 500
Japan					
Ferro-cerium & other pyrophoric alloys	76	89	59	79	54
Metals	—	—	377	261	281
Malaysia					
Ores & concentrates	327	344	658	1 044	* 4 800
Thailand					
Ores & concentrates	10	76	120	82	140
Australia					
Ores & concentrates	10 250	14 028	15 251	17 670	...

## Notes:

- Trade in rare earth compounds has been omitted from this table in those cases where it is not separately distinguished from the trade in compounds of thorium and uranium, as under the Standard International Trade Classification (Revision 2), item 524.92
- Rare earths are here taken to include yttrium and scandium; the term 'metals' includes intermixtures and interalloys thereof

(a) Values shown are for the common customs area

(b) BGS estimates, based on known imports into certain countries

## Imports of Rare Earths

Country	1980	1981	1982	1983	1984
United Kingdom					
Ferro-cerium & other					
pyrophoric alloys	44	26	15	6	5
Metals	108	33	11	24	28
Belgium-Luxembourg					
Cerium compounds	52	97	81	104	77
Other rare earth compounds	23	5	61	11	18
Ferro-cerium & other					
pyrophoric alloys	28	14	23	5	26
Metals	21	1	10	15	18
Denmark					
Rare earth compounds	2	2	2	3	6
Ferro-cerium & other					
pyrophoric alloys	2	2	2	1	1
France					
Cerium compounds	66	46	264	524	590
Other rare earth compounds	328	653	787	845	897
Ferro-cerium & other					
pyrophoric alloys	129	70	73	124	90
Metals	11	64	76	75	162
Germany, Federal Republic of					
Cerium compounds	752	509	587	546	599
Other rare earth compounds	152	188	193	220	455
Ferro-cerium & other					
pyrophoric alloys	14	30	11	13	16
Metals	60	76	74	129	135
Italy					
Ferro-cerium & other					
pyrophoric alloys	9	13	50	4	14
Metals	138	37	140	63	64
Netherlands					
Cerium compounds	1 263	1 354	2 160	2 984	3 758
Other rare earth compounds	29	335	2 526	2 671	2 904
Metals	0	0	1	81	1
Austria					
Metals	2	3	149	91	59
Finland					
Ferro-cerium & other					
pyrophoric alloys	1	10	1	1	0
Portugal					
Ferro-cerium & other					
pyrophoric alloys	6	2	4	4	4
Switzerland					
Ferro-cerium & other					
pyrophoric alloys	4	4	0	3	3
Metals	6	1	2	4	5
Turkey					
Metals	4	—	...	...	...
South Africa					
Rare earth compounds (a)	£84 000	£79 000	£58 000	£100 000	£67 000
USA					
Ores & concentrates	5 147	7 469	6 799	4 027	5 661
Cerium compounds	247	178	33	30	710
Other rare earth compounds	506	203	177	609	935
Ferro-cerium & other					
pyrophoric alloys	65	83	86	104	138
Metals	346	188	96	56	149
Argentina					
Cerium compounds	12	14	8	...	...
Other rare earth compounds	29	8	6	...	...
Ferro-cerium & other					
pyrophoric alloys	24	4	...	...	...
Metals	27	1	7	...	...

**Imports of Rare Earths**

tonnes

Country	1980	1981	1982	1983	1984
<b>Brazil</b>					
Cerium compounds	51	29	91	100	104
Other rare earth compounds	27	10	16	15	15
Metals	21	26	53	0	0
<b>Venezuela</b>					
Ferro-cerium & other pyrophoric alloys	2	...	5	...	...
<b>Indonesia</b>					
Ferro-cerium & other pyrophoric alloys	61	3	0	0	0
<b>Japan</b>					
Cerium compounds	52	62	58	53	57
Other rare earth compounds	4 809	5 694	3 969	3 975	6 996
Ferro-cerium & other pyrophoric alloys	7	10	16	23	21
Metals	42	8	9	26	131
<b>Korea, Republic of</b>					
Cerium compounds	31	38	85	100	77
<b>Malaysia</b>					
Ores & concentrates	1 038	320	1 590	523	...
<b>Thailand</b>					
Ferro-cerium & other pyrophoric alloys	176	52	86	70	59

**Notes:**

- 1 Trade in rare earth compounds has been omitted from this table in those cases where it is not separately distinguished from the trade in compounds of thorium and uranium, as under the Standard International Trade Classification (Revision 2), item 524.92
- 2 Rare earths are here taken to include yttrium and scandium; the term 'metals' includes intermixtures and interalloys thereof

(a) Values shown are for the common customs area



## Production of Salt

Country	1980	1981	1982	1983	1984
United Kingdom					
Rock salt	1 746 000	1 350 000	2 209 000	1 316 000	1 569 000
Brine salt	1 607 608	1 454 204	1 554 000	1 394 000	1 423 000
Salt in brine (a)	3 799 900	3 915 824	3 874 000	3 601 000	4 134 000
Denmark	347 423	397 578	399 280	451 855	522 892
France					
Rock salt	851 000	749 000	925 000	694 000	* 700 000
Salt in brine	4 415 310	3 870 300	3 711 000	4 239 000	4 417 000
Sea salt	1 277 000	1 392 000	1 539 000	* 1 354 000	1 450 000
Germany, Federal Republic of					
Rock salt	7 197 000	8 212 000	7 044 000	6 119 000	7 010 000
Brine salt	880 000	836 000	842 000	743 000	815 000
Salt in brine	4 578 299	4 461 585	4 296 827	4 404 455	4 945 991
Greece	120 969	130 591	105 436	* 133 000	* 133 000
Italy					
Rock salt & brine salt	3 997 096	3 600 846	3 603 580	3 453 817	3 255 421
Sea salt	* 1 270 000	* 960 000	* 1 000 000	* 1 100 000	* 1 000 000
Netherlands	3 464 000	3 578 000	3 191 000	3 124 000	3 674 000
Albania	* 66 500	* 66 500	* 66 500	* 70 000	* 70 000
Austria					
Rock salt	1 018	1 330	1 085	1 288	1 124
Salt in brine	261 000	264 000	214 000	* 141 000	* 145 000
Evaporated salt	410 130	462 485	433 557	359 118	418 707
Bulgaria	* 86 000	* 86 000	* 86 000	* 86 000	* 86 000
Czechoslovakia	371 241	409 436	436 489	343 356	343 760
German Democratic Republic	3 127 700	3 111 800	3 115 400	3 126 300	3 133 400
Poland					
Rock salt	1 464 000	1 313 000	) 4 329 000	4 326 000	4 711 000
Other salt	3 069 000	2 960 000	)		
Portugal					
Rock salt	401 923	406 699	407 034	429 934	455 272
Sea salt	217 560	255 936	247 815	208 652	* 200 000
Romania	5 056 000	5 033 000	4 756 000	4 596 000	* 4 500 000
Soviet Union	* 14 500 000	* 15 200 000	* 15 800 000	* 16 200 000	* 16 500 000
Spain					
Rock salt	2 379 476	2 300 175	2 211 592	2 008 109	* 2 000 000
Sea salt	1 103 665	1 393 033	1 076 598	1 121 582	) * 1 100 000
Other salt	25 570	27 972	25 988	27 780	)
Switzerland					
Evaporated salt	30 020	29 902	34 557	31 753	42 900
Other salt	330 359	355 406	282 307	240 131	328 900
Turkey	1 178 643	1 396 422	1 313 719	1 261 383	1 290 202
Yugoslavia					
Rock salt	168 921	192 579	198 500	191 885	)
Sea salt	22 081	36 185	37 980	28 874	) 380 000
Other salt	188 414	191 112	191 746	194 709	)
Algeria					
Brine salt & sea salt	154 000	128 000	140 000	* 150 000	175 000
Angola	* 50 000	* 50 000	* 58 000	* 54 000	* 50 000
Egypt	636 000	679 000	829 000	918 000	* 1 000 000
Ethiopia (d)	121 977	144 178	* 125 000	* 125 000	* 125 000
Ghana	* 50 000	* 50 000	* 50 000	* 50 000	* 50 000
Kenya	26 966	27 796	24 411	83 427	100 825
Libya	* 10 000	* 10 000	* 10 000	* 12 000	* 12 000
Madagascar	* 30 000	27 919	29 629	* 30 000	* 30 000
Mali	* 4 500	* 4 500	* 4 500	* 4 500	* 4 500
Mauritius (c)	* 6 000	5 000	4 500	6 196	7 000
Morocco	67 477	55 197	56 556	69 853	* 70 000
Mozambique	* 28 000	* 28 000	* 28 000	* 28 000	* 28 000
Namibia	* 230 000	193 000	184 000	137 000	* 130 000
Senegal	* 140 000	* 140 000	159 700	170 000	* 170 000
Somalia	30 000	* 30 000	* 30 000	* 30 000	* 30 000
South Africa	573 474	550 801	632 812	744 295	613 665
Sudan	73 537	72 649	27 927	150 000	16 000

## Salt

## Production of Salt

tonnes

Country	1980	1981	1982	1983	1984
Tanzania	36 734	27 400	32 100	29 700	96 700
Tunisia (c)	460 000	462 000	421 000	375 000	415 000
Bahamas	684 000	970 000	816 000	862 000	870 000
Canada					
Rock salt	4 507 416	4 371 314	5 223 073	5 808 906	7 741 703
Other salt (e)	2 915 438	2 871 280	2 717 258	2 733 363	3 198 229
Costa Rica	* 40 000	* 39 000	110 000	* 109 000	* 109 000
Cuba	130 453	161 059	198 000	179 800	* 200 000
Dominican Republic	45 665	33 017	47 692	* 48 000	* 48 000
El Salvador (c)	* 2 000	* 2 000	* 2 000	* 2 000	* 2 000
Guatemala (c)	18 400	23 000	27 600	34 500	34 500
Honduras	* 32 000	* 32 000	* 32 000	* 32 000	* 32 000
Mexico	6 575 302	7 953 263	5 561 187	5 703 030	* 6 000 000
Netherlands Antilles	* 400 000	* 400 000	* 400 000	* 200 000	* 210 000
Nicaragua (c)	* 20 000	* 18 000	* 18 000	* 18 000	* 15 000
Panama (c)	18 583	14 562	11 051	38 778	18 585
USA (f)					
Rock salt	10 710 000	10 769 000	12 250 000	9 018 000	12 109 000
Salt in brine	20 168 000	18 901 000	16 407 000	17 193 000	17 843 000
Evaporated salt	5 728 000	5 625 000	5 720 000	5 153 000	5 633 000
Argentina					
Rock salt	474	623	1 191	828	* 900
Other salt	1 003 202	936 961	593 737	677 106	* 650 000
Brazil					
Rock salt	795 781	838 879	835 750	929 269	953 000
Sea salt	3 136 000	2 766 319	2 887 803	3 259 291	3 578 000
Chile	441 105	290 279	674 002	714 598	625 760
Colombia					
Rock salt	346 568	316 250	300 534	265 919	* 275 000
Sea salt	491 017	398 686	201 587	291 361	* 300 000
Peru	456 987	506 000	485 000	490 000	* 500 000
Venezuela (c)	243 145	280 060	329 677	360 589	* 365 000
Afghanistan (g)	37 100	30 400	* 35 000	* 35 000	* 35 000
Bangladesh (j)	463 378	269 058	560 000	243 022	672 000
Burma (b)(c)(h)	247 000	256 000	269 000	280 000	301 000
China	17 280 000	18 320 000	16 380 000	16 130 000	* 16 000 000
Cyprus	7 582	9 299	9 857	—	7 399
India					
Rock salt	4 683	4 326	4 123	4 563	* 5 400
Other salt	8 004 000	8 928 000	7 308 000	7 008 000	* 7 500 000
Indonesia	690 000	286 000	800 000	619 000	* 700 000
Iran (g)	* 600 000	* 600 000	* 700 000	* 750 000	* 750 000
Iraq	90 000	80 000	* 80 000	* 80 000	* 80 000
Israel	118 010	132 250	148 000	98 200	* 130 000
Japan (i)	1 112 000	1 002 000	1 020 000	* 1 200 000	* 1 180 000
Jordan (b)	30 583	24 200	8 763	34 000	21 680
Kampuchea, Democratic	* 30 000	24 000	38 000	* 40 000	* 40 000
Korea, Dem. P.R. of	* 570 000	* 570 000	* 570 000	* 570 000	* 570 000
Korea, Republic of	455 000	602 000	864 000	481 000	* 500 000
Kuwait	20 825	18 931	19 342	19 673	22 239
Laos	* 20 000	* 20 000	9 000	* 10 000	* 10 000
Lebanon	* 20 000	* 20 000	* 10 000	* 5 000	* 5 000
Mongolia	* 15 000	* 15 000	* 15 000	* 16 000	* 16 000
Pakistan					
Rock salt	507 359	511 582	539 697	570 072	* 600 000
Sea salt	181 107	5 649	223 200	178 800	* 200 000
Philippines	346 387	355 289	364 420	381 912	401 008
Sri Lanka	114 270	104 388	176 437	129 222	* 131 500
Syria	90 000	85 000	102 000	88 000	38 000
Taiwan	722 425	351 330	262 103	79 188	218 491
Thailand					
Rock salt	16 744	11 000	11 100	5 679	9 850
Other salt	* 160 000	* 160 000	* 160 000	* 160 000	* 160 000

**Production of Salt**

tonnes

Country	1980	1981	1982	1983	1984
Vietnam	* 435 000	* 400 000	* 650 000	* 900 000	* 800 000
Yemen Arab Republic	* 65 000	* 65 000	* 57 000	* 140 000	* 145 000
Yemen, People's D.R. of	15 000	28 000	58 000	66 000	* 70 000
Australia	5 664 893	6 716 221	4 811 185	5 169 900	* 5 000 000
New Zealand	5 500	55 500	70 000	81 000	57 000
<b>World total</b>	<b>169 800 000</b>	<b>171 700 000</b>	<b>164 600 000</b>	<b>160 000 000</b>	<b>171 600 000</b>

**Notes:**

- 1 This table does not include production of refined salt
- 2 Salt is known to have been produced in many countries for which statistics are not available. Among these are Martinique, Mauritania and Nigeria

- (a) Used for purposes other than salt-making
- (b) Brine salt
- (c) Sea salt
- (d) Years ended 6 July of that stated
- (e) Including salt in brine
- (f) Sold or used by producers
- (g) Years ended 20 March following that stated
- (h) Years ended 31 March following that stated
- (i) Government licensed plants
- (j) Years ended 30 June of that stated

## Exports of Salt

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	393 425	426 479	484 659	378 865	484 511
Belgium-Luxembourg	115 384	107 219	124 875	170 973	227 720
Denmark	46 177	121 400	114 188	191 694	232 814
France	129 735	235 312	493 741	448 765	606 316
Germany, Federal Republic of	1 840 658	2 047 691	1 941 571	1 793 005	2 116 175
Italy	740 051	394 646	474 594	262 584	314 781
Netherlands	2 159 021	2 297 827	2 011 004	2 193 162	2 593 710
Austria	153	645	1 443	1 014	925
German Democratic Republic	1 210 000	1 272 000	1 387 000	1 390 000	1 501 000
Norway	1 576	2 982	5 173	3 523	4 091
Poland	296 711	240 966	337 396	376 675	370 418
Portugal	1 524	371	724	5 511	9 029
Romania	1 024 700	1 001 000	(e)* 751 000	(e)* 566 000	(e)* 520 000
Soviet Union	480 865	452 843	460 815	338 931	375 181
Spain	479 691	335 600	580 694	474 244	537 194
Sweden	1 475	4 313	3 798	6 668	5 342
Switzerland	234	278	698	548	102
Turkey	525	1 944	28 634	6 258	29 343
Algeria	2 000	600	3 589	—	...
Cape Verde Islands	11 455	...	...	...	...
Egypt	49 407	19 500	4 864	12 670	...
Ethiopia	5 050	28 500	11 000	5 010	...
Kenya	703	105	63	572	...
Madagascar	1 290	2 239	837	...	...
Senegal	125 448	154 034	155 807	152 157	9 501
South Africa	53 745	68 708	67 397	103 262	89 731
Sudan	157	4 002	19 391	78	...
Tanzania	11 511	19 316	5 225	3 273	...
Tunisia	272 972	368 823	329 356	288 100	261 337
Bahamas	463 254	793 144	911 980	856 334	...
Canada	1 655 768	1 507 768	1 734 059	1 915 597	2 530 994
El Salvador	24 980	10 733	16 555	12 823	...
Jamaica	3 902	2 405	3 969	2 558	3 260
Mexico	5 256 556	5 019 654	4 688 281	3 942 108	...
Netherlands Antilles	385 616	...	...	202 137	...
Nicaragua	320	6 073	2 180	...	...
USA	753 871	946 194	908 421	469 139	744 275
Argentina	13 370	12 134	20 203	...	...
Brazil	178 778	141 861	186 180	243 225	348 114
Colombia	151 470	5 250	7 500	25 250	...
China	(e)* 774 000	1 110 000	910 000	960 000	1 040 000
India (b)	56 533	62 856	...	...	...
Iran (c)	760	1 171	836	2 319	...
Israel (a)	19 227	...	...	(e)* 9 700	(e)* 7 500
Japan	2 299	1 173	1 609	1 292	1 250
Jordan	17 981	7 072	1 674	306	—
Korea, Republic of	99	11 711	172	3 193	1 647
Kuwait	1 854	2 064	2 364	...	...
Malaysia	411	740	1 387	343	...
Pakistan (d)	20 120	5 659	8 422	4 402	...
Saudi Arabia	3 357	6 646	3 818	5 608	5 609
Singapore	13 695	14 033	9 272	17 458	20 523
of which: Re-exports	13 109	13 473	8 937	17 228	20 016
Sri Lanka	6 180	16 512	24 363	86 150	37 153
Taiwan	13 950	3 065	1 000	672	1 239
Thailand	123 989	101 483	65 109	47 483	52 971
Yemen, People's D.R. of	25 218	34 163	25 504	50 451	...
Australia	4 514 717	3 963 949	4 143 822	4 533 749	4 341 000
New Zealand (d)	1 537	3 083	1 998	2 021	4 862

(a) Figures may be incomplete as value only given in Israeli trade return for exports to some countries

(b) Years ended 31 March following that stated

(c) Years ended 20 March following that stated

(d) Years ended 30 June of that stated

(e) BGS estimates, based on known imports into certain countries

## Imports of Salt

Country	1980	1981	1982	1983	1984
United Kingdom	363 535	97 923	183 607	93 957	115 152
Belgium-Luxembourg	988 386	1 168 848	1 073 256	1 101 805	1 133 678
Denmark	267 231	206 369	289 805	143 083	189 271
France	139 160	160 776	169 353	162 837	154 850
Germany, Federal Republic of	628 220	701 547	801 054	749 322	765 110
Greece	39 239	26 015	23 959	16 635	2 224
Irish Republic	87 333	74 849	88 964	79 218	90 400
Italy	195 538	176 485	313 431	378 105	706 712
Netherlands	71 173	66 711	86 813	134 917	222 924
Austria	1 277	116	164	232	153
Bulgaria (a)	* 56 400	* 50 100	* 47 700	* 42 000	...
Czechoslovakia (a)	* 178 700	* 190 100	* 177 300	* 120 300	* 120 300
Faeroe Islands	15 977	36 413	23 719	25 655	32 556
Finland	726 593	721 283	639 386	495 618	662 659
Greenland	8 088	5 203	6 233	3 256	3 769
Hungary	820 520	768 006	755 482	572 569	578 011
Iceland	105 556	77 810	69 699	80 733	48 797
Malta	£136 900	£123 300	£102 100	£134 800	£90 000
Norway	453 607	518 189	518 177	505 514	554 410
Portugal	92 042	51 564	43 018	20 817	205
Soviet Union	* 100 000	* 100 000	* 110 000	* 110 000	* 110 000
Spain	1 033	1 271	869	875	1 114
Sweden	1 158 073	1 055 559	947 392	1 103 475	1 224 888
Switzerland	1 994	1 755	1 775	2 004	2 084
Yugoslavia	282 389	337 155	294 720	241 104	...
Algeria	25	2 140	27 572	17 623	...
Burkina	14 405	18 956	...	...	...
Burundi	14 370	12 904	18 524	207	...
Cameroon	18 618	...	...	...	...
Canary Islands	1 033	293	729	514	...
Central African Republic	5 716	...	...	...	...
Congo	2 688	3 317	4 625	...	...
Gabon	6 984	7 876	9 051	6 779	...
Ivory Coast	42 149	46 158	45 039	45 101	...
Kenya	17 914	28 476	2 395	103	...
Liberia	3 138	5 180	...	...	...
Libya	5 842	5	103	...	...
Malawi	12 970	8 965	...	...	...
Mauritius	1 115	804	539	1 663	...
Morocco	5	10 258	6	8	46
Niger	27 313	14 718	29 343	...	...
Nigeria	...	458 530	1 052 209	...	...
Reunion	2 170	2 690	2 610	1 754	...
Rwanda	12 530	...	...	...	...
Seychelles	288	309	392	317	409
Sierra Leone	9 821	10 428	...	...	...
South Africa	20 502	25 667	1 998	43 550	...
Togo	4 972	3 193	...	...	...
Uganda	2 793	356	16 947	23 687	...
Zaire	* 2 300	* 5 600	16 069	141 971	15 759
Zimbabwe	55 007	111 902	53 315	57 080	...
Bahamas	4 195	1 073	...	51 578	...
Belize	395	518	575	746	595
Canada	1 151 203	1 254 985	1 526 873	814 264	1 053 211
Costa Rica	15 895	6 726	2 278	221	96
Dominica	735	384	529	457	379
Grenada	473	527	472	...	...
Guadeloupe	2 360	1 975	2 170	2 482	2 099
Guatemala	19 759	31 331	16 053	15 819	...
Honduras	881	811	...	...	...
Jamaica	28 702	38 237	45 063	18 108	46 496
Martinique	2 526	2 444	2 427	2 658	2 547
Mexico	1 339	2 263	1 106	448	...
Nicaragua	28 165	32 795	14 037	...	...
Panama	2 390	6 949	8 713	945	1 294
St Kitts-Nevis-Anguilla	228	197	317	324	...

Salt

## Imports of Salt

tonnes

Country	1980	1981	1982	1983	1984
St Lucia	644	875	605	838	704
St Vincent	537	446	...	...	...
Trinidad & Tobago	14 868	7 437	18 354	...	55 632
USA	4 806 336	4 512 676	4 944 627	5 440 388	6 844 710
Colombia	1 217	87	4 476	1 666	...
French Guiana	458	442	475	...	396
Guyana	1 817	4 556	2 018	...	...
Paraguay	18 040	20 363	16 145	26 186	20 824
Peru	583	362	2 250	537	...
Suriname	1 685	1 541	1 969	...	...
Uruguay	57 499	24 876	13 250	67 144	43 275
Venezuela	17 256	78	95	...	...
Abu Dhabi	7 883	3 074	2 140	1 965	5 116
Bahrain	1 415	1 886	1 589	1 991	1 455
Bangladesh (b)	...	...	770 548	338 950	522 122
Brunei	4 202	4 620	1 056	1 133	...
Cyprus	365	673	719	742	1 030
Dubai	9 023	12 741	17 079	20 596	8 277
Hong Kong	73 410	31 921	79 955	101 053	92 620
India	1 869	4 724	...	...	...
Indonesia	542	389	668	943	1 050
Japan	7 477 049	6 509 749	6 269 116	6 380 780	6 458 125
Jordan	1 422	1 965	528	1 314	1 306
Korea, Republic of	716 288	970 242	662 062	757 371	757 954
Kuwait	37 134	13 606	12 005	...	...
Malaysia	154 531	134 799	131 504	155 142	...
Oman	2 335	7 042	8 883	6 133	11 724
Philippines	60 022	44 679	130 587	109 633	65 420
Qatar	1 039	3 232	2 377	2 305	3 368
Saudi Arabia	8 821	14 639	18 049	20 665	16 880
Singapore	48 064	41 477	41 704	50 472	43 160
Taiwan	563 710	481 271	382 147	584 903	711 505
Thailand	424	345	45 169	21 149	10 324
Australia	7 740	7 321	6 596	6 257	...
Fiji	1 732	3 821	2 598	3 125	...
New Caledonia	519	440	679	523	745
New Zealand (b)	62 761	65 209	98 042	79 124	50 235
Solomon Islands	1 206	2 114	942	796	2 733
Vanuatu	282	303	297	292	317
Western Samoa	793	591	...	...	...

(a) BGS estimates, based on known exports from certain countries

(b) Years ended 30 June of that stated

## Production of Sillimanite Minerals

tonnes

Country	1980	1981	1982	1983	1984
France					
Andalusite	* 30 000	40 000	36 600	59 400	68 900
Soviet Union					
Kyanite (a)	* 70 000	* 70 000	* 80 000	* 100 000	* 100 000
Spain					
Andalusite & kyanite	6 471	6 151	5 105	4 486	* 4 500
South Africa					
Andalusite	196 516	181 272	153 231	116 576	143 305
Sillimanite	16 194	15 504	10 060	815	1 311
Zimbabwe					
Kyanite	716	870	2 207	—	874
USA					
Kyanite (b)	* 125 000	* 115 000	* 100 000	* 100 000	* 100 000
Brazil					
Kyanite (d)	4 270	1 590	423	526	* 500
India					
Andalusite	—	146	536	2 573	* 2 700
Kyanite	49 141	36 583	37 954	40 241	* 38 000
Sillimanite	14 488	12 273	12 463	8 810	* 9 000
Korea, Republic of					
Andalusite	82	90	33	289	209
Australia					
Sillimanite (c)	661	331	783	121	* 200
World total	514 000	480 000	441 000	434 000	469 000

Note: In addition to the countries listed above as producing sillimanite minerals, synthetic mullite is known to have been produced in Denmark, France, Hungary, Japan, Yugoslavia, United Kingdom and the USA

(a) May include other sillimanite minerals

(b) Includes related minerals

(c) Excluding sillimanite clay

(d) Includes beneficiated and directly shipped material

**Exports of Sillimanite Minerals**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Sillimanite minerals	5 037	2 809	2 326	2 502	5 334
Belgium-Luxembourg					
Sillimanite minerals—					
Crude	334	829	113	588	—
Other	68	135	66	39	46
Denmark					
Sillimanite minerals	46	529	1	20	157
France					
Sillimanite minerals—					
Crude	18	8	—	0	17
Other	419	310	78	166	34
Germany, Federal Republic of					
Sillimanite minerals—					
Crude	1 995	2 039	1 001	1 305	2 400
Calcined	7 495	11 534	7 789	4 250	6 300
Italy					
Sillimanite minerals—					
Crude & calcined	75	22	6	22	48
Other	75	155	58	24	754
Netherlands					
Sillimanite minerals—					
Crude	733	4	152	498	1 775
Other	1 163	543	789	489	396
Austria					
Sillimanite minerals	1 089	135	383	12 713	20 039
Czechoslovakia					
Sillimanite minerals (b)	* 23 500	* 24 700	* 17 800	* 14 600	* 14 100
South Africa					
Andalusite	106 786	60 047	75 429	69 264	91 574
Sillimanite	14 531	8 982	6 309	2 560	1 340
USA					
Kyanite & related minerals (a) (b)	* 64 000	* 65 000	* 58 500	* 66 000	* 75 700
Brazil					
Kyanite	2 629	50	3	—	20
India					
Kyanite	756	445	...	...	...
Sillimanite	235	200	...	...	...
Japan					
Sillimanite minerals, chamotte & dinas earth	21 460	15 281	12 400	8 439	9 238
New Zealand (c)					
Sillimanite minerals	3 692	5 442	6 560	10 129	13 410

Note: In this table 'Sillimanite minerals' is understood to include any or all of andalusite, kyanite, sillimanite and mullite

(a) May include some chamotte and dinas earth

(b) BGS estimates, based on known imports into certain countries

(c) Years ended 30 June of that stated

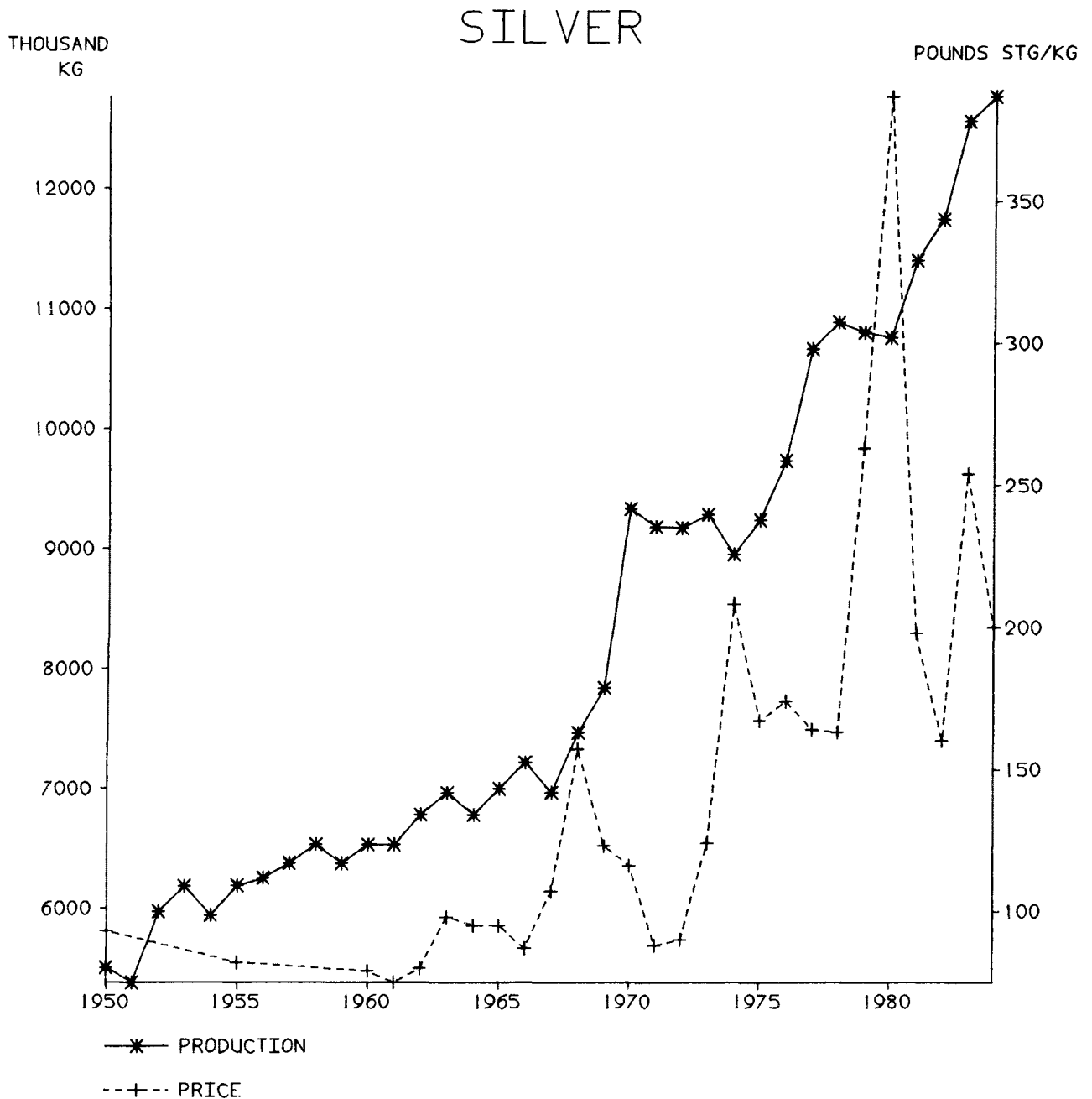


## Imports of Sillimanite Minerals

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Sillimanite minerals	46 248	35 098	35 141	35 618	52 708
Belgium-Luxembourg					
Sillimanite minerals—					
Crude	1 349	365	230	1 978	391
Other	1 729	516	3 561	851	1 264
Denmark					
Sillimanite minerals	1 134	136	422	270	415
France					
Sillimanite minerals—					
Crude	3 195	604	1 707	1 283	2 376
Other	8 458	1 284	1 480	2 458	1 845
Germany, Federal Republic of					
Sillimanite minerals—					
Crude	50 729	15 536	26 417	14 070	13 181
Calcined	51 095	54 936	55 636	58 219	75 721
Greece					
Sillimanite minerals	—	11	633	171	1 711
Italy					
Sillimanite minerals—					
Crude	11 711	7 011	18 639	12 261	22 763
Other	19 988	20 529	17 576	11 452	13 594
Netherlands					
Sillimanite minerals—					
Crude	1 693	1 514	3 038	864	4 870
Other	1 666	397	986	813	2 903
Austria					
Sillimanite minerals	90 394	90 975	78 793	73 637	75 372
Norway					
Sillimanite minerals, chamotte & dinas earth	1 097	1 090	526	380	915
Spain					
Sillimanite minerals	...	2 039	2 643	2 887	...
Mexico					
Mullite	1 310	1 038	3 407	1 127	...
Argentina					
Sillimanite minerals	1 857	33	35	...	...
Japan					
Sillimanite minerals	26 682	28 280	26 627	17 675	27 515
Mullite, chamotte & dinas earth	66 849	47 371	34 613	23 847	22 289
Korea, Republic of					
Sillimanite minerals	2 015	1 581	1 007	1 307	1 704
Mullite	11 583	2 955	3 936	2 047	2 975
Australia					
Sillimanite minerals & dinas earth	7 966	658	342	212	...

Note: In this table 'Sillimanite minerals' is understood to include any or all of andalusite, kyanite, sillimanite and mullite



**Figure 17** World mine production of silver from 1950 to 1984 compared with the average annual spot price of 999 bar expressed in constant 1984 pounds sterling.

Trend line analysis of the production data indicates a growth rate of approximately 2½% per annum over 35 years.

*Constant commodity prices derived from those quoted by Metal Bulletin using the CPI for the UK obtained from the Economics Division of the Bank of England.*

## Mine Production of Silver

kilograms (metal content)

Country	1980	1981	1982	1983	1984
United Kingdom	1 373	3 278	3 280	2 635	2 558
France	73 772	53 059	30 768	22 803	24 560
Germany, Federal Republic of	37 700	39 300	39 700	36 300	38 100
Greece	52 000	60 500	49 200	55 900	57 000
Irish Republic	24 000	28 000	3 600	9 900	8 670
Italy (a)	42 499	55 344	55 737	73 450	50 200
Bulgaria	* 24 000	* 23 000	* 25 000	* 25 000	* 26 000
Czechoslovakia	* 35 000	* 35 000	* 33 000	* 30 000	* 32 000
Finland	48 024	61 702	42 402	45 008	34 942
German Democratic Republic	* 47 000	* 45 000	* 45 000	* 43 000	* 40 000
Greenland	16 800	15 200	15 000	12 300	10 300
Hungary	* 1 100	* 1 000	* 500	* 500	* 500
Poland	766 000	640 000	657 000	678 000	744 000
Portugal	861	714	732	631	694
Romania	* 28 000	* 25 000	* 25 000	* 25 000	* 23 000
Soviet Union	* 1 550 000	* 1 580 000	* 1 595 000	* 1 600 000	* 1 600 000
Spain	184 643	218 089	116 176	214 940	289 624
Sweden	165 988	184 504	184 511	204 046	180 200
Turkey	* 6 500	* 8 600	* 8 700	* 6 800	* 7 000
Yugoslavia (a)	148 791	137 516	103 976	124 000	128 000
Algeria	* 3 100	* 3 400	* 3 400	* 3 700	* 3 700
Morocco	81 400	83 600	81 700	89 000	51 990
Namibia	104 700	107 500	87 500	109 900	105 500
South Africa	232 000	236 963	218 943	203 211	219 529
Tunisia	7 332	2 621	3 562	2 803	1 660
Zaire	78 756	80 119	59 176	39 501	38 000
Zambia	23 752	22 219	27 599	29 027	24 736
Zimbabwe	29 681	26 913	28 708	29 186	27 783
Canada	1 069 635	1 129 394	1 313 630	1 197 031	1 306 373
Dominican Republic	50 480	63 255	68 357	41 342	37 995
El Salvador	4 547	4 261	2 666	684	* 800
Honduras	54 935	56 697	52 221	77 600	80 700
Mexico	1 472 557	1 654 829	1 550 221	1 910 839	1 987 000
Nicaragua	5 103	4 359	2 350	1 977	* 1 600
USA	1 005 579	1 265 418	1 251 895	1 350 397	1 382 280
Argentina	73 309	78 326	83 489	77 767	* 78 000
Bolivia	189 715	205 332	186 738	187 403	141 800
Brazil	24 394	19 300	23 625	15 112	25 108
Chile	298 545	361 107	382 188	468 276	490 365
Colombia	4 714	4 440	4 232	4 118	4 773
Ecuador	900	1 000	313	98	* 100
Peru (b)	1 337 100	1 387 200	1 692 100	1 792 400	1 772 900
Burma	29 700	24 100	16 400	17 400	17 900
China	* 60 000	* 65 000	* 70 000	* 80 000	* 90 000
India	11 377	17 298	14 405	15 792	24 900
Indonesia	19 956	23 368	32 039	32 430	33 320
Japan	247 741	270 800	294 674	296 557	323 575
Korea, Dem. P.R. of	* 45 000	* 40 000	* 45 000	* 50 000	* 50 000
Korea, Republic of	63 169	84 137	76 623	66 557	69 600
Malaysia	13 604	14 708	16 202	15 092	14 653
Philippines	60 715	62 943	61 724	56 696	48 956
Taiwan	2 957	6 683	15 679	10 739	11 330
Australia	766 816	743 557	906 863	1 042 828	* 970 220
Fiji	214	260	576	412	520
Papua New Guinea	37 198	42 388	43 400	47 414	44 400
World total	10 764 000	11 408 000	11 752 000	12 573 000	12 779 000

(a) Smelter and/or refinery production

(b) Recoverable

## Silver

## Exports of Silver

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	2 493 727	1 642 087	2 571 398	3 373 284	1 678 700
Waste & scrap	296 810	137 812	97 883	691 011	176 602
Belgium-Luxembourg					
Metal	1 511 492	883 939	947 881	1 069 356	820 581
Denmark					
Metal	57 193	33 595	51 252	34 161	45 893
France					
Metal	947 144	556 192	348 136	1 291 718	632 765
Waste & scrap	337 595	227 930	406 029	347 571	360 306
Germany, Federal Republic of					
Metal	1 731 216	1 115 685	1 364 636	1 487 183	1 345 629
Waste & scrap	185 435	366 738	396 058	655 945	629 033
Greece					
Metal	49 765	46 000	2 000	...	41 000
Italy					
Metal	231 627	95 232	56 491	132 800	81 200
Netherlands					
Metal	252 792	116 196	178 390	159 244	120 668
Austria					
Metal	44 660	31 008	58 478	52 972	50 128
Waste & scrap	8 352	2 478	693	2 224	1 352
Finland					
Metal	45 000	56 000	85 000	34 000	34 000
Norway					
Metal	26 574	32 950	29 973	31 405	26 897
Poland					
Metal	516 000	397 000	370 000	405 000	478 000
Portugal					
Metal	15 411	4 510	3 223	1 757	68
Spain					
Metal	5 722 040	304 000	129 363	191 980	161 000
Sweden					
Metal	241 000	197 000	181 000	210 000	242 000
Switzerland					
Metal	1 039 455	718 473	724 035	367 455	484 390
Yugoslavia					
Metal	59 183	48 000	77 000	90 000	...
Waste & scrap	830	...	1 000	...	...
Morocco					
Metal	24 176	31 361	52 029	80 591	73 723
South Africa					
Metal	191 096	217 868	238 072	210 419	217 630
Tunisia					
Metal	4 143	...	2 700	...	1 375
Canada					
Ores & concentrates (b)	396 801	551 202	603 089	440 909	424 673
Metal	886 640	916 781	1 137 295	1 051 415	1 093 159
Dominican Republic					
Metal (c)	63 421	77 610	82 255	* 55 000	...
El Salvador					
Metal	5 042	4 324	2 672	852	...
Honduras					
Concentrates (b)	50 521	49 020	37 667	50 669	* 75 000
Mexico					
Metal	1 051 294	1 205 763	1 190 651	1 386 307	...
Nicaragua					
Metal (a)	4 000	...	...	14 180	...
USA					
Ores & concentrates (b)	9 564	6 634	1 459	2 093	20 231
Metal	1 806 418	493 915	423 046	458 190	360 478
Waste & scrap	726 100	390 855	390 892	566 110	406 216
Argentina					
Metal	21 319	8 202	...	...	...
Bolivia					
Ores & concentrates (b)	176 464	203 660	151 000	158 000	...

## Exports of Silver

kilograms

Country	1980	1981	1982	1983	1984
Chile					
Metal	...	218 165	295 677	271 166	283 259
Peru					
Metal	494 000	895 000	808 700	1 017 100	...
China					
Metal (d)	* 19 100	* 12 900	* 3 700	* 17 000	* 40 400
Hong Kong					
Metal	61 192	40 208	22 459	11 602	37 663
of which: Re-exports	57 424	39 879	21 183	8 212	32 857
Waste & scrap	222 871	311 596	95 220	419 139	421 507
of which: Re-exports	74 770	211 343	35 288	35 632	18 802
India					
Metal	9 207	...	...	...	...
Japan					
Metal	214 828	148 447	128 995	220 011	132 745
Waste & scrap	29 000	...	1 000	...	...
Korea, Republic of					
Ores & concentrates	3 400 000	2 652 000	3 149 000	792 000	86 000
Metal	34 660	15 302	49 332	59 451	51 830
Malaysia					
Metal	16 471	57 258	47 150	23 220	...
Philippines					
Metal	347	408	3 776	18 545	2 972
Singapore					
Metal	32 680	8 344	6 807	11 108	3 768
of which: Re-exports	18 481	5 521	2 873	6 442	3 023
Taiwan					
Metal	33	—	151	700	274
Waste & scrap	24	18 216	22 000	8 093	712
Thailand					
Metal	166 230	31 410	62 436	103 024	5 638
Australia					
Silver-lead bullion	385 270	333 498	432 711	420 417	354 334
Silver in all ores, concentrates etc.	52 284	109 664	171 069	221 581	194 139
Metal	85 195	90 228	234 468	222 480	163 620
Fiji					
Metal	232	264	550	396	...
Papua New Guinea					
Metal	37 198	42 388	43 400	47 414	44 400

## Notes:

- 1 This table excludes silver coin but includes silver shipped for minting
  - 2 In this table the term 'metal' as used here includes both unwrought and partly worked silver and alloys
- (a) Including waste and scrap  
(b) Ag content  
(c) Officially described as 'dore' (Au/Ag alloy), but contains a higher proportion of silver  
(d) BGS estimates, based on known imports into certain countries

## Silver

## Imports of Silver

kilograms

Country	1980	1981	1982	1983	1984
United Kingdom					
Metal	3 791 483	1 941 051	1 433 971	2 476 676	1 644 617
Waste & scrap	584 952	982 040	1 360 722	402 741	361 752
Belgium-Luxembourg					
Metal	1 407 086	1 166 728	1 321 789	1 599 738	920 915
Denmark					
Metal	87 427	72 801	82 871	73 761	99 121
France					
Metal	832 048	663 630	630 123	539 071	560 817
Waste & scrap	148 431	33 937	31 651	155 163	27 930
Germany, Federal Republic of					
Metal	1 072 399	798 049	1 270 477	1 109 742	1 046 696
Waste & scrap	667 656	471 841	724 065	717 436	1 228 567
Greece					
Metal	34 936	13 000	7 000	13 000	14 000
Italy					
Metal	568 216	531 641	575 776	318 100	392 200
Netherlands					
Metal	216 149	143 676	144 859	134 548	141 455
Austria					
Metal	134 530	181 374	218 962	135 242	165 752
Waste & scrap	1 252	6 451	94	15	23
Bulgaria					
Metal (f)	* 1 200	* 1 200	* 150	* 1 700	* 1 400
Finland					
Metal	112 000	86 000	67 000	67 000	84 000
German Democratic Republic					
Metal (f)	* 219 600	* 275 200	* 542 800	* 345 300	* 439 800
Iceland					
Metal	920	1 007	707	570	525
Malta					
Metal	1 793	1 177	321	414	1 596
Norway					
Metal	60 385	70 120	83 527	42 262	47 401
Portugal					
Metal	11 264	31 588	29 085	34 465	27 779
Spain					
Metal	626 363	54 000	31 901	46 367	16 000
Sweden					
Metal	451 000	417 000	244 000	168 000	173 000
Switzerland					
Metal	1 577 818	901 160	1 139 623	1 172 851	1 097 993
Turkey					
Metal (b)	4 995	2 206	9 465	1 741	4 566
Yugoslavia					
Metal	510 504	9 000	19 000	17 000	...
Algeria					
Metal	1 389	5 943	14 374	21 178	...
Egypt					
Metal	667	1 846	1 258	15	...
Gabon					
Metal	833	899	578	156	...
Ivory Coast					
Metal	4 174	1 252	...	...	...
Kenya					
Metal	216	17	10	2	...
Libya					
Metal	9 571	1 060	24 993	...	...
Madagascar					
Metal	244	1 615	138	...	...
Morocco					
Metal	248	5 536	1 100	810	732
Nigeria					
Metal	...	360	114	...	...
Senegal					
Metal	31	209	222	99	145
South Africa					
Metal	23 607	25 689	27 764	24 148	...

## Imports of Silver

kilograms

Country	1980	1981	1982	1983	1984
Tunisia					
Metal	488	...	814	...	2 694
Zaire					
Metal	216	411	1 013	1 084	237
Canada					
Metal	339 188	327 291	484 186	339 439	215 134
Costa Rica					
Metal	881	425	385	377	414
Guatemala					
Metal	2	734	41	69	...
Jamaica					
Metal	297	979	626	* 500	321
Nicaragua					
Metal (a)	1 000	...	...	...	...
Panama					
Metal (a)	772	866	755	1 035	2 961
Trinidad & Tobago					
Metal	1 090	761	1 838	1 476	2 465
USA					
Ores & concentrates (c)	463 528	515 431	592 450	604 614	755 487
Metal	2 091 002	2 563 755	3 187 475	5 139 137	2 910 000
Waste & scrap	95 752	108 187	137 529	87 078	84 947
Argentina					
Metal	24 557	34 299	22 800	...	...
Brazil					
Metal	109 418	56 060	89 496	99 704	85 191
Colombia					
Metal	2 629	9 415	6 028	2 074	...
Ecuador					
Metal	1 040	489	2 835	...	...
Peru					
Metal	494	581	1 638	504	...
Uruguay					
Metal	100	100	56	25	—
Venezuela					
Metal	...	...	26 244	...	...
Brunei					
Metal	27	344	2 485	210	...
Dubai					
Metal	43 072	30 839	133 830	294 985	14 466
Hong Kong					
Metal	32 465	15 304	24 009	25 576	53 779
Waste & scrap	2 812	812	5 925	2 567	675
India					
Metal	148	589	...	...	...
Indonesia					
Metal	145	44	48	308	290
Iran (d)					
Metal	6 942	10 644	9 499	...	...
Japan					
Ores & concentrates	3 400 000	—	—	—	—
Metal	593 694	440 385	517 605	422 451	502 919
Korea, Republic of					
Metal	71 980	4 955	5 132	5 659	6 697
Malaysia					
Metal	12 497	9 605	26 321	31 601	...
Philippines					
Metal	189	687	325	833	203
Saudi Arabia					
Metal	11 794	13 399	3 256	758	2 746
Singapore					
Metal	22 345	68 610	33 036	22 617	27 733

## Silver

**Imports of Silver**

kilograms

Country	1980	1981	1982	1983	1984
Taiwan					
Metal	20 521	21 858	26 446	39 308	177 927
Thailand					
Metal	14 359	191 551	13 001	11 949	46 638
Australia					
Metal	7 050	1 306	149	8 720	1 467
New Zealand (e)					
Metal	47 795	43 046	41 971	40 708	41 950

## Notes:

- 1 This table excludes silver coin but includes silver shipped for minting
- 2 In this table the term 'metal' as used here includes both unwrought and partly worked silver and alloys
  - (a) Including waste and scrap
  - (b) Including gilt
  - (c) Ag content
  - (d) Years ended 20 March following that stated
  - (e) Years ended 30 June of that stated
  - (f) BGS estimates, based on known exports from certain countries



## Production of Sulphur and Pyrites

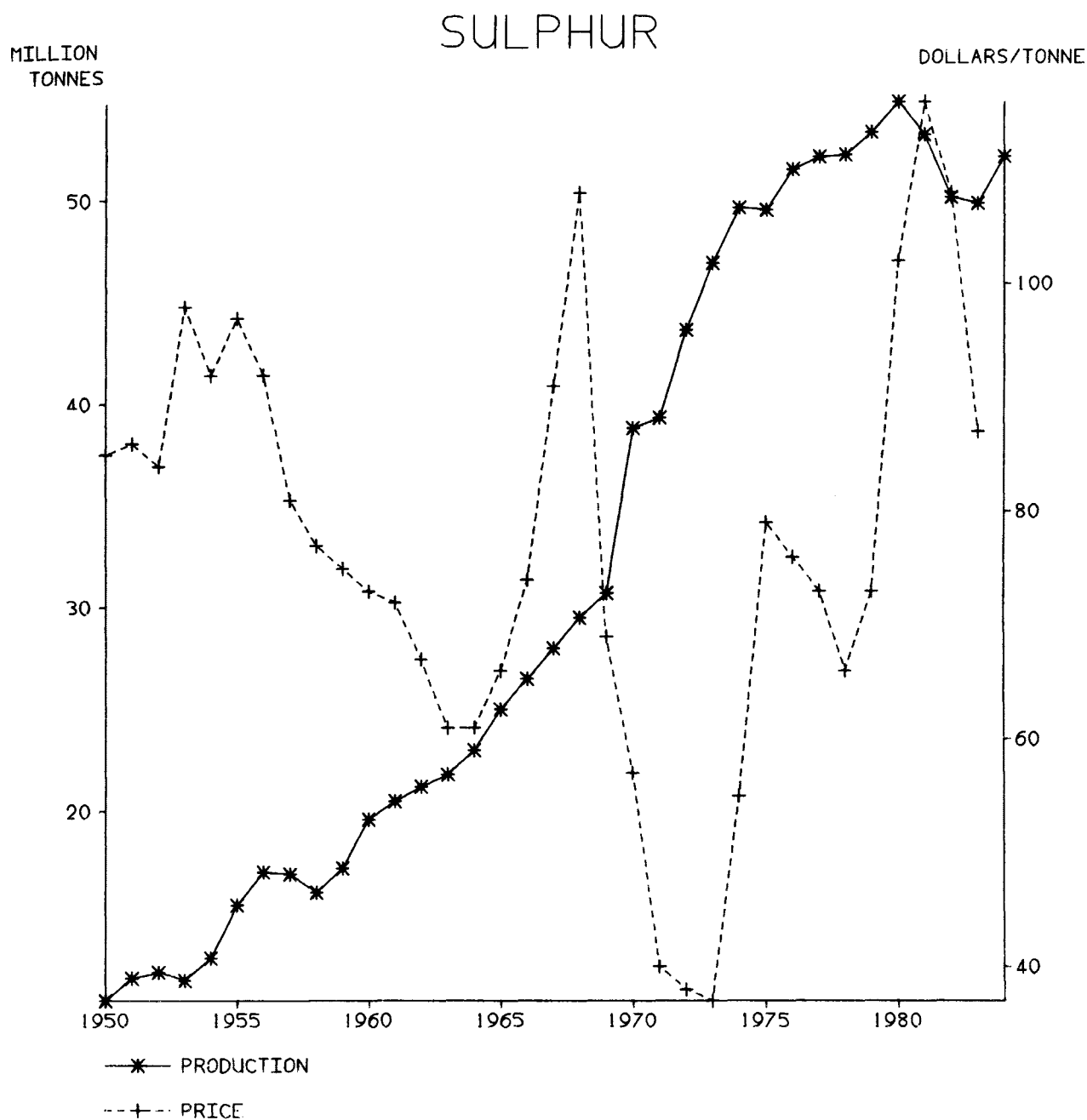
thousand tonnes (sulphur content)

Country		1980	1981	1982	1983	1984
United Kingdom						
Recovered (a)(c)		66	42	51	51	60
Recovered (d)		80	75	59	55	75
Belgium						
Recovered (c)(d)		270	* 270	* 270	* 250	* 240
Denmark						
Recovered (d)		8	6	7	7	11
France						
Recovered (d)		2 058	1 927	1 808	1 814	1 753
Germany, Federal Republic of						
Pyrites (45%)		222	213	229	—	—
Recovered (c)		450	400	* 400	* 400	* 350
Recovered (d)		1 034	1 024	1 092	* 845	* 1 050
Recovered (e)		* 90	* 95	* 100	* 95	* 90
Greece						
Pyrites (45%)		65	74	52	65	74
Recovered (d)		* 4	* 11	* 105	* 120	* 125
Irish Republic						
Pyrites (47%)		12	11	6	—	—
Italy						
Pyrites (43%)		331	262	269	262	192
Recovered (d)		250	230	210	* 210	* 200
Sulphur ore		23	22	20	9	5
Netherlands						
Recovered (c)(d)		* 142	* 145	* 165	* 205	* 195
Austria						
Recovered		28	37	48	40	39
Anhydrite		24	25	27	26	26
Bulgaria						
Pyrites (42%)		* 300	* 200	* 200	* 200	* 200
Recovered		* 70	* 70	* 70	* 70	* 70
Czechoslovakia						
Pyrites (42%)		60	* 60	* 60	* 60	* 60
Recovered		10	* 10	* 10	* 10	* 10
Sulphur ore		5	* 5	* 5	* 5	* 5
Finland						
Pyrites (44%)		97	134	146	86	94
Recovered (c)		247	268	270	264	261
Recovered (d)		37	48	40	45	* 45
German Democratic Republic						
Pyrites (42%)		* 10	* 10	—	—	—
Recovered		* 350	* 350	* 360	* 380	* 350
Norway						
Pyrites (50%)		212	219	213	179	214
Recovered (c)(d)		* 46	* 49	* 46	* 50	* 50
Poland						
Frasch (g)		5 164	4 773	4 935	4 999	4 990
Recovered (c)		* 300	* 300	* 300	* 300	* 300
Recovered (d)		* 30	* 30	* 30	* 30	* 30
Anhydrite		* 20	* 20	* 20	* 20	* 20
Portugal						
Pyrites (44%)		168	125	116	124	146
Romania						
Pyrites (42%)		* 350	* 300	* 200	* 200	* 200
Recovered		* 140	* 150	* 150	* 150	* 150
Soviet Union						
Frasch		* 800	* 800	* 800	* 800	* 800
Pyrites (46%)		* 3 550	* 3 600	* 3 500	* 3 400	* 3 300
Recovered (c)		* 800	* 800	* 800	* 800	* 800
Recovered (d)		* 2 400	* 2 450	* 2 500	* 2 550	* 2 600
Recovered (e)		* 40	* 40	* 40	* 40	* 40
Sulphur ore		* 2 000	* 2 000	* 1 900	* 1 800	* 1 800
Spain						
Pyrites (47%)		1 152	1 118	1 029	1 073	1 292
Recovered (c)(d)		* 140	* 150	* 140	* 130	* 130

## Production of Sulphur and Pyrites

thousand tonnes (sulphur content)

Country		1980	1981	1982	1983	1984
Sweden						
Pyrites	(48%)	190	201	205	208	* 200
Recovered (c)(d)		130	* 130	* 130	* 130	* 130
Sulphur ore		33	37	23	* 30	* 30
Turkey						
Pyrites	(45%)	35	29	2	2	—
Recovered		89	118	126	132	151
Sulphur ore		23	29	31	31	41
Yugoslavia						
Pyrites	(42%)	255	274	340	291	256
Recovered (c)(d)		* 205	* 204	* 204	* 183	* 163
Algeria						
Recovered (d)		15	15	* 10	15	* 20
Egypt						
Recovered (d)		40	10	5	10	2
Libya						
Recovered (d)		* 12	* 11	* 12	* 14	* 14
Morocco						
Pyrites	(48%)	36	38	—	—	—
South Africa						
Pyrites	(48%)	439	502	467	474	464
Recovered (d)		* 25	* 27	* 30	* 32	* 58
Recovered (c)		48	52	51	49	95
Zaire						
Recovered (c)		* 25	* 25	* 25	* 36	* 36
Zambia						
Recovered		92	90	84	80	98
Zimbabwe						
Pyrites	(42%)	29	27	24	12	24
Recovered		* 5	* 5	* 5	* 5	* 5
Canada						
Pyrites	(45%)	14	5	9	—	—
Recovered (c)		895	783	627	678	875
Recovered (d)		6 183	5 614	5 231	5 726	5 331
Cuba						
Pyrites	(40%)	22	13	20	5	...
Mexico						
Frasch		1 700	1 652	1 391	1 225	1 383
Recovered (c)		* 115	* 100	* 100	* 100	* 100
Recovered (d)		402	426	425	377	443
Netherlands Antilles						
Recovered (d)		91	90	* 90	87	* 90
Trinidad & Tobago						
Recovered (d)		57	44	12	9	7
USA						
Frasch		6 390	6 348	4 210	3 202	4 193
Pyrites	(40%)	322	307	265	230	250
Recovered (c)		1 081	1 231	908	1 133	1 245
Recovered (d)		4 073	4 259	4 404	4 955	5 214
Bolivia (f)						
Sulphur ore		11	10	6	3	2
Brazil						
Recovered (c)(e)		70	58	73	125	141
Recovered (d)		58	42	70	65	71
Chile						
Recovered (c)		33	* 35	* 35	* 35	* 35
Sulphur ore (b)		87	115	105	99	54
Colombia						
Recovered (d)		2	2	2	3	3
Sulphur ore		26	26	33	31	30
Ecuador						
Recovered (d)		* 10	* 10	* 10	* 10	* 10
Sulphur ore		4	20	3	* 5	* 5
Venezuela						
Recovered (d)		* 85	* 85	84	82	120
Bahrain						
Recovered (d)		55	40	50	40	* 50



**Figure 18** World production of sulphur in all forms from 1950 to 1984 compared with the average annual US producer price for elemental sulphur f.o.b. plant expressed in constant 1982 US dollars.

Trend line analysis of the production data indicates a growth rate of approximately 5½% per annum over 35 years.

*Constant commodity prices derived from those quoted by USBM in Mineral Facts and Problems (1960 et seq.) using the CPI for the USA taken from International Financial Statistics Yearbook (1985).*

**Production of Sulphur and Pyrites**

thousand tonnes (sulphur content)

Country		1980	1981	1982	1983	1984
China						
Pyrites	(45%)	* 1 700	* 1 800	* 1 800	* 2 100	* 2 300
Recovered		* 300	* 300	* 300	* 300	* 200
Sulphur ore		* 200	* 200	* 200	* 200	* 150
Cyprus						
Pyrites	(44%)	30	7	26	21	10
India						
Pyrites	(37%)	31	27	21	19	15
Recovered (c)		* 115	* 92	* 100	* 110	* 115
Recovered (d)		5	4	5	4	5
Iran						
Recovered (d)		* 150	* 6	* 10	* 25	* 30
Sulphur ore		* 70	* 50	* 10	* 20	* 30
Iraq						
Frasch		600	145	400	400	600
Recovered (d)		* 40	* 40	* 40	* 40	* 70
Israel						
Recovered (d)		* 10	* 10	* 10	* 10	* 10
Japan						
Pyrites	(49%)	311	293	276	272	260
Recovered (c)(g)		1 300	1 236	1 268	* 1 239	1 172
Recovered (d)		1 173	1 080	1 051	1 075	1 140
Korea, Dem. P.R. of						
Pyrites	(40%)	* 250	* 255	* 200	* 200	* 200
Recovered (c)		* 30	* 30	* 30	* 30	* 30
Korea, Republic of						
Recovered (c)		* 54	* 54	* 54	* 54	* 54
Recovered (d)		* 36	* 36	* 36	* 36	* 36
Kuwait						
Recovered (d)		83	109	141	147	147
Pakistan						
Recovered		* 14	* 14	* 19	* 26	* 26
Philippines						
Pyrites	(46%)	53	45	30	29	30
Saudi Arabia						
Recovered (d)		700	900	900	782	1 055
Singapore						
Recovered (d)		20	10	* 10	* 10	* 10
Taiwan						
Recovered		8	10	20	27	29
Australia						
Recovered (c)		350	356	430	455	...
Recovered (d)		13	14	17	13	* 13
Total Frasch		14 700	13 700	11 700	10 600	12 000
Total Pyrites		10 200	10 200	9 700	9 500	9 800
Total Recovered		27 400	26 800	26 400	27 500	28 200
Total Sulphur ore		2 500	2 500	2 300	2 200	2 100
World total (all forms)		54 800	53 200	50 100	49 800	52 100

Note: Pyrites: nominal sulphur content is shown in parentheses

(a) 'Spent Oxide'

(b) Includes 'caliche' at 45% S content

(c) From smelter gases

(d) From petroleum refining and/or natural gas

(e) Other

(f) Exports

(g) Includes S content of 'sulphur ore'

## Exports of Sulphur and Pyrites

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Sulphur—					
Crude	1 116	1 095	1 201	1 685	3 025
Sublimed & precipitated	133	128	295	177	247
Belgium-Luxembourg					
Pyrites	32	193	1 223	1 051	73
Sulphur—					
Crude	14 032	9 129	7 136	7 479	8 787
Sublimed & precipitated	148	87	117	79	79
Denmark					
Sulphur	51	222	80	3 429	3 368
France					
Sulphur—					
Crude	1 099 266	889 321	685 985	677 396	717 405
Refined	378	309	1 789	1 524	1 813
Sublimed	2 210	2 000	2 192	2 494	5 908
Precipitated	124	115	78	109	53
Germany, Federal Republic of					
Pyrites	968	2 089	2 031	1 041	1 302
Sulphur—					
Crude	394 400	448 041	602 559	461 821	509 636
Sublimed & precipitated	952	454	280	314	450
Greece					
Sulphur	2 036	5 758	442	4 884	10 187
Italy					
Pyrites	3 797	30 521	3 733	3 626	5 005
Sulphur—					
Crude	3 817	3 073	4 967	7 299	4 714
Sublimed & precipitated	48	195	152	65	82
Netherlands					
Sulphur—					
Crude	16 002	13 689	13 650	15 100	26 415
Sublimed & precipitated	36	6	1	20	3
Albania					
Pyrites (c)	* 22 900	* 31 600	* 34 600	* 59 500	* 41 500
Finland					
Pyrites	—	69 538	69 387	157 180	(c)* 110 800
Norway					
Pyrites	190 107	210 459	171 883	186 867	167 974
Sulphur	1 842	4 405	2 753	7 525	4 307
Poland					
Sulphur	3 903 000	3 817 000	3 973 000	4 034 000	4 078 000
Portugal					
Sulphur	82	120	60	48	11
Soviet Union					
Pyrites	911 000	536 000	359 000	362 000	273 000
Sulphur (c)	* 60 300	* 55 400	* 25 500	* 37 200	* 33 900
Spain					
Pyrites—					
Iron	234 477	378 678	347 438	347 656	386 089
Cupreous	410	—	—	—	...
Sulphur—					
Crude	6 264	2 143	1 476	1 285	1 107
Sublimed & precipitated	6 993	10 486	5 026	2 508	136
Sweden					
Pyrites	84 705	60 571	31 177	97	13 452
Sulphur	29 513	22 888	1 310	1 641	1 588
Switzerland					
Sulphur—					
Crude	20	19	8 249	6 260	8 151
Sublimed & precipitated	10	8	5	3	3
Yugoslavia					
Pyrites	67 942	14 428	20 954	95 764	...
Sulphur	1 138	2 039	...	...	...

## Exports of Sulphur and Pyrites

tonnes

Country	1980	1981	1982	1983	1984
South Africa					
Sulphur	51 028	69 646	34 133	14 203	13 781
Zimbabwe					
Pyrites	9 345	6 122	—	—	...
Canada					
Pyrites	£135 000	£56 000	£111 000	£41 000	£25 000
Sulphur	6 850 566	7 309 309	6 111 606	5 670 813	7 327 177
Mexico					
Sulphur	1 150 402	1 199 879	889 536	997 321	841 000
Netherlands Antilles					
Sulphur	66 361	...	...	87 471	...
USA					
Sulphur	1 681 189	1 392 169	993 992	994 754	1 348 404
Bolivia					
Sulphur	11 244	10 202	5 914	3 010	...
Colombia					
Sulphur	2 400	1 704	5 858	1 869	...
Venezuela					
Sulphur	8 645	...	...	...	...
Cyprus					
Pyrites	89 441	35 670	1 099	11 031	31 044
India					
Sulphur	491	35	...	...	...
Iran (a)					
Sulphur	* 50 000	(c)* 58 400	...	...	...
Japan					
Sulphur—					
Crude	364 268	231 326	299 451	239 025	274 095
Sublimed & precipitated	1 029	174	200	371	358
Korea, Republic of					
Sulphur	1 603	880	1 978	2 238	2 456
Kuwait					
Sulphur	240 380	127 285	90 335	...	...
Singapore					
Sulphur—					
Crude	3 130	9 006	12 999	28 997	24 269
Sublimed & precipitated	17 451	20 060	8 126	8 570	14 743
Taiwan					
Sulphur—					
Crude	1 310	817	1 553	1 728	2 783
Sublimed & precipitated	631	444	430	105	219
Australia					
Zinc concentrates (b)	134 100	118 000	145 700	...	...

(a) Years ended 20 March following that stated

(b) Recoverable sulphur

(c) BGS estimates, based on known imports into certain countries

## Imports of Sulphur and Pyrites

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Pyrites	)	13 273	15 690	21 961	19 638
Sulphur—	) 1 140 428				
Crude	)	886 018	849 549	842 801	810 963
Sublimed & precipitated	475	636	842	457	418
Belgium-Luxembourg					
Pyrites	189 433	207 379	235 540	276 252	286 067
Sulphur—					
Crude	481 737	444 699	358 718	399 067	535 236
Sublimed & precipitated	1 353	1 936	1 071	1 505	982
Denmark					
Pyrites	19	581	25	112	74
Sulphur—					
Crude	79 665	73 069	63 585	60 906	63 460
Sublimed & precipitated	114	119	143	103	76
France					
Pyrites	732	775	1 429	1 028	1 553
Sulphur—					
Crude	630 971	552 694	458 442	537 557	552 170
Refined	2 006	430	900	430	1 004
Sublimed & precipitated	586	254	111	68	178
Germany, Federal Republic of					
Pyrites	132 716	57 735	71 472	80 190	149 274
Sulphur—					
Crude	360 317	277 808	287 861	327 349	328 090
Sublimed & precipitated	661	507	635	891	929
Greece					
Pyrites	69 977	46 582	112 799	67 452	76 044
Sulphur—					
Crude	41 186	61 888	142 251	43 294	82 617
Sublimed & precipitated	48	102	58	59	48
Irish Republic					
Sulphur—					
Crude	528	473	443	493	271
Sublimed & precipitated	120	89	178	90	47
Italy					
Pyrites	291 010	252 991	109 155	262 813	186 607
Sulphur—					
Crude	609 564	476 015	375 588	464 907	376 160
Sublimed & precipitated	1 297	1 010	1 238	961	1 364
Netherlands					
Pyrites	153	164	163	223	311
Sulphur—					
Crude	467 883	456 933	383 418	299 006	373 997
Sublimed & precipitated	215	165	328	280	396
Austria					
Pyrites	3 834	582	650	804	775
Sulphur—					
Crude	124 693	102 818	84 658	93 489	113 304
Sublimed & precipitated	117	28	96	248	53
Bulgaria					
Pyrites (a)	* 289 700	* 295 600	* 257 000	* 262 000	* 249 000
Sulphur (a)	* 59 000	* 95 100	* 74 900	* 60 000	* 68 000
Czechoslovakia					
Sulphur	485 000	537 000	503 000	525 000	469 000
Finland					
Sulphur—					
Crude	58 357	52 824	68 825	54 460	84 902
Sublimed & precipitated	16	19	12	19	10
German Democratic Republic					
Pyrites	* 100	...	* 8 700	...	...
Sulphur (a)	* 179 400	* 167 000	* 166 000	* 157 600	* 135 000
Hungary					
Pyrites	89 676	89 237	49 575	80 067	4 174
Sulphur	250 960	183 164	163 701	174 692	168 066
Malta					
Sulphur	170	93	220	217	127

## Imports of Sulphur and Pyrites

tonnes

Country	1980	1981	1982	1983	1984
Norway					
Sulphur—					
Crude	2 853	3 002	2 570	3 886	5 599
Sublimed & precipitated	17	27	12	16	420
Portugal					
Sulphur	94 028	117 876	113 481	28 694	18 473
Romania					
Pyrites	* 144 200	...	...	...	...
Sulphur (a)	* 81 400	* 396 300	* 295 900	* 146 300	* 203 100
Soviet Union					
Sulphur (a)	* 742 000	* 947 800	* 1 047 100	* 998 100	* 1 052 300
Spain					
Sulphur—					
Crude	94 116	112 949	91 331	63 818	46 595
Sublimed & precipitated	265	537	530	620	463
Sweden					
Pyrites	79 938	21 588	85	168	14 749
Sulphur—					
Crude	41 423	23 250	8 645	4 919	14 995
Sublimed & precipitated	1 138	4 515	2 012	5 962	9 525
Switzerland					
Pyrites	10 556	4 924	118	156	154
Sulphur—					
Crude	48 188	29 735	36 391	39 336	46 043
Sublimed & precipitated	231	188	127	198	138
Turkey					
Pyrites	—	117 695	70 427	89 995	166 070
Sulphur—					
Crude	41 048	91 289	114 696	76 868	20 998
Sublimed & precipitated	42	121	90	140	4 844
Yugoslavia					
Pyrites	68 413	49 232	11 750	...	...
Sulphur—					
Crude	11 700	12 222	16 718	73 145	...
Refined	44 718	47 353	52 340	48 434	...
Sublimed & precipitated	506	479	740	1 868	...
Algeria					
Sulphur—					
Crude	52 117	13 098	40 668	73 796	...
Sublimed & precipitated	6 990	8 535	7 003	2 507	...
Egypt					
Pyrites	—	55 155	36 500	48 694	...
Sulphur	70 595	59 428	56 276	141 934	...
Ethiopia					
Sulphur	—	1 159	483	1 820	...
Gabon					
Sulphur	1 857	4 937	7 849	9 157	...
Ivory Coast					
Sulphur	2 474	7 797	4 023	...	...
Kenya					
Sulphur—					
Crude	6 901	1 500	538	6 019	...
Sublimed & precipitated	516	1 374	350	415	...
Morocco					
Sulphur	702 386	810 435	1 026 751	1 349 554	1 418 685
Nigeria					
Sulphur	...	1 368	2 905	...	...
Senegal					
Sulphur	14 293	20 581	13 050	14 396	...
South Africa					
Pyrites	10 772	5 090	171	108	70
Sulphur—					
Crude	913 609	764 885	590 201	383 414	597 132
Sublimed & precipitated	2 431	2 177	137	111	223
Tanzania					
Sulphur	12 146	83	...	...	...
Tunisia					
Sulphur	678 489	836 700	963 980	978 900	997 536



## Imports of Sulphur and Pyrites

tonnes

Country	1980	1981	1982	1983	1984
Zaire					
Sulphur	43 403	3 873	12 444	19 349	2 815
Zimbabwe					
Sulphur	15 705	25 529	24 454	28 654	...
Canada					
Sulphur	1 767	4 633	2 159	2 365	3 019
Cuba					
Sulphur	148 514	167 664	169 353	184 618	...
El Salvador					
Sulphur	—	0	17	2 481	...
Guatemala					
Sulphur	14 267	416	709	62	...
Jamaica					
Sulphur —					
Crude	5 516	8 542	24	19	34
Sublimed & precipitated	5 251	108	301	2 962	3 002
Mexico					
Sulphur —					
Crude	761	20 799	542	322	...
Sublimed & precipitated	329	378	364	178	...
Nicaragua					
Sulphur	487	397	709	...	...
Trinidad & Tobago					
Sulphur	3 058	39	52	3 062	56
USA					
Pyrites	32 977	11 343	20 539	870	13 040
Sulphur	2 520 944	2 522 000	1 905 188	1 694 919	2 557 429
Argentina					
Sulphur	55 330	75 960	81 020	...	...
Brazil					
Sulphur —					
Crude	939 092	817 072	882 540	953 789	1 174 132
Sublimed & precipitated	657	472	479	538	499
Chile					
Sulphur	120 258	97 960	...	...	...
Colombia					
Sulphur —					
Crude	46 662	21 907	31 783	26 377	...
Sublimed & precipitated	83	130	136	85	...
Peru					
Sulphur	9 926	8 672	920	3 802	...
Suriname					
Sulphur	1 664	1 265	1 516	...	...
Uruguay					
Sulphur	18 114	11 651	6 315	5 872	13 561
Venezuela					
Sulphur —					
Crude	139	155	168	...	...
Sublimed & precipitated	...	...	29	...	...
China					
Sulphur	(a)* 347 200	260 534	337 698	357 082	286 811
Cyprus					
Sulphur	2 857	1 583	1 901	3 140	2 513
Hong Kong					
Sulphur —					
Crude	1 104	1 218	1 189	696	644
Sublimed	109	1	13	273	308
India					
Sulphur —					
Crude	677 685	620 105	...	...	...
Sublimed	2 355	139	...	...	...
Indonesia					
Sulphur —					
Crude	2 623	10 399	3 413	3 121	1 975
Sublimed & precipitated	50 609	89 527	82 805	102 564	212 487
Iran (c)					
Sulphur	359	243	210	420	...

## Imports of Sulphur and Pyrites

tonnes

Country	1980	1981	1982	1983	1984
Israel					
Sulphur	37 053	135 425	137 341	164 358	203 581
Japan					
Sulphur	818	467	5	7	4
Jordan					
Sulphur—					
Crude	1 144	990	31 595	113 148	126 426
Sublimed & precipitated	334	948	27 409	42 494	102 469
Korea, Republic of					
Sulphur—					
Crude	519 184	386 430	440 660	448 076	567 836
Sublimed & precipitated	343	321	368	706	1 292
Malaysia					
Sulphur—					
Crude	10 257	6 737	4 888	5 907	...
Sublimed & precipitated	5 430	7 036	6 237	7 512	...
Pakistan (b)					
Sulphur	22 366	20 857	29 458	25 605	11 483
Philippines					
Sulphur—					
Crude	4 808	497	1 564	1 719	917
Sublimed & precipitated	23 820	19 007	22 615	17 884	16 245
Singapore					
Sulphur—					
Crude	245	219	57	69	84
Sublimed & precipitated	596	3 273	262	159	281
Sri Lanka					
Sulphur—					
Crude	431	125	433	405	707
Sublimed & precipitated	642	335	115	163	508
Syria					
Sulphur—					
Crude	12 778	25 623	41	46 427	17 477
Sublimed & precipitated	55	97	40	220	1 357
Taiwan					
Sulphur—					
Crude	122 737	75 887	25 358	48 380	63 374
Sublimed & precipitated	250 497	264 015	156 287	205 885	243 935
Thailand					
Sulphur—					
Crude	37 750	12 333	18 745	27 409	39 941
Refined	1 964	12 195	12 997	3 581	1 439
Sublimed & precipitated	284	193	201	257	288
Australia					
Sulphur	686 857	555 517	459 934	392 581	470 795
New Zealand (b)					
Sulphur—					
Crude	249 187	247 597	179 494	209 962	207 380
Sublimed & precipitated	325	235	194	291	282

(a) BGS estimates, based on known exports from certain countries

(b) Years ended 30 June of that stated

(c) Years ended 20 March following that stated

## Production of Talc

Country	1980	1981	1982	1983	1984
United Kingdom	17 297	18 312	19 000	16 000	19 413
France	305 000	313 000	313 000	316 000	293 400
Germany, Federal Republic of	15 499	15 400	14 300	14 300	17 300
Greece	2 529	2 697	2 166	1 666	1 712
Italy	165 905	163 708	163 973	158 976	142 727
Austria	116 708	116 425	117 092	122 128	134 011
Finland	302 167	307 915	325 298	318 430	327 472
Hungary	3 492	4 409	3 328	2 440	3 223
Norway	87 635	86 376	* 85 000	* 87 000	...
Portugal	3 756	3 512	4 940	7 325	6 203
Romania	* 60 000	* 60 000	* 60 000	* 60 000	* 60 000
Soviet Union	* 490 000	* 500 000	* 510 000	* 510 000	* 520 000
Spain	73 949	69 068	62 686	* 64 000	...
Sweden	15 856	15 581	17 753	* 15 000	...
Egypt	4 007	5 723	8 291	4 519	12 213
South Africa					
Talc	9 466	9 464	9 743	7 617	10 561
Wonderstone (pyrophyllite)	4 900	5 662	4 070	3 575	3 851
Zambia	—	921	271	1 313	367
Zimbabwe	456	386	270	552	285
Canada	91 848	82 715	70 523	97 030	125 650
Mexico	10 088	13 733	12 270	15 092	...
USA					
Talc	1 022 000	1 121 000	952 000	889 000	) 1 061 000
Pyrophyllite	103 000	97 000	79 000	79 000	)
Argentina					
Talc	24 575	33 741	24 716	23 379	...
Pyrophyllite	5 226	1 026	2 687	4 925	...
Steatite	2 930	1 452	1 490	1 387	...
Brazil					
Talc (b)	338 450	325 191	308 644	326 145	...
Pyrophyllite (b)	74 606	178 464	76 624	42 967	...
Chile	1 139	665	283	637	422
Colombia	5 900	6 050	6 240	6 639	...
Paraguay	250	150	150	160	...
Peru	8 595	* 9 100	* 8 600	* 8 600	...
Uruguay	2 206	1 589	1 145	* 1 200	...
Burma (a)	219	146	165	128	128
China	* 915 000	* 900 000	* 900 000	* 900 000	* 900 000
India					
Steatite	349 000	355 000	327 533	276 448	340 000
Pyrophyllite	35 077	41 681	43 602	59 042	...
Japan					
Talc	147 916	119 931	105 759	87 692	) * 1 100 000
Pyrophyllite	1 126 359	1 025 721	977 306	986 294	)
Korea, Dem. P.R. of	* 170 000	* 170 000	* 170 000	* 170 000	* 170 000
Korea, Republic of					
Talc	204 662	169 401	124 793	171 214	192 208
Pyrophyllite	514 511	395 216	466 324	460 922	656 442
Pakistan	29 613	24 997	20 498	15 960	15 356
Philippines	863	446	1 008	878	401
Taiwan	9 911	24 774	30 661	27 053	18 680
Thailand	11 726	12 035	21 998	20 148	28 479
Australia					
Talc	159 962	74 840	143 325	167 009	...
Pyrophyllite	11 002	8 146	9 467	9 569	...
World total	7 100 000	6 900 000	6 600 000	6 600 000	7 000 000

(a) Years ended 31 March following that stated

(b) Includes beneficiated and directly shipped material

Talc

## Exports of Talc

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	5 806	6 902	3 572	4 270	3 583
Belgium-Luxembourg	23 332	28 267	24 184	27 510	38 566
France	81 332	73 897	75 785	82 480	94 011
Germany, Federal Republic of	6 138	3 772	4 158	4 663	5 657
Greece	...	525	105	566	174
Italy	54 014	52 180	46 082	49 546	41 863
Netherlands	8 011	14 902	13 926	17 551	10 791
Austria	97 760	110 322	98 656	104 252	114 085
Czechoslovakia	7 000	(a)* 6 400	(a)* 6 800	(a)* 6 200	(a)* 7 100
Finland	54 044	60 314	53 099	42 912	47 904
Norway	55 729	53 203	50 032	50 693	48 830
Spain	11 357	7 439	9 165	28 484	33 124
Sweden	5 850	6 378	8 393	13 768	14 619
Switzerland	97	152	113	137	126
Turkey	1 692	1 401	987	677	1 202
Yugoslavia	810	630	905	942	...
Egypt	580	660	493	660	...
USA	274 946	282 330	210 109	197 689	232 670
Brazil	495	498	175	1 295	3 141
China	(a)* 384 000	386 045	521 166	534 378	513 446
Hong Kong (Re-exports)	5 302	7 663	11 852	14 121	13 881
India	7 000	8 323	...	...	...
Japan	1 691	1 923	2 032	4 058	4 838
Jordan	1 055	1 508	5 347	2 889	5 222
Korea, Dem. P. R. of (a)	* 45 200	* 30 500	* 40 100	* 28 900	* 34 500
Korea, Republic of	53 478	50 444	41 836	45 898	40 650
Singapore	554	1 222	909	981	536
of which: Re-exports	549	1 142	902	947	522
Taiwan	1 043	1 706	1 114	1 823	1 007
Thailand	3 050	2 384	3 511	5 153	8 343
Australia	83 059	82 641	80 512	131 896	...

(a) BGS estimates, based on known imports into certain countries

## Imports of Talc

Country	1980	1981	1982	1983	1984
United Kingdom	62 367	55 838	58 508	59 847	67 615
Belgium-Luxembourg	52 903	45 491	58 750	34 390	35 610
Denmark	7 991	8 958	7 427	8 465	9 605
France	20 514	20 811	18 908	23 217	20 976
Germany, Federal Republic of	130 765	122 478	121 699	141 789	143 494
Greece	2 265	1 595	1 607	1 738	2 066
Irish Republic	2 569	2 492	2 538	2 725	2 414
Italy	24 066	25 810	20 479	22 943	26 066
Netherlands	32 827	37 771	39 015	45 455	37 751
Albania (d)	* 1 900	* 1 100	* 1 500	* 900	* 900
Austria	2 118	1 674	2 623	1 729	3 609
Finland	805	573	682	671	5 515
Hungary	5 572	4 162	4 828	4 201	6 168
Norway	6 878	5 608	4 549	5 675	8 127
Poland	23 180	12 818	15 226	16 662	25 646
Portugal	3 670	4 098	5 139	4 773	5 808
Soviet Union (d)	* 3 400	* 12 900	* 11 000	* 2 500	* 2 000
Spain	15 163	10 300	9 124	9 391	9 366
Sweden	36 717	34 852	26 133	22 315	22 945
Switzerland	12 951	13 255	12 684	11 991	13 368
Turkey	115	248	227	321	585
Yugoslavia	5 121	3 642	3 616	4 037	...
Algeria	1 428	2 439	1 302	1 532	...
Cameroon	387	...	...	...	...
Egypt	140	526	2 523	1 345	...
Ivory Coast	1 405	1 375	...	...	...
Kenya	2 986	4 539	3 292	3 266	...
Libya	823	5 554	613	...	...
Morocco	917	822	974	1 209	1 552
Senegal	115	152	—	—	—
South Africa	2 412	2 676	2 503	2 556	...
Tunisia	1 875	1 928	1 472	...	1 536
Zaire	391	52	72	51	233
Canada	50 774	30 322	34 521	35 390	38 816
Costa Rica	991	708	667	969	913
Dominican Republic	827	770	1 217	...	...
El Salvador	175	202	297	390	...
Guatemala	475	425	402	37	...
Honduras	134	229	...	...	...
Jamaica	210	286	287	505	390
Mexico					
Pyrophyllite	172	285	142	1	...
Other	150 138	163 970	93 534	71 936	...
Nicaragua	188	323	127	...	...
Panama	554	551	176	233	241
Trinidad & Tobago	618	1 034	592	2 413	1 172
USA	18 687	24 497	24 044	39 912	40 800
Argentina	510	391	337	...	...
Brazil	117	86	35	36	18
Colombia	2 377	2 128	2 732	2 193	...
Ecuador	556	346	590	...	...
Peru	551	783	715	427	...
Venezuela	8 379	8 034	9 437	...	...
Cyprus	790	144	270	412	428
Hong Kong	7 488	9 607	12 807	15 526	15 258
Indonesia	10 977	12 880	17 338	20 304	17 292
Iran (a)	407	606	16	79	...
Israel (c)	711	1 455	...	(d)* 1 250	(d)* 850
Japan	501 086	441 604	584 281	615 182	619 260
Korea, Republic of	267	1 789	12 486	5 225	20 981
Malaysia	6 085	7 613	5 073	6 551	...
Pakistan (b)	39 049	870	1 955	23 135	56 447

Talc

## Imports of Talc

tonnes

Country	1980	1981	1982	1983	1984
Philippines	8 098	9 779	8 666	9 709	5 011
Saudi Arabia	702	954	927	1 876	5 379
Singapore	5 143	9 000	7 659	8 119	8 382
Sri Lanka	1 215	1 069	1 297	703	1 310
Syria	2 191	3 602	1 119	3 130	442
Taiwan	4 775	4 694	6 356	6 662	9 915
Thailand	11 775	13 409	13 931	19 160	17 474
Australia	382	329	253	147	...
New Zealand (b)	3 161	2 047	3 523	5 826	2 806

(a) Years ended 20 March following that stated

(b) Years ended 30 June of that stated

(c) Figures may be incomplete as value only given in Israeli trade return for imports from some countries

(d) BGS estimates, based on known exports from certain countries

## Production of Tantalum and Niobium (Columbium) Minerals

tonnes

Country		1980	1981	1982	1983	1984
Portugal						
Columbite-tantalite	(25%, 25%)	4	9	6	3	* 3
Spain						
Tantalite	( — , 25%)	51	58	54	47	31
Mozambique						
Tantalite	(10%, 45%)	26	34	22	14	7
Microlite	( 5%, 50%)	25	43	29	23	10
Nigeria						
Columbite	(43%, 6%)	555	380	169	80	120
Tantalite	(30%, 30%)	1	1	—	—	—
Rwanda						
Columbite-tantalite	(30%, 23%)	60	57	62	50	52
Zaire						
Columbite-tantalite	(27%, 27%)	102	80	53	51	* 50
Zimbabwe						
Columbite-tantalite	(11%, 28%)	41	45	36	35	59
Canada						
Pyrochlore	(43%, — )	4 105	4 568	4 748	2 685	3 846
Tantalite	( 3%, 44%)	214	193	109	—	—
Brazil						
Pyrochlore	(42%, — )	30 700	29 886	19 593	16 828	25 000
Columbite-tantalite	(20%, 30%)	538	299	201	264	234
Djalmaite	( 1%, 50%)	18	13	4	7	* 10
Malaysia						
Columbite	(40%, 14%)	33	23	8	67	50
Struverite	( — , 10%)	—	—	—	—	99
Thailand						
Columbite	(27%, 16%)	213	) 49	39	549	477
Tantalite	(20%, 30%)	143	)	10	275	30
Struverite	( — , 6%)	301	44	10	275	30
Australia						
Columbite-tantalite	(20%, 33%)	202	264	166	117	* 200
World total concentrates		37 000	36 000	25 000	21 000	30 000
Nb content		* 15 000	* 15 000	* 10 500	* 8 500	* 12 500
Ta content		* 600	* 400	* 300	* 400	* 300

## Notes:

- 1 Niobium and tantalum minerals are believed to have been produced also in the Soviet Union and China, and minor quantities in Argentina, Burundi, Namibia and Zambia
- 2 The figures in this table refer to gross tonnage of tantalum and niobium concentrates. Estimated average niobium and tantalum contents of these are given in the form (Nb%, Ta%) for each country and each mineral, relating where possible to the later years
- 3 Niobium and tantalum are also recovered from tin slags. This source is particularly important in the case of tantalum and in recent years is believed to have accounted for over 60% of all tantalum recovered. No detailed information on the production of tantalum bearing tin slags is available but the major producers are Thailand and Malaysia, with small amounts from Australia, Brazil, Nigeria, Portugal, South Africa and Zaire

**Exports of Tantalum and Niobium**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Tantalum	34	28	9	29	18
France					
Tantalum	20	22	23	12	10
Germany, Federal Republic of					
Niobium & tantalum ores (a)	2 211	1 862	1 424	1 328	1 347
Tantalum	97	42	76	87	112
Niobium	90	50	45	97	93
Italy					
Tantalum	16	7	54	13	1
Netherlands					
Niobium & tantalum ores	—	—	243	29	74
Tantalum	182	4	4	9	1
Austria					
Tantalum	10	9	10	12	12
Nigeria					
Columbite	...	581	62	...	...
Rwanda					
Columbite-tantalite	76	...	...	...	...
Zaire					
Columbite-tantalite	9	* 70	* 80	...	...
Canada					
Niobium & tantalum ores & concentrates	* 3 100	* 3 700	* 4 200	* 2 700	* 4 500
USA					
Tantalum ores & concentrates	212	45	110	55	71
Tantalum	362	208	238	155	228
Niobium	* 55	* 70	* 45	* 45	* 45
Brazil					
Pyrochlore	2 430	—	—	—	—
Columbite-tantalite	456	290	166	115	233
Japan					
Tantalum	40	27	9	9	10
Malaysia					
Columbite & tantalite	41	64	29	99	...
Tin slags	25 648	16 090	12 696	3 801	...
Singapore					
Tantalum ores & concentrates	187	123	58	29	20
of which: Re-exports	187	123	28	29	20
Tin slags	6 678	2 326	1 244	1 856	781
of which: Re-exports	6 164	2 111	970	1 422	489
Taiwan					
Tantalum	75	453	11	84	22
Thailand					
Columbite & tantalite	496	134	93	125	274
Tin slags	3 306	2 043	2 444	1 577	1 516
Australia					
Tantalite-columbite	373	158	183	226	...

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Figure for 1980 includes vanadium ore, but this is thought to be negligible



## Imports of Tantalum and Niobium

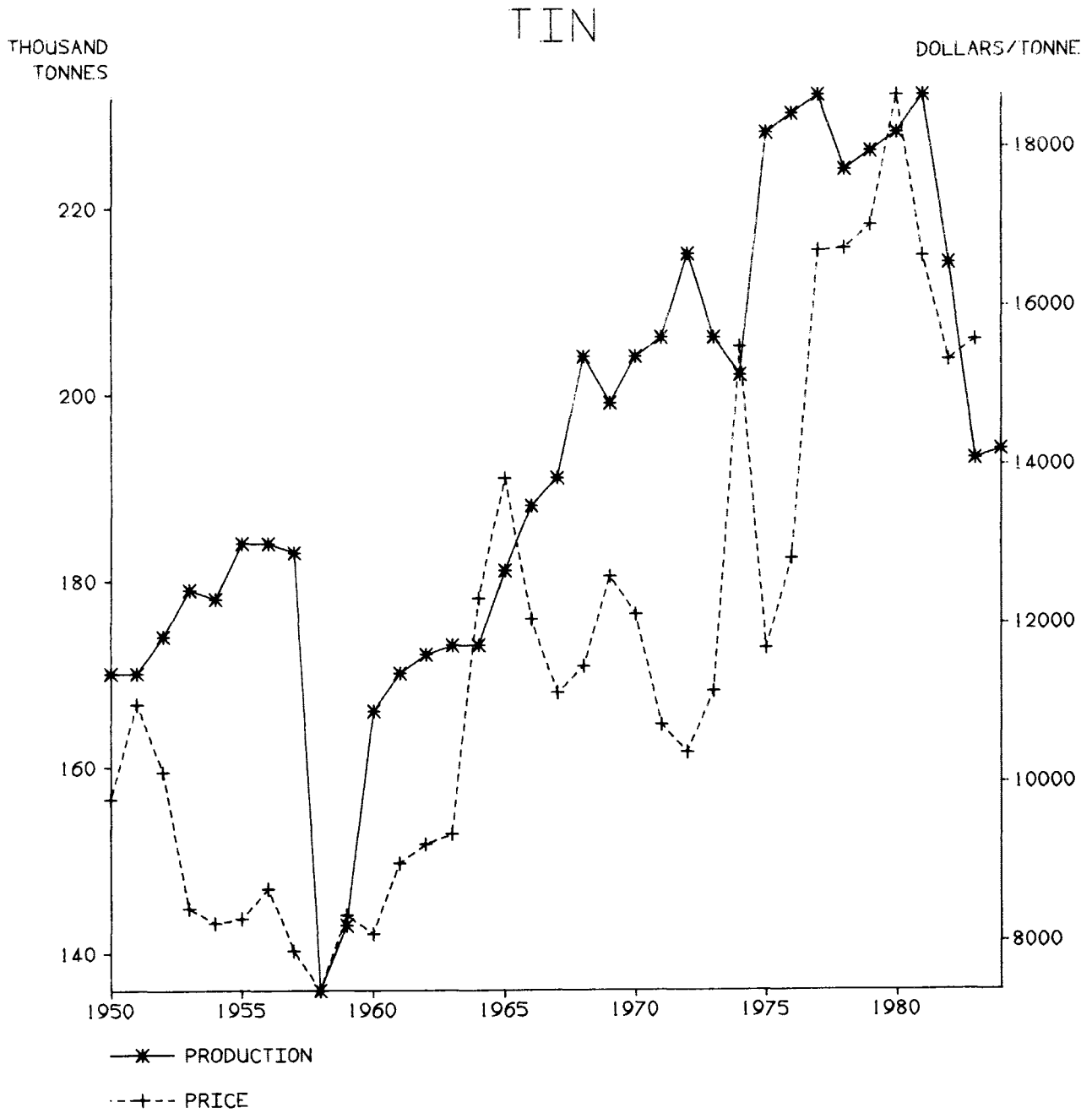
tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Niobium & tantalum ores & concentrates (a)	131	11	—	—	—
Tantalum	59	36	31	51	53
Niobium	23	13	12	18	12
Belgium-Luxembourg					
Niobium & tantalum ores (a)	2 537	2 679	1 685	997	1 378
Tantalum	—	—	—	17	43
Niobium	3	6	3	1	1
France					
Tantalum	34	33	55	31	48
Niobium	3	3	20	26	37
Germany, Federal Republic of					
Niobium & tantalum ores (a)	1 341	553	185	370	641
Tantalum	255	115	102	125	157
Niobium	23	32	24	41	31
Italy					
Tantalum	7	2	2	2	4
Niobium	1	1	1	3	64
Netherlands					
Niobium & tantalum ores	—	26	193	5	29
Tantalum	2	3	1	0	2
Austria					
Tantalum	37	19	29	12	29
USA					
Tantalum concentrates	1 139	836	588	231	997
Niobium concentrates	2 197	903	413	657	1 479
Tantalum	118	68	76	68	104
Niobium	54	4	7	2	* 5
Tin slags (b) —					
Ta content	602	406	261	...	...
Nb content	643	382	288	...	...
Japan					
Niobium minerals	1 764	1 367	2 050	740	2 042
Tantalum ores & concentrates	309	38	20	121	275
Tantalum	47	26	32	48	75
Malaysia					
Tantalum	0	46	—	1	...
Singapore					
Tantalum ores & concentrates	208	307	147	162	112
Tin slags	12 360	9 343	10 083	2 762	9 261

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) Figure for 1980 includes vanadium ore, but this is thought to be negligible

(b) Ta and Nb content is approximately 10% and 7%, respectively, of gross weight



**Figure 19** World mine production of tin from 1950 to 1984 compared with the yearly average price on the New York Market of Straits pig ex-dock major US port expressed in constant 1980 US dollars.  
*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*

## Mine Production of Tin

tonnes (metal content)

Country	1980	1981	1982	1983	1984
United Kingdom	3 291	3 729	4 208	4 000	5 216
Czechoslovakia	215	300	200	200	200
German Democratic Republic	* 1 800	* 1 600	* 1 800	* 2 000	* 2 500
Portugal	292	356	411	375	321
Soviet Union	* 16 000	* 16 000	* 16 000	* 17 000	* 17 000
Spain	437	564	518	444	438
Cameroon	* 24	* 24	* 24	* 24	* 24
Namibia	* 1 000	* 800	* 800	* 800	* 800
Niger	78	71	52	* 50	* 85
Nigeria	2 664	2 416	1 822	1 560	1 320
Rwanda	2 869	1 788	1 655	1 526	1 561
South Africa	2 913	2 811	3 035	2 668	2 301
Uganda	67	12	35	25	* 30
Zaire	2 184	2 452	2 331	2 602	2 410
Zimbabwe	934	1 157	1 196	1 234	1 210
Canada (a)	243	239	135	140	217
Mexico	60	28	27	50	64
USA	* 100	* 100	* 100	* 100	* 100
Argentina	351	413	342	291	* 300
Bolivia	27 271	29 780	26 773	25 278	19 911
Brazil	6 930	8 297	8 218	13 275	19 957
Peru (b)	1 077	1 519	1 672	2 368	2 991
Burma	1 295	1 438	1 681	1 642	2 029
China	* 16 000	* 16 000	* 16 000	* 17 000	* 16 000
Indonesia	32 527	35 391	33 806	26 553	23 225
Japan	549	562	539	545	500
Laos	* 290	* 200	* 225	* 265	* 315
Malaysia	61 404	59 938	52 342	41 367	41 307
Thailand	33 685	31 474	26 109	19 942	21 960
Australia	11 588	12 267	12 126	(c) 9 275	(c)* 9 300
World total	228 000	232 000	214 000	193 000	194 000

(a) Sn in concentrates exported and in tin-lead alloys produced

(b) Recoverable

(c) Excludes content of copper-tin concentrate

Tin

**Smelter Production of Tin**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	5 829	6 863	8 164	6 467	6 830
Belgium	2 822	65	—	—	—
Germany, Federal Republic of	638	562	—	—	—
Netherlands	* 1 148	* 3 500	2 757	5 398	6 517
Czechoslovakia	215	289	295	307	425
German Democratic Republic	* 1 800	* 2 000	* 2 200	* 2 600	* 3 000
Portugal	495	400	403	443	405
Soviet Union	* 17 000	* 16 000	* 17 000	* 18 500	* 18 500
Spain	3 369	3 100	2 700	3 500	2 900
Nigeria	2 684	2 489	1 808	1 244	1 253
South Africa	1 100	2 056	2 884	2 685	* 2 400
Zaire	216	450	353	201	121
Zimbabwe	934	1 157	1 197	1 235	1 209
Mexico	1 382	866	971	1 266	1 500
USA	3 000	2 000	3 500	2 500	4 000
Argentina	* 200	* 200	* 200	* 200	* 200
Bolivia (a)	17 533	19 937	18 980	14 164	15 842
Brazil	8 796	7 789	9 298	12 741	18 877
Burma	—	—	500	500	700
China	* 16 000	* 16 000	* 16 000	* 16 000	* 17 000
Indonesia	30 465	32 429	29 755	28 390	22 493
Japan	1 319	1 313	1 296	1 260	1 353
Korea, Republic of	400	200	—	400	1 200
Malaysia	71 318	70 326	62 836	53 338	44 416
Singapore	4 000	4 000	4 000	1 800	3 500
Thailand	34 689	32 636	25 479	18 467	19 729
Vietnam	—	—	* 475	* 520	* 500
Australia	4 819	4 286	3 105	2 913	2 899
World total	232 000	231 000	216 000	197 000	198 000

(a) Refined, including alloys

# Exports of Tin

Tin  
tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Concentrates	3 038	4 306	1 866	1 601	3 092
Unwrought	7 050	6 264	5 417	993	11 073
Unwrought alloys	1 184	1 436	1 193	907	1 993
Scrap	112	143	356	373	932
Belgium-Luxembourg					
Unwrought	2 834	781	306	219	339
Unwrought alloys	120	44	106	941	1 309
Scrap	208	102	86	107	50
Denmark					
Unwrought	13	17	133	661	964
Unwrought alloys	496	393	540	530	857
Scrap	244	0	21	7	67
France					
Concentrates	8	35	19	27	7
Unwrought	244	722	243	317	218
Unwrought alloys	399	124	192	26	51
Scrap	915	655	472	328	287
Germany, Federal Republic of					
Unwrought	2 706	3 659	2 179	1 562	1 457
Unwrought alloys	535	1 126	1 846	2 794	2 781
Scrap	107	106	133	230	144
Irish Republic					
Scrap	285	163	192	858	1 374
Italy					
Unwrought (a)	282	112	345	461	141
Scrap	35	121	51	57	94
Netherlands					
Concentrates	—	—	—	344	324
Unwrought	1 101	2 081	593	2 400	3 038
Unwrought alloys	844	867	863	1 011	1 116
Scrap	361	258	440	177	225
Austria					
Unwrought	19	17	20	49	56
Czechoslovakia					
Concentrates	106	47	* 150	* 140	...
Norway					
Scrap	52	50	51	52	30
Spain					
Unwrought	135	2	9	20	) 400
Unwrought alloys	94	245	74	74	)
Scrap	65	91	53	122	99
Sweden					
Unwrought	57	95	42	32	39
Unwrought alloys	1	67	13	24	25
Switzerland					
Unwrought	186	158	218	196	179
Scrap	117	72	110	76	43
Yugoslavia					
Unwrought (a)	49	56	18	3	...
Niger					
Concentrates (b)	61	54	36	* 15	...
Nigeria					
Unwrought (a)	* 2 700	1 746	1 465	* 1 150	* 800
Rwanda					
Concentrates	2 084	* 2 500	* 300	—	...
South Africa					
Concentrates (b)	754	546	671	697	714
Unwrought (a)	694	733	1 075	1 170	828
Tanzania					
Concentrates	14	9	10	3	...
Zaire					
Concentrates	2 768	2 569	2 798	* 2 700	* 2 500
Unwrought	* 450	* 200	* 250	* 200	* 250
Canada					
Concentrates (b)	883	517	608	381	317
Jamaica					
Scrap	85 398	535	414	479	428

## Exports of Tin

tonnes

Country	1980	1981	1982	1983	1984
USA					
Unwrought (a)	4 294	6 081	9 357	3 540	3 184
of which: Re-exports	3 699	3 719	3 588	2 200	1 755
Scrap	7 519	3 901	4 837	5 591	20 958
Argentina					
Tin-silver ore	4 997	5 883	1 260	2 634	...
Bolivia					
Concentrates (b)	8 313	5 525	3 238	2 509	4 663
Unwrought	14 217	18 726	18 654	13 532	...
Brazil					
Unwrought	2 773	4 747	4 346	8 820	14 602
Peru					
Concentrates	2 213	1 029	620	...	...
Burma					
Concentrates (c)	1 426	2 436	2 535	2 097	1 900
China					
Unwrought (a)	(d)* 2 700	5 614	3 068	3 643	2 641
Hong Kong					
Unwrought	621	1 160	1 027	627	766
of which: Re-exports	472	934	787	441	458
Indonesia					
Concentrates	4 857	1 044	1 473	1 342	2 789
Unwrought (a)	26 169	32 128	28 610	24 950	22 568
Scrap	1 404	750	—	—	70
Japan					
Unwrought (a)	44	37	94	161	117
Laos					
Concentrates (b)	83	13	564	1 284	...
Malaysia					
Unwrought	69 498	66 437	48 584	57 140	39 600
Singapore					
Concentrates	5 351	3 318	4 048	10 604	11 253
of which: Re-exports	5 256	3 234	3 596	10 582	10 852
Unwrought	13 885	15 335	17 909	20 754	17 870
of which: Re-exports	10 901	13 239	15 871	17 216	15 324
Unwrought alloys	755	877	708	—	—
of which: Re-exports	131	289	282	—	—
Thailand					
Unwrought	33 955	30 074	24 889	17 724	18 455
Unwrought alloys	25	204	654	1 152	1 083
Australia					
Concentrates (b)	7 423	7 305	7 075	6 202	6 559
Unwrought (a)	1 625	1 458	665	470	428

Note: In this table the term 'unwrought' tin corresponds to item 687.1 of the Standard International Trade Classification (Revision 2) and comprises ingots, pigs, unwrought bars, sticks, etc

(a) Including alloys

(b) Sn content

(c) Years ended 31 March following that stated

(d) BGS estimates, based on known imports into certain countries

## Imports of Tin

Country	1980	1981	1982	1983	1984
United Kingdom					
Concentrates	36 656	38 407	20 386	22 407	21 055
Unwrought	5 157	6 354	5 184	4 802	4 492
Unwrought alloys	1 972	1 798	2 446	2 549	2 506
Scrap	913	1 006	1 533	2 915	1 664
Belgium-Luxembourg					
Concentrates	3 151	126	151	2 692	2 944
Unwrought	2 627	2 550	2 195	2 034	2 036
Unwrought alloys	361	194	201	252	275
Scrap	182	187	62	98	172
Denmark					
Unwrought	123	90	69	8	6
Unwrought alloys	124	20	195	511	745
Scrap	250	143	68	364	120
France					
Unwrought	10 362	8 852	8 356	7 900	7 976
Unwrought alloys	162	58	201	144	211
Scrap	194	23	29	75	41
Germany, Federal Republic of					
Concentrates	3 343	3 229	1 766	2 166	1 365
Unwrought	17 132	15 925	15 016	15 171	16 745
Unwrought alloys	1 172	1 127	1 325	1 446	2 029
Scrap	324	344	448	282	284
Greece					
Unwrought	468	413	295	375	266
Irish Republic					
Unwrought (a)	22	21	9	38	57
Italy					
Unwrought	6 336	4 507	4 657	5 432	5 559
Unwrought alloys	471	319	410	333	403
Netherlands					
Concentrates	3 338	6 053	4 738	8 910	...
Unwrought	5 233	5 330	3 772	2 037	1 702
Unwrought alloys	528	1 023	1 250	716	552
Scrap	402	242	215	186	368
Austria					
Unwrought	557	410	455	438	509
Czechoslovakia					
Unwrought (a)	4 085	3 646	3 088	2 933	2 896
Finland					
Unwrought (a)	267	191	194	132	224
Hungary					
Unwrought & semi-manufactures	1 662	1 369	1 772	2 038	1 654
Norway					
Unwrought	524	500	381	324	402
Unwrought alloys	91	57	79	72	70
Poland					
Unwrought	3 318	2 223	4 601	4 352	3 634
Portugal					
Concentrates	308	111	37	81	80
Unwrought (a)	572	442	367	408	396
Soviet Union					
Concentrates (e)	* 1 900	* 400	* 2 200	* 2 200	* 1 300
Unwrought (e)	* 12 900	* 11 500	* 4 700	* 7 200	* 11 800
Spain					
Concentrates	4 363	4 070	2 884	3 784	4 351
Unwrought (a)	72	37	325	97	85
Sweden					
Unwrought	414	268	264	296	372
Unwrought alloys	61	45	60	51	68
Switzerland					
Unwrought	1 026	926	866	890	791
Turkey					
Unwrought (a)	341	713	651	995	853

Tin

## Imports of Tin

tonnes

Country	1980	1981	1982	1983	1984
Yugoslavia					
Unwrought (a)	1 032	959	1 188	1 121	* 1 150
Algeria					
Unwrought (a)	121	96	168	114	...
Egypt					
Unwrought & scrap	35	53	160	358	* 100
Morocco					
Unwrought (a)	185	189	176	114	132
South Africa					
Unwrought	225	276	41	18	39
Tunisia					
Unwrought & scrap	92	32	52	...	31
Canada					
Unwrought	4 527	3 791	3 235	3 749	4 106
Mexico					
Concentrates	2 482	2 747	973	1 937	...
Unwrought	566	451	454	423	...
USA					
Concentrates (b)	841	232	1 962	969	3 517
Unwrought	45 982	45 874	27 939	34 048	41 241
Unwrought alloys	865	805	1 421	2 146	2 607
Scrap	870	2 430	2 786	1 153	1 157
Argentina					
Unwrought	674	612	997	736	1 075
Brazil					
Concentrates	3 605	301	—	—	—
Chile					
Unwrought	199	307	151	531	517
Colombia					
Unwrought (a)	430	378	375	242	325
Peru					
Unwrought (a)	631	68	154	278	302
Uruguay					
Unwrought	21	39	15	9	12
Venezuela					
Unwrought (a)	187	262	216	379	683
Hong Kong					
Unwrought	1 694	1 769	1 452	1 675	1 907
India					
Unwrought (a)	1 708	3 151	...	...	...
Scrap	2 621	4 073	...	...	...
Iran (d)					
Unwrought	1 019	755	503	717	...
Japan					
Unwrought	31 068	30 223	26 185	29 333	30 470
Korea, Republic of					
Concentrates	331	151	17	574	1 749
Unwrought (a)	1 234	2 056	2 093	2 216	2 402
Malaysia					
Concentrates	16 771	21 267	24 208	25 554	* 14 500
Unwrought (a)	296	594	1 038	1 068	...
Philippines					
Unwrought (a)	437	6 339	429	681	690
Singapore					
Concentrates	3 370	1 996	3 041	3 674	6 504
Unwrought	2 069	1 380	1 062	1 508	2 347
Unwrought alloys	503	358	406	—	—
Scrap	1 032	1 503	627	2 630	436



## Imports of Tin

Tin  
tonnes

Country	1980	1981	1982	1983	1984
Taiwan					
Unwrought	615	1 062	945	1 557	2 265
Australia					
Unwrought	44	102	63	103	105
New Zealand (c)					
Unwrought (a)	263	205	194	134	167

Note: In this table the term 'unwrought' tin corresponds to item 687.1 of the Standard International Trade Classification (Revision 2) and comprises ingots, pigs, unwrought bars, sticks, etc

- (a) Including alloys
- (b) Sn content
- (c) Years ended 30 June of that stated
- (d) Years ended 20 March following that stated
- (e) BGS estimates, based on known exports from certain countries

**Production of Titanium Minerals**

tonnes

Country	1980	1981	1982	1983	1984
Finland					
Ilmenite	159 000	161 500	167 800	163 900	167 000
Norway					
Ilmenite	827 827	659 604	551 764	555 947	661 363
Portugal					
Ilmenite	232	334	472	247	164
Soviet Union					
Ilmenite	* 420 000	* 430 000	* 430 000	* 435 000	* 440 000
Rutile	* 10 000	* 10 000	* 10 000	* 10 000	* 10 000
Sierra Leone					
Rutile	45 440	50 795	46 576	71 801	91 289
South Africa (e)	272 310	267 545	241 930	292 616	330 879
Canada (a)					
Ilmenite (d)	1 853 270	2 008 117	1 735 000	940 000	1 160 000
USA					
Ilmenite (b)	504 981	492 018	238 944	* 235 000	* 250 000
Brazil					
Ilmenite	16 839	19 889	13 181	30 452	40 945
Rutile	428	205	225	463	412
China					
Ilmenite	...	* 135 000	* 135 000	* 140 000	* 140 000
India					
Ilmenite	184 556	188 828	152 900	* 150 000	* 150 000
Rutile	7 192	8 752	6 700	* 7 000	* 7 000
Malaysia (c)					
Ilmenite	199 486	176 432	77 159	207 297	268 490
Sri Lanka					
Ilmenite	33 956	80 011	68 282	80 486	* 80 000
Rutile	12 789	13 301	7 212	8 386	* 8 000
Australia					
Ilmenite	1 384 563	1 321 137	1 149 212	892 570	1 143 854
Rutile	311 744	230 817	220 697	163 374	181 481
Leucoxene	23 943	19 261	19 739	13 358	15 902
World total					
Ilmenite (Wt. of concs)	6 500 000	6 500 000	5 400 000	4 700 000	5 500 000
Rutile (Wt. of concs)	448 000	373 000	344 000	325 000	370 000
All forms (TiO <sub>2</sub> content)	* 3 701 000	* 3 598 000	* 3 058 000	* 2 664 000	* 3 100 000

## Notes:

- 1 The figures in this table refer to gross tonnage of titanium concentrates
- 2 Some ilmenite is converted to synthetic rutile in Australia, India, Japan, Taiwan and USA

- (a) Canada produces some ilmenite which is sold as such and not processed into slag, but tonnages are small
- (b) Includes a mixed product containing ilmenite, leucoxene and rutile
- (c) Exports
- (d) Processed into slag. In 1984, Canada produced 725 000 tonnes (80% TiO<sub>2</sub>)
- (e) Ti content of titanium minerals and slag

## Exports of Titanium

Country	1980	1981	1982	1983	1984
United Kingdom					
Titanium minerals	645	344	970	512	...
Oxides	108 149	89 409	96 549	119 012	117 190
Belgium-Luxembourg					
Titanium minerals	2 814	0	24	13	0
Metal	110	103	113	137	185
Oxides	56 755	66 727	55 834	64 101	62 784
France					
Titanium minerals	2 160	1 070	105	235	95
Metal	734	1 185	700	969	1 188
Oxides	107 461	126 407	118 413	141 958	148 788
Germany, Federal Republic of					
Ilmenite	3 149	5 186	2 026	16	788
Other titanium minerals	6 114	3 545	3 351	6 636	7 551
Metal	2 234	2 132	1 817	2 300	2 325
Oxides	185 349	215 703	208 495	210 506	209 287
Italy					
Titanium minerals	96	54	1 174	536	990
Metal	103	63	134	184	200
Oxides	19 733	31 895	(c) 1 597	(c) 2 273	1 931
Netherlands					
Ilmenite	4 174	1 919	657	617	769
Other titanium minerals	22 212	19 827	21 520	40 983	46 890
Metal	77	154	101	36	115
Oxides	25 300	31 776	26 584	29 624	32 863
Czechoslovakia					
Oxides (b)	* 2 100	* 800	* 2 600	* 3 700	* 2 500
Finland					
Oxides	(b)* 36 100	(b)* 32 000	(b)* 30 000	61 959	(b)* 39 500
Norway					
Titanium minerals	779 741	619 329	470 223	519 611	599 214
Oxides (c)	1 137	1 110	1 179	2 996	2 474
Soviet Union					
Metal (b)	* 2 800	* 1 500	* 1 300	* 1 200	* 700
Spain					
Oxides	25 745	21 991	42 716	39 124	(c) 18 202
Sweden					
Titanium minerals	23	47	9	34	27 049
Metal	506	603	428	510	566
Yugoslavia					
Oxides	11 353	12 560	12 847	13 867	...
Sierra Leone					
Rutile	27 687	27 375	38 000	...	...
South Africa					
Titanium minerals & slag (a)	183 001	186 871	189 596	180 988	220 547
Canada					
Titanium slag	* 800 000	* 700 000	* 600 000	* 550 000	* 650 000
Metal (d)	698	1 899	643	702	363
Oxides (d)	9 367	14 252	19 878	23 191	23 779
USA					
Titanium minerals	16 567	7 004	19 725	4 369	7 867
Metal	8 094	8 816	7 433	7 198	6 727
Oxides	41 562	56 661	61 910	84 904	98 340
China					
Oxides (b)	* 1 700	* 1 900	* 2 500	* 1 900	* 2 300
Hong Kong					
Oxides (Re-exports)	2 529	2 554	1 814	2 055	1 926
India					
Ilmenite	11 306	10 000	...	...	...
Oxides (e)	242	174	...	...	...
Japan					
Metal	8 065	10 005	7 503	6 044	9 700
Oxides	46 343	45 491	58 241	60 351	59 923
Malaysia					
Ilmenite	199 486	176 432	77 159	207 297	268 490

## Titanium

**Exports of Titanium**

tonnes

Country	1980	1981	1982	1983	1984
Sri Lanka					
Ilmenite	23 970	32 816	14 144	11 190	96 066
Taiwan					
Oxides	789	113	234	7 971	81
Australia					
Ilmenite	1 058 712	907 810	879 317	816 933	1 172 986
Rutile	315 314	216 048	199 296	217 662	191 507
Leucoxene	24 207	15 055	14 016	9 276	30 959
Oxides (b)	* 16 400	* 19 800	* 19 800	* 24 700	* 26 000

## Notes:

- 1 So far as possible, the term 'oxides', as used in this table, includes oxides and oxide based pigments classified under Standard International Trade Classification (Revision 2) items 522.46 and 533.1
  - 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) Ti content  
 (b) BGS estimates, based on known imports into certain countries  
 (c) Excluding oxide based pigments  
 (d) Exports to the USA only  
 (e) Years ended 31 March following that stated

## Imports of Titanium

Country	1980	1981	1982	1983	1984
United Kingdom (a)					
Ilmenite	261 615	225 772	258 955	188 708	248 110
Other titanium minerals	50 809	62 929	95 918	92 691	72 792
Metal (b)	* 8 000	* 6 200	* 7 100	* 6 900	* 7 900
Oxides	28 221	36 685	36 072	39 309	34 248
Belgium-Luxembourg					
Ilmenite	33 088	78 510	37 020	63 501	43 251
Other titanium minerals	45 020	41 435	34 281	40 626	48 251
Metal	1 420	914	1 015	790	463
Oxides	21 642	21 146	22 530	25 497	29 124
Denmark					
Oxides	7 421	8 338	7 482	8 370	9 901
France					
Ilmenite	85 377	90 755	80 118	116 251	90 513
Other titanium minerals	25 953	70 072	73 741	62 070	77 338
Metal	2 809	3 348	2 896	1 774	2 397
Oxides	43 885	44 860	43 707	44 079	48 828
Germany, Federal Republic of					
Ilmenite	451 088	516 503	379 513	373 776	425 444
Other titanium minerals	33 814	22 465	29 899	29 956	30 242
Titanium slag	...	250 545	203 370	195 938	214 318
Metal	4 878	4 843	3 189	2 046	4 223
Oxides	70 834	70 260	67 402	73 730	76 783
Greece					
Oxides	8 691	9 280	8 052	8 484	(h) 444
Irish Republic					
Oxides	2 880	3 655	3 017	2 289	3 419
Italy					
Ilmenite	25	43	1 199	2 102	17 386
Other titanium minerals	5 425	3 874	5 206	4 212	4 996
Metal	1 539	1 965	1 850	1 991	2 806
Oxides	43 678	49 987	48 299	53 306	54 769
Netherlands					
Ilmenite	3 312	3 628	200	639	9 850
Other titanium minerals	33 826	20 658	22 048	53 063	42 018
Titanium slag	...	61 413	53 746	41 055	45 419
Metal	239	394	171	244	253
Oxides	20 127	24 467	21 116	23 102	27 333
Austria					
Oxides	8 967	8 894	9 001	9 640	10 637
Bulgaria					
Titanium minerals (b)	* 5 600	* 5 200	* 4 500	* 4 100	* 3 100
Oxides (b)	* 2 300	* 2 700	* 1 400	* 1 400	* 1 600
Czechoslovakia					
Oxides (b)	* 7 300	* 5 600	* 3 800	* 3 000	* 2 900
Finland					
Titanium minerals	37 602	10 375	20 961	31 435	...
Oxides	918	953	1 147	2 125	2 261
German Democratic Republic					
Oxides (b)	* 23 500	* 21 000	* 19 000	* 17 200	* 18 000
Norway					
Oxides	4 490	4 189	4 373	5 086	4 924
Poland					
Titanium minerals	...	500	57 426	—	34 666
Portugal					
Oxides	8 840	9 101	9 473	8 727	10 371
Romania					
Titanium minerals (b)	* 10 900	* 7 600	* 10 700	* 2 700	* 4 500
Oxides (b)	* 10 800	* 9 500	* 5 000	* 5 500	* 4 400
Soviet Union					
Titanium minerals (b)	* 178 000	* 131 900	* 47 000	* 91 700	* 110 700
Oxides (b)	* 4 400	* 4 100	* 4 600	* 2 800	* 2 500
Spain					
Ilmenite	134 920	145 166	138 016	130 137	...
Other titanium minerals	—	1 632	540	1 912	...
Metal	—	280	1 390	1 354	...
Oxides	7 902	10 128	12 660	11 608	...

## Titanium

## Imports of Titanium

tonnes

Country	1980	1981	1982	1983	1984
Sweden					
Titanium minerals	3 592	2 050	3 730	2 233	4 620
Metal	1 401	1 737	1 033	1 145	806
Oxides	16 406	17 385	18 213	22 887	22 726
Switzerland					
Oxides	3 773	1 826	2 020	2 134	2 290
Turkey					
Titanium minerals	2 111	2 996	2 773	3 721	...
Oxides	1 681	1 173	1 746	2 250	2 387
Yugoslavia					
Rutile	52 142	47 232	48 070	53 470	...
Oxides	5 397	5 686	4 199	3 142	...
Algeria					
Titanium minerals	451	390	—	0	...
Oxides	7 775	6 647	10 047	6 334	...
Egypt					
Oxides	1 905	1 995	2 239	1 264	...
Kenya					
Oxides	1 292	1 141	1 530	314	...
Morocco					
Oxides	2 333	2 538	3 200	2 097	3 145
South Africa					
Oxides	1 655	2 830	1 447	3 592	...
Canada					
Metal	616	552	504	275	356
Oxides	6 283	7 300	6 106	18 523	25 557
Mexico					
Ilmenite	63 588	50 820	41 994	45 943	...
Rutile sand (f)	2 938	3 218	2 563	2 297	...
USA					
Ilmenite	333 547	225 425	322 380	237 186	373 374
Rutile (c)	250 468	206 953	162 930	101 221	163 754
Titanium slag	176 896	220 511	224 842	125 834	190 363
Metal	9 179	10 794	3 400	4 368	7 164
Oxides	88 532	113 367	126 039	161 260	174 425
Argentina					
Titanium minerals	2 034	1 125	1 930	...	...
Brazil					
Ilmenite	55 016	69 408	59 510	21 020	35 729
Rutile	4 964	2 421	3 052	1 972	2 496
Oxides	26 262	24 067	14 918	10 362	3 701
Colombia					
Oxides	5 241	4 967	7 397	6 245	...
Uruguay					
Oxides	1 745	2 210	1 532	2 001	2 986
Venezuela					
Oxides	...	...	11 723	...	...
China					
Oxides (b)	* 7 600	* 12 000	* 21 400	* 12 000	* 9 200
Hong Kong					
Oxides	5 406	6 246	5 103	6 108	6 633
India					
Oxides (d)	6 497	9 917	...	...	...
Indonesia					
Oxides	10 192	12 021	14 343	14 885	12 589
Israel (g)					
Oxides	1 915	3 229	2 658	2 213	820
Japan					
Titanium minerals	409 080	323 057	367 500	411 047	645 972
Titanium slag	152 663	66 086	91 625	63 118	62 697
Oxides	21 011	27 230	30 018	38 087	37 141
Korea, Republic of					
Titanium minerals	31 150	21 376	29 080	32 447	39 259
Rutile sand	3 740	4 652	4 375	5 252	4 812
Metal	124	936	391	367	361
Oxides	10 099	14 235	15 502	19 333	21 861

## Imports of Titanium

Country	1980	1981	1982	1983	1984
Malaysia					
Oxides	4 999	5 720	5 941	7 426	...
Philippines					
Titanium minerals	922	676	1 099	973	713
Oxides	4 393	5 448	6 338	9 111	6 239
Saudi Arabia					
Oxides	1 948	2 876	3 184	4 277	6 637
Singapore					
Titanium minerals	541	85	779	—	—
Oxides	3 768	4 099	4 636	6 365	9 236
Taiwan					
Oxides	18 099	17 292	21 406	28 910	34 115
Thailand					
Rutile	930	955	1 225	1 235	781
Oxides	555	602	757	846	1 135
Australia					
Oxides	802	682	1 094	852	1 566
New Zealand					
Oxides (e)	5 708	5 246	5 958	5 268	6 562

## Notes:

- 1 Significant quantities of titanium slag are traded, but it is not always possible to identify this material in national trade accounts
  - 2 So far as possible, the term 'oxides', as used in this table, includes oxides and oxide based pigments classified under Standard International Trade Classification (Revision 2) items 522.46 and 533.1
  - 3 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) United Kingdom is known to import about 70 000 tonnes per annum of titanium slag
- (b) BGS estimates, based on known exports from certain countries
- (c) Includes synthetic rutile
- (d) Years ended 31 March following that stated
- (e) Years ended 30 June of that stated
- (f) Micronised for use as an opacifier
- (g) Figures may be incomplete as value only given in Israeli trade return for imports from some countries
- (h) Excludes oxide based pigments

## Mine Production of Tungsten

tonnes (metal content)

Country	1980	1981	1982	1983	1984
United Kingdom	(b)* 40	(b)* 40	—	—	—
France	577	591	727	832	825
Austria	2 150	1 322	1 699	1 405	1 911
Czechoslovakia	* 80	* 50	* 50	* 50	* 50
Portugal (c)	1 580	1 395	1 359	1 186	1 505
Soviet Union	* 8 700	* 8 850	* 9 000	* 9 100	* 9 100
Spain	446	437	545	517	565
Sweden	364	394	423	460	385
Turkey	219	284	404	291	363
Namibia (d)	* 50	—	—	—	—
Rwanda	323	248	286	204	229
Uganda	5	1	4	7	4
Zaire (d)	69	46	38	44	* 30
Zimbabwe	90	60	35	23	55
Canada (a)	3 178	1 995	2 403	893	3 432
Mexico	266	263	194	186	274
USA	2 754	3 605	1 521	980	1 203
Argentina	35	11	17	41	* 40
Bolivia	2 664	2 735	2 534	2 449	* 2 100
Brazil (a)	1 104	1 574	1 524	1 026	1 037
Peru	581	521	658	802	878
Burma (d)	848	845	865	950	1 114
China	* 15 000	* 13 500	* 12 500	* 11 500	* 12 500
India	23	20	28	16	21
Japan	700	548	854	820	* 800
Korea, Dem. P.R. of	* 2 200	* 2 200	* 2 200	* 500	* 1 000
Korea, Republic of	2 737	2 739	2 421	2 480	2 703
Malaysia	35	35	37	49	23
Thailand	1 615	1 210	856	563	742
Australia (c)	3 575	3 517	2 618	2 015	1 843
New Zealand	4	10	7	6	7
World total	52 000	49 000	46 000	39 000	45 000

(a) Mainly scheelite

(b) BGS estimates

(c) Wolframite and scheelite

(d) Including tin-wolframite concentrates



## Exports of Tungsten

Country	1980	1981	1982	1983	1984
United Kingdom					
Tungsten ore	222	662	1 364	219	275
Metal	333	436	411	543	579
Carbide	541	739	708	551	799
Belgium-Luxembourg					
Metal	165	142	128	99	139
France					
Tungsten ore	846	760	930	818	522
Metal	267	432	291	398	372
Carbide	...	120	111	134	201
Germany, Federal Republic of					
Tungsten ore	139	182	—	76	—
Metal	704	1 038	712	860	1 129
Italy					
Metal	65	93	65	85	100
Netherlands					
Tungsten ore	1 656	344	793	629	451
Metal	202	300	269	398	460
Austria					
Tungsten ore	—	—	0	73	25
Metal	1 111	1 243	663	874	1 050
Portugal					
Tungsten ore	2 093	2 284	1 727	1 669	2 506
Spain					
Scheelite ore	3 903	) 601	686	673	871
Other tungsten ore	313	)			
Metal	49	22	39	4	2
Sweden					
Tungsten ore	330	691	404	644	498
Metal	50	46	99	44	111
Carbide	185	172	158	87	70
Switzerland					
Metal	51	49	68	45	70
Turkey					
Metal	140	115	30	305	0
Rwanda					
Tungsten ores & concentrates	715	* 580	* 640	...	...
Uganda					
Wolframite ore	* 200	* 100	...	...	...
Zaire					
Tungsten ore	138	103	89	...	...
Zimbabwe					
Tungsten ore	201	130	52	24	...
Canada (a)	* 2 900	* 1 800	* 2 600	* 300	* 2 500
Mexico					
Tungsten ores & concentrates	396	402	607	546	* 580
USA					
Tungsten ores & concentrates	1 834	281	332	28	129
Metal	1 481	1 921	1 309	900	1 839
Ammonium paratungstate (a)	3	1	11	6	8
Carbide	662	550	552	330	448
Bolivia					
Tungsten ore (a)	3 435	3 091	3 272	2 584	...
Brazil					
Tungsten ore	782	1 741	1 860	1 482	970
Peru					
Tungsten ores & concentrates	996	943	1 170	960	...
Burma (b)					
Tungsten ores & concentrates	1 278	767	1 983	1 558	...

## Exports of Tungsten

tonnes

Country	1980	1981	1982	1983	1984
China					
Tungsten ores & concentrates	* 20 000	26 839	11 188	24 990	18 860
Metal	...	600	183	65	79
Hong Kong					
Tungsten ore (Re-exports)	425	2 197	4 740	—	—
Japan					
Metal	216	242	286	147	195
Korea, Dem. P.R. of (a)	* 1 000	* 800	* 800	...	...
Korea, Republic of					
Tungsten ore	1 721	6 360	1 005	1 061	859
Metal	603	656	385	277	301
Carbide	283	311	282	303	428
Malaysia					
Tungsten ore	109	71	80	40	...
Singapore					
Tungsten ore	848	971	630	875	1 695
of which: Re-exports	800	775	629	777	1 654
Metal	119	173	72	91	105
of which: Re-exports	40	103	1	23	32
Thailand					
Tungsten ore	3 638	1 991	1 463	1 207	1 885
Australia					
Wolframite ores & concentrates	2 311	2 093	1 750	1 532	1 733
Scheelite ores & concentrates	3 715	4 254	3 189	2 355	1 418

## Notes:

- 1 Significant, and possibly increasing, amounts of tungsten are traded in the forms of ammonium paratungstate (APT) and carbide. Though statistics are included where available, most countries do not separately distinguish these forms in their trade accounts
  - 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) W content  
(b) Years ended 31 March following that stated

## Imports of Tungsten

Country	1980	1981	1982	1983	1984
United Kingdom					
Tungsten ore	2 622	3 309	1 768	693	896
Metal	298	162	243	213	415
Carbide	407	448	510	442	495
Belgium-Luxembourg					
Metal	224	253	155	188	176
Carbide	...	176	257	259	356
Denmark					
Carbide	...	186	268	317	241
France					
Tungsten ore	1 438	1 159	818	277	2 632
Metal	241	258	365	321	183
Carbide	...	224	189	251	231
Germany, Federal Republic of					
Tungsten ore	2 931	2 698	2 855	3 841	7 296
Metal	970	1 132	841	946	1 242
Carbide	...	280	317	286	380
Italy					
Tungsten ore	173	83	36	54	157
Metal	102	84	100	85	78
Carbide	...	148	169	158	262
Netherlands					
Tungsten ore	232	121	739	1 317	674
Metal	142	428	307	490	342
Austria					
Tungsten ore	4 297	3 425	2 413	3 090	3 920
Metal	418	357	316	428	640
Finland					
Metal	83	27	17	20	20
Poland					
Tungsten concentrates	1 662	806	2 461	2 100	1 150
Soviet Union					
Tungsten concentrates	* 9 000	* 7 000	* 7 000	* 6 900	* 7 000
Metal (d)	* 70	* 60	* 60	* 40	* 130
Sweden					
Tungsten ore	3 709	2 417	1 700	682	813
Metal	130	29	84	163	154
Carbide	334	327	361	395	294
Switzerland					
Metal	113	79	40	43	75
Yugoslavia					
Metal	25	13	14	27	...
South Africa					
Tungsten ores & concentrates	2 504	400	388	507	366
Metal	176	39	13	34	33
Carbide	101	64	65	42	65
Mexico					
Metal	117	114	50	10	...
USA					
Tungsten ore	10 890	10 961	8 798	7 220	* 12 500
Metal	556	4 433	1 282	769	1 599
Ammonium paratungstate (a)	215	461	989	654	1 172
Carbide	256	367	431	* 260	* 500
India					
Tungsten ore	483	567	* 500	...	...
Metal	26	34	...	...	...
Israel					
Metal (c)	1 121	1 193	708	97	465
Japan					
Tungsten ore	3 480	2 256	2 297	3 214	2 905
Metal	159	187	143	178	294

**Imports of Tungsten**

tonnes

Country	1980	1981	1982	1983	1984
Singapore					
Tungsten ore	1 347	1 925	971	1 211	2 430
Metal	23	23	28	94	82
Taiwan					
Metal	56	37	29	36	48
Australia (b)					
Metal	8	5	12	11	13

## Notes:

- 1 Significant, and possibly increasing, amounts of tungsten are traded in the forms of ammonium paratungstate (APT) and carbide. Though statistics are included where available, most countries do not separately distinguish these forms in their trade accounts.
  - 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys
- (a) W content  
 (b) Years ended 30 June of that stated  
 (c) Figures may be incomplete as value only given in Israeli trade return for imports from some countries  
 (d) BGS estimates, based on known exports from certain countries

**Mine Production of Vanadium**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
Finland	4 019	3 279	3 315	3 359	3 066
Norway	* 490	* 340	* 100	—	—
Soviet Union	* 9 500	* 9 500	* 9 500	* 9 500	* 9 500
South Africa	14 905	12 618	11 714	8 834	12 518
USA	4 360	4 650	3 718	1 969	1 467
Chile	* 270	* 130	—	—	—
China	* 4 500	* 4 500	* 4 500	* 4 500	* 4 500
World total	38 000	35 000	32 800	28 200	31 100

Note: This table includes vanadium in slag products but excludes vanadium recovered as a byproduct of the refining and burning of heavy oils

## Exports of Vanadium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Pentoxide	15	102	56	182	483
Metal	2	0	17	73	62
Belgium-Luxembourg					
Vanadiferous residues	—	4 775	1 884	1 163	4 477
Pentoxide	143	134	35	83	598
Vanadium-titanium pig-iron	24	23	8	27	33
Metal	—	32	186	15	139
Denmark					
Vanadium-titanium pig-iron	12	49	23	122	0
France					
Vanadiferous residues	168	112	56	40	100
Pentoxide	39	52	26	6	12
Vanadium-titanium pig-iron	—	23	26	149	10
Metal	0	54	23	98	237
Germany, Federal Republic of					
Vanadiferous residues	705	2 175	889	1 486	2 005
Metal	124	193	135	192	197
Italy					
Vanadiferous residues	—	1 726	1 484	1 956	2 534
Netherlands					
Vanadiferous residues	17	8	51	20	87
Vanadium-titanium pig-iron	9	6	—	60	2
Finland					
Pentoxide (a)	* 3 000	* 2 000	* 1 500	* 4 000	* 3 700
Soviet Union					
Vanadiferous residues	* 12 000	* 12 000	* 12 500	* 11 800	* 11 500
South Africa					
Pentoxide (c)	27 085	22 142	17 347	15 925	21 798
USA					
Ores & concentrates (b)	74	90	92	105	20
Pentoxide	662	318	1 509	2 385	3 156
China					
Vanadiferous residues (a)	* 700	* 5 000	* 2 600	* 5 100	...
Pentoxide (a)	* 600	* 2 000	* 3 000	* 3 700	* 2 100

## Notes:

- 1 In this table the term 'pentoxide' also includes vanadium oxides and hydroxides, if any
- 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) BGS estimates, based on known imports into certain countries

(b) V<sub>2</sub>O<sub>5</sub> content(c) Includes V<sub>2</sub>O<sub>5</sub> content of vanadiferous residues

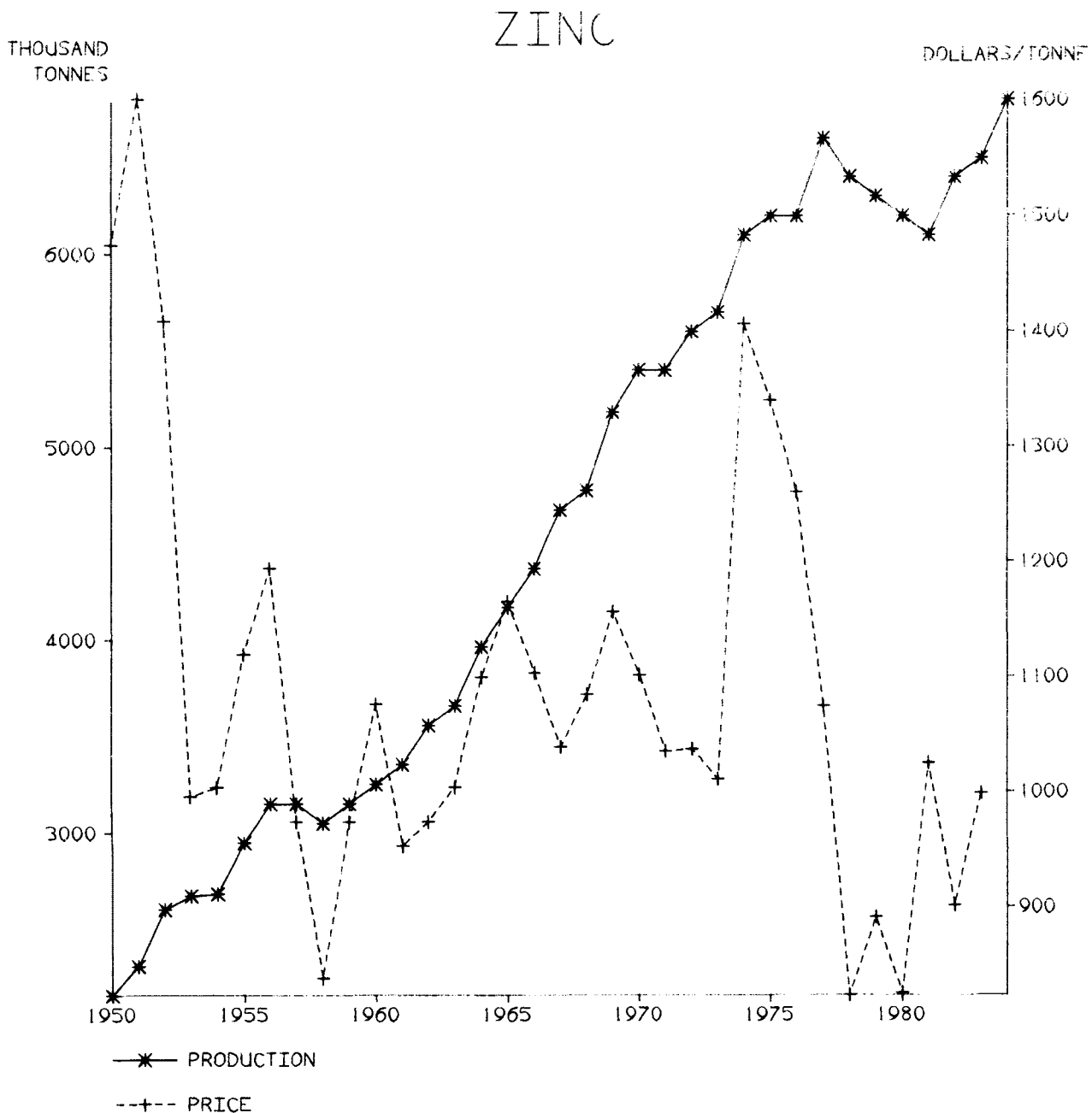
## Imports of Vanadium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Vanadiferous residues	751	8	—	0	—
Pentoxide	925	1 075	745	1 929	660
Vanadium-titanium pig-iron	—	—	75	184	—
Metal	93	133	41	142	358
Belgium-Luxembourg					
Vanadiferous residues	7 001	9 350	6 905	3 137	13 579
Pentoxide	1 535	1 542	2 964	4 062	4 797
Metal	1	64	69	27	208
Denmark					
Vanadium-titanium pig-iron	5	111	306	—	7
France					
Pentoxide	1 207	1 513	1 223	1 126	2 501
Vanadium-titanium pig-iron	49	77	25	20	0
Metal	19	45	85	29	52
Germany, Federal Republic of					
Vanadiferous residues	44 422	36 685	29 878	27 826	35 611
Pentoxide	1 383	2 223	2 360	1 455	1 714
Vanadium-titanium pig-iron	485	625	250	2 274	61
Italy					
Vanadiferous residues	3 462	2 747	2 646	1 923	1 511
Pentoxide	490	194	124	106	135
Vanadium-titanium pig-iron	252	242	266	—	—
Netherlands					
Vanadiferous residues	—	308	1	—	396
Pentoxide	14	33	321	25	10
Vanadium-titanium pig-iron	50	25	125	9	—
Sweden					
Pentoxide	517	141	16	0	0
Mexico					
Pentoxide	250	309	145	...	...
USA					
Vanadiferous residues	11 883	15 094	7 007	212	* 400
Pentoxide	1 386	573	228	661	241
Brazil					
Pentoxide	1 042	578	487	633	685
Japan					
Pentoxide	3 404	3 943	4 846	2 957	4 602

## Notes:

- 1 In this table the term 'pentoxide' also includes vanadium oxides and hydroxides, if any
- 2 Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys



**Figure 20** World mine production of zinc from 1950 to 1984 compared with the yearly average domestic producer price on the New York Market of prime western grade delivered New York expressed in constant 1980 US dollars.

*Constant commodity prices taken from Commodity Trade and Price Trends (1985) published by the Johns Hopkins University Press for the World Bank.*



## Mine Production of Zinc

tonnes (metal content)

Country	1980	1981	1982	1983	1984
United Kingdom	4 444	10 855	10 186	8 879	7 478
France	36 810	37 430	37 427	34 195	36 450
Germany, Federal Republic of	120 800	110 700	105 782	113 481	113 000
Greece	24 367	25 369	20 459	22 063	22 550
Irish Republic	223 000	117 000	167 000	186 000	206 000
Italy	57 300	42 700	38 600	43 400	42 300
Austria	21 690	20 544	21 938	22 688	23 797
Bulgaria	70 000	65 000	66 000	68 000	65 000
Czechoslovakia	9 636	6 614	6 555	6 665	* 7 000
Finland	59 421	58 618	54 665	60 777	60 192
Greenland	87 300	79 800	79 900	79 200	71 300
Hungary	2 807	2 693	1 538	2 306	1 920
Norway	27 484	29 742	31 860	32 356	28 692
Poland	216 700	201 500	183 500	189 000	190 700
Romania	* 40 000	* 40 000	* 37 000	* 40 000	* 39 000
Soviet Union	* 1 000 000	* 1 010 000	* 1 020 000	* 1 025 000	* 980 000
Spain	183 120	182 045	167 137	175 757	230 378
Sweden	175 758	192 069	178 592	214 367	207 300
Turkey	23 342	30 769	33 543	32 417	50 700
Yugoslavia	95 253	88 640	83 813	86 767	85 800
Algeria	8 200	10 700	11 100	12 100	14 600
Morocco	9 435	6 477	9 874	6 160	11 600
Namibia	25 400	36 400	35 700	33 200	30 600
South Africa	87 777	87 172	91 516	109 981	106 107
Tunisia	9 100	7 800	8 400	7 500	6 700
Zaire	67 596	67 939	82 433	74 583	74 800
Zambia	37 076	42 170	51 117	54 634	38 793
Canada	1 058 714	1 096 257	1 189 129	1 069 709	1 207 098
Honduras	19 559	19 065	24 381	38 000	41 500
Mexico	238 231	211 629	231 910	257 444	292 064
USA (a)	317 103	312 418	303 160	275 294	255 000
Argentina	33 681	35 150	36 635	36 586	35 100
Bolivia	50 260	47 029	45 667	47 132	37 800
Brazil	105 000	96 582	111 882	119 843	113 691
Chile	1 134	1 516	5 656	5 993	19 168
Ecuador	629	742	47	15	* 15
Peru (a)	487 596	496 707	507 100	553 100	568 300
Burma	4 079	3 556	5 382	4 536	5 321
China	* 150 000	* 160 000	* 160 000	* 160 000	* 190 000
India	32 229	34 200	32 000	36 500	43 700
Iran	30 000	35 000	40 000	30 000	30 000
Japan	238 108	242 042	251 356	255 712	252 700
Korea, Dem. P.R. of	* 130 000	* 130 000	* 120 000	* 120 000	* 150 000
Korea, Republic of	56 787	56 198	58 175	55 980	49 232
Philippines	6 845	5 289	3 003	2 275	2 189
Thailand	—	2 900	4 000	3 000	39 000
Vietnam	10 000	10 000	10 000	10 000	10 000
Australia	495 312	518 297	664 800	699 032	659 046
World total	6 200 000	6 100 000	6 400 000	6 500 000	6 800 000

(a) Recoverable

## Production of Slab Zinc

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	86 682	81 651	79 278	87 651	85 604
Belgium (a)	249 214	250 406	240 851	275 845	285 319
France	252 769	257 131	243 700	249 500	258 510
Germany, Federal Republic of	365 200	366 100	333 600	356 300	356 300
Italy	206 659	180 904	158 248	155 596	166 751
Netherlands	169 539	177 363	186 022	187 519	209 657
Austria	22 687	23 404	20 599	19 699	21 120
Bulgaria	91 000	90 000	92 000	93 000	93 000
Finland	146 719	139 835	143 882	155 336	158 819
German Democratic Republic	* 16 000	* 16 000	* 17 000	* 16 500	* 17 000
Norway	79 416	80 279	72 016	90 668	94 190
Poland	217 485	167 118	165 352	170 300	176 000
Portugal	2 000	4 600	4 200	3 800	6 400
Romania	45 906	45 217	44 000	42 000	47 800
Soviet Union	* 1 060 000	* 1 060 000	* 1 050 000	* 1 060 000	* 1 050 000
Spain	151 700	179 500	181 800	189 900	207 400
Turkey	12 600	18 100	14 900	14 300	19 500
Yugoslavia	84 537	96 370	86 767	88 049	92 649
Algeria	25 000	27 000	28 500	31 200	35 000
South Africa	81 400	80 941	79 700	82 400	90 300
Zaire	43 848	57 638	64 425	62 535	66 080
Zambia	33 970	33 298	39 186	37 882	29 177
Canada	591 565	618 650	511 870	617 033	683 156
Mexico	144 550	126 890	127 359	174 991	180 000
USA	369 852	396 755	302 464	305 084	331 200
Argentina	38 700	26 800	28 900	34 400	28 700
Brazil	96 025	110 830	110 434	110 958	114 449
Peru	63 829	126 159	160 733	154 030	149 000
China	* 155 000	* 160 000	* 175 000	* 185 000	* 190 000
India	43 627	57 434	52 571	54 147	55 400
Japan	735 187	670 162	662 380	701 291	754 445
Korea, Dem. P.R. of	* 105 000	* 105 000	* 100 000	* 105 000	* 115 000
Korea, Republic of	79 150	83 915	99 211	107 860	108 460
Vietnam	10 000	10 000	10 000	10 000	10 000
Australia	305 959	300 352	295 890	302 951	306 440
World total	6 200 000	6 200 000	6 000 000	6 300 000	6 600 000

(a) Including alloys

## Exports of Zinc

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	7 695	26 297	18 576	7 537	955
Unwrought	27 378	24 168	10 777	20 318	8 094
Unwrought alloys	7 387	9 009	6 730	6 168	6 566
Scrap	5 422	8 441	11 034	14 596	15 246
Belgium-Luxembourg					
Ore	25 108	41 367	18 409	41 821	23 282
Unwrought	140 932	123 458	126 231	156 383	167 720
Unwrought alloys	27 246	25 094	24 962	33 767	29 387
Scrap	6 202	11 500	12 471	13 165	14 585
Denmark					
Unwrought	103	2	99	216	251
Unwrought alloys	823	163	144	114	35
Scrap	3 387	3 772	3 635	3 666	4 304
France					
Ore	43 979	50 642	58 633	98 338	117 188
Unwrought	32 913	56 554	48 994	50 711	93 016
Unwrought alloys	2 591	5 555	2 369	1 930	2 172
Scrap	3 209	7 861	11 407	11 908	11 456
Germany, Federal Republic of					
Ore	* 131 500	* 103 000	* 141 500	* 155 400	* 178 100
Unwrought	101 527	112 956	103 663	122 425	109 313
Unwrought alloys	9 991	13 049	9 797	10 637	16 235
Scrap	10 595	7 502	8 623	14 889	17 523
Greece					
Ores & concentrates	44 740	42 100	35 700	57 500	39 450
Irish Republic					
Ores & concentrates	462 096	254 132	343 770	356 219	403 706
Italy					
Ore	2 907	579	7 866	4 320	18 938
Unwrought	17 588	14 292	20 712	31 714	42 457
Unwrought alloys	2 752	6 279	4 743	4 081	2 680
Scrap	2 138	3 432	2 927	3 278	3 755
Netherlands					
Ore	7 306	15	22	26	62
Unwrought	156 103	152 920	160 187	173 605	176 927
Unwrought alloys	7 098	9 947	8 015	10 473	9 270
Scrap	6 576	14 840	10 603	9 509	11 500
Austria					
Unwrought	1 354	2 193	2 835	4 861	4 520
Scrap	70	703	558	448	832
Bulgaria					
Unwrought (a)(b)	* 10 400	* 10 600	* 12 900	* 17 900	* 23 600
Czechoslovakia					
Ore (b)	* 8 400	* 13 600	* 12 700	* 14 900	* 12 500
Finland					
Ore	—	—	—	14 913	5 190
Unwrought	116 622	113 807	110 967	120 991	122 793
Unwrought alloys	3 991	2 262	7 842	10 568	13 444
Scrap	1 185	2 427	1 498	636	1 528
Greenland					
Ores & concentrates	168 818	147 790	142 841	152 599	134 696
Hungary					
Scrap	2 600	2 900	3 942	3 743	3 755
Norway					
Ore	6 395	18 349	23 627	25 658	10 989
Unwrought	60 302	57 742	54 040	71 764	74 852
Unwrought alloys	5 436	7 965	9 593	8 217	7 039
Scrap	1 353	525	410	327	395
Poland					
Unwrought	41 408	22 161	22 519	28 000	26 838
Soviet Union					
Unwrought (a)(b)	* 30 000	* 23 400	* 22 800	* 14 900	* 14 700
Spain					
Ore	54 795	44 375	27 086	12 019	83 756
Unwrought (a)	93 834	88 203	94 107	96 900	106 005

## Zinc

## Exports of Zinc

tonnes

Country	1980	1981	1982	1983	1984
Sweden					
Ore	351 941	360 341	362 436	368 720	428 451
Unwrought (a)	342	1 113	900	1 077	613
Scrap	3 325	3 707	3 543	3 640	3 067
Switzerland					
Unwrought	84	9	12	249	118
Scrap	892	1 264	983	1 618	1 184
Yugoslavia					
Concentrates	8 831	6 047	1 181	3 404	...
Unwrought (a)	19 565	21 905	22 809	25 022	24 000
Algeria					
Unwrought	24 182	26 140	8 124	31 011	...
Morocco					
Ore	12 948	16 476	15 862	14 149	24 072
South Africa					
Ores & concentrates (c)	18 596	19 493	34 182	15 065	35 644
Unwrought	1 403	581	546	507	1 373
Tunisia					
Ore	20 309	17 073	10 819	23 200	13 026
Zaire					
Unwrought	5 229	69 900	55 700	67 400	45 500
Zambia					
Unwrought	30 787	31 520	39 900	36 900	31 900
Canada					
Ore (c)	435 831	516 216	457 757	660 792	539 633
Unwrought	475 793	459 196	472 731	505 024	533 260
Scrap	22 195	29 307	73 611	17 996	19 552
Honduras					
Ores & concentrates (c)	14 672	15 049	14 692	23 185	* 35 000
Mexico					
Ores & concentrates	141 140	154 460	157 245	121 586	...
Unwrought	59 724	22 156	14 554	79 268	83 131
USA					
Ore (c)	51 432	46 539	77 289	67 474	30 579
Unwrought (a)	787	756	1 439	1 221	1 448
Scrap (c)	29 542	30 361	17 086	20 942	29 223
Argentina					
Ores & concentrates	35 798	15 987	10 031	...	...
Unwrought	—	2 002	4 489	400	...
Bolivia					
Ores (c)	46 236	44 681	44 543	41 352	...
Peru					
Concentrates	754 348	711 206	654 498	797 615	799 076
Unwrought (a)	37 813	112 890	132 603	151 310	108 984
Burma (e)					
Concentrates	8 128	7 867	6 402	7 419	...
China					
Unwrought (a)	(b)* 11 000	17 474	10 181	2 051	1 454
Hong Kong					
Unwrought (a) (Re-exports)	6 821	3 154	1 954	2 714	3 436
Iran (d)					
Ore	4 076	2 063	15 700	28 890	...
Japan					
Unwrought	41 700	51 278	40 767	49 217	45 191
Unwrought alloys	1 236	1 909	2 546	6 042	4 276
Scrap	664	821	938	618	1 823
Korea, Dem. P.R. of					
Ores & concentrates (b)	* 54 500	* 64 000	* 60 200	* 27 100	* 29 000
Unwrought (a) (b)	* 50 000	* 26 500	* 29 400	* 21 600	* 20 200

## Exports of Zinc

tonnes

Country	1980	1981	1982	1983	1984
Korea, Republic of					
Unwrought (a)	11 612	8 393	6 250	0	40
Philippines					
Concentrates	14 859	11 873	3 989	4 590	5 258
Scrap	184	370	115	171	120
Singapore					
Unwrought	4 776	4 699	4 139	3 927	4 685
of which: Re-exports	4 612	4 519	4 085	3 599	4 362
Scrap	1 281	1 344	886	1 050	758
Australia					
Ores & concentrates	524 274	461 032	569 054	767 437	824 526
Unwrought (a)	219 068	176 091	231 682	232 651	220 953

Note: In this table the term 'unwrought' zinc corresponds to item 686.1 of the Standard International Trade Classification (Revision 2) and comprises blocks, pigs, slabs, etc

- (a) Including alloys
- (b) BGS estimates, based on known imports into certain countries
- (c) Zn content
- (d) Years ended 20 March following that stated
- (e) Years ended 31 March following that stated

## Zinc

## Imports of Zinc

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Ores & concentrates	211 561	131 799	166 084	167 171	196 100
Unwrought	130 549	112 509	119 945	115 160	116 308
Unwrought alloys	3 918	7 433	8 723	7 931	4 685
Scrap	1 156	524	2 065	1 817	2 237
Belgium-Luxembourg					
Ore	429 909	420 328	422 736	572 584	577 076
Unwrought (a)	45 577	45 598	42 604	53 148	49 352
Scrap	6 618	6 756	7 150	10 978	9 159
Denmark					
Unwrought	14 972	12 031	10 181	8 740	10 640
Unwrought alloys	2 039	2 247	1 970	3 229	2 642
Scrap	128	128	73	92	248
France					
Ore	469 945	459 981	476 239	583 938	558 386
Unwrought	105 189	62 466	58 406	55 306	64 881
Unwrought alloys	18 930	22 393	20 398	24 038	25 008
Scrap	4 981	8 876	5 433	7 154	6 345
Germany, Federal Republic of					
Ore	618 984	506 148	556 903	542 406	594 353
Unwrought	148 021	125 541	145 757	150 003	167 807
Unwrought alloys	13 760	12 422	10 619	11 960	11 648
Scrap	10 969	23 968	16 552	17 565	18 875
Greece					
Unwrought	18 811	18 330	14 248	12 792	13 413
Irish Republic					
Unwrought (a)	2 349	2 098	1 814	1 939	1 442
Scrap	205	365	251	184	310
Italy					
Ore	357 062	264 585	234 872	201 564	291 425
Unwrought	46 605	46 042	70 668	84 207	90 946
Unwrought alloys	8 644	4 050	8 650	11 509	14 360
Scrap	3 358	6 520	6 908	11 001	13 073
Netherlands					
Ore	346 655	348 713	452 439	381 329	422 732
Unwrought	24 937	19 285	18 459	18 028	20 162
Unwrought alloys	584	1 961	697	498	515
Scrap	9 805	6 398	10 401	13 074	13 764
Austria					
Ore	8 594	7 721	9 323	6 649	11 804
Unwrought	4 074	4 461	4 114	6 139	9 626
Scrap	339	251	291	265	321
Bulgaria					
Ore (i)	* 34 700	* 43 100	* 48 900	* 37 100	* 30 900
Czechoslovakia					
Unwrought	67 000	63 000	57 000	56 000	59 000
Finland					
Ore	189 488	135 547	207 835	205 579	167 309
Unwrought (a)	1 085	453	462	1 188	105
German Democratic Republic					
Ore (i)	* 63 400	* 49 500	* 63 300	* 73 500	* 73 600
Unwrought (a)(i)	* 10 600	* 1 400	* 27 700	* 19 500	* 18 000
Hungary					
Unwrought (g)	24 319	26 660	19 291	26 904	27 995
Iceland					
Unwrought (a)	87	84	89	73	63
Malta					
Unwrought (a)	50	174	139	105	140
Norway					
Ore	81 839	109 986	93 619	87 894	115 477
Unwrought (a)	1 051	448	1 123	877	928
Scrap	2 414	3 123	4 540	3 966	5 278
Poland					
Concentrates	27 053	—	...	...	...
Unwrought	2 398	4 116	5 417	...	4 615
Portugal					
Unwrought	16 781	11 767	10 774	10 682	9 385
Scrap	1 138	51	174	397	1 030

## Imports of Zinc

Country	1980	1981	1982	1983	1984
Soviet Union					
Ore (i)	* 42 600	* 77 300	* 61 900	* 82 500	* 85 500
Unwrought (a)(i)	* 63 300	* 37 300	* 44 100	* 29 500	* 24 100
Spain					
Ore	40 191	54 275	69 449	81 454	72 158
Unwrought (a)	1 743	753	3 810	3 844	230
Sweden					
Unwrought	30 450	28 048	33 138	32 650	35 407
Unwrought alloys	7 336	2 461	2 654	3 384	2 780
Switzerland					
Unwrought	25 242	21 316	18 243	20 330	21 441
Scrap	21	1	41	342	466
Turkey					
Unwrought	726	5 231	5 974	7 910	18 374
Yugoslavia					
Concentrates	65 227	56 385	58 597	29 383	...
Unwrought	7 209	15 818	13 864	27 894	22 900
Algeria					
Ores & concentrates	30 491	45 104	18 491	35 630	...
Egypt					
Unwrought	2 731	7 545	5 509	6 519	...
Ivory Coast					
Unwrought (b)	3 989	5 244	4 843	...	...
Kenya					
Unwrought (a)	7 231	5 146	3 460	5 013	...
Libya					
Unwrought	7	2	400	...	...
Morocco					
Unwrought (a)	3 298	2 568	2 649	2 628	2 944
Mozambique					
Unwrought	1 251	...	525	...	...
Nigeria					
Unwrought (a)	...	11 819	12 473	...	...
South Africa					
Unwrought	1 825	8 287	3 851	3 149	2 847
Scrap	132	1 160	520	242	417
Sudan					
Unwrought	99	98	408	106	...
Tanzania					
Unwrought (a)	3 169	2 568	1 927	3 230	...
Tunisia					
Unwrought (b)	1 531	871	1 266	...	1 562
Canada					
Ores & concentrates (b)(c)	59 542	59 960	29 492	78 100	41 867
Unwrought	958	8 474	1 305	10 409	7 602
Costa Rica					
Unwrought (a)	5 447	3 670	1 304	3 910	4 435
Dominican Republic					
Unwrought	1 863	1 400	1 724	...	...
Guatemala					
Unwrought (a)	4 995	4 198	3 221	3 122	...
Honduras					
Unwrought (a)	665	717	...	...	...
Jamaica					
Unwrought	458	373	935	918	1 043
Nicaragua					
Unwrought (a)	980	302	470	...	...
Panama					
Unwrought (a)	319	370	398	478	399
Trinidad & Tobago					
Unwrought	330	296	115	1	152

## Imports of Zinc

tonnes

Country	1980	1981	1982	1983	1984
USA					
Ore (c)	129 922	117 737	49 344	62 210	95 569
Unwrought (a)	410 642	602 695	447 443	613 368	632 179
Scrap	3 470	5 782	2 653	3 900	6 259
Argentina					
Unwrought	2 953	1 218	568	...	2 100
Brazil					
Ores & concentrates	36 215	49 578	55 672	58 695	60 098
Unwrought	59 570	27 364	7 462	3 598	5 268
Chile					
Unwrought (a)	5 800	7 100	2 500	4 000	8 800
Colombia					
Unwrought (a)	14 598	13 654	15 180	13 113	...
Uruguay					
Unwrought	1 645	1 122	959	847	1 167
Venezuela					
Unwrought	) 25 515	18 669	13 721	) 9 900	15 900
Unwrought alloys	)		1 579	)	
Burma (d)					
Unwrought (a)	591	466	14	...	...
China					
Unwrought (a)	* 400	12 409	108 084	228 708	230 178
Cyprus					
Unwrought (a)	110	50	280	4	206
Hong Kong					
Unwrought (a)	29 361	35 593	22 983	33 467	31 803
Scrap	—	19	39	46	29
India					
Ores & concentrates	40 862	...	...	...	...
Unwrought (d)	48 016	67 568	...	...	...
Unwrought alloys (d)	15 410	15 630	...	...	...
Scrap	4 836	3 746	...	...	...
Indonesia					
Unwrought (a)	51 430	65 376	65 626	68 937	45 080
Scrap	662	1 050	167	432	120
Iran (e)					
Unwrought	1 862	3 649	13 528	13 195	...
Israel (h)					
Unwrought	2 230	5 269	3 735	5 588	4 643
Japan					
Ore	804 851	877 995	813 408	759 924	954 676
Unwrought	41 896	31 133	45 002	42 087	57 032
Unwrought alloys	3 233	1 797	1 136	3 031	3 765
Scrap	508	1 562	253	248	464
Korea, Republic of					
Ores & concentrates	43 760	90 323	79 176	114 399	103 172
Unwrought	36 279	2 072	1 568	5 417	18 703
Scrap	9 191	10 146	9 252	8 577	11 867
Malaysia					
Unwrought	10 703	11 512	8 501	11 387	...
Unwrought alloys	5 395	5 718	7 218	8 352	...
Pakistan (f)					
Unwrought	7 823	12 805	8 638	13 162	7 096
Philippines					
Unwrought (a)	16 175	19 476	21 704	24 669	17 933
Singapore					
Unwrought	18 693	16 738	20 409	15 986	12 290
Scrap	351	530	292	479	211
Sri Lanka					
Unwrought (a)	672	290	209	740	607
Syria					
Unwrought (b)	479	622	610	1 015	1 147



**Imports of Zinc**

Country	1980	1981	1982	1983	1984
Taiwan					
Unwrought	38 382	43 394	45 424	47 783	39 827
Unwrought alloys	—	—	—	17 376	11 758
Scrap	28 823	33 397	29 654	43 701	13 322
Thailand					
Unwrought	33 387	37 598	33 272	35 680	44 279
Unwrought alloys	1 036	1 098	586	578	687
New Zealand (f)					
Unwrought (a)	22 594	19 296	22 265	18 407	19 852

Note: In this table the term 'unwrought' zinc corresponds to item 686.1 of the Standard International Trade Classification (Revision 2) and comprises blocks, pigs, slabs, etc

- (a) Including alloys
- (b) Including scrap
- (c) Zn content
- (d) Years ended 31 March following that stated
- (e) Years ended 20 March following that stated
- (f) Years ended 30 June of that stated
- (g) Including semi-manufactures
- (h) Figures may be incomplete as value only given in Israeli trade return for imports from some countries
- (i) BGS estimates, based on known exports from certain countries

**Production of Zirconium Minerals**

tonnes

Country	1980	1981	1982	1983	1984
Soviet Union	* 72 600	* 72 600	* 81 600	* 81 600	* 81 600
South Africa (a)	101 697	119 494	105 464	162 281	153 123
USA	* 60 000	* 50 000	* 50 000	* 50 000	* 60 000
Brazil (b)	3 933	6 937	5 365	7 431	7 019
China	* 14 000	* 15 000	* 15 000	* 15 000	* 15 000
India	* 14 800	* 12 400	* 12 000	* 12 000	* 12 000
Malaysia (c)	552	1 258	2 270	2 662	7 993
Sri Lanka	3 031	3 266	5 789	5 923	* 6 000
Thailand	61	104	196	199	290
Australia	491 547	434 246	462 476	382 005	444 000
World total	762 000	715 000	740 000	719 000	787 000

Note: In this table the term 'zirconium minerals' is understood to mean zircon, unless otherwise stated

(a) Includes baddeleyite (ZrO<sub>2</sub>)

(b) Includes caldasite, a mixture of zircon and baddeleyite

(c) Exports

**Exports of Zirconium**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Concentrates	1 811	748	539	596	434
France					
Concentrates	260	97	18	188	61
Metal	888	—	—	—	—
Germany, Federal Republic of					
Concentrates	11 487	12 372	16 379	14 461	18 885
Metal	50	64	64	86	102
Italy					
Concentrates	461	2 925	5 305	5 062	5 112
Netherlands					
Concentrates	24 840	24 414	23 690	22 699	39 582
South Africa					
Concentrates	112 583	92 586	104 938	132 765	140 726
USA					
Concentrates	7 258	10 603	10 032	12 007	8 655
Metal	776	667	811	718	745
of which: Re-exports	145	49	15	40	11
Malaysia					
Concentrates	552	1 258	2 270	2 662	7 993
Australia					
Concentrates	501 812	444 186	405 215	382 456	440 057

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

## Imports of Zirconium

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom					
Concentrates	32 426	27 615	36 792	37 404	43 077
Metal	205	113	81	141	113
Belgium-Luxembourg					
Concentrates	2 431	4 793	6 039	3 818	4 476
Metal	125	191	169	135	151
France					
Concentrates	39 618	44 762	32 115	34 935	36 624
Metal	687	174	65	109	165
Germany, Federal Republic of					
Concentrates	56 086	69 444	67 648	68 622	75 486
Metal	279	169	399	355	327
Italy					
Concentrates	65 697	55 853	66 919	75 035	71 099
Netherlands					
Concentrates	27 011	34 108	23 149	26 076	45 424
Bulgaria					
Concentrates (a)	* 2 100	* 1 800	* 2 600	* 1 800	* 1 100
Finland					
Concentrates	23	60	86	946	1 046
Soviet Union					
Concentrates (a)	* 4 200	* 4 000	* 4 000	* 8 100	...
Spain					
Concentrates	45 230	37 585	17 380	17 638	...
Sweden					
Concentrates	1 592	1 151	888	3 984	3 272
Metal	174	200	224	290	183
Turkey					
Concentrates	169	119	216	174	...
Algeria					
Concentrates	211	16	160	100	...
South Africa					
Concentrates	49	140	75	1	...
Canada					
Metal	229	289	243	191	227
Mexico					
Zirconium sand (b)	6 880	7 773	4 173	6 114	...
USA					
Concentrates	103 223	82 652	62 110	40 358	60 271
Metal	655	507	392	347	513
Argentina					
Concentrates	1 328	739	495	...	...
Brazil					
Concentrates	2 792	5 146	5 420	6 519	8 301
Zirconium sand (b)	9 124	10 151	1 754	1 004	—
Japan					
Concentrates	190 109	157 733	196 453	198 224	217 648
Metal	103	421	458	526	627
Korea, Republic of					
Concentrates	1 208	3 123	2 370	2 514	7 097
Malaysia					
Concentrates	88	76	147	299	...
Singapore					
Concentrates	1 102	2 081	2 931	—	—
Taiwan					
Zirconium sand (b)	1 292	1 289	2 079	1 509	1 911

Note: Metal traded in ferro-alloy form is included under Iron, Steel and Ferro-alloys

(a) BGS estimates, based on known exports from certain countries

(b) Micronised for use as an opacifier

**Production of Beryl**

tonnes

Country	1980	1981	1982	1983	1984
Portugal	20	18	12	3	10
Soviet Union	* 1 800	* 1 800	* 1 850	* 1 900	* 1 900
Madagascar	6	7	68	70	46
Mozambique	6	7	8	6	...
Rwanda	108	59	69	32	44
South Africa	0	122	58	21	1
Zimbabwe	9	42	52	48	19
Argentina	31	7	6	24	15
Brazil (a)	500	811	1 063	943	1 021

Note: In addition to the countries listed, China is believed to produce a significant quantity of beryl and Namibia a small amount

(a) Exports

**Production of Borates**

tonnes

Country	1980	1981	1982	1983	1984
Finland	2 465	1 457	1 548	2 286	...
Soviet Union	* 200 000	* 200 000	* 200 000	* 200 000	* 200 000
Turkey	1 333 563	1 528 477	1 409 940	1 241 400	1 411 490
USA (a)	1 402 000	1 344 000	1 119 000	1 182 000	1 240 000
Argentina	155 849	125 617	123 492	113 123	* 120 000
Chile	3 275	3 277	291	1 301	3 985
Peru	* 21 000	* 16 000	* 14 000	* 10 000	* 10 000
China	* 27 000	* 27 000	* 27 000	* 27 000	* 27 000

Note: In addition to the countries listed, the Federal Republic of Germany and Iran are also believed to produce borates

(a) Sold or used by producers

**Production of Germanium**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
France	10	13	...	...	...
Austria	5	4	4	6	5
Soviet Union	* 14	* 15	* 17	* 17	* 17
USA (a)	* 27	* 28	* 26	* 20	* 20
Japan	13	11	7	7	8

Note: Significant quantities of germanium are also believed to be recovered from imported or domestic material in Belgium, China, Federal Republic of Germany and to a lesser extent in Italy

(a) Includes production of secondary metal

**Production of Primary Magnesium Metal**

tonnes

Country	1980	1981	1982	1983	1984
France	9 328	7 263	9 610	11 080	12 972
Italy	9 676	10 800	9 943	9 799	8 184
Norway	44 352	47 455	35 922	29 844	49 299
Soviet Union	* 75 000	* 76 000	* 77 000	* 80 000	* 85 000
Yugoslavia	2 508	3 859	4 200	4 700	5 100
Canada	9 252	8 548	7 630	5 980	* 8 000
USA	153 747	139 509	92 712	104 717	144 430
Brazil	—	—	310	519	1 195
China	* 7 000	* 7 000	* 7 500	* 8 500	* 8 500
Japan	9 252	5 667	5 555	6 026	7 144

**Production of Nepheline Syenite**

tonnes

Country	1980	1981	1982	1983	1984
Norway	231 339	216 885	212 409	219 565	238 179
Soviet Union	* 2 500 000	* 2 500 000	* 2 500 000	* 2 500 000	* 2 500 000
Canada	600 000	588 000	550 000	523 000	485 000

**Production of Perlite**

tonnes

Country	1980	1981	1982	1983	1984
Greece	403 330	412 110	397 609	358 483	357 220
Italy	* 90 000	* 85 000	* 80 000	* 75 000	* 70 000
Czechoslovakia (a)	40 302	42 336	45 667	44 019	* 44 000
Hungary	99 270	95 190	89 975	92 530	94 360
Soviet Union	* 360 000	* 360 000	* 360 000	* 360 000	* 360 000
Turkey	25 879	5 650	19 229	32 909	64 920
Mexico	44 379	56 731	32 425	41 377	* 40 000
USA	748 000	644 000	565 000	552 000	592 000
Japan	* 80 000	* 75 000	* 75 000	* 75 000	* 75 000
Philippines	7 973	7 530	3 582	2 020	15 641
Australia	2 249	1 476	1 148	2 856	* 2 000
New Zealand	999	999	2 163	1 008	—

Note: In addition to the countries listed, Algeria, Bulgaria, China, Iceland, Mozambique, South Africa and Yugoslavia are also believed to produce perlite

(a) Expanded

**Production of Selenium Metal**

tonnes

Country	1980	1981	1982	1983	1984
Belgium	* 60	* 60	* 60	* 60	* 60
Finland	30	19	10	11	18
Sweden	51	44	27	* 40	* 45
Yugoslavia	45	36	42	44	* 45
Zambia	23	22	23	18	21
Canada (a)	377	350	234	352	448
Mexico	46	12	29	24	26
USA	141	252	243	354	265
Chile	17	34	23	44	* 40
Peru	23	22	21	20	20
Japan	471	428	410	433	465

Note: In addition to the countries listed, Australia, Federal Republic of Germany and Soviet Union are also believed to produce selenium metal

(a) Includes production of secondary metal

**Production of Strontium Minerals**

tonnes

Country	1980	1981	1982	1983	1984
United Kingdom	6 700	14 545	17 955	12 054	16 079
Italy	1 053	6 700	3 272	414	* 3 000
Spain	17 480	33 120	32 108	31 740	* 34 000
Turkey	20 000	25 000	* 15 000	39 000	* 35 000
Algeria	* 5 400	* 5 400	* 5 400	* 5 400	* 5 400
Mexico	40 761	41 344	31 676	37 506	36 157
Argentina (a)	268	310	776	673	* 700
Iran (b)	18 000	26 000	30 000	21 000	23 000
Pakistan	270	288	465	135	522

Note: In addition to the countries listed, China, Federal Republic of Germany, Poland and Soviet Union are also believed to produce strontium minerals

(a) May contain unbeneficiated material

(b) Years ended 20 March following that stated

**Production of Tellurium Metal**

tonnes

Country	1980	1981	1982	1983	1984
Canada (a)	9	21	17	24	15
USA	* 50	* 70	* 70	...	* 100
Peru	21	22	21	17	15
Japan	69	62	63	55	63
Fiji	* 11	—	—	—	—

Note: In addition to the countries listed, Australia, Belgium, Federal Republic of Germany and Soviet Union are also believed to produce tellurium metal

(a) Includes production of secondary metal

**Mine Production of Uranium**

tonnes (metal content)

Country	1980	1981	1982	1983	1984
Belgium	20	35	37	38	* 40
France	2 845	2 554	2 872	3 299	3 168
Germany, Federal Republic of	41	36	34	* 48	* 33
Portugal	72	90	100	93	114
Spain	167	151	155	175	191
Gabon	1 034	1 023	970	1 007	917
Namibia	4 036	3 970	3 777	3 713	3 600
Niger	4 132	4 367	4 257	3 426	3 276
South Africa	6 186	6 135	5 794	6 045	5 734
Canada	6 739	7 507	7 643	6 823	9 244
USA	16 800	14 800	10 300	7 900	5 800
Argentina	242	187	572	114	129
Brazil	—	5	243	194	117
India	103	99	103	100	100
Australia	1 561	2 922	4 422	3 211	4 390
World total	44 000	43 900	41 300	36 200	36 900
World total (U <sub>3</sub> O <sub>8</sub> equivalent)	51 900	51 800	48 700	42 700	43 500

Note: In addition to the countries listed, China, Czechoslovakia, Israel and Soviet Union are also believed to produce uranium

**Production of Vermiculite**

tonnes

Country	1980	1981	1982	1983	1984
Egypt	725	725	280	300	* 330
Kenya	2 558	2 353	1 556	876	872
South Africa	185 699	190 601	182 641	153 034	173 759
Mexico	545	596	522	399	* 500
USA (a)	306 000	290 000	287 000	256 000	286 000
Argentina	9 907	3 227	3 354	3 951	* 3 500
Brazil (b)	12 181	14 307	14 059	9 877	* 10 000
India	3 678	3 477	2 089	2 410	* 2 500
Japan	* 17 000	* 17 000	* 17 000	* 17 000	* 17 000

Note: In addition to the countries listed, Malawi is also believed to produce vermiculite

(a) Sold or used by producers

(b) Includes beneficiated and directly shipped material

**Production of Wollastonite**

tonnes

Country	1980	1981	1982	1983	1984
Finland	8 782	13 690	14 962	15 402	14 669
Mexico	20 905	14 602	15 599	10 784	...
USA	* 76 000	* 87 000	* 86 000	* 83 000	* 96 000
India	5 790	15 915	20 724	16 557	27 004

Note: In addition to the countries listed, Japan, Namibia and Turkey are also believed to produce wollastonite





## APPENDIX

A brief explanation of the tables in the following pages is given in the *Explanatory Notes* at the beginning of this volume (page iv). However, it must be stressed that the totals, arrived at in the trade reconstructions, are necessarily conservative, since country breakdown details are not released by every trading partner. Each table, therefore, shows only the data that can be extracted from published sources and no estimates are made for countries that suppress information.



## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
United Kingdom	177	2 419	1 157	886	1 002
Belgium-Luxembourg	303	1 900	5 739	4 330	6 279
France	10 639	4 809	39 868	64 200	35 562
Germany, Federal Republic of	8 817	7 614	4 841	1 426	6 626
Italy	3 309	6 508	4 717	2 541	3 999
Netherlands	25	300	19 311	28 548	24 494
Austria	471	274	4	1 521	11 285
Czechoslovakia	63 000	68 000	55 000	73 000	72 000
Finland	10 230	10 225	11 035	13 115	11 715
Hungary	166 749	151 334	134 359	162 864	163 320
Norway	-	-	-	-	10 109
Poland	-	-	34 443	* 35 000	40 465
Portugal	100	-	197	2 009	1 004
Spain	-	-	1 491	-	59
Sweden	-	25	5 365	628	312
Switzerland	-	-	-	-	219
Turkey	-	-	-	224	3 084
Yugoslavia	47 655	42 992	30 490	35 178	30 400
Algeria	-	-	613	-	-
USA	10	572	1 696	100	5 937
Brazil	-	-	106	-	-
Colombia	-	101	101	-	-
Hong Kong	2 549	1 092	1 020	-	781
Indonesia	225	-	-	-	-
Japan	62 136	65 035	81 726	68 020	57 447
Pakistan	-	-	112	1 142	541
Philippines	-	-	300	-	-
Thailand	-	340	226	99	587
Total	376 395	363 540	433 917	494 831	487 227

## Aluminium waste &amp; scrap

## Soviet Union Exports

					tonnes
Importing Countries	1980	1981	1982	1983	1984
United Kingdom	-	-	-	260	-
Germany, Federal Republic of	-	-	552	119	571
Italy	72	1 101	2 382	3 709	1 391
Austria	26 810	47 273	42 269		
Finland	482	2 626	5 215	7 432	7 583
Sweden	-	30	-	-	33
Canada	-	-	-	-	2 016
USA	-	2 782	-	-	4 243
Pakistan	-	-	-	52	-
Total	27 364	53 812	50 418	11 572	15 837

## Antimony oxide

## Soviet Union Exports

					tonnes
Importing Countries	1980	1981	1982	1983	1984
United Kingdom	-	-	-	66	57
Belgium-Luxembourg	-	-	-	3	10
France	35	-	32	87	45
Germany, Federal Republic of	-	122	61	45	85
Austria	-	-	83	81	80
Spain	-	-	45	-	
USA	-	-	-	-	40
Japan		290	240	200	241
Total	35	412	461	482	558

## Soviet Union Exports

	tonnes				
Importing Countries	1980	1981	1982	1983	1984
Belgium-Luxembourg	12 012	9 806	4 006	6 691	1 863
France	21 552	22 315	22 863	18 937	26 268
Germany, Federal Republic of	28 714	22 944	15 849	18 606	8 807
Greece	1 516	2 370	1 630	* 1 000	* 1 000
Italy	9 113	10 677	5 561	5 920	3 555
Netherlands	1 347	1 700	1 269	777	200
Austria	3 398	4 758	5 161	1 042	3 947
Czechoslovakia	31 025	35 987	35 443	32 362	32 587
Finland	665	639	574	720	482
Hungary	41 639	31 695	30 218	33 606	31 581
Poland	66 898	77 850	66 863	* 60 000	61 122
Portugal	-	658	348	-	-
Spain	3 591	2 700	1 970	-	1 027
Switzerland	4 477	4 185	511	3 205	1 623
Turkey	13 597	14 072	8 988	8 021	5 982
Yugoslavia	36 260	36 136	40 439	34 367	* 35 000
Tunisia	1 155	* 1 000			
India	2 794	14 316			
Japan	41 703	38 130	38 204	42 804	42 885
Sri Lanka	-	-	-	-	52
Thailand	-	-	-	-	309
Total	321 456	331 938	279 897	268 058	258 290

Coal

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
United Kingdom	44 466	-	8 459	20 672	10 270
Belgium-Luxembourg	184 049	105 645	126 712	-	114 246
Denmark	396 963	85 686	132 456	370 282	185 825
France	764 853	323 320	32 077	99 760	220 120
Germany, Federal Republic of	198 999	21 533	25 500	87 622	245 407
Greece	20 136	11 386	4 721	11 000	316 000
Irish Republic	-	-	-	1 510	9 672
Italy	1 013 486	205 947	138 705	38 007	68 531
Netherlands	-	29 100	-	-	4 061
Austria	770 408	123 018	265 862	439 684	470 975
Bulgaria	4 900 000	5 090 000	5 330 000	5 227 000 *	5 000 000
Czechoslovakia	3 174 000	3 273 000	3 261 000	3 252 000	3 115 000
Finland	589 300	806 386	785 763	846 295	907 597
German Democratic Republic	3 376 000	2 615 000	2 897 000	2 958 000	2 399 000
Hungary	648 741	662 211	1 014 189	819 102	812 304
Norway	-	-	-	3 057	-
Poland	742 000	803 000	701 000	* 700 000	735 000
Spain	89 701	8 200	-	-	-
Sweden	475 081	156 739	195 820	221 363	309 879
Switzerland	-	-	-	-	1 997
Turkey	-	-	-	-	9 000
Yugoslavia	1 813 878	1 839 581	2 114 382	2 104 752	2 410 394
Algeria	24 400	21 150	-	-	-
Cyprus	-	-	-	-	51 818
Japan	2 137 183	1 408 589	1 345 852	1 954 698	2 476 601
Philippines	-	-	-	-	25 000
Total	21 363 644	17 589 491	18 379 498	19 154 804	19 898 697

Brown coal

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
Italy	411	82	150	-	-
Austria	2 594	-	-	-	-
Turkey	-	-	-	-	5 000
Yugoslavia	60 550	57 613	64 000	70 439	* 60 000
Japan	15 295	4 075	14 595	25 958	22 551
Total	78 850	61 770	78 745	96 397	87 551

## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
United Kingdom	23	20	2 727	927	1 787	
Belgium-Luxembourg	1 166	-	1 025	1 822	202	
France	12	17	141	3 439	6 605	
Germany, Federal Republic of	2 058	2 202	6 950	9 868	22 548	
Italy	-	9	107	81	28	
Netherlands	-	-	270	1 055	1 670	
Czechoslovakia	39 000	39 000	39 000	40 000	38 000	
Finland	4 885	4 888	5 117	6 000	7 452	
Hungary	-	-	-	-	13 430	
Poland	-	-	1 294	* 2 000	3 089	
Spain	24	-	-	-	-	
Sweden	-	-	1 131	-	-	
Switzerland	-	20	-	10	30	
Yugoslavia	2	1 454	-	499	-	
USA	-	-	895	-	-	
Japan	80	30	545	378	2 245	
Total	47 250	47 640	59 202	66 079	97 086	

## Copper waste &amp; scrap

## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
United Kingdom	-	-	-	733	-	
Germany, Federal Republic of	104	-	583	1 806	549	
Italy	-	-	-	1 977	288	
Austria	1 808	2 658	12 339	8 859	11 109	
Finland	-	-	147	599	-	
Spain	-	-	3	-	-	
Switzerland	-	725	550	205	432	
India	-	23	-	-	-	
Japan	-	-	-	-	37	
Total	1 912	3 406	13 622	14 179	12 415	

## Soviet Union Exports

carats

Importing Countries	1980	1981	1982	1983	1984
Belgium-Luxembourg	399 259	323 831	440 904	260 217	525 185
Denmark	-	-	8	-	-
Germany, Federal Republic of	49 211	59 634	92 894	61 983	67 508
Italy	-	214	188	-	-
Netherlands	-	2 588	-	-	-
Austria	-	20 000	-	-	-
Spain	-	1 040	852	6 045	* 1 000
Canada	-	118 000	-	20 000	-
USA	2 051	2 569	155	138	950
Abu Dhabi	-	-	-	-	5 000
Hong Kong	1 009	918	7	-	701
India	-	10 000	-	-	-
Japan	33 907	14 206	16 266	15 705	18 518
Thailand	-	-	322	179	-
<b>Total</b>	<b>485 437</b>	<b>553 000</b>	<b>551 596</b>	<b>364 267</b>	<b>618 862</b>

Gold metal

## Soviet Union Exports

kilograms

Importing Countries	1980	1981	1982	1983	1984
United Kingdom	112	38	1 227	1 021	154
France	-	-	241	-	-
Germany, Federal Republic of	4 516	9 224	18 616	12 287	13 855
Italy	4 426	1 462	5 086	4 000	1 000
Netherlands	-	169	663	-	-
Austria	149	-	298	284	2
Canada	-	50	-	200	-
USA	4 036	1 233	360	121	130
Japan	2 482	37 056	32 307	7 855	5 709
<b>Total</b>	<b>15 721</b>	<b>49 232</b>	<b>58 798</b>	<b>25 768</b>	<b>20 850</b>



## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
United Kingdom	336	109	-	-	-	
France	113	-	-	40	-	
Italy	448	100	-	-	-	
Finland	-	-	-	37	-	
Poland	1 990	555	326	* 500	-	
Yugoslavia	304	-	-	-	-	
USA	3 260	310	-	-	-	
Japan	5 056	1 288	112	-	-	
Total	11 507	2 362	438	577	-	

## Gypsum

## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
Finland	20 422	21 428	24 295	23 430	19 763	
Sweden	14 813	23 121	-	-	-	
Total	35 235	44 549	24 295	23 430	19 763	

## Soviet Union Exports

Importing Countries	tonnes				
	1980	1981	1982	1983	1984
United Kingdom	1 031	-	1 500	4 500	-
Belgium-Luxembourg	1 604	-	-	1 200	109
Denmark	-	-	28 340	7 610	3 066
Germany, Federal Republic of	6 937	9 760	40 923	27 217	31 509
Greece	6 465	2 418	3 530	12 987	4 161
Italy	26 963	23 827	68 626	80 732	33 967
Netherlands	757	-	-	-	-
Austria	37 317	39 334	41 335	8 943	16 368
Bulgaria	403 478	409 722	399 488	375 728	* 350 000
Czechoslovakia	804 000	839 000	900 000	777 000	742 000
Hungary	254 408	272 168	226 269	260 304	241 669
Sweden	13 572	10 993	38 681	20 223	9 722
Switzerland	-	-	3 448	1 483	-
Turkey	-	-	-	3 542	18 505
Yugoslavia	5 607	8 372	16 154	16 632	* 15 000
Cyprus	-	-	-	100	-
Indonesia	-	-	-	10 131	-
Japan	35 002	-	155 191	162 145	79 408
Jordan	-	8 349	3 259	2 919	3
<b>Total</b>	<b>1 597 141</b>	<b>1 623 943</b>	<b>1 926 744</b>	<b>1 773 396</b>	<b>1 545 487</b>

## Ferro-chrome &amp; silico-chrome

## Soviet Union Exports

	tonnes				
Importing Countries	1980	1981	1982	1983	1984
United Kingdom	-	337	-	61	-
Belgium-Luxembourg	994	2 347	3 798	8 454	3 532
France	218	2 560	1 467	1 888	1 503
Germany, Federal Republic of	2 880	4 662	3 915	2 373	3 098
Greece	6	-	-	-	-
Italy	86	24	254	238	-
Netherlands	-	373	425	21	1 072
Austria	2 803	3 369	4 930	4 502	4 053
Hungary	6 084	5 518	5 901	6 069	5 957
Sweden	560	1 618	2 132	2 829	1 947
Turkey	-	-	-	487	* 400
Thailand	-	-	-	190	-
Australia	-	-	-	-	60
<b>Total</b>	<b>13 631</b>	<b>20 808</b>	<b>22 822</b>	<b>27 112</b>	<b>21 622</b>

## Ferro-manganese &amp; silico-manganese

## Soviet Union Exports

	tonnes				
Importing Countries	1980	1981	1982	1983	1984
Belgium-Luxembourg	-	-	-	-	25
Germany, Federal Republic of	1 019	-	-	-	-
Finland	3 835	4 940	6 822	6 758	7 821
Hungary	26 819	23 581	25 941	24 120	24 584
Turkey	1 632	2 324	1 569	503	* 500
Japan	-	-	-	9 124	-
Thailand	-	-	-	-	37
<b>Total</b>	<b>33 305</b>	<b>30 845</b>	<b>34 332</b>	<b>40 505</b>	<b>32 967</b>

## Soviet Union Exports

					tonnes
Importing Countries	1980	1981	1982	1983	1984
United Kingdom	192	-	-	-	-
Belgium-Luxembourg	1 287	3 780	2 776	3 402	2 239
France	-	291	177	289	1 220
Germany, Federal Republic of	1 220	4 795	8 263	7 381	7 375
Greece	10	10	10	5	-
Italy	-	-	-	1 206	1 086
Netherlands	-	-	190	-	-
Austria	1 679	2 116	3 544	3 719	3 003
Finland	3 501	2 569	3 048	2 530	3 304
Hungary	6 333	6 842	7 523	6 554	6 233
Sweden	-	1 348	1 174	1 374	2 878
Switzerland	-	45	-	327	1 998
Turkey	838	980	466	2 563	* 1 500
Algeria	633	-	-	-	-
USA	-	-	-	14 059	* 10 250
Dubai	-	-	-	-	32
Indonesia	-	-	17	42	-
Japan	-	-	-	890	4 308
Malaysia	5	-	-	-	-
Pakistan	-	7	-	-	229
Singapore	25	-	-	-	-
Thailand	-	-	-	-	50
New Zealand	-	-	1	-	-
Total	15 723	22 783	27 189	44 341	45 705

## Ferro-titanium &amp; silico-titanium

## Soviet Union Exports

					tonnes
Importing Countries	1980	1981	1982	1983	1984
United Kingdom	45	-	-	277	532
Belgium-Luxembourg	-	-	-	-	150
Germany, Federal Republic of	22	431	331	391	766
Netherlands	-	-	-	-	145
Austria	-	67	-	-	33
Sweden	1 408	645	1 266	935	885
Total	1 475	1 143	1 597	1 603	2 511

## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
France	-	20	-	-	-	
Austria	-	-	49	-	-	
Hungary	8 681	13 466	9 832	11 982	10 182	
Portugal	5	-	-	-	-	
Switzerland	45	305	73	46	99	
USA	-	-	-	90	148	
Japan	46	-	-	-	174	
Pakistan	-	-	6	-	-	
Syria	-	-	-	-	199	
Total	8 777	13 791	9 960	12 118	10 802	

## Iron &amp; steel ingots, blooms, billets

## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
France	-	25	-	-	-	
Germany, Federal Republic of	-	-	-	-	118	
Greece	-	-	-	2 511	-	
Italy	106	1 442	4 747	29 023	4 753	
Finland	-	-	-	11	-	
Turkey	62 180	50 124	46 079	109 217	80 946	
Yugoslavia	97 431	49 731	114 833	188 487	* 100 000	
Algeria	10	176	7	-	-	
Libya	-	-	30	-	-	
Nigeria	-	93	-	-	-	
Tanzania	-	304	-	-	-	
Japan	-	-	-	-	20	
Jordan	15 867	13 631	15 902	21 548	35 843	
Sri Lanka	3 405	-	-	-	-	
Syria	6 343	2 699	-	6 152	26 111	
Total	185 342	118 225	181 598	356 949	247 791	

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
Denmark	27	20	-	20	-
Austria	2 402	2 745	4 641	5 669	7 385
Finland	-	-	-	-	257
Poland	13 210	17 362	39 942	* 20 000	25 575
Yugoslavia	17 119	8 521	10 893	14 909	* 10 000
Japan	45	34	35	-	-
Saudi Arabia	-	-	-	-	1 145
<b>Total</b>	<b>32 803</b>	<b>28 682</b>	<b>55 511</b>	<b>40 598</b>	<b>44 362</b>

## Unwrought lead &amp; alloys

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
France	4 648	-	-	-	-
Germany, Federal Republic of	-	-	2 158	-	-
Greece	-	13	-	181	-
Italy	120	-	-	-	-
Netherlands	43	46	-	-	-
Czechoslovakia	25 000	20 000	15 000	10 000	9 000
Finland	7 058	7 000	7 010	7 003	8 061
Hungary	-	-	-	-	5 924
Poland	3 995	-	-	-	-
India	-	442	-	-	-
<b>Total</b>	<b>40 864</b>	<b>27 501</b>	<b>24 168</b>	<b>17 184</b>	<b>22 985</b>

## Soviet Union Exports

	tonnes				
Importing Countries	1980	1981	1982	1983	1984
United Kingdom	-	10	-	-	-
Netherlands	8 568	3 458	2 302	3 508	3 322
Austria	-	10	-	-	-
Finland	8 756	5 180	8 296	6 278	574
Hungary	7 760	6 284	6 256	5 679	5 293
Total	25 084	14 942	16 854	15 465	9 189

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
United Kingdom	731	226	18	151	702
Belgium-Luxembourg	50	83	155	37	30
Denmark	-	-	-	-	45
France	4 529	4 672	6 003	3 350	2 730
Germany, Federal Republic of	6 411	6 625	12 996	12 300	16 741
Greece	-	7	-	-	-
Irish Republic	-	74	84	10	127
Italy	950	466	764	503	1 653
Netherlands	905	545	272	395	38
Austria	185	171	210	311	449
Czechoslovakia	4 743	4 344	3 387	5 038	4 219
Finland	1 897	1 754	2 078	1 439	576
Norway	-	10	26	64	-
Portugal	-	4	6	12	-
Spain	20	9	72	40	485
Sweden	1 372	711	868	1 328	798
Switzerland	189	102	104	10	114
Yugoslavia	1 751	1 806	892	1 070	* 1 000
Canada	200	191	-	-	-
USA	3 482	6 022	2 234	4 010	54
Colombia	5	-	-	-	-
India	825	650	-	-	-
Japan	2 401	3 191	4 295	5 410	5 540
Korea, Republic of	200	-	-	-	-
Thailand	-	-	75	-	-
Australia	-	-	8	34	-
Total	30 846	31 663	34 547	35 512	35 301



## Soviet Union Exports

Importing Countries	tonnes				
	1980	1981	1982	1983	1984
United Kingdom	109 440	384 511	1 551 714	1 337 168	1 468 582
Belgium-Luxembourg	-	932 069	2 076 781	1 938 518	2 612 283
Denmark	773 075	530 864	538 611	772 902	825 001
France	6 355 827	5 401 448	3 632 984	4 835 887	4 835 597
Germany, Federal Republic of	-	-	3 407 446	4 372 885	5 765 043
Greece	282 599	949 123	557 467	661 570	1 625 000
Italy	5 377 543	4 767 055	5 891 343	7 380 319	8 476 409
Netherlands	475 173	819 686	2 380 799	2 299 106	4 169 399
Austria	1 415 204	1 710 919	1 425 142	1 392 553	1 278 441
Czechoslovakia	18 803 000	* 25 000 000	* 30 000 000	* 40 000 000	* 45 000 000
Finland	6 974 643	7 345 655	7 914 496	8 872 258	7 496 341
German Democratic Republic	19 011 000	19 036 000	17 709 000	17 051 000	17 068 000
Hungary	7 500 000	7 280 000	6 980 000	6 180 000	6 880 000
Norway	105 817	255 248	152 739	178 338	420 182
Poland	13 100 000	13 101 000	12 946 000	* 12 000 000	12 949 000
Portugal	494 675	651 239	217 621	231 142	227 799
Spain	1 238 436	877 641	402 921	262 864	712 000
Sweden	547 000	419 000	447 000	1 513 000	959 000
Switzerland	-	55 557	129 119	-	-
Yugoslavia	4 832 887	4 501 674	4 148 664	3 305 263	548 865
Canary Islands	-	-	49 548	384 117	
Morocco	464 347	544 320	833 387	924 934	584 994
Brazil	-	-	740 657	695 799	631 335
Cyprus	-	-	-	35 052	244 823
India	1 782 382	1 846 749			
Japan	80 678	69 116	-	35 552	36 850
Total	89 723 726	96 478 874	104 133 439	116 660 227	124 814 944

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
Belgium-Luxembourg	89 318	134 467	175 170	152 078	112 799
Denmark	-	23 384	58 252	41 095	32 995
France	-	-	933	-	-
Germany, Federal Republic of	356 976	386 612	-	-	-
Greece	9	-	-	-	-
Italy	9 230	2 950	-	-	-
Netherlands	481	15 560	42 430	4 233	2 930
Austria	14 686	10 929	35 728	365	-
Bulgaria	803 000	914 000	805 000	883 000	* 800 000
Finland	-	-	-	176 666	65 692
German Democratic Republic	1 167 000	1 000 000	1 056 000	1 063 000	1 090 000
Hungary	478 863	499 382	472 587	463 704	472 451
Norway	73 756	153 622	238 466	165 910	127 450
Poland	741 000	857 000	644 000	* 600 000	627 000
Sweden	204 478	241 185	264 272	295 769	326 607
Yugoslavia	140 704	107 913	115 697	52 486	* 50 000
Japan	-	-	-	-	54
<b>Total</b>	<b>4 079 501</b>	<b>4 347 004</b>	<b>3 908 535</b>	<b>3 898 306</b>	<b>3 707 978</b>

## Soviet Union Exports

kilograms

Importing Countries	1980	1981	1982	1983	1984
United Kingdom	1 235	110	15	36	-
France	1 076	1 848	1 538	1 039	1 444
Germany, Federal Republic of	7 228	6 651	7 459	6 493	6 843
Italy	343	686	121	26	5
Netherlands	196	133	140	69	119
Austria	22	54	41	-	49
Finland	10	-	-	7	-
Norway	-	-	-	15	-
Spain	-	-	-	1	-
Switzerland	3 133	3 178	4 437	4 575	3 272
Yugoslavia	117	* 300	* 500	* 800	-
Mexico	-	-	9	-	-
USA	11 718	11 181	12 567	13 037	16 365
Argentina	-	12	-	-	-
Brazil	-	20	-	-	-
Ecuador	-	-	3	-	-
Hong Kong	276	72	-	-	-
India	196	54	-	-	-
Japan	20 582	22 145	26 206	27 272	29 461
Singapore	-	-	27	-	-
Australia	-	6	97	34	-
Total	46 132	46 450	53 160	53 404	57 558

Rare earth compounds

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
France	-	-	-	350	452
Germany, Federal Republic of	6	5	5	4	22
Italy	-	-	-	24	-
USA	33	12	11	13	12
Japan	249	314	350	222	18
Total	288	331	366	613	504

## Sulphur

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
Germany, Federal Republic of	-	-	-	-	2 831
Hungary	37 075	43 506	25 467	33 616	31 036
Turkey	-	-	-	962	
Yugoslavia	-	-	-	2 593	
Morocco	23 234	-	-	-	-
India	-	11 908			
<b>Total</b>	<b>60 309</b>	<b>55 414</b>	<b>25 467</b>	<b>37 171</b>	<b>33 867</b>

## Titanium metal

## Soviet Union Exports

tonnes

Importing Countries	1980	1981	1982	1983	1984
United Kingdom	-	1	-	-	-
France	164	55	-	-	-
Germany, Federal Republic of	809	727	842	660	486
Italy	193	100	42	39	16
Netherlands	15	33	5	10	-
Sweden	118	153	67	298	73
USA	1 474	468	306	179	81
<b>Total</b>	<b>2 773</b>	<b>1 537</b>	<b>1 262</b>	<b>1 186</b>	<b>656</b>

## Soviet Union Exports

						tonnes
Importing Countries	1980	1981	1982	1983	1984	
Germany, Federal Republic of	227	-	-	278	-	
Greece	-	-	-	-	5	
Czechoslovakia	20 000	9 000	9 000	10 000	7 000	
Hungary	-	-	-	-	4 181	
Poland	2 164	4 116	5 417	* 4 000	3 420	
Portugal	101	-	-	-	-	
Sweden	-	-	-	50	-	
Yugoslavia	-	40	420	591	-	
India	7 542	10 283	* 8 000	-	-	
Pakistan	-	-	-	-	118	
Total	30 034	23 439	22 837	14 919	14 724	

## Aluminium ores &amp; concentrates

## Soviet Union Imports

Exporting Countries	tonnes				
	1980	1981	1982	1983	1984
United Kingdom	-	-	-	-	3
France	-	-	82 871	-	-
Greece	585 814	578 829	566 060	587 313	577 445
Turkey	8 400	86 830			
Yugoslavia	8 804	64 057	353 624	235 090	333 320
Guinea	1 800 000	1 714 000	2 387 000 *	2 700 000 *	2 800 000
Jamaica	-	-	-	167 375	756 051
Brazil	-	392 000	-	-	-
Guyana					66 932
<b>Total</b>	<b>2 403 018</b>	<b>2 835 716</b>	<b>3 389 555</b>	<b>3 689 778</b>	<b>4 533 751</b>

## Alumina

## Soviet Union Imports

Exporting Countries	tonnes				
	1980	1981	1982	1983	1984
France	318	600	725	678	81
Germany, Federal Republic of	57 338	960	1 850	875	1 555
Italy	24 920	22	17 000	-	-
Netherlands	250	250	180	250	266
Hungary	387 315	354 495	237 398	353 003	335 802
Switzerland	-	2	-	-	-
Turkey	74 600	50 000	* 50 000		12 121
Yugoslavia	436 794	521 987	502 694	498 260	* 500 000
Jamaica	213 470	31 740	50 415	25 089	26 255
USA	-	36 154	-	-	-
Guyana	21 684				
India	77 022	9 514	* 70 000		
Japan	60 858	1 339	758	1 410	1 731
<b>Total</b>	<b>1 354 569</b>	<b>1 007 063</b>	<b>931 020</b>	<b>879 565</b>	<b>877 811</b>

## Antimony metal

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
Yugoslavia	600	820	470		

Barytes

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
Italy	-	2 227	-	-	-
Turkey	43 238	110 194	95 600	34 600	73 303
Yugoslavia	-	-	1 304	120	
Japan	1 200	630	-	-	-
Total	44 438	113 051	96 904	34 720	73 303

Cadmium metal

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	-	-	1	-	20
Belgium-Luxembourg	-	5	4	-	-
Italy	-	45	60	-	80
Finland	-	-	-	-	50
Norway	-	-	-	-	15
Canada	-	-	60	-	-
Japan	-	15	451	230	30
Australia	-	-	20	-	90
Total	-	65	596	230	285

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
Germany, Federal Republic of	371	-	-	-	-
Poland	6 041 000	3 834 000	8 869 000	* 10 000 000	12 834 000
Total	6 041 371	3 834 000	8 869 000	10 000 000	12 834 000

Copper ore

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
Finland	-	-	3 861	-	-
Spain	-	12 941	964	-	-
Sweden	-	7 403	5 250	-	450
Canada	* 80 600	-	-	-	-
Mexico	-	-	3 339	-	-
USA	-	57 920	82 548	-	-
Cyprus	825	-	1 061	-	-
Indonesia	-	19 244	-	-	-
Philippines	29 891	-	-	-	-
Total	111 316	97 508	97 023	-	450



## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	-	3 921	-	-	-
Poland	5 698	4 361	1 626		-
Canada	2 331	-	-	-	-
Japan	1 945	4 036	1 996	-	-
Total	9 974	12 318	3 622	-	-

## Fluorspar

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	2 588	-	-	-	-
Spain	9 955	37 869	-	14 389	4 530
Kenya	25 235	34 996	70 751	41 898	
Thailand	47 500	67 000	65 600	32 000	61 003
Total	85 278	139 865	136 351	88 287	65 533

## Pig-iron

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
Algeria	67 683	195 964	95 644	-	

## Iron &amp; steel sponge &amp; powder

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
Belgium-Luxembourg	-	-	-	-	1
Germany, Federal Republic of	130	181	779	395	333
Sweden	2 926	4 629	3 727	5 179	3 665
Japan	-	-	1	-	2
Total	3 056	4 810	4 507	5 574	4 001

## Ferro-silicon

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
Norway	-	33	-	-	-
Canada	337	-	-	-	-
Korea, Dem. P.R. of	2 526	2 636	2 790	3 100	2 500
Total	2 863	2 669	2 790	3 100	2 500

## Other ferro-alloys

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	20	-	-	-	-
France	-	-	-	-	50
Sweden	34	38	63	-	28
Turkey	-	-	-	-	1 300
Brazil	809	807	795	429	283
Total	863	845	858	429	1 661

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
Belgium-Luxembourg	4 658	-	-	-	-
Greece	-	7 300	14 800	5 000	8 000
Irish Republic	14 417	-	-	-	-
Italy	2 500	311	-	2 077	1 805
Finland	-	-	-	42 708	-
Spain	-	-	-	-	7 519
Sweden	3 273	3 383	-	-	-
Morocco	4 317	3 103	-	-	-
Canada	* 14 500	* 16 000	-	-	-
Japan	6 139	5 787	-	-	-
Australia	-	-	-	-	5 061
Total	49 804	35 884	14 800	49 785	22 385

## Unwrought lead &amp; alloys

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	10 211	5 172	70	-	18
Belgium-Luxembourg	8 466	2 212	12 735	1 999	813
France	4 648	9 126	3 560	3 248	2 974
Germany, Federal Republic of	-	670	-	-	3 528
Italy	120	-	-	-	-
Netherlands	199	-	-	-	-
Spain	4 000	5 500	28 070	24 400	37 960
Sweden	-	-	4 505	13 039	10 856
Yugoslavia	13 953	3 278	1	9	-
Canada	11 664	-	10 999	12 498	1 500
Peru	6 000	6 005	7 996	2 001	-
Total	59 261	31 963	67 936	57 194	57 649

## Soviet Union Imports

						tonnes
Exporting Countries	1980	1981	1982	1983	1984	
Germany, Federal Republic of	-	-	-	17	-	
Netherlands	-	-	-	831	282	
USA	* 250	* 1 000	-	-	-	
Total	250	1 000	-	848	282	

## Sulphur

## Soviet Union Imports

						tonnes
Exporting Countries	1980	1981	1982	1983	1984	
Poland	742 000	792 000	818 000	* 800 000	872 000	
Canada	-	135 580	201 086	198 075	180 341	
Mexico	-	20 251	-	-	-	
USA	-	-	28 032	-	-	
Japan	-	5	-	-	-	
Total	742 000	947 836	1 047 118	998 075	1 052 341	

## Talc

## Soviet Union Imports

						tonnes
Exporting Countries	1980	1981	1982	1983	1984	
France	-	75	-	-	-	
Austria	-	-	3 423	-	-	
Finland	3 401	12 861	7 570	2 500	2 000	
Total	3 401	12 936	10 993	2 500	2 000	

## Tin ore

## Soviet Union Imports

						tonnes
Exporting Countries	1980	1981	1982	1983	1984	
Singapore	1 851	396	2 231	2 005	1 319	
Australia	-	-	-	200	-	
Total	1 851	396	2 231	2 205	1 319	

## Unwrought tin &amp; alloys

## Soviet Union Imports

						tonnes
Exporting Countries	1980	1981	1982	1983	1984	
United Kingdom	3 788	4 846	1	-	8 908	
Belgium-Luxembourg	-	-	-	-	10	
Netherlands	-	295	5	5	35	
Malaysia	6 485	5 710	3 700	6 160	1 290	
Singapore	2 577	654	1 027	1 081	1 510	
Total	12 850	11 505	4 733	7 246	11 753	

## Titanium ores

## Soviet Union Imports

						tonnes
Exporting Countries	1980	1981	1982	1983	1984	
Netherlands	-	-	-	10 000	3 500	
Australia	177 985	131 862	47 048	81 720	107 220	
Total	177 985	131 862	47 048	91 720	110 720	

## Titanium oxides

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	-	205	282	300	200
France	-	300	126	263	-
Germany, Federal Republic of	2 931	3 080	2 760	1 750	1 753
Netherlands	-	-	-	-	504
Spain	-	-	2	50	
Japan	1 490	500	1 400	400	-
Total	4 421	4 085	4 570	2 763	2 457

## Tungsten metal

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
Netherlands	-	2	-	-	85
Finland	-	-	-	1	-
USA	14	9	4	4	6
Japan	52	51	52	32	41
Total	66	62	56	37	132

## Soviet Union Imports

					tonnes
Exporting Countries	1980	1981	1982	1983	1984
France	4 004	-	-	-	-
Greece	-	4 000	12 700	-	-
Irish Republic	4 590	-	-	-	-
Finland	-	-	-	8 986	5 190
Spain	10 976	6 192	2 679	-	7 094
Sweden	11 510	26 021	12 914	36 020	41 444
Canada	* 11 500	* 13 300	-	-	-
Mexico	-	-	10 010	-	-
USA	-	-	-	-	* 10 500
Peru	-	27 785	18 624	24 505	21 245
Australia	-	-	5 005	13 011	-
<b>Total</b>	<b>42 580</b>	<b>77 298</b>	<b>61 932</b>	<b>82 522</b>	<b>85 473</b>

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
United Kingdom	-	-	60	67	-
Belgium-Luxembourg	785	-	6 502	1 391	5 151
France	3 525	1 000	-	202	649
Germany, Federal Republic of	7 662	251	3 750	3 798	46
Italy	4 996	-	-	-	3 000
Netherlands	5 667	4 734	12 268	4 042	900
Finland	9 369	10 613	9 901	5 000	834
Norway	-	2 000	4 246	5 999	-
Poland	9 351	-	-	-	-
Spain	2 500	6 497	7 351	8 992	13 503
Yugoslavia	4 752	-	-	-	-
Algeria	7 500	11 198	-	-	-
Zambia	701	-	-	-	-
Hong Kong	2 003	-	-	-	-
Japan	4 497	997	-	-	-
Total	63 308	37 290	44 078	29 491	24 083

Zirconium ore

## Soviet Union Imports

tonnes

Exporting Countries	1980	1981	1982	1983	1984
Australia	4 236	4 000	3 999	8 071	-





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US \$ 48

