



**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

United Kingdom Minerals Yearbook 2005



United Kingdom Minerals Yearbook 2005

Statistical data to 2004

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BRITISH GEOLOGICAL SURVEY

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The compilers would also like to thank their colleagues in the British Geological Survey, in particular A J Hill, P Lappage, J P Stevenson and J I Rayner.

Bibliographical reference

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Cover photograph

Gas storage tank. © Corbis.

The UK became a net importer of gas in December 2004 and is becoming increasingly reliant on imports. In late 2005, UK wholesale gas prices increased considerably, reaching over 140 pence per therm and further increases in early 2006 brought prices to over 200 pence per therm. The country's main storage facility in the Rough Field in the North Sea was closed due to fire in February 2006 and, combined with increased domestic demand during cold winter weather, there were serious concerns regarding supply.

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Preface

In January 2006 the Department of Trade and Industry published an energy review consultation document, *Our Energy Challenge*, to seek views on the UK medium- and long-term energy policy issues for consideration in the energy review. In the 2003 Energy White Paper it was stated that the policies would be reviewed and updated, if appropriate. Since then there has been more evidence of the adverse impact of climate change and fossil fuel prices have increased sharply. The UK is now a net importer of these fuels and there are concerns about the security of supply from major exporter countries. Progress has been made, but issues causing concern include projected CO₂ emissions by 2020 that are only slightly lower than current levels and greater reliance on oil and gas is anticipated. Maintaining reliable electricity supplies will require substantial new investment, and macroeconomic risks are presented by higher global energy prices. The review aims to consider energy supply and demand, investigate existing and new carbon technologies and the uptake of energy efficiency measures.

Nuclear generation provides around 20 per cent of the UK's electricity supply at present. The 2003 Energy White Paper concluded that replacement nuclear build was unattractive at that time but, with the recent increases in energy prices, this will be reconsidered in the review. The full report can be downloaded from the DTI website at www.dti.gov.uk/energy/review.

During 2005, production of fuller's earth in the UK ceased as remaining permitted reserves are currently uneconomic and development is not planned. On a more positive note, gold production in Northern Ireland has commenced and advanced exploration continued as part of an on-going feasibility study. The first commercial exploration for nickel-copper in more than 30 years is taking place in Aberdeenshire and exploration continues at the Parys Mountain base metal deposit in North Wales.

In March 2006, a new five-year contract was signed between BGS and the Department for Communities and Local Government (DCLG) for a Joint Minerals Information Programme. This research project will undertake analysis in order to provide information and advice on minerals and selected broader geological issues to meet the requirements of DCLG and as a basis for monitoring and developing land-use policy and responding to national and European policy issues. The United Kingdom Minerals Yearbook is maintained under this programme and we are grateful to DCLG for their continuing support.

Brian Marker, Office of the Deputy Prime Minister (now DCLG), and David Highley, BGS, retired in 2006. Both made important contributions to the UK minerals industry over more than thirty years. They were strong supporters of this publication and David made substantial contributions both as an author and manager. I wish to thank them both for their dedication and support.

I also would like to thank colleagues in the Government statistical service who have collaborated so readily in providing the basic data included in this volume. In addition I would like to thank the many organisations, trade associations, companies and individuals who have generously supplied additional information.

David A Falvey, PhD
Executive Director

British Geological Survey
Keyworth
Nottingham

June 2006

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Explanatory notes

Coverage: Except where otherwise stated all the statistics shown relate to the United Kingdom of Great Britain and Northern Ireland.

The Channel Islands and the Isle of Man are also included in the 'United Kingdom' overseas trade statistics, but are excluded from the production statistics. The UK part of the Continental Shelf is included in both the overseas trade and the production statistics.

All figures for the latest year shown are provisional and subject to revision.

Rounding of figures: In tables where figures have been rounded to the nearest final digit, there may be a slight discrepancy between the sums of the constituent items and the total as shown.

Units: The statistics in this volume are expressed in metric units. The following factors are given for converting from or into non-metric units:

<i>Troy ounce</i>	<i>Kilogram</i>
1	= 0.0311035
32.1507	= 1

<i>Pound</i>	<i>Kilogram</i>
1	= 0.453592
2.20462	= 1

<i>Hundredweight</i>	<i>Kilogram</i>
1	= 50.8023
0.019684	= 1

<i>Long ton</i>	<i>Tonne</i>
1	= 1.01605
0.984206	= 1

<i>Square yard</i>	<i>Square metre</i>
1	= 0.836127
1.19599	= 1

<i>Cubic yard</i>	<i>Cubic metre</i>
1	= 0.764555
1.30795	= 1
<i>UK gallon</i>	<i>Litre</i>
1	= 4.54596
0.2199755	= 1

Symbols: The following symbols are used throughout:

...	Figures not available
0	Quantity less than half the unit shown
—	Nil
nes	Not elsewhere specified
BGS	British Geological Survey

Apparent consumption: BGS estimates of apparent consumption of metals are based on the formula: production (primary and secondary) plus imports minus exports. All the main traded forms of the metal are taken into account, for example, ores, concentrates, intermediate products, unwrought metal and alloys, oxides, etc. Figures are given in terms of metal content. No information is available for stock changes. Such estimates of apparent consumption are made for metals for which there are no reported consumption statistics: in this edition data are given for chromium, cobalt, manganese, molybdenum, titanium and zirconium.

Trade: Trade figures from INTRASTAT, the new system for measuring intra-EC trade became available from 1993. This was introduced following the abolition of customs controls as a result of the Single Market and trade figures are now compiled from data provided directly from companies instead of Customs documents. Extra-EC trade continues to be collected from Customs declarations as before. The transition from one system to another has produced some anomalous figures in terms of the size of the trade in and unit value of certain commodities. These factors should be taken into consideration when evaluating trends. Figures given in this edition are the combined intra and extra-EC trade data.

Values of commodities are cif for imports and fob for exports.

The terms 'scrap', 'unwrought' and 'wrought' metal include alloys unless these are separately shown.

Sources of information

In compiling this volume the British Geological Survey has largely relied upon data originally collected by other bodies. A list of the departments and organisations concerned is given below, together with the titles of principal publications that have been used. In many cases the BGS has also been provided with supplementary or unpublished information. Interested readers are strongly advised to consult the original sources themselves wherever possible and in this connection may wish to refer not only to the publications as listed here, but also earlier issues in the same series, some of which were published under different titles.

Information about the production of minerals in the United Kingdom is given from 1853 to 1881 in a series of Geological Survey Memoirs entitled *Mineral Statistics*, by Robert Hunt, Keeper of Mining Records; earlier information for certain metalliferous minerals is also available. Since 1873 all collieries and metalliferous mines have been required by statute to complete annual returns of production, and since 1895 the same has applied to quarries. These returns were made to the Home Office, which, in 1882, was made responsible for the publication of *Mineral Statistics*. In 1920 responsibility for collection of returns was transferred to the Mines Department (Board of Trade) and statistics were subsequently published in the Annual Reports of the Secretary of Mines. The Mines Department was incorporated into the Ministry of Fuel and Power in 1942 and statistics from 1938 to 1972 were published in their Statistical Digests (subsequently the Digests of Energy Statistics of the Department of Trade and Industry). In 1973 responsibility for the collection of returns relating to most minerals other than fuels was transferred to the Business Statistics Office (formerly part of the Department of Trade and Industry, now the Office for National Statistics). The Department of Trade and Industry, and previously the Department of Energy, collects statistics relating to hydrocarbons (natural gas and crude petroleum). Statistics on coal production are now collected by The Coal Authority. Returns of sand and gravel were collected by the Department of the Environment up to 1974. Details of mineral production in Northern Ireland since 1922 have been obtained by the Northern Ireland Government.

1853–1881 *Mineral Statistics*, by Robert Hunt, Keeper of Mining Records; Memoirs of the Geological Survey
1882–1896 *Mineral Statistics*; Home Office
1897–1919 *Mines and Quarries*: General Report with Statistics; Home Office
1920 *Mines and Quarries*: General Report with Statistics; Mines Department, Board of Trade
1921–1938 *Annual Report of the Secretary of Mines*; Mines Department, Board of Trade (Great Britain only from 1922)
1938–1972 *Statistical Digest*; Ministry of Fuel and Power (Great Britain only)
1973–2003 *Digest of United Kingdom Energy Statistics*; Department of Trade and Industry, formerly published by Department of Energy
1973–1993 *Minerals (PA1007)*; Central Statistical Office
1994–2003 *Mineral Extraction in Great Britain (PA 1007)*; Office for National Statistics
1922–1949 *Annual Report of the Mining and Quarrying industries in Northern Ireland*; Ministry of Commerce (Northern Ireland)
1950–1981 *Mineral Production in Northern Ireland*; Department of Commerce (Northern Ireland)
1982–1995 *Mineral Production in Northern Ireland*; Department of Economic Development (Northern Ireland)
1996–1998 *Annual Minerals Statement*; Department of Economic Development (Northern Ireland)

1999–2005 *Annual Mineral Statement*;
Department of Enterprise, Trade and Investment
(Northern Ireland)

Department of Trade and Industry
Digest of United Kingdom Energy Statistics (annual)
Monthly Statistics of Building Materials and Components
DTI website for energy and construction information

Office for National Statistics
Monthly Digest of Statistics
Mineral Extraction in Great Britain (annual)
United Kingdom National Accounts

HM Customs and Excise
Overseas Trade Statistics (monthly, quarterly and annual)
Guide to the Classification for Overseas Trade Statistics

Crown Estate Commissioners, The Crown Mineral Agent

Department of Enterprise, Trade & Investment
(Northern Ireland)
Annual Mineral Statement

Department of Trade and Industry (Isle of Man)

Advisory and Finance Committee (Guernsey)

Valuation Office Agency
Property Market Report

UK Iron and Steel Statistics Bureau
Annual Statistics

World Bureau of Metal Statistics
World Metal Statistics (monthly)

International Fertilizer Industry Association

The Kaolin and Ball Clay Association

Quarry Products Association (QPA)

The Coal Authority

United Nations Conference on Trade and Development

Minerals in the national economy

The economic importance of individual industries, including the extractive industries, to the national economy is measured by their contribution of gross value added (GVA). The GVA of the minerals extractive industries as a whole is included in national accounts under the heading 'Mining and quarrying', which includes the extraction of oil and gas. The GVA for 'Mining and quarrying' was £29 849 million in 2004, or 2.9 per cent of national GVA. The extraction of oil and gas accounted for £27 449 million of the total for the extractive industries, the mining of coal £354 million, and other mining and quarrying £2046 million.

The estimated total value of minerals produced in 2004 in the UK, expressed as sales on an ex-works basis as opposed to gross valued added, was £25 204 million, a very small decrease on 2003.

UK: Value of mineral production, 2002–2004			£ million
	2002	2003	2004
Oil and natural gas liquids	14 523	14 470	14 461
Natural gas	8 199	7 554	7 115
Coal	889	794	800
Aggregates	1 648	1 698	1 794
Other construction minerals	227	268	311
Industrial minerals	609	657	722
Metalliferous minerals	<0.2	<0.2	<0.2
Total	26 095	25 441	25 204

Production of crude oil, including natural gas liquids, declined by 11 per cent between 2004 and 2005 to 84.67 million tonnes. Cumulative production of oil to the end of 2004 was 3005 million tonnes and estimated total remaining reserves in present discoveries are in the range 533 to 1328 million tonnes. Natural gas production also declined from 96.01 million tonnes (oil equivalent) in 2004 to 87.97 million tonnes in 2005. The UK became a net importer of gas in 2004, after many years of self-sufficiency, and will become increasingly dependent on imports in the future as indigenous production continues to decline. Cumulative net natural gas production to end of 2004 was 1921 billion cubic metres and estimated remaining reserves in present discoveries are in the range 531 billion cubic metres and 1169 billion cubic metres.

Coal production declined by 17.8 per cent from 25.10 million tonnes in 2004 to 20.62 million tonnes in 2005. The largest decrease was in deep mine production due to mine closures. For the first time, opencast coal production exceeded that from deep mines. Coal imports also increased from 34.65 million tonnes in 2004 to a record 43.93 million tonnes in 2005.

UK: Primary fuel consumption for total energy and use in electricity generation				
Million tonnes of oil equivalent				
	Total energy		Electricity generation	
	2003	2004	2003	2004
Coal	40.0	39.3	32.5	31.3
Petroleum	74.3	76.5	1.2	1.1
Natural gas	94.5	96.1	27.9	29.1
Nuclear	20.0	18.3	20.0	18.2
Hydroelectricity and wind, other renewables, waste	3.6	4.2	2.8	3.4
Net electricity imports	0.2	0.6	0.2	0.6
Other fuels	-	-	1.9	0.6
Total	232.5	234.9	86.6	85.4

Total UK production of primary aggregates increased from a total of 232.2 million tonnes in 2003 to 243.9 million tonnes in 2004. However, this is believed to principally reflect an improved coverage of sites rather than an increase in demand. Production in 2005 was similar to 2004. China clay sales have continued to decline from 1.95 million tonnes in 2004 to 1.8 million tonnes (estimated) in 2005, and ball clay sales have remained fairly constant at around 950 thousand tonnes. Over 80 per cent of sales of both minerals are exported. Production of fuller's earth ceased in 2005, bringing to an end a long-established industry which has been in operation since Roman times.

The first recorded gold production in Northern Ireland commenced from the Galantas Gold Corporation's Omagh (formerly Cavanacaw) gold mine. Production is currently at the rate of 150 tonnes per day at a head grade of between 11 and 20 grammes Au per tonne.

The EU Mining Waste Directive has been finalised and Member States are required to comply with this Directive by May 2008.

British Geological Survey

The BGS and the Department for Community and Local Government (DCLG) have recently embarked on a new programme to continue work on collating UK and European mineral statistics, analysis of minerals intelligence, provision of information and advice, and raising public awareness of minerals-related issues. This work was previously carried out under the ODPM-BGS Joint Minerals Programme.

A report entitled *Summary of information on coal for land-use planning purposes* is being produced for the DCLG (Minerals and Waste Planning Division) under the Joint Minerals Programme. The report summarises coal production, trade, consumption and uses, gives information on licensing and reserves, planning permissions and safeguarding resources and brings together background information that was previously scattered. This report may be purchased from the BGS Shop or downloaded from the MineralsUK website.

The *Mineral Planning Factsheets* series has been extended to include onshore oil and gas, coal and coalbed methane, natural hydraulic limes, building and roofing stone, fireclay, brick clay, and construction aggregates, making twenty factsheets in total. Revisions have been made to the majority of factsheets to include information for the whole UK (previously they covered England only). These factsheets, funded by the DCLG-BGS Joint Minerals Information Programme, each provide an overview of a specific mineral, and although they are primarily intended to inform the land-use planning process, they contain a wealth of useful general information and statistics. To see an up-to-date list of commodities that have been covered and to download the factsheets, please visit our website (www.mineralsUK.com), where you will find details under *Planning*.

Mineral Matters, a series of short leaflets commissioned by the former Office of the Deputy Prime Minister, provide a non-specialist audience with key information on a wide range of topical minerals issues. Four new leaflets have been added to the series: *An introduction to mineral planning*; *Minerals — Earth's natural resources*; *Mineral extraction and the water environment*; and *Future issues for sustainable mineral extraction*.

All the reports listed above, and many others, can be downloaded from our website, www.mineralsUK.com, which has recently been redesigned and improved to make information more accessible to users. The website is now the main portal for the *MineralsUK Centre for Sustainable Minerals Development* and continues to provide information on mineral resources, mineral planning, policy and legislation, sustainable development, statistics and exploration.

The British Geological Survey's on-going Baseline Survey of the Environment (G BASE) project has continued the regional geochemical mapping of mainland Britain to the north of London. By the end of 2005, sampling was complete as far south as an east-west line extending approximately from London to the Severn Estuary leaving just southern England to be sampled. This project involves the collection of stream sediments, waters and soils at an average sampling density of one sample every one to two square kilometres. Soils and sediments are analysed by XRF for up to 50 elements. Waters are analysed by ICP-MS/AES and other methods for 43 elements and selected ions. Data are stored in the BGS Geochemistry Database which currently has 455 000 samples registered, 60 per cent of these originate from G-BASE, 35 per cent from the old Mineral Reconnaissance Programme and five per cent from other sources. There are now nearly eight million analyte determinations stored in the database. The G BASE results are presented in the form of regional atlases of which 14 have been published to date; the analytical data are available for use under licence. Additionally in 2005 the G-BASE team has been involved in sampling soils and drainage samples in Northern Ireland as part of the Tellus project. The Tellus project is funded by the Northern Ireland Department of Enterprise, Trade and Investment (DETI) and involves both regional geophysical and geochemical mapping of Northern Ireland carried out by a team of scientists from the Geological Survey of Northern Ireland.

Dr John Ludden has been appointed the next Director of the British Geological Survey and will succeed Dr David Falvey, who retires in October 2006. Dr Ludden is currently based at the French National Centre for Scientific Research (CNRS), where he is Director of the CNRS Planete-Terre Directorate covering 55 laboratories across France in the fields of earth, ocean and atmospheric sciences. He is also a Director of Research at the CNRS.

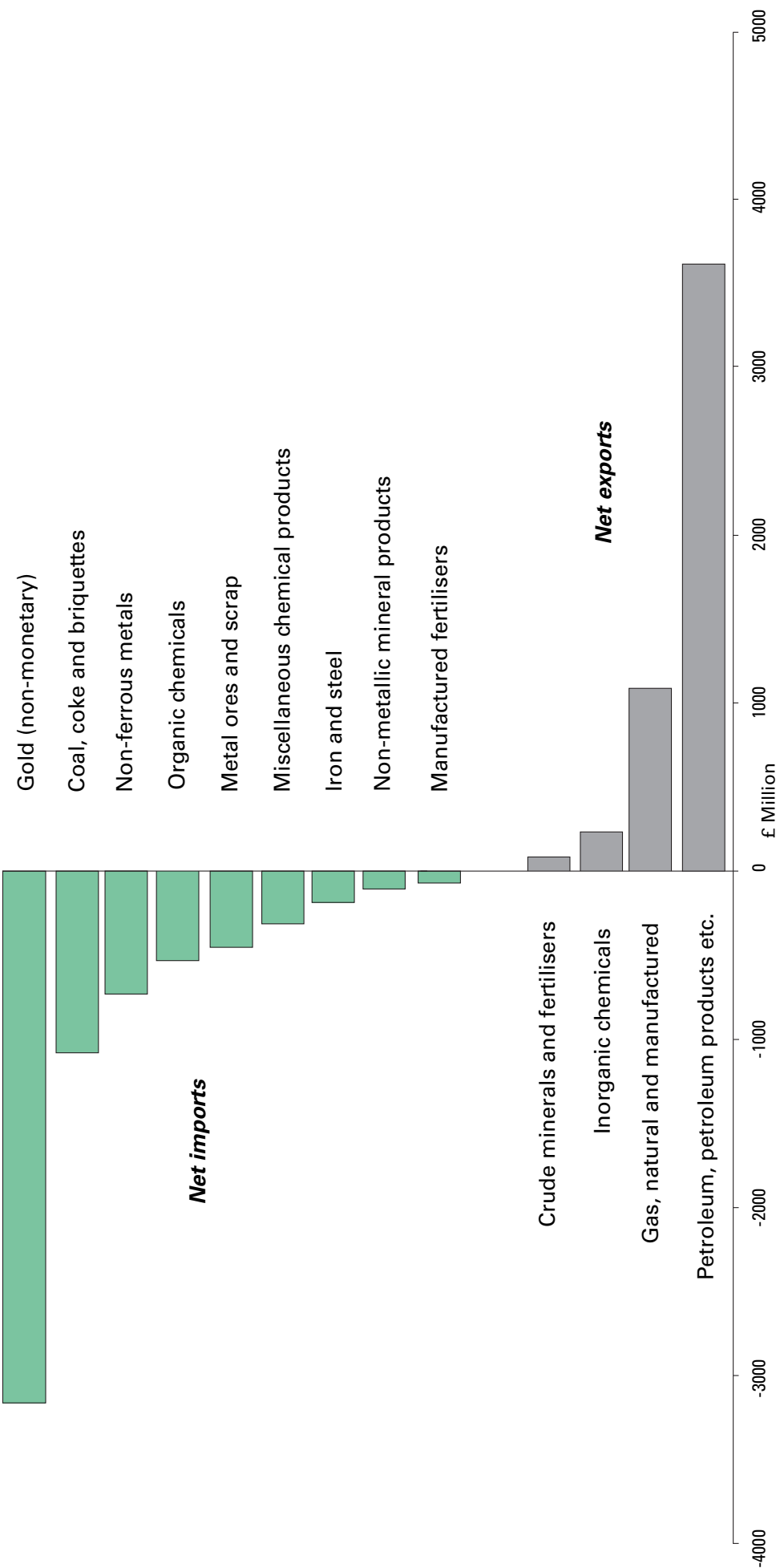
Trade in minerals and mineral-based products compared with total trade 1998–2004

£ million

SITC section		1998	1999	2000	2001	2002	2003	2004
Imports (c i f)								
0, 1	Food, beverages, tobacco	16 983.5	17 210.3	16 936.7	18 138.7	19 046.8	20 727.8	21 763.3
2, 4	Basic materials	6 208.1	5 967.4	6 899.6	7 037.4	6 513.9	6 733.6	6 968.6
	of which: Minerals	1 903.4	1 805.1	2 378.7	2 595.1	1 995.7	1 980.8	2 233.4
3	Fuels and related materials	4 711.8	5 273.3	9 700.4	10 202.4	9 590.4	11 162.8	16 209.1
	of which: Mineral-based	4 337.5	4 877.8	9 327.8	10 023.2	9 390.3	10 991.9	15 862.9
	Manufactured goods:							
5, 6	Semi-manufactures	46 627.2	47 264.5	51 733.3	54 950.5	54 973.4	57 949.8	62 171.0
	of which: Mineral-based	19 575.6	19 812.3	22 366.8	22 683.5	21 367.1	22 473.7	25 272.4
7, 8	Finished manufactures	114 551.2	120 877.8	135 711.7	136 538.3	136 303.1	138 263.3	144 032.6
9	Other (a)	5 203.7	3 717.9	3 936.6	3 912.1	5 352.3	6 113.7	3 884.1
	of which: Mineral-based	3 533.1	2 068.2	2 248.4	2 791.1	4 060.6	4 750.5	2 334.1
	Total	194 285.5	200 311.2	224 918.3	230 779.4	231 779.9	240 951.0	255 028.6
	All traded goods							
	of which: Mineral-based	29 349.5	28 563.3	36 321.7	38 093.0	36 813.6	40 196.9	45 702.8
	As % of all traded goods	15.1	14.3	16.2	16.5	15.9	16.7	17.9
Exports (f o b)								
0, 1	Food, beverages, tobacco	10 277.9	10 023.7	9 916.5	9 695.0	10 035.8	10 879.8	10 615.2
2, 4	Basic materials	2 527.4	2 301.3	2 586.9	2 582.5	2 862.9	3 318.3	3 759.6
	of which: Minerals	1 042.6	964.4	1 207.2	1 267.2	1 374.6	1 673.2	2 064.2
3	Fuels and related materials	6 957.8	9 343.7	15 996.6	15 554.8	15 143.2	15 588.9	16 795.5
	of which: Mineral-based	6 954.0	9 335.3	15 991.5	15 552.1	15 042.4	15 421.9	16 644.7
	Manufactured goods:							
5, 6	Semi-manufactures	43 570.3	43 658.4	47 781.0	50 514.3	50 413.0	54 506.2	56 528.5
	of which: Mineral-based	17 515.9	17 932.7	20 700.9	21 247.6	20 011.6	21 103.8	22 932.3
7, 8	Finished manufactures	99 693.0	100 047.7	109 906.4	110 573.0	107 840.1	103 372.5	102 050.3
9	Other (a)	2 762.2	2 681.3	2 901.6	2 251.0	1 449.2	1 144.7	1 605.3
	of which: Mineral-based	949.9	1 252.5	1 301.5	1 301.9	479.2	399.0	826.1
	Total	165 788.7	168 056.1	189 089.0	191 170.6	187 744.2	188 810.3	191 354.4
	All traded goods							
	of which: Mineral-based	26 462.3	29 484.9	39 201.2	39 368.9	36 907.8	38 597.9	42 467.4
	As % of all traded goods	16.0	17.5	20.7	20.6	19.7	20.4	22.2

(a) Including non-monetary gold.

4 United Kingdom balance of trade in minerals and mineral-based products (2000–2004 average)



Balance of trade in minerals and mineral-based products 2000–2004

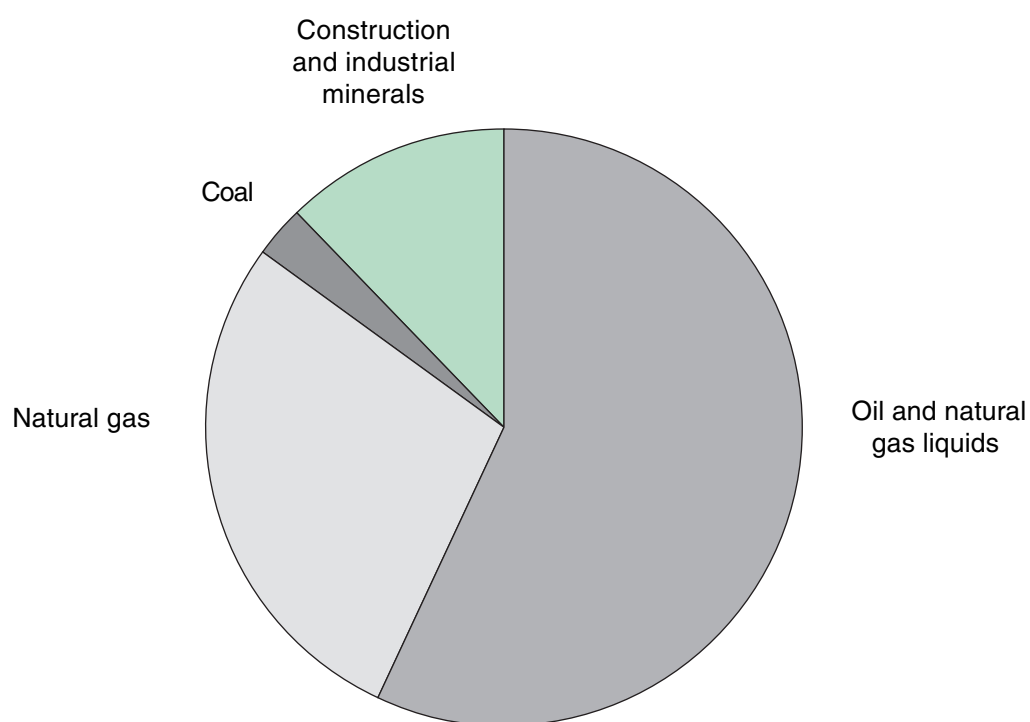
£ million (a)

SITC (R3) divisions		2000	2001	2002	2003	2004
27	Crude minerals and fertilisers:					
	imports	384.2	361.9	366.1	372.6	385.5
	exports	462.1	450.8	442.9	478.9	467.7
		+77.9	+88.9	+76.8	+106.3	+82.2
28	Metal ores and scrap:					
	imports	1 994.5	2 233.2	1 629.6	1 608.2	1 847.9
	exports	745.1	816.5	931.7	1 194.3	1 596.5
		-1 249.4	-1 416.7	-697.9	-413.9	-251.4
32	Coal, coke and briquettes:					
	imports	722.3	1 222.3	898.7	1 023.1	1 512.4
	exports	75.8	65.0	65.2	57.9	64.1
		-646.5	-1 157.3	-833.5	-965.2	-1 448.2
33	Petroleum, petroleum products and related materials:					
	imports	8 335.7	8 496.6	8 134.4	9 743.7	13 514.4
	exports	14 543.8	13 991.1	13 471.1	13 654.3	15 108.9
		+6 208.1	+5 494.5	+5 336.7	+3 910.5	+1 594.4
34	Gas, natural and manufactured:					
	imports	269.9	304.3	357.1	225.1	836.1
	exports	1 371.9	1 495.9	1 506.1	1 709.8	1 471.7
		+1 102.0	+1 191.6	+1 149.0	+1 484.7	+635.6
51	Organic chemicals:					
	imports	5 435.9	5 655.8	5 828.2	6 252.0	6 940.3
	exports	5 552.2	5 962.5	5 551.6	5 906.8	5 963.1
		+116.3	+306.7	-276.6	-345.2	-977.2
52	Inorganic chemicals:					
	imports	1 068.2	1 235.6	1 079.2	1 110.2	1 379.2
	exports	1 491.1	1 637.9	1 352.3	1 421.3	1 502.9
		+422.9	+402.3	+273.1	+311.1	+123.7
56	Manufactured fertilisers:					
	imports	131.4	138.7	129.5	169.4	164.7
	exports	93.5	85.0	81.0	88.8	81.0
		-37.9	-53.7	-48.5	-80.5	-83.7
53–59 (part)	Miscellaneous chemical products:					
	imports	2 949.4	2 896.3	2 753.5	2 945.1	3 179.9
	exports	2 548.0	2 615.7	2 647.6	2 560.7	2 726.9
		-401.4	-280.6	-105.9	-384.3	-453.0
66	Non-metallic mineral products:					
	imports	6 554.2	6 408.5	5 687.2	5 890.8	6 335.7
	exports	5 539.4	5 703.3	5 668.5	6 032.9	5 891.3
		-1 014.8	-705.2	-18.7	+142.1	-444.3
67	Iron and steel:					
	imports	2 233.5	2 280.5	2 411.3	2 538.2	3 405.9
	exports	2 191.0	2 065.0	2 027.0	2 423.5	3 339.8
		-42.5	-215.5	-384.3	-114.7	-66.1
68	Non-ferrous metals:					
	imports	3 864.3	3 931.4	3 368.1	3 467.0	3 752.7
	exports	3 178.8	3 053.5	2 572.8	2 582.2	3 234.7
		-685.5	-877.9	-795.3	-884.8	-518.0
69	Manufactures of metal:					
	imports (b)	129.9	136.7	110.1	101.1	114.1
	exports (b)	107.0	124.9	110.8	87.5	102.5
		-22.9	-11.8	+0.7	-13.6	-11.5
96	Coin other than gold:					
	imports	1.1	1.7	3.8	2.0	1.9
	exports	16.7	14.4	16.2	19.5	26.5
		+15.6	+12.7	+12.4	+17.5	+24.6
97	Gold (non-monetary):					
	imports	2 247.3	2 789.4	4 056.8	4 748.5	2 332.2
	exports	1 284.8	1 287.6	463.0	379.4	799.6
		-962.5	-1 501.8	-3 593.8	-4 369.0	-1 532.5
	Total					
	imports	36 321.7	38 093.0	36 813.6	40 196.9	45 702.8
	exports	39 201.2	39 368.9	36 907.8	38 597.9	42 377.4
		+2 879.5	+1 275.9	+94.2	-1 599.0	-1 599.1
	Gold (monetary):					
	imports	2 448.0	688.5	996.0	2 408.5	2 619.0
	exports	1 264.9	1 164.8	528.2	126.6	389.3
		-1 183.1	+476.3	-467.8	-2 281.9	-2 229.6
	Grand total					
	imports	38 769.7	38 781.5	37 809.6	42 605.4	48 321.7
	exports	40 466.1	40 533.6	37 436.0	38 724.5	42 766.7
		+1 696.4	+1 752.1	-373.6	-3 880.8	-3 880.9

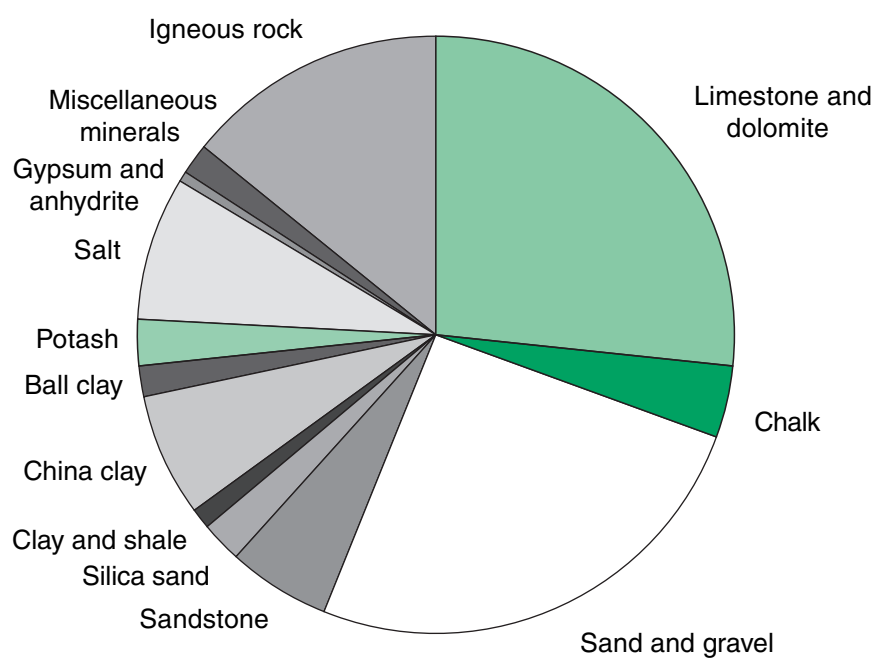
(a) Imports are valued c i f and exports are valued f o b.

(b) Consists of semi-manufactures and articles of beryllium, cobalt, cadmium, magnesium, molybdenum, tantalum, titanium, tungsten, zirconium and other base metals not elsewhere included.

Value of United Kingdom minerals production 2004
(total value £25 204 million)



Value of United Kingdom construction and industrial minerals production 2004
(total value £2828 million)



Approximate value (a) of minerals produced in the United Kingdom 1997–2004

£ million								
Mineral	1997	1998	1999	2000	2001	2002	2003	2004
Coal	1 636	1 242	1 076	916	1 028	889	794	800
Natural gas	5 254	5 313	5 031	6 606	8 140	8 199	7 554	7 115
Natural gas liquids	700	551	727	1 117	963	894	1 105	1 037
Crude petroleum	10 327	7 487	10 257	16 275	13 646	13 629	13 365	13 424
Iron ore	0	0	0	0	0	0	0	0
Tin	8	1	—	—	—	—	—	—
Other non-ferrous metals	0	0	0	0	0	0	0	0
Sand and gravel	533	549	597	619	677	707	719	722
Limestone and dolomite	627	703	670	662	702	670	685	756
Igneous rock	253	276	312	320	328	336	366	396
Sandstone	94	115	95	98	119	108	133	157
Chalk	53	59	56	46	69	72	88	112
Common clay and shale	18	20	22	19	19	19	24	25
China clay	280	237	242	234	187	192	168	195
Ball clay	44	45	45	50	47	44	43	46
Fuller's earth	12	9	7	7	5	5	4	3
Salt	232	174	146	153	152	148	192	217
Silica sand	58	62	54	51	54	53	56	67
Potash	86	91	74	76	67	68	83	68
Fluorspar	8	7	5	4	5	5	6	5
Gypsum and anhydrite	16	14	13	13	15	17	17	19
Miscellaneous minerals	33	32	35	36	41	40	39	39
Total	20 272	16 987	19 464	27 302	26 264	26 095	25 441	25 204
At 2001 constant prices								
Coal	1 782	1 316	1 115	937	1 028	861	746	735
Oil and gas	14 143	1 4143	16 595	24 538	22 749	22 018	20 680	19 831
Metals	1	1	0	0	0	0	0	0
Construction and industrial minerals	2 557	2 535	2 459	2 442	2 487	2 407	2 463	2 598
Total	22 083	17 995	20 169	27 917	26 264	25 286	23 889	23 164

(a) Calculated on an ex-works sales basis.

Source: British Geological Survey.

Approximate value of minerals produced in each part of the United Kingdom 1997–2004

£ million								
	1997	1998	1999	2000	2001	2002	2003	2004
England	3 517	3 046	2 876	2 893	2 984	2 847	2 842	2 901
Wales	264	255	256	243	239	222	228	254
Scotland	502	492	492	473	533	469	449	543
Northern Ireland	56	59	60	64	75	75	83	89
Offshore	15 933	13 135	15 780	23 629	22 433	22 482	21 839	21 416
Total	20 272	16 987	19 464	27 302	26 264	26 095	25 441	25 204

Source: British Geological Survey.

United Kingdom mining and quarrying: Gross value added (a) 1997–2004

£ million

	1997	1998	1999	2000	2001	2002	2003	2004
Production								
Mining and quarrying								
Mining and quarrying of energy producing materials								
Mining of coal	988	817	644	611	549	534	513	354
Extraction of mineral oil and natural gas	15 436	13 203	14 844	22 432	21 541	20 711	20 216	27 449
Other mining and quarrying	1 695	1 645	1 716	1 794	1 763	1 474	1 554	2 046
Total mining and quarrying	18 118	15 666	17 403	24 839	23 852	22 718	22 282	29 849
All industries	720 028	763 443	799 387	841 505	883 412	930 796	981 732	1 033 324
of which: minerals related (%)	2.5	2.1	2.2	3.0	2.7	2.4	2.3	2.9

(a) At current basic prices.

Source: Office for National Statistics.

United Kingdom employment in the minerals industry, 2004

Number

Mineral	Great Britain (a)			Northern Ireland
	Mines (d)	Quarries	Total	
Ball clay	—	207	207	—
Calcspar	—	—	—	—
Chalk	—	306	306	(b) ...
Chert and flint	—	1	1	—
China clay	—	423	423	—
Clay and shale	—	704	704	(b) ...
Coal	5 738	2 465	8 203	—
Dolomite	—	452	452	—
Fireclay	2	33	35	(b) ...
Fuller's earth	—	10	10	—
Gypsum and anhydrite	135	9	144	—
Honestone	—	0	0	—
Igneous rock	—	1 760	1 760	366
Limestone	15	3 355	3 370	207
Oil and gas	—	—	(c)	—
Ore minerals	29	8	37	—
Peat	—	286	286	—
Potash	797	—	797	—
Salt	1	3	4	(b) ...
Sand and gravel	—	4 054	4 054	500
Sandstone	—	1 310	1 310	354
Silica sand	11	539	550	—
Silica stone	—	2	2	—
Slate	17	538	555	—
Soapstone and talc	—	3	3	—
Others	—	—	—	276
Total	6 745	16 468	23 213	1 703

(a) Where more than one mineral is extracted at a mine or quarry all employment is attributed to the chief mineral.

(b) Included with 'Others'.

(c) The United Kingdom Offshore Operators Association (UKOOA) estimates the workforce employed on the UK Continental Shelf at 260 000, with 33 000 directly employed by exploration and production companies. (This figure is not consistent with the series previously published in this book.)

(d) Including surface and underground workers at mines.

Sources: Office for National Statistics, Department of Enterprise Trade and Investment (Northern Ireland), The Coal Authority, Department of Trade and Industry

United Kingdom production of minerals 1999–2005

Thousand tonnes

Mineral	1999	2000	2001	2002	2003	2004	2005 (Estimated)
Coal:							
Deep-mined	20 888	17 187	17 347	16 391	15 633	12 543	9 563
Opencast	15 275	13 412	14 166	13 148	12 126	11 993	10 445
Other (a)	914	598	417	450	520	561	616
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	41	42	63	60	79	70	87 973
Onshore	272	205	193	163	164	116	
Offshore	98 795	108 150	105 614	103 423	102 684	95 821	
Crude oil							
Onshore	4 285	3 247	2 921	2 673	2 198	1 941	77 122
Offshore	124 299	114 433	105 465	104 757	95 637	85 575	
Condensates and other (c)							
Onshore	200	146	139	115	89	66	7 543
Offshore	8 315	8 217	8 153	8 399	8 149	7 792	
Iron ore	(h) 1.0	1.0	0.5	0.5	0.5	(h) 0.5	0.5
Non-ferrous ores (metal content):							
Lead	1.0	(h) 1.0	(h) 0.8	(h) 0.7	(h) 0.7	(h) 0.5	(h) 0.5
Gold (kg)	...	...	...	...	...	...	...
Chalk (e)	9 667	9 213	8 205	8 587	8 066	7 997	8 000
Clay and shale (e)	11 355	10 838	10 426	10 306	10 680	11 164	10 000
Igneous rock (j) (k)	53 155	54 113	51 501	51 225	51 356	53 037	51 000
Limestone (excluding dolomite)	86 933	84 348	88 238	80 688	78 935	81 641	91 000
Dolomite (excluding limestone)	13 698	13 069	14 314	12 946	12 167	12 226	
Sand and gravel:							
Land	80 302	79 950	80 793	75 401	72 984	78 145	95 000
Marine (i)	20 651	21 671	20 604	19 023	18 227	19 188	
Sandstone	15 485	14 900	19 967	18 362	18 259	18 844	18 000
Slate (g)	361	479	551	742	832	901	1 000
Ball clay (sales)	931	1 069	999	921	885	965	950
Barytes	59	54	(h) 66	(h) 59	(h) 57	61	62
Calcspars	...	...	12	(h) 10	—	—	—
Chert and flint	6	...	2	2	...	2	...
China clay (sales) (d)	2 304	2 376	2 204	2 163	2 097	1 945	1 800
China stone	2	4	3	2	3	2	2
Fireclay (e)	545	595	459	491	528	402	500
Fluorspar (h)	40	36	50	53	56	50	61
Fuller's earth (sales) (d) (f)	75	66	52	44	34	28	6
Gypsum (natural)	(h) 1 800	(h) 1 500	(h) 1 700	(h) 1 700	(h) 1 700	1 686	1 700
Lignite	...	...	...	...	...	...	...
Peat (000 m ³)	1 653	1 626	1 814	973	2 008	1 262	...
Potash (b)	825	966	882	900	1 040	912	800
Rock salt (h)	1 500	1 700	1 900	1 500	1 700	2 000	2 000
Salt from brine (h)	1 200	1 100	1 100	1 000	1 000	1 000	1 000
Salt in brine (h) (l)	3 000	3 000	3 000	3 200	3 200	2 800	2 800
Silica sand	4 092	4 095	3 848	3 833	4 073	5 011	5 000
Talc	6	5	5	6	6	4	6

(a) Slurry etc. recovered from dumps, ponds, rivers etc.

(b) Marketable product (KCl).

(c) Including ethane, propane and butane, in addition to condensates.

(d) Dry weight.

(e) Excluding a small production in Northern Ireland.

(f) BGS estimates based on data from producing companies.

(g) Slate figures include waste used for constructional fill and powder and granules used in industry.

(h) BGS estimate.

(i) Including marine-dredged landings at foreign ports (exports); see p.87.

(j) Excluding a small production of granite in Northern Ireland.

(k) In addition, the following amounts of igneous rock were produced in Guernsey (thousand tonnes): 1999: 139; 2000: 130; 2001: 134; 2002: 138; 2003: 142; 2004: 149 and Jersey: 1999: 370; 2000: 310; 2001: 365; 2002: 370; 2003: 290; 2004: 310.

(l) Used for purposes other than salt making.

Sources: Office for National Statistics, Department of Trade and Industry, Dept. of Enterprise, Trade & Investment (Northern Ireland), Crown Estate Commissioners (marine sand and gravel produced for export), and company data.

England production of minerals 1998–2004

Thousand tonnes

Mineral	1998	1999	2000	2001	2002	2003	2004
Coal:							
Deep-mined	(e) 23 100	(e) 19 200	(e) 15 800	(e) 15 900	(e) 15 600	15 044	12 081
Opencast	(e) 6 700	(e) 6 300	(e) 4 800	(e) 4 800	(e) 5 000	4 068	3 037
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	...	...	...	...	...	...	...
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	...	...	...	...	...	...	...
Offshore	...	...	...	...	...	...	...
Condensates and other (c)	...	...	...	...	...	...	...
Iron ore	1	(e) 1.0	1	1	1	1	(e) 0.5
Non-ferrous ores (metal content):							
Tin	0	—	—	—	—	—	—
Lead	(e) 1.6	1	(e) 1.0	(e) 0.8	(e) 0.7	(e) 0.7	(e) 0.5
Chalk	9 934	9 667	9 213	8 205	8 587	8 066	7 997
Clay and shale (b)	11 351	10 352	9 577	9 221	9 226	10 021	10 357
Igneous rock	17 228	20 803	20 435	22 647	21 889	21 878	20 174
Limestone (j)	79 780	75 820	74 954	79 902	73 528	69 507	72 173
Dolomite (k)	13 723	11 485	11 120	...	...	10 327	...
Sand and gravel:							
Land	61 241	62 954	63 196	62 177	59 633	58 484	62 735
Marine (g)	18 741	19 412	20 391	19 388	17 878	16 997	17 939
Sandstone	7 792	7 241	7 401	7 201	7 006	7 005	7 076
Slate (i)	...	...	...	...	...	...	...
Anhydrite	...	...	...	...	...	...	...
Ball clay (sales)	964	931	1 069	999	921	885	965
Barytes	...	...	...	...	...	...	...
Calc spar	15	...	...	12	(e) 10	—	...
Chert and flint	...	6	...	2	2	...	2
China clay (sales) (l)	2 392	2 304	2 376	2 204	2 163	2 097	1 945
China stone	3	2	4	3	2	2	2
Fireclay	575	545	547	419	449	483	338
Fluorspar (e)	65	40	36	50	53	56	50
Fuller's earth (sales) (h) (l)	94	75	66	52	44	34	28
Gypsum (natural)	(e) 2 000	(e) 1 800	(e) 1 500	(e) 1 700	(e) 1 700	(e) 1 700	1 686
Lignite	...	...	...	...	...	...	...
Peat (000 m ³)	936	1 224	1 259	1 460	857	1 228	903
Potash (d)	1 014	825	966	882	900	1 040	800
Rock salt	...	...	...	...	...	...	...
Salt from brine (e)	1 300	1 200	1 100	1 100	1 000	1 000	1 000
Salt in brine (e) (f)	3 500	3 000	3 000	3 000	3 200	3 200	2 800
Silica sand	4 064	3 504	3 599	3 343	3 349	3 588	4 525
Silica stone and ganister	...	...	...	...	...	...	1

(a) Slurry etc. recovered from dumps, ponds, rivers etc.

(b) Including potter's clay.

(c) Including ethane, propane and butane, in addition to condensates.

(d) Marketable product (KCl).

(e) BGS estimate.

(f) Used for purposes other than salt making.

(g) Including marine-dredged landings at foreign ports (exports); see p.87.

(h) BGS estimates based on data from producing companies.

(i) Slate figures include waste used for constructional fill and powder and granules used in industry.

(j) Including dolomite for constructional uses.

(k) Dolomite and magnesian limestone used for constructional and agricultural purposes as well as for refractory, chemical and other purposes specifically dependent on the high magnesium content.

(l) Dry weight.

Sources: Office for National Statistics, Department of Trade and Industry, Crown Estate Commissioners (marine sand and gravel produced for export) and company data.

Wales production of minerals 1998–2004

Thousand tonnes

Mineral	1998	1999	2000	2001	2002	2003	2004
Coal:							
Deep-mined	(e) 800	(e) 600	(e) 700	(e) 700	(e) 800	589	461
Opencast	(e) 1 400	(e) 1 500	(e) 1 500	(e) 1 200	(e) 1 000	1 189	1 405
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	—	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	—	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Condensates and other (b)	...	...	...	...	...	...	...
Non-ferrous ores (metal content):							
Gold	...	—	—	—	—	—	—
Clay and shale	259	346	351	365	382	348	445
Igneous rock	2 110	2 730	2 743	2 372	2 111	2 507	2 295
Limestone (d)	17 136	17 220	15 543	14 238	12 850	13 208	12 926
Dolomite (f)	...	...	...	...	...	...	...
Sand and gravel:							
Land	1 701	1 800	1 658	1 670	1 613	1 503	1 871
Marine	1 258	1 240	1 280	1 216	1 145	1 230	1 249
Sandstone	3 214	2 973	2 941	3 094	3 136	3 179	3 241
Slate (c)	...	...	...	...	...	...	...
Fireclay	—	—	—	—	—	—	30
Silica sand	...	...	...	...	...	...	...

(a) Slurry etc. recovered from dumps, ponds, rivers etc.

(b) Including ethane, propane and butane, in addition to condensates.

(c) Slate figures include waste used for constructional fill and powder and granules used in industry.

(d) Including dolomite for constructional uses.

(e) BGS estimate.

(f) Dolomite and magnesian limestone used for constructional and agricultural purposes as well as for refractory, chemical and other purposes specifically dependent on the high magnesium content.

Sources: Office for National Statistics, Department of Trade and Industry and company data.

Scotland production of minerals 1998–2004

Thousand tonnes

Mineral	1998	1999	2000	2001	2002	2003	2004
Coal:							
Deep-mined	(e) 1 800	(e) 1 100	(e) 700	(e) 700	—	—	—
Opencast	(e) 6 200	(e) 7 500	(e) 7 100	(e) 8 200	(e) 7 100	6 869	7 547
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	...	...	...	...	—	—	—
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	—	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Condensates and other (b)	...	...	...	...	...	...	...
Clay and shale	620	657	910	839	698	311	362
Igneous rock	20 500	21 761	21 455	20 034	20 543	20 920	23 724
Limestone (d)	1 535	1 507	1 722	1 733	1 635	1 730	1 746
Dolomite (f)	...	...	...	...	...	...	...
Sand and gravel (land-won)	10 074	10 031	10 022	10 753	8 643	8 103	8 455
Sandstone	2 539	1 657	1 715	1 603	1 645	1 481	1 613
Slate (c)	...	...	...	...	...	...	...
Barytes	...	...	...	...	...	...	...
Fireclay	2	—	48	40	42	45	35
Honestone	...	...	...	—	...	...	—
Peat (000 m ³)	139	429	367	355	117	779	359
Silica sand	...	...	...	...	...	...	...
Talc	5	6	5	5	6	6	4

(a) Slurry etc. recovered from dumps, ponds, rivers etc.

(b) Including ethane, propane and butane, in addition to condensates.

(c) Slate figures include waste used for constructional fill and powder and granules used in industry.

(d) Including dolomite for constructional uses.

(e) BGS estimate.

(f) Dolomite and magnesian limestone used for constructional and agricultural purposes as well as for refractory, chemical and other purposes specifically dependent on the high magnesium content.

Sources: Office for National Statistics, Department of Trade and Industry and company data.

Northern Ireland mineral production by county 2004

						Thousand tonnes
County	Limestone	Sand & gravel	Basalt & igneous rock (a)	Sandstone	Others (b)	Total
Down	—	116	—	5 681	535	6 332
Antrim	239	1 555	4 088	—	29	5 911
Armagh	397	222	320	1 139	379	2 457
Fermanagh	4 304	63	40	—	6	4 413
Londonderry	109	1 079	1 678	—	13	2 879
Tyrone	585	2 050	718	95	304	3 752
Total	5 634	5 084	6 844	6 915	1 266	25 743

(a) Excluding granite.

Source: Department of Enterprise, Trade and Investment.

(b) Including rock salt, chalk, fireclay, granite, clay and shale, and bauxite.

Minerals produced in Northern Ireland, the Isle of Man, Guernsey and Jersey 2000–04

						Thousand tonnes
	2000	2001	2002	2003	2004	
Northern Ireland						
Limestone	3 538	4 746	4 514	4 887	5 634	
Sand and gravel	5 073	6 194	5 512	4 894	5 084	
Basalt and igneous rock (a)	9 480	6 448	6 681	6 051	6 844	
Sandstone	2 844	8 070	6 574	6 594	6 915	
Others (b)	3 098	753	242	1 055	1 266	
Total	24 033	26 211	23 523	23 481	25 743	
Isle of Man (c)						
Limestone	136	131	127	97	93	
Sand and gravel	258	365	326	302	275	
Igneous rock	85	115	197	123	120	
Slate	56	52	46	58	73	
Total	535	664	696	581	562	
Guernsey						
Igneous rock	130	134	138	142	149	
Jersey						
Igneous rock (d)	310	365	370	290	310	
Sand and gravel	63	89	83	73	71	

(a) Excluding granite.

(d) BGS estimates.

(b) Including rock salt, chalk, fireclay, granite, clay and shale, and bauxite.

Sources: Dept. of Enterprise, Trade & Investment (Northern Ireland),
Department of Trade and Industry (Isle of Man),
Advisory and Finance Committee (Guernsey).

(c) Year ended 12 November.

United Kingdom mineral production by underground mining 2003–2005 (a)

				Thousand tonnes
	2003	2004	2005	
Coal	15 635	12 542	9 563	
Brine Salt (b)	4 200	3 800	3 800	
Rock Salt (b)	1 700	2 000	2 000	
Potash	1 040	912	800	
Gypsum	1 500	1 500	1 500	
Other minerals (b) (c)	275	270	220	
Total	24 350	21 024	17 883	

(a) Figures exclude hydrocarbons

(b) BGS estimate

(c) 'Other minerals' include: silica sand, limestone, barytes, fluorspar, slate and hematite.

Area of land permitted for mineral working in England in 1994 and 2000

Hectares

Mineral type	Surface working		Underground mining		Areas of pithead	
	Area in 1994	Area in 2000	Area in 1994	Area in 2000	Area in 1994	Area in 2000
Ball clay (a)	—	1 066	—	—	—	—
Chalk	2 926	2 339	—	—	—	—
China clay	2 201	4 262	—	—	—	—
Clay/shale	9 107	8 430	1 339	466	7	3
Coal (opencast)	7 568	3 390	—	—	—	—
Coal (under GPDO)	—	—	184 643	163 675	1 445	775
Coal (specific planning permission)	—	—	49 545	50 400	360	362
Gypsum/anhydrite	718	368	38 215	14 894	117	125
Igneous rock	1 973	2 676	—	—	—	—
Ironstone	13 029	16 087	1 911	8 465	74	103
Limestone/dolomite	11 401	11 418	748	798	5	5
Oil/gas/coalbed methane (b)	185	166	—	—	—	—
Peat	5 661	5 263	—	—	—	—
Salt (incl. brine pump)	—	—	2 300	2 769	20	11
Sand & gravel (construction)	29 828	27 007	—	—	—	—
Sand (industrial/silica)	1 945	1 847	—	—	—	—
Sandstone	3 305	4 183	—	—	—	—
Slate	511	470	—	(c) 1	—	(c) 0
Vein minerals	2 614	23 827	376 360	29 781	30	47
Other minerals	1 053	845	5 565	13 938	34	32
Totals (d)	94 025	113 644	660 626	285 187	2 092	1 463
Estimated Totals (e)	118 296	113 644	660 626	285 187	2 092	1 463

- (a) Ball clay included as a separate mineral for the first time in 2000, previously under 'clay/shale'.
 (b) Coalbed methane added in to this category for the first time in 2000. In 1994, oil/gas were split into 'exploration/appraisal' and 'production' categories, but were combined in 2000.

- (c) Slate was only a separate mineral category in 2000.
 (d) Based on published 1994 data.
 (e) Estimate, taking into account older permissions for which accurate information was not available in 1994.

Source: *Survey of Land for Mineral Workings in England 2000*, Department for Transport, Local Government and the Regions.

Mineral bearing land royalty values (a)

Pence per tonne

Commodity/region	2002 (b)		2003 (c)		2004 (d)	
	Typical maximum	Typical minimum	Typical maximum	Typical minimum	Typical maximum	Typical minimum
Sand and gravel						
South East	315	120	300	120	300	130
Eastern	220	110	250	120	220	120
South West	185	80	185	80	185	70
East Midlands	125	65	140	80	160	80
West Midlands	180	80	180	88	170	110
Yorks. & the Humber	100	50	110	60	120	70
North East	80	40	100	45	100	50
North West	125	45	125	45	125	50
Merseyside	...	...	...	...	...	...
Gtr. Manchester & Cheshire	...	...	...	...	...	...
Wales	80	50	80	50	90	50
Scotland	80	40	80	40	90	40
Hard rock						
South East	90	60	90	60	90	50
Eastern	100	65	100	65	95	60
South West	55	20	65	20	65	25
East Midlands	60	27.5	65	28	65	28
West Midlands	40	30	40	32	40	25
Yorks. & the Humber	45	22.5	45	23	45	23
North East	30	25	42	26	45	25
North West	40	30	50	30	50	30
Merseyside	...	...	...	...	...	...
Gtr. Manchester & Cheshire	...	...	...	...	...	...
Wales	50	15	50	19	75	18
Scotland	35	25	35	25	50	30

- (a) The typical value ranges are designed to provide information about general levels of value passing in the market in each region. They do not represent the extremes either high or low. The ranges are of necessity very broad as they encompass a wide range of categories contained under each class. They should not be relied upon as indications of specific value.

- (b) At 1 October 2002
 (c) At 1 October 2003
 (d) At July 2004

Source: *Property Market Report*, Valuation Office Agency.

Number of mineral workings in the United Kingdom, by commodity (a) (b)

Commodity	Region															Total
	North East England	Yorkshire & the Humber	North West England	East Midlands	West Midlands	East of England	Greater London	South East England	South West England	England Total	Wales	Scotland	Isle of Man	Northern Ireland	Channel Islands	
Anhydrite	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	1
Ball clay	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	18
Barytes	—	—	—	3	—	—	—	—	—	3	—	1	—	—	—	4
Bauxite	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Calcite	—	—	—	2	—	—	—	—	—	2	—	—	—	—	—	2
Chalk	—	14	—	4	—	16	—	24	5	63	—	—	—	4	—	67
China clay	—	—	—	—	—	—	—	—	17	17	—	—	—	—	—	17
China stone	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Coal, underground	—	5	—	4	1	—	—	—	1	11	6	—	—	—	—	17
Coal, opencast	5	2	1	—	1	—	—	—	—	9	11	22	—	—	—	42
Common clay & shale	6	30	15	14	29	15	—	30	17	156	7	7	—	2	—	172
Fireclay	1	6	1	1	1	—	—	—	10	10	4	2	—	—	—	16
Flint	—	—	—	—	—	2	—	4	2	8	—	—	—	—	—	8
Fluorspar	1	1	—	11	—	—	—	—	—	13	—	—	—	—	—	13
Fuller's earth	—	—	—	—	—	—	—	1	—	1	—	—	—	—	—	1
Gypsum	—	—	1	3	1	—	—	1	—	6	—	—	—	—	—	6
Igneous & metamorphic rock	9	—	3	4	5	—	—	—	19	40	14	106	2	39	3	204
Iron ore - hematite	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Iron ore - ironstone	—	—	—	—	—	—	—	4	—	4	—	—	—	—	—	4
Lead	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—	0
Limestone/ dolomite	18	37	24	56	12	3	—	11	94	255	46	14	3	18	—	336
Natural gas	—	9	1	5	—	—	—	1	1	17	—	—	—	—	—	17
Oil	—	1	—	22	1	—	—	17	3	43	—	—	—	—	—	43
Peat	1	5	8	—	—	4	—	—	39	57	3	28	—	—	—	88
Polash	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Salt	—	1	—	—	—	—	—	—	—	5	—	—	—	—	—	6
Sand & gravel	14	39	30	49	56	127	13	114	42	484	24	117	4	70	1	700
Sandstone	23	56	41	20	16	6	—	7	21	190	36	43	—	34	—	303
Serpentine	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Silica sand	—	2	5	2	2	16	—	7	1	36	2	8	—	—	—	46
Slate	1	—	10	—	—	—	—	—	12	22	16	1	4	—	—	43
Soapstone	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Talc	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Tin	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Tufa	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
Total	79	209	146	200	124	189	13	221	296	1477	170	350	13	169	4	2183

Source: British Geological Survey

(a) As at August 2005.

(b) Double counting may occur because some workings produce more than one mineral.

Abrasives, natural

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Carats					£ thousand				
Abrasives										
<i>Imports</i>										
Natural abrasives–										
Industrial diamonds	16 208 556	7 344 542	7 804 225	21 518 053	30 993 557	17 853	12 334	11 694	33 872	29 956
	Tonnes									
Dust and powder of precious and and semi-precious stones	20	17	14	18	26	15 712	14 980	11 057	9 730	10 898
Pumice	19 210	17 165	...	21 406	35 533	2 073	2 377	2 703	2 978	1 898
Other	2 070	3 597	5 243	6 193	6 175	657	744	927	1 136	995
	Carats									
<i>Exports</i>										
Natural abrasives–										
Industrial diamonds	27 030 867	11 861 312	7 837 074	12 177 638	22 770 698	27 900	19 047	17 199	40 468	33 759
	Tonnes									
Dust and powder of precious and and semi-precious stones	43	20	...	14	30	14 395	13 821	12 102	11 783	11 135
Pumice	379	1 397	319	859	237	719	666	654	702	447
Other	2 466	1 477	1 394	1 045	959	1 045	853	952	795	599

Aggregates

Sales of primary aggregates (sand and gravel, and crushed rock) in Great Britain were reported as 213.7 million tonnes in 2004, according to the official Annual Minerals Raised Inquiry (AMRI) carried out by the Office for National Statistics. This appears to show a significant increase on the 2003 AMRI survey (203.1 million tonnes) but actually reflects improved coverage of operational quarries reporting rather than an improvement in sales.

Of total sales in 2004, 60 per cent comprised crushed rock aggregates, 34 per cent was land-won sand and gravel and six per cent marine-dredged sand and gravel. The Quarry Products Association (QPA) estimate that primary aggregate sales have declined slightly in 2005, with crushed rock sales down by three per cent to 124 million tonnes and sand and gravel sales down two per cent to 84 million tonnes. Approximately one quarter of the UK requirement for aggregates is met from recycled or secondary sources.

In his budget statement of March 2006, the Chancellor maintained the Aggregate Levy at a rate of £1.60 per tonne for primary aggregates. The British Aggregates Association (BAA) has continued its opposition to the Aggregates Levy by taking a case to the European Court of First Instance in Luxembourg in December 2005. Their case is based on the claim that by exempting certain materials from the levy the UK Government are in effect giving an illegal state subsidy to those industries. The decision of the court is expected during 2006 but legal advisors to the BAA have urged quarry companies to submit precautionary claims for repayment of the Aggregates Levy.

Aggregate Industries, now owned by the Holcim Group of Switzerland, have seen their market share increase further, according to the latest report from BDS Marketing & Research. They are now in third place in the UK aggregates market with 12 per cent (up from 11 per cent). Tarmac remains the leading aggregate producer with 22 per cent (the same as last year), with Hanson in second position at 14 per cent (down from 15 per cent). Cemex, following their acquisition of the RMC Group in March 2005, are in fourth place with 11 per cent and Lafarge Aggregates fifth with just over eight per cent. Together these top five producers represent nearly 70 per cent of the aggregates market.

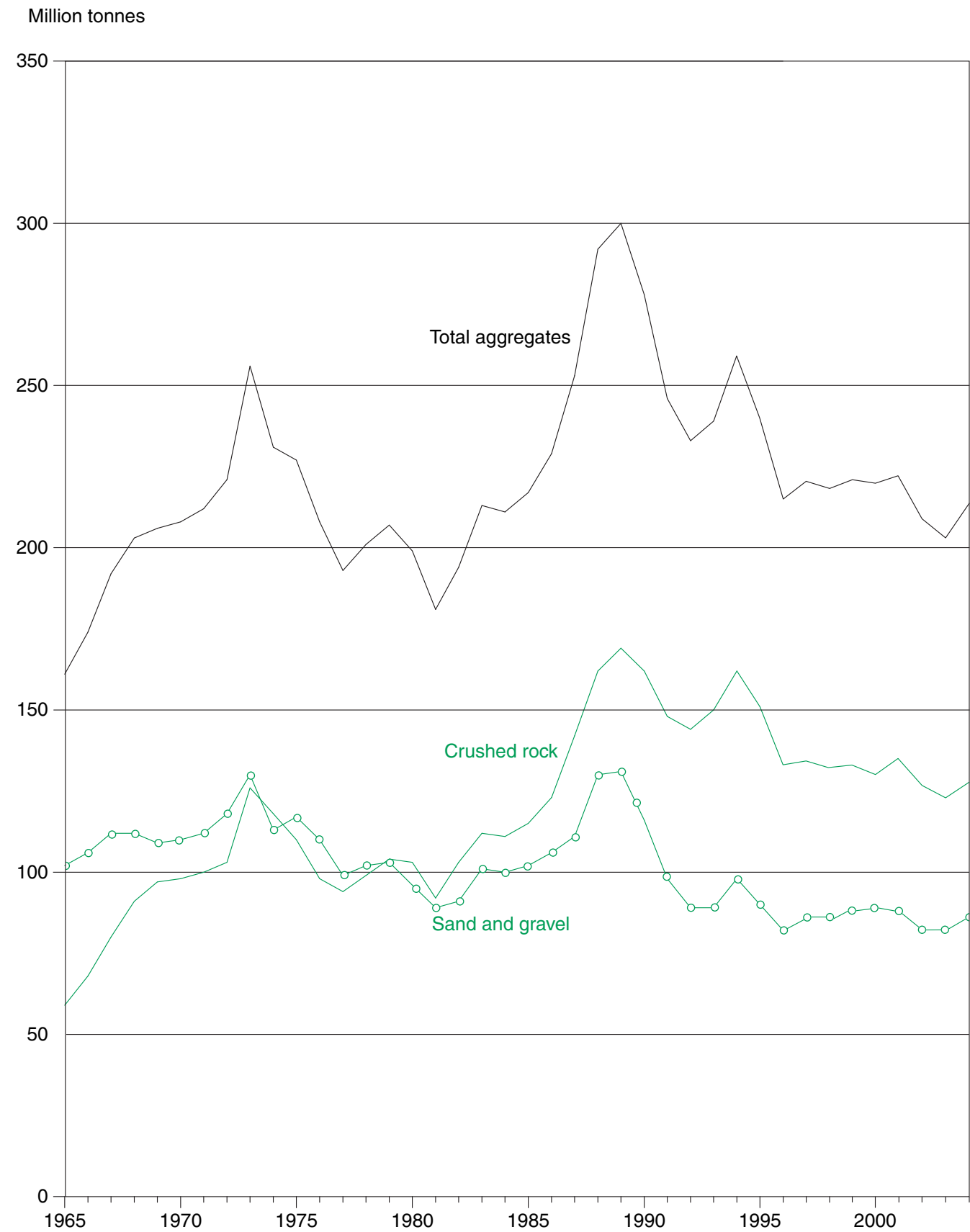
Demand for asphalt in 2005 increased by approximately five per cent on the previous year, but this increase is not expected to continue into 2006. Tarmac continue to be the largest asphalt supplier with around 30 per cent market share, with Aggregate Industries consolidating their position in second. Hanson, Cemex and Lafarge complete the top five companies, which have a combined total of 80 per cent of the market.

Sales to the readymix concrete market in 2005 remained similar to 2004, despite a promising increase during the first half of the year. Sales in 2006 are not expected to increase, but the construction projects planned in preparation for the London Olympics in 2012 should raise demand from 2007. Cemex remain the largest supplier in 2005, according to BDS Marketing & Research, but with both Tarmac and Hanson increasing their market share this long-standing lead is being eroded. The combined market share of these top three companies is more than 60 per cent.

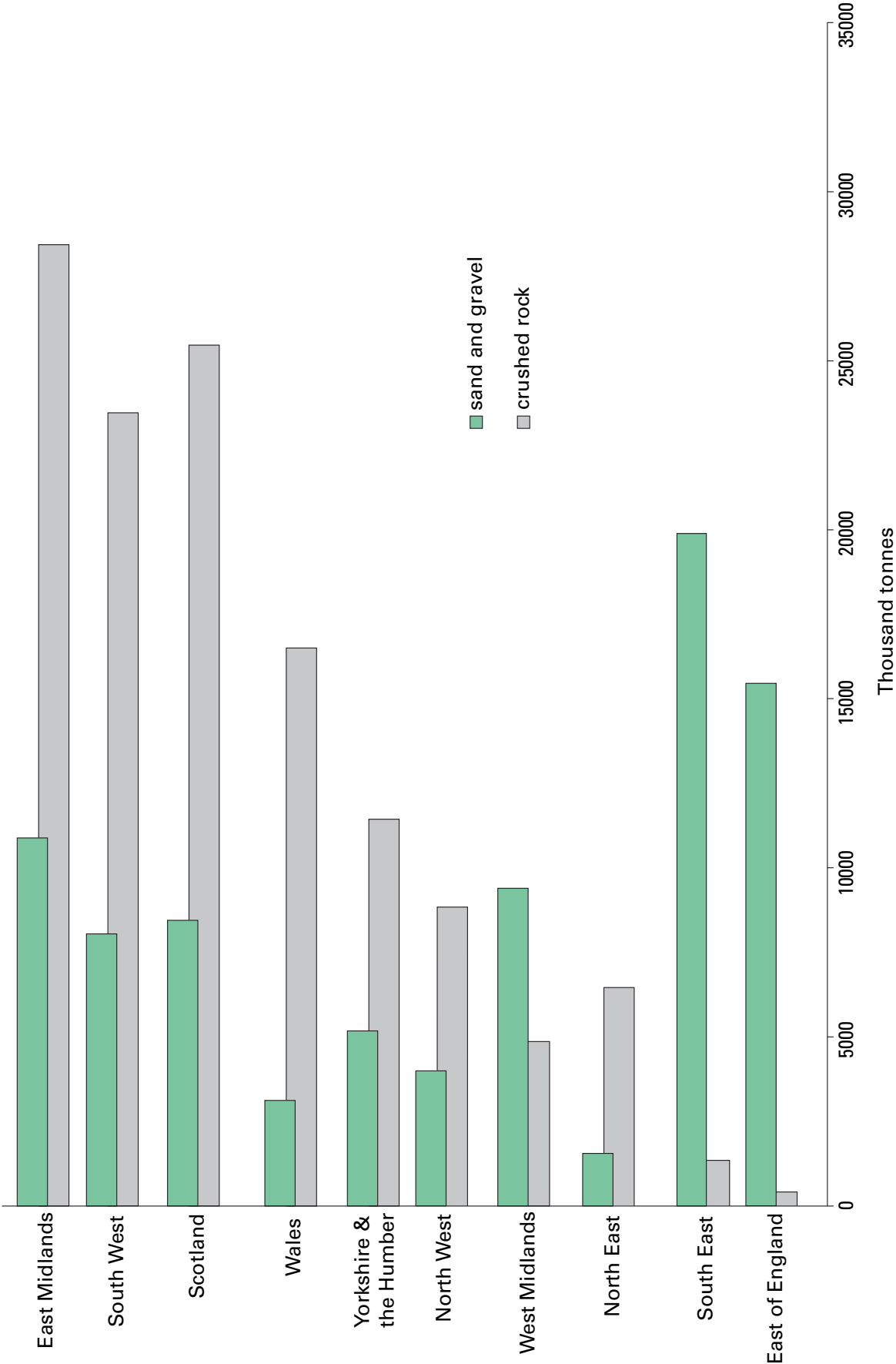
The Peak District National Park Authority issued a stop notice in January 2006 to halt extraction of limestone at Backdale Quarry. It is alleged that the scale of extraction of limestone at the site is illegal under a 1952 planning permission, which was issued for the extraction of 'fluor-spar, barites, lead and any other minerals won in the course of working those minerals'. This issue will go to a public inquiry in April 2006.

Recent research has shown that permitted aggregate reserves have declined since 2000 because the quantities involved in new planning permissions have remained less than the actual tonnes extracted. BDS Marketing & Research Ltd estimate that in some years the additional reserves receiving planning permission represent less than one-third of the total aggregates extracted. This raises concerns relating to the ability of the industry to meet future demand.

Great Britain production of natural aggregates 1965–2004



Great Britain production of crushed rock aggregate and sand and gravel by region 2004



England and Wales summary of consumption of primary aggregates, by region 2001 (a)

Thousand tonnes

Region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	5 604	659	6 263	19 140	25 404
South East	12 488	7 036	19 524	14 603	34 127
London	2 021	5 090	7 110	2 453	9 563
East of England	13 404	153	13 557	5 680	19 237
East Midlands	8 703	—	8 703	14 448	23 151
West Midlands	9 564	1	9 564	10 475	20 039
North West	3 656	425	4 081	18 058	22 139
Yorkshire and the Humber	5 337	277	5 614	12 793	18 407
North East	1 826	982	2 808	7 392	10 201
England	62 602	14 622	77 225	105 042	182 267
South Wales	283	915	1 198	8 284	9 482
North Wales	909	68	977	3 663	4 640
Wales	1 191	983	2 175	11 947	14 122
England and Wales	63 794	15 606	79 399	116 990	(b) 196 389

(a) For aggregate use only.

(b) The figure for total consumption slightly under estimates true consumption because for some regions unallocated sales have an unknown destination. Total unallocated sales were (thousand tonnes): sand and gravel: 643; crushed rock: 377.

Source: *Collation of the Results of the 2001 Aggregate Minerals Survey for England and Wales*. British Geological Survey.

Permitted reserves of primary aggregate minerals in England and Wales for active and inactive sites at 31st December 2001 (a)

Thousand tonnes

Region	Sand and gravel					Crushed rock					Grand total
	Active	Inactive: worked in past	Inactive: yet to be worked	Total	Dormant (b)	Active	Inactive: worked in past	Inactive: yet to be worked	Total	Dormant (b)	
South West	39 028	5 248	6 000	50 276	1 515	920 399	459 965	5 300	1 385 664	92 818	1 435 940
South East	123 162	12 446	5 936	141 545	6 220	55 984	15 819	1 000	72 803	10 000	214 348
London	3 185	—	—	3 185	—	—	—	—	—	—	3 185
East of England	153 258	19 769	11 768	184 795	5 436	13 068	1 783	500	15 351	—	200 146
East Midlands	79 179	10 538	9 030	98 747	8 415	1 979 616	184 173	2 000	2 165 789	171 463	2 264 536
West Midlands	114 734	9 685	19 390	143 809	6 705	252 106	54 631	2 749	309 486	14 050	453 295
North West	55 348	1 113	1 315	57 776	—	337 090	8 869	256	346 215	—	403 991
Yorkshire and the Humber	45 100	5 780	—	50 880	—	438 197	32 315	1	470 513	22 955	521 393
North East	13 201	7 926	250	21 377	570	206 705	52 166	—	258 870	3 751	280 247
England	626 196	72 505	53 689	752 390	28 861	4 203 165	809 720	11 806	5 024 691	315 036	5 777 081
South Wales	6 806	845	—	7 651	—	465 724	181 553	400	647 677	38 210	655 328
North Wales	20 376	1 544	1 200	23 120	325	222 139	283 057	—	505 196	228 907	528 316
Wales	27 182	2 389	1 200	30 771	325	687 863	464 610	400	1 152 873	267 117	1 183 644
England & Wales	653 378	74 894	54 889	783 161	29 186	4 891 027	1 274 330	12 206	6 177 564	582 153	6 960 725

(a) For aggregate and non-aggregate use.

(b) Reserves in 'dormant' sites are included in 'inactive sites worked in the past'.

Source: *Collation of the Results of the 2001 Aggregate Minerals Survey for England and Wales*. British Geological Survey.

England and Wales summary sales of primary aggregates, by region 2001

Thousand tonnes

Region	Land-won sand and gravel		Marine sand and gravel		Total sand and gravel		Crushed rock		Total primary aggregate	
	AMRI 2001	AM 2001	AMRI 2001	AM 2001	AMRI 2001	AM 2001	AMRI 2001	AM 2001	AMRI 2001	AM 2001
North East	1 071	1 177	495	985	1 566	2 162	6 338	6 596	7 904	8 758
North West	3 165	3 097	237	447	3 402	3 544	9 601	10 034	13 003	13 578
Yorkshire and the Humber	5 016	4 936	155	275	5 171	5 211	11 718	12 701	16 889	17 913
West Midlands	9 894	9 932	—	—	9 894	9 932	5 688	5 497	15 582	15 429
East Midlands	9 716	10 046	—	—	9 716	10 046	30 780	31 254	40 496	41 300
East of England	13 978	15 025	1 716	1 387	15 694	16 412	452	655	16 146	17 066
South East	11 874	12 450	6 729	7 219	18 603	19 669	1 984	2 398	20 587	22 067
London	878	837	2 523	3 725	3 401	4 562	—	—	3 401	4 562
South West	6 586	5 184	540	607	7 126	5 791	28 067	26 518	35 193	32 309
England	62 177	62 684	12 395	14 644	74 572	77 328	94 630	95 653	169 202	172 981
South Wales	209	115	1 172	1 174	1 381	1 289	10 612	10 021	11 993	11 310
North Wales	1 461	1 342	44	44	1 505	1 387	7 153	7 198	8 658	8 585
Wales	1 670	1 458	1 216	1 218	2 886	2 676	17 765	17 219	20 651	19 895
England and Wales	63 847	64 141	13 611	15 862	77 458	80 004	112 395	112 872	189 853	192 876

Sources: *Annual Minerals Raised Inquiry*, Office for National Statistics,
Aggregate Minerals Survey, British Geological Survey

England and Wales summary of estimated arisings and use of recycled and secondary materials, 2001

Thousand tonnes

	Used as aggregate		Used as non-aggregate		Total arisings (a)	
	England	Wales	England	Wales	England	Wales
Recycled material						
Construction & demolition waste (b)	(c) 36 470	1 550			(c) 88 890	5 020
Secondary material						
Blast furnace slag	700	350	1 270	640	2 010	990
Basic oxygen furnace steel slag	660	320	10	10	670	330
Electric arc furnace steel slag	280				280	
China clay waste	2 280				22 600	
Colliery spoil	780	30			7 260	250
Power station pulverised fuel ash	1 500	160	750	80	4 410	460
Power station furnace bottom ash	880	90			890	90
Spent railway track ballast	1 190	50			1 250	50
Slate waste	260	320			2 330	4 000
Waste glass	80		610	40	2 080	120
Municipal solid waste incinerator bottom ash	380				620	
Scrap tyres	90		160	10	380	20
Fired ceramic waste	90	10			90	10
Spent foundry sand	180				880	20
Total	45 820	2 880	2 800	780	134 640	11 360

(a) A significant proportion of total arisings are not utilised.

(b) The arisings of construction and demolition waste include excavation waste as well as the hard material most suitable for recycling into aggregates.

(c) Data for England in 2003: total arisings 90 900 t, recycled as aggregate 39 600 t, *Survey of arisings and use of construction, demolition and excavation waste as aggregates in England in 2003*, Office of the Deputy Prime Minister. Comparable data for Scotland for 2003: total arisings 10.8 million tonnes, recycled as aggregate 4.3 million tonnes.

Source: *Survey of arisings and use of construction and demolition waste in England and Wales in 2001* and *Survey of arisings and use of secondary materials as aggregates in England and Wales in 2001*, Office of the Deputy Prime Minister.

Great Britain estimated consumption of natural aggregates 1955–2004

Million tonnes

Year	Crushed rock aggregate (c)				Sand and gravel (b)			Total crushed rock and sand and gravel
	Limestone (a)	Igneous rock	Sandstone	Total	Sand	Gravel	Total	
1955	11	13	3	27	...	...	61	88
1956	13	13	3	29	...	...	63	92
1957	13	13	4	30	...	...	60	90
1958	14	13	4	31	...	...	63	94
1959	17	14	3	34	33	35	68	102
1960	18	15	4	37	38	38	76	113
1961	20	16	4	40	42	43	85	125
1962	21	16	4	41	42	43	85	126
1963	23	17	4	44	44	45	89	133
1964	29	20	5	54	52	54	106	160
1965	34	20	5	59	50	52	102	161
1966	40	22	6	68	50	56	106	174
1967	48	25	7	80	52	60	112	192
1968	53	27	11	91	54	58	112	203
1969	55	28	14	97	52	57	109	206
1970	59	28	11	98	53	57	110	208
1971	62	29	9	100	53	59	112	212
1972	61	32	10	103	55	63	118	221
1973	74	38	14	126	62	68	130	256
1974	72	34	12	118	53	60	113	231
1975	67	32	10	110	54	63	117	227
1976	60	28	10	98	51	59	110	208
1977	59	26	9	94	46	53	99	193
1978	61	28	10	99	48	55	102	201
1979	65	29	10	104	49	54	103	207
1980	65	28	10	103	45	52	96	199
1981	57	25	10	92	41	48	89	182
1982	62	30	11	103	42	49	91	194
1983	70	31	11	112	46	55	101	213
1984	69	30	12	111	46	54	100	211
1985	72	32	11	115	47	55	102	217
1986	78	34	11	123	51	55	106	229
1987	89	39	14	142	53	58	111	253
1988	102	44	16	162	63	67	130	292
1989	106	46	16	169	64	67	131	300
1990	98	49	14	162	58	58	116	278
1991	90	46	13	148	49	49	98	246
1992	85	48	11	144	45	44	89	233
1993	89	49	12	150	45	44	89	239
1994	99	50	13	162	50	48	98	259
1995	87	49	15	151	47	43	90	240
1996	77	43	12	133	43	39	82	215
1997	80	42	12	134	45	42	86	220
1998	79	40	13	132	44	42	86	218
1999	76	45	11	133	45	43	88	221
2000	75	44	12	131	45	44	89	220
2001	(d) 78	45	(d) 11	134	45	43	88	222
2002	71	44	11	127	44	39	83	210
2003	67	45	11	123	45	35	80	203
2004	70	46	11	127	45	41	86	213

(a) Including dolomite.

(b) Total production, excluding marine-dredged material for export; see table on p.93.

(c) The following amounts of crushed rock aggregate, believed to be mainly igneous rock, were exported (million tonnes): 1999: 3; 2000: 2; 2001: 3; 2002: 4; 2003: 3; 2004: 4. Crushed rock aggregate is also imported in comparable amounts. These figures have not been taken into account when calculating consumption.

(d) BGS estimate.

Source: Office for National Statistics.

**Great Britain consumption of natural aggregates related to construction work
(intensity of use of aggregates) 1955–2004**

Year	Value of new construction work (a)	Estimated consumption of aggregate			Total value of all construction work (a)	Estimated consumption of aggregate		
		Crushed rock	Sand and gravel (b)	Total		Crushed rock	Sand and gravel (b)	Total
	£ million	Tonnes per £1000			£ million	Tonnes per £1000		
1955	17469	1.5	3.5	5.0	29154	0.9	2.1	3.0
1956	19080	1.5	3.3	4.8	31473	0.9	2.0	2.9
1957	19446	1.5	3.1	4.6	32736	0.9	1.8	2.7
1958	20786	1.5	3.0	4.5	33681	0.9	1.9	2.8
1959	22267	1.5	3.1	4.6	36738	0.9	1.9	2.8
1960	24492	1.5	3.1	4.6	39777	0.9	1.9	2.8
1961	26851	1.5	3.2	4.7	42604	0.9	2.0	2.9
1962	27689	1.5	3.1	4.6	43798	0.9	1.9	2.9
1963	28132	1.6	3.2	4.7	44776	1.0	2.0	3.0
1964	33036	1.6	3.2	4.8	50048	1.1	2.1	3.2
1965	35129	1.7	2.9	4.6	52580	1.1	1.9	3.1
1966	35524	1.9	3.0	4.9	53369	1.3	2.0	3.3
1967	38554	2.1	2.9	5.0	56958	1.4	2.0	3.4
1968	39770	2.3	2.8	5.1	58254	1.6	1.9	3.5
1969	39230	2.5	2.8	5.3	57266	1.7	1.9	3.6
1970	37905	2.6	2.9	5.5	55799	1.8	2.0	3.7
1971	38881	2.6	2.9	5.5	56915	1.8	2.0	3.7
1972	38748	2.7	3.0	5.7	58523	1.8	2.0	3.8
1973	38658	3.3	3.4	6.6	59363	2.1	2.2	4.3
1974	32578	3.6	3.5	7.1	52749	2.2	2.1	4.4
1975	31056	3.5	3.8	7.3	49485	2.2	2.4	4.6
1976	31526	3.1	3.5	6.6	48881	2.0	2.2	4.3
1977	30556	3.1	3.2	6.3	48502	1.9	2.0	4.0
1978	31816	3.1	3.2	6.3	52534	1.9	1.9	3.8
1979	29572	3.5	3.5	7.0	53365	1.9	1.9	3.9
1980	25724	4.0	3.7	7.7	50728	2.0	1.9	3.9
1981	23053	4.0	3.9	7.8	45829	2.0	2.0	3.9
1982	24483	4.2	3.7	7.9	47487	2.2	1.9	4.1
1983	26257	4.3	3.8	8.1	51576	2.2	2.0	4.1
1984	26939	4.1	3.7	7.8	53627	2.1	1.9	3.9
1985	26706	4.3	3.8	8.1	54219	2.1	1.9	4.0
1986	27986	4.4	3.8	8.1	56178	2.2	1.9	4.1
1987	31786	4.5	3.5	8.0	62580	2.3	1.8	4.1
1988	35415	4.5	3.7	8.2	68616	2.3	1.9	4.2
1989	36565	4.6	3.6	8.2	71857	2.3	1.8	4.2
1990	36877	4.4	3.2	7.5	72085	2.2	1.6	3.9
1991	35392	4.2	2.8	6.9	66841	2.2	1.5	3.7
1992	34658	4.2	2.6	6.7	64033	2.2	1.4	3.6
1993	34165	4.4	2.6	7.0	62823	2.4	1.4	3.8
1994	32711	4.9	3.0	7.9	62589	2.6	1.6	4.1
1995	32843	4.6	2.7	7.3	63381	2.4	1.4	3.8
1996	34331	3.9	2.4	6.3	65776	2.0	1.2	3.3
1997	35412	3.8	2.4	6.2	67369	2.0	1.3	3.3
1998	36487	3.6	2.4	6.0	68411	1.9	1.3	3.2
1999	37843	3.5	2.3	5.8	69294	1.9	1.3	3.2
2000	37660	3.5	2.4	5.8	69676	1.9	1.3	3.2
2001	37557	3.6	2.3	5.9	71087	1.9	1.2	3.1
2002	38944	3.3	2.1	5.4	74090	1.7	1.1	2.8
2003	40372	3.0	2.0	5.0	77852	1.6	1.0	2.6
2004	43146	3.0	2.0	5.0	80587	1.6	1.1	2.7

(a) Valued at constant 2000 prices.

Source: Department of Trade and Industry.

(b) Land-won and marine-dredged material.

Source: British Geological Survey.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Aggregates										
<i>Production</i>										
Sand & gravel (a)	101 621 000	101 397 000	94 424 000	91 211 000	97 333 000					
Crushed rock (b)	130 307 000	133 759 000	126 568 000	122 885 000	127 674 000					
Total	231 928 000	235 156 000	220 992 000	214 096 000	225 007 000					
<i>Imports</i>										
Natural aggregates–										
Crushed rock (c)	347 048	409 174	572 971	632 792	619 075	7 771	7 253	9 083	10 064	10 660
Sand and gravel (d)	168 358	362 076	413 992	861 439	924 283	6 688	9 417	9 453	11 406	14 473
Total	515 406	771 250	986 963	1 494 230	1 543 359	14 459	16 670	18 536	21 470	25 133
<i>Exports</i>										
Natural aggregates–										
Crushed rock (c)	2 402 611	3 367 217	3 593 951	3 188 232	4 494 628	9 782	15 089	13 989	13 275	22 674
Sand and gravel (d)	9 931 641	9 871 523	8 881 454	8 419 845	8 174 237	31 264	32 389	32 104	36 708	36 411
Total	12 334 252	13 238 740	12 475 405	11 608 077	12 668 865	41 046	47 478	46 093	49 983	59 085

(a) Including production from marine dredging

(b) Great Britain only

(c) For a number of years, a significant amount of crushed rock imports are believed to have been wrongly classified as granite, crude'. In 2004, BGS estimates that 'crushed rock imports should be approximately 1 500 000 tonnes which includes armourstone.

(d) Principally marine-dredged sand and gravel. Source: HM Customs and Excise. However, the Crown Estate Commissioners give the following figures for marine-dredged sand and gravel landed at foreign parts (tonnes): 2000: 7 314 t; 2001: 6 992 731; 2002: 6 190 905; 2003: 6 095 640; 2004: 6 191 867

Aluminium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Aluminium										
<i>Production</i>										
Unwrought–										
Primary	305 099	340 778	344 318	342 748	359 631					
Secondary	241 300	248 600	205 400	205 400	205 400					
<i>Consumption</i>										
Unwrought–										
Primary	575 520	433 302	427 607	302 181	438 937					
Secondary	180 085	215 424	198 388	199 749	190 123					
Ferro-aluminium (a)	2 910	2 760	2 500	2 860	2 910					
<i>Imports</i>										
Scrap	123 185	112 240	117 954	103 554	78 245	74 984	74 761	61 730	58 885	53 463
Ash and residues	184	408	647	847	756	64	38	166	183	152
Unwrought	120 138	135 094	212 046	163 573	116 295	133 644	130 562	205 256	149 320	113 801
Unwrought alloys	158 217	211 245	159 310	129 451	116 919	161 513	250 707	168 948	138 144	125 320
<i>Exports</i>										
Scrap	141 207	204 605	243 894	295 642	319 096	103 509	143 137	167 176	190 267	225 945
Ash and residues	908	971	1 402	599	739	298	364	849	310	255
Unwrought	89 761	16 855	9 403	1 559	29 810	90 564	19 196	9 264	3 060	31 002
Unwrought alloys	261 274	243 780	241 799	270 701	306 079	283 519	271 247	235 174	266 846	295 821

(a) Consumption in the iron and steel industry; ferro-alloy weight.

Aluminium compounds

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Aluminium compounds										
<i>Production</i>										
Oxide (alumina)	88 500	83 900	73 800	—	—					
<i>Imports</i>										
Oxide (alumina)	568 317	713 808	(b) 798 479	(d) 828 300	417 882	107 650	125 521	(b) 105 813	...	64 626
Hydroxide	73 170	63 687	(d) 79 800	(d) 14 300	59 844	9 515	9 281	...	...	11 224
Fused oxide (a)	45 349	43 271	19 928	24 558	33 956	17 335	19 947	13 026	9 167	11 541
Fluorides	7 645	5 460	5 962	5 864	2 286	3 104	2 461	2 763	2 534	2 348
<i>Exports</i>										
Oxide (alumina)	(b) 12 581	11 795	(b) 22 740	(c) 5 000	2 281	(b) 6 042	6 347	(b) 10 164	...	1 432
Hydroxide	(c) 30 600	42 451	(c) 32 000	(c) 25 800	293	...	15 843	...	...	146
Fused oxide (a)	8 723	6 683	5 607	5 201	5 655	9 013	9 183	8 467	4 630	3 801
Fluorides	61	28	16	69	25	106	62	142	602	115

(a) Artificial corundum.

(b) Including some bauxite.

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

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

Antimony

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Antimony										
<i>Consumption</i> (Sb content)										
Metal	480	587	480	480	480					
Scrap (a)	1 512	1 480	1 165	993	1 483					
<i>Imports</i>										
Metal	461	345	183	290	410	782	417	301	654	796
Oxides	2 082	4 103	3 164	2 712	2 976	2 556	5 270	4 217	4 873	5 057
<i>Exports</i>										
Ash and residues	20	0	...	...	...	5	0	...	...	...
Metal	...	...	...	65	88	482	543	444	153	248
Oxides	(b) 4 400	1 297	1 879	1 413	663	...	1 751	2 611	2 446	1 186

(a) Including some antimony in ore.

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

Arsenic

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Arsenic										
<i>Imports</i>										
Elemental	109	87	86	155	165	602	838	279	232	248
<i>Exports</i>										
Elemental	11	5	5	0	0	37	56	37	41	8

Asbestos

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Asbestos										
<i>Imports</i>										
Fibre	246	246	2	3	0	244	386	33	40	3
Waste	0	101	116	—	2 149	0	327	311	—	102
Fabricated asbestos	431	136	187	433	356	1 365	1 257	1 165	1 154	900
Friction material with a basis of asbestos etc.	5 831	6 623	10 884	7 853	7 577	22 485	29 369	40 009	34 109	31 000
Articles of asbestos cement etc.	57 126	51 314	57 890	63 082	58 744	13 488	16 131	18 142	18 449	18 566
<i>Exports</i>										
Fibre	2	1	1	—	—	12	3	16	—	—
Waste	—	—	—	—	0	—	—	—	—	2
Fabricated asbestos	1 313	943	690	1 321	638	8 119	5 445	5 205	4 543	3 377
Friction material with a basis of asbestos etc.	5 108	5 217	4 055	3 644	3 338	33 097	34 915	22 369	22 263	22 299
Articles of asbestos cement etc.	62 456	40 326	26 792	22 972	16 848	15 266	12 322	8 710	8 918	6 638

Asphalt, natural

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Asphalt, natural										
<i>Imports</i>	286 364	268 207	232 887	194 759	94 670	22 430	22 788	24 911	19 322	7 958
<i>Exports</i>	148 037	170 150	116 317	79 604	160 781	14 626	16 394	12 042	7 690	15 683

Ball clay

Ball clays are fine-grained, highly plastic sedimentary clays, which fire to a light or near white colour. They are used mainly in the manufacture of ceramic whiteware (sanitaryware, floor and wall tiles, and tableware) and also refractories, and are valued for their key properties of plasticity, which makes them easy to mould, their unfired strength and the fact that when fired they have a light colour. Ball clays exhibit highly variable compositions and consist of a mixture of predominantly three minerals; kaolinite, mica and quartz. The clay mineral kaolinite is the key component.

Ball clay sales were a record 1 068 654 tonnes in 2000, but have been on a gradual decline since and were an estimated 950 000 tonnes in 2005. The UK is a leading world producer and exporter of high quality ball clay. In 2004, 805 359 tonnes (83 per cent) of sales were destined for export, including 634 836 tonnes to the EU.

Ball clay has a restricted occurrence in the UK and resources are confined to three small areas all in the south-west region of England: the Bovey and Petrockstowe basins in Devon and the Wareham Basin in Dorset. The Bovey Basin is the most important, both in terms of total sales (68 per cent in 2004) and, more importantly, the diversity and quality of the clays that are produced. The Wareham and Petrockstowe basins accounted for 19 per cent and 13 per cent of total sales, respectively in 2004.

The two UK producers of ball clay are WBB Minerals the world's leading producer of high-quality ball clays, and Imerys Minerals Ltd. WBB is a wholly-owned subsidiary of SCR Sibelco SA, a privately-owned Belgian mineral company, and operates solely in Devon. Imerys Minerals is a subsidiary of the Imerys Group of France and has had workings in all three basins. However, the company ceased production in the Petrockstowe Basin at the end of 2004, because of the high costs of extraction.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Ball clay										
<i>Production (sales) (a)</i>	1 068 655	998 850	921 027	884 809	964 797					
<i>Imports</i>	7 763	7 502	2 577	2 593	18 241	1 216	991	730	669	1 142
<i>Exports (a)</i>	878 260	827 214	762 895	734 524	805 359					

(a) Source: The Kaolin and Ball Clay Association.

Barytes

Barytes (barium sulphate, BaSO₄), also referred to as barite or baryte, is the most abundant and economically important barium mineral produced worldwide. When pure, barytes contains 58.8 per cent barium and 41.2 per cent sulphate and with a specific gravity (SG) of 4.5 it is often referred to as 'heavy spar.' Inclusions of other minerals may reduce (or in the case of metallica increase) the SG, but a high density, chemical inertness, relative softness and relatively widespread occurrence are the properties that are valued for barytes' most important application as a weighting agent in drilling fluids for hydrocarbon exploration. Colour and chemical purity are important properties when considering the suitability of barytes for non-drilling applications.

UK sales of barytes have been relatively constant in recent years and were an estimated 61 000 tonnes in 2005. Output is dominated by M-I Drilling Fluids UK from its Foss Mine, near Aberfeldy in Scotland, which accounted for more than 80 per cent of total production in 2005. The output is mainly used in drilling fluids, although some is sold for use as a heavy aggregate in dense concrete to provide radiation shielding. Remaining production is confined to the Southern Pennine Orefield where barytes is derived as by-product of processing fluorspar ore at Glebe Mines' Cavendish Mill, near Stoney Middleton in the Peak District. Output is essentially dependent on fluorspar output and on the barytes content of the fluorspar ore, which depends on the deposit being worked. Production was approximately 12 000 tonnes in 2004. The barytes flotation concentrate is sold locally to Viaton Industries for value-added processing by fine grinding for filler applications in paints and plastics. Some is also used in oil-well drilling fluids.

Britain is a net importer of barytes and imports for 2004 were some 63 934 tonnes valued at £2.7 million. Imported barytes is mainly used as a weighting agent in drilling fluids for offshore oil and gas exploration. Official figures for barytes exports are believed to be too high and were 25 360 tonnes in 2004.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Barium										
<i>Production</i>										
Barium minerals– Barytes	54 000	(b) 66 000	(b) 59 000	(b) 57 000	(b) 61 000					
<i>Imports</i>										
Barium minerals (a)	57 362	77 273	74 935	56 867	63 934	2 877	3 624	3 208	2 406	2 741
<i>Exports</i>										
Barium minerals (a) (c)	28 503	58 969	37 778	69 094	25 360	2 853	3 886	3 166	3 837	2 889

(a) Mainly barytes with some witherite.

(b) BGS estimate.

(c) Figure believed to be too high.

Bauxite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Bauxite										
<i>Imports (a)</i>	222 319	271 404	...	...	56 825	8 201	12 805	...	...	10 038
<i>Exports (a)</i>	(b) 12 581	2 593	(c) 6 900	(c) 4 200	889	(b) 6 042	912	...	...	319

(a) Excluding refractory grade bauxite.

(b) Including alumina.

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

Bentonite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Bentonite										
<i>Imports</i>	255 942	235 517	216 022	198 434	167 222	14 129	14 731	12 189	10 102	11 617
<i>Exports</i>	75 472	72 983	81 707	75 099	69 869	15 774	16 314	17 538	19 179	20 012

Beryllium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Beryllium										
<i>Imports</i>										
Metal	10	12	54	22	47	709	523	1 618	1 004	468
Oxides and hydroxides	12	10	4	7	4	988	881	297	509	361
<i>Exports</i>										
Metal	34	58	39	58	5	689	311	259	528	319

Bismuth

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Bismuth										
<i>Imports</i>										
Metal	1 379	1 515	1 513	2 237	2 205	5 277	7 706	5 891	7 695	8 201
<i>Exports</i>										
Metal	2 987	1 269	1 793	2 239	2 633	7 352	5 799	8 028	8 646	11 956

Boron

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Boron										
<i>Imports</i>										
Boron minerals (a)	16 450	16 880	9 936	4 954	4 243	1 947	2 630	1 726	1 606	1 086
<i>Exports</i>										
Boron minerals (a)	304	96	164	395	29	62	31	158	404	15

(a) Including crude natural borates and concentrates, and crude natural boric acid.

Bricks

Total deliveries of clay bricks decreased from 2668 million bricks in 2004 to 2419 million bricks in 2005 and actual production decreased slightly from 2707 million bricks in 2004 to 2601 million bricks in 2005. Clay brick stocks were 776 million in 2005 up slightly on 600 million in 2004. Marshalls Plc, the landscape and stone products group, sold its clay brick business to Hanson Plc at the end of 2004 for £65 million. Marshalls Clay Products was the fifth largest brick manufacturer in the UK, producing around 160 million brick equivalents a year and in the year ending 2004. In 2004, Hanson Brick also purchased Wilnecote Brick from Tarmac for an undisclosed sum. Wilnecote Brick operates one modern plant at Tamworth in Staffordshire with a capacity of about 35 million bricks per year. The plant is based on mudstones of the Etruria Formation, the premium brick clay produced in Britain. The acquisition now makes Hanson Brick the leading UK brick manufacturer with Ibstock Brick the second largest.

The Austrian group Wienerberger, the world's leading brick producer, acquired 'The brickbusiness' for about £90 million, in early 2005. The brickbusiness was formed in 2002 by the merger of Ambion Brick and Chelwood Brick and is the UK's third largest brick producer with nine works and sales of £64 million in 2003/4. It accounted for about 17 per cent of UK brick sales. Great Britain is by far the largest European market for facing bricks.

Great Britain production of bricks, blocks and tiles 1995–2004

Material	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Millions										
Bricks:										
Clay	3 025	2 849	(a) 2 828	(a) 2 830	(a) 2 759	(a) 2 694	(a) 2 595	(a) 2 600	(a) 2 606	(a) 2 707
Sandlime	40	31	...	...	...	...	...	...	...	...
Concrete	191	166	169	171	180	170	159	150	167	161
Total	3 256	3 046	2 997	3 000	2 939	2 864	2 754	2 750	2 772	2 868
Brick Production Region										
North East	190	150	160	154	133	130	136	138	137	147
Yorkshire and the Humber	278	234	218	194	211	195	186	187	186	195
East Midlands	415	447	473	518	522	508	495	480	487	514
East of England	365	370	325	248	331	334	321	349	362	343
South East	540	523	535	565	409	394	385	371	346	346
South West	171	168	152	146	145	148	132	129	132	143
West Midlands	649	576	558	598	573	572	558	570	586	624
North West	313	295	295	303	320	292	299	290	296	312
England	2 921	2 763	2 718	2 727	2 643	2 573	2 513	2 513	2 531	2 624
Wales	121	106	104	102	123	109	106	106	119	117
Scotland	214	177	176	172	174	181	136	131	122	127
Great Britain	3 256	3 046	2 997	3 000	2 939	2 864	2 754	2 750	2 772	2 868
Million square metres										
Concrete building blocks:										
Dense aggregate	36.9	35.0	37.3	39.4	38.4	37.6	36.6	35.7	36.8	37.7
Lightweight aggregate	18.1	16.3	17.8	19.1	20.8	23.0	22.7	23.5	25.0	25.5
Aerated concrete	23.2	24.6	27.5	26.1	28.5	29.6	28.6	32.3	33.9	33.1
Total	78.3	75.9	82.5	84.7	87.8	90.2	87.9	91.5	95.7	96.3
Roofing tiles:										
Concrete	26.1	24.7	25.0	25.0	26.0	26.8	24.8	25.0	21.4	20.7

(a) Including sandlime bricks.

Source: Department of Trade and Industry.

Bromine

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Bromine										
<i>Production</i> (a)	33 200	27 900	24 500	(a) 25 000	—					
<i>Imports</i>	5 987	5 387	2 880	1 899	7 146	3 413	2 887	1 153	578	2 115
<i>Exports</i>	10 850	11 304	8 672	5 307	1 126	7 410	8 385	6 149	2 691	1 169

(a) BGS estimate.

Building and dimension stone

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Building and dimension stone										
<i>Production</i> (a)										
Sandstone	239 000	...	...	327 000	439 000					
Igneous rock	...	479 000	217 000	212 000	189 000					
Limestone	(b) 305 000	(b) 220 000	(b) 191 000	...	226 000					
Dolomite	15 000	34 000	9 000	7 000	8 000					
Total	...	...	...	...	862 000					
<i>Imports</i>										
Unworked—										
Marble and other calcareous stone	29 015	9 985	12 708	18 565	29 890	7 709	7 727	8 855	11 930	14 651
Granite (c)	865 710	1 781 220	1 656 235	1 145 887	1 643 091	36 452	28 908	29 447	30 386	39 649
Sandstone	13 800	17 202	50 214	72 589	129 148	3 113	2 577	7 050	10 803	16 168
Other stone	5 228	9 857	259 070	300 324	29 224	1 181	1 498	3 448	4 968	5 463
Worked—										
Marble and other calcareous stone	32 425	64 637	48 237	60 473	69 876	23 668	28 291	32 555	40 413	46 688
Granite	34 928	37 533	57 885	76 177	81 545	24 215	26 334	37 543	45 125	50 074
Other stone	17 839	21 256	27 063	31 600	42 078	10 538	10 947	13 552	14 987	16 962
Paving stones and flagstones	41 589	47 501	75 640	88 509	188 204	8 562	8 161	10 754	12 652	22 402
<i>Exports</i>										
Unworked—										
Marble and other calcareous stone	8 668	4 140	4 853	6 203	2 362	501	770	585	447	200
Granite	1 594	1 558	931	1 369	1 804	331	370	252	251	224
Sandstone	5 974	4 998	5 789	6 424	4 920	522	1 038	1 184	1 281	1 169
Other stone	809	281	1 168	932	490	513	134	408	176	362
Worked—										
Marble and other calcareous stone	839	526	946	1 072	1 636	1 407	1 456	1 893	3 320	3 725
Granite	713	53	732	290	489	360	99	755	399	546
Other stone	1 401	3 596	3 820	4 602	3 685	1 306	1 914	2 269	2 850	2 652
Paving stones and flagstones	3 168	5 029	5 057	4 980	4 688	937	780	1 217	1 105	1 095

(a) Great Britain only.

(b) BGS estimate.

(c) Figures believed to be too high. May include aggregate.

Cadmium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Cadmium										
<i>Production</i>										
Cadmium (a)	503	425	292	22	—					
<i>Consumption</i>										
Cadmium	585	584	589	590	592					
<i>Imports</i>										
Metal	790	942	225	416	479	448	1 273	439	778	647
Pigments	52	26	31	60	62	372	155	154	298	249
<i>Exports</i>										
Metal	19	87	115	187	27	129	495	742	705	131
Pigments	748	691	640	704	774	5 389	4 849	4 504	4 850	5 182

(a) Refined.

Calcspar

United Kingdom summary 2000–2004

Tonnes

Commodity	2000	2001	2002	2003	2004
Calcspar (Calcite)					
<i>Production</i>	...	12 000	(a) 10 000	—	—

(a) BGS estimate.

Cement

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Cement										
<i>Production</i>										
Cement, clinker	11 456 000	10 573 000	(a) 10 327 000	(a) 10 146 000	(a) 10 402 000					
Cement, finished	12 452 000	11 854 000	(a) 11 089 000	(a) 11 215 000	(a) 11 405 000					
	Cubic metres									
Ready-mixed concrete	23 043 000	23 008 000	22 597 000	22 289 000	22 856 000					
	Tonnes									
<i>Consumption</i> (home deliveries) (b)										
Finished cement	11 854 000	11 350 000	(a) 10 762 000	(a) 11 072 000	(a) 11 074 000					
<i>Imports</i>										
Portland cement clinker	350 975	387 306	289 685	506 128	377 341	18 124	14 254	10 511	20 380	21 529
Aluminous cement	12 515	12 675	12 267	10 747	15 478	3 779	3 821	3 403	3 220	3 598
Portland cement	1 428 008	1 179 521	2 142 589	1 714 946	2 065 008	56 017	51 173	75 099	70 633	83 649
Other cement	8 913	39 736	49 060	50 384	48 811	2 191	2 718	1 996	2 037	2 636
<i>Exports</i>										
Portland cement clinker	256 077	169 344	159 252	60 920	82 929	8 266	6 573	6 685	1 965	1 416
Aluminous cement	40 165	50 085	50 501	54 595	66 706	11 687	14 578	14 498	16 768	19 982
Portland cement	528 417	229 572	305 801	216 480	214 418	21 001	14 793	14 062	15 076	16 908
Other cement	16 099	31 356	15 662	6 598	9 551	4 021	9 186	2 575	1 983	1 952

(a) Great Britain only.

(b) Excluding imports.

Chalk (see Limestone)

China clay

China clay or kaolin is a commercial clay composed principally of the hydrated aluminosilicate clay mineral kaolinite. The commercial value of china clay is based on the mineral's natural whiteness and its fine, but controllable, particle size. Particle size affects fluidity, strength, plasticity, colour, abrasiveness and ease of dispersion. Other important properties include its flat particle shape, which increases opacity or hiding power, its soft and non-abrasive texture, due to the absence of coarser impurities, and its chemical inertness. These key properties distinguish china clay from the other kaolinitic clays produced in Britain, such as ball clay and fireclay. The kaolinite content of processed kaolin varies, but is generally in the range 75 per cent to 94 per cent. China clay is mainly used in papermaking as a coating pigment and filler, although the ceramics industry, and its use as a filler in paint, rubber and plastics are also important markets.

China clay resources in Britain are confined to the granites of south-west England. The deposits are world famous for their size and quality and have provided over 165 million tonnes of china clay since production records began in the late 19th century. All the main granite intrusions have been worked to a limited extent in the past. Today production is confined to the St Austell Granite and the south-western margin of the Dartmoor Granite, and on the adjacent but separate Crownhill Down Granite. Production from the Bodmin Moor Granite ceased in 2001 with the closure of the Stannon Pit. The St Austell Granite is by far the most important source accounting for about 85 per cent of total sales. The industry is of considerable national and regional importance.

China clay sales have been on a declining trend since peak output of 3.28 million dry tonnes in 1988. Sales declined from 1 945 000 dry tonnes in 2004 to an estimated 1 800 000 dry tonnes in 2005. In 2004 88 per cent of UK china clay production was exported, mainly to Europe.

The extraction and processing of china clay involves the production of very large quantities of waste. China clay waste is exempt from the Aggregates Levy and sales for aggregate use have increased from 2.1 million tonnes in 2001 to 2.5 million tonnes in 2004. Sales are mainly in the south-west, although small quantities are also shipped to London and the south-east. However, shipments of china clay aggregate from the Port of Par declined from 160 000 tonnes in 2003 to 62 000 tonnes in 2004. This is due to the rising cost of sea freight, the cost of fuel and the lack of available vessels. Plans for a significant expansion in shipments are unlikely to materialise in the short term.

Imerys Minerals Ltd is the largest china clay producer accounting for about 85 per cent of total output with operations based on the St Austell Granite in Cornwall and the south-western margin of the Dartmoor Granite in Devon. The company is a subsidiary of the Imerys Group of France, which is the world's leading kaolin producer. Goonvean Ltd, a privately-owned company, operates five quarries in the St Austell Granite and WBB Minerals operates two sites on the Dartmoor Granite and Crownhill Down Granite.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
China clay										
Production (sales) (a) (b)	2 376 057	2 204 156	2 162 815	2 097 137	1 944 955					
Imports	42 537	95 337	56 416	72 719	108 260	6 275	8 140	5 433	8 473	9 439
Exports (a) (b)	2 074 548	1 928 230	1 899 220	1 862 437	1 728 161					

(a) Dry weight.

(b) Source: The Kaolin and Ball Clay Association.

China stone

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004
Tonnes					
China stone—see Feldspar					
Production	3 645	2 995	1 896	2 865	1 835

Chromium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Chromium										
<i>Apparent consumption (a)</i>	96 000	83 000	90 000	67 800	100 900					
<i>Consumption in Iron and Steel Industry (b)</i>	52 610	47 100	46 040	52 880	53 860					
<i>Imports</i>										
Ores and concentrates	163 647	135 369	139 748	107 161	130 841	7 814	6 186	5 109	3 742	4 652
Under 4% carbon	16 545	12 501	10 196	8 329	11 286	10 567	8 034	6 063	5 413	9 473
4%–6% carbon	—	1 744	—	72	102	—	629	—	34	48
Over 6% carbon	90 499	84 749	102 702	60 004	95 368	27 792	22 868	21 079	17 797	29 143
Ferro-silico-chrome	7 415	5 136	2 309	63	—	2 365	1 488	555	35	—
Oxides and hydroxides	(c) 5 100	8 201	(c) 4 400	(c) 7 400	(c) 9 600	...	10 511	...	...	...
Metal	1 519	1 601	1 171	1 612	2 321	6 522	7 316	4 494	6 436	8 862
<i>Exports</i>										
Ores and concentrates	503	170	26	212	622	117	55	30	71	403
Under 4% carbon	137	553	181	267	906	232	718	427	660	703
4%–6% carbon	265	86	55	540	111	113	78	37	242	127
Over 6% carbon	455	515	567	879	1 342	327	357	710	602	1 249
Ferro-silico-chrome	19	52	10	25	25	19	41	8	89	46
Oxides and hydroxides (d)	18 300	17 900	18 400	20 400	19 700	...	...	...	...	...
Metal	8 821	4 609	3 837	4 173	4 766	21 299	18 019	15 034	14 987	15 469

(a) BGS estimates; see p.v.

(b) Chromium content of ferro-alloys.

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

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

Clays (also see Bricks)

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Clays (not elsewhere specified)										
<i>Production</i>										
Clay and shale (a)	10 838 000	10 426 000	10 306 000	10 680 000	11 164 000					
<i>Imports</i>										
Unspecified clays	38 122	38 873	...	101 742	75 323	12 380	13 614	12 793	21 167	13 781

(a) Great Britain only. There is a small, undisclosed production in Northern Ireland.

Great Britain production of clay and shale by end-use and area of origin 2004

Thousand tonnes					
Area of origin	Bricks, pipes and tiles	Cement	Construc-tional use	Other uses	Total
Durham	...	—	4	—	...
Northumberland	...	—	—	—	...
Tyne and Wear	96	—	—	—	96
North East	310	—	4	—	314
Humberside	...	155	—	69	...
North Yorkshire	...	—	...	—	...
South Yorkshire	...	—	—	...	...
West Yorkshire	257	—	—	—	257
Yorkshire and the Humber	438	155	...	...	721
Derbyshire	...	534	—	—	...
Leicestershire	...	...	...	—	880
Northamptonshire	...	—	...	—	...
Nottinghamshire	...	—	...	—	...
East Midlands	1 298	...	...	—	2 544

continued

Great Britain production of clay and shale by end-use and area of origin 2004 *continued*

Thousand tonnes

Area of origin	Bricks, pipes and tiles	Cement	Construc- tional use	Other uses	Total
Cambridgeshire	...	...	—	—	...
Norfolk	—	—	—	...	...
Suffolk	1	—	—	—	1
Essex	...	296	—	—	...
Bedfordshire	...	—	—	—	...
Hertfordshire	—	—	...	—	...
East of England	...	...	...	...	1 730
Buckinghamshire	...	—	—	—	...
Oxfordshire	—	—	...	—	...
Berkshire	—	—	—	—	—
East Sussex	163	—	—	—	163
West Sussex	494	—	—	—	494
Hampshire	31	—	—	—	31
Kent	...	—	57	—	...
Surrey	264	—	—	—	264
Greater London	—	—	—	—	—
South East	...	—	...	—	1 156
Avon	...	—	—	—	...
Cornwall	—	—	...	—	...
Devon	...	—	—	—	...
Dorset	12	—	—	—	12
Gloucestershire	...	—	...	...	...
Wiltshire	—	185	—	36	222
South West	403	185	...	...	662
Hereford and Worcester	...	—	—	—	...
Shropshire	...	—	41	—	...
Staffordshire	912	326	—	70	1 308
Warwickshire	500	—	—	—	500
West Midlands	281	—	—	—	281
West Midlands	2 130	326	41	70	2 567
Cumbria	33	—	—	20	53
Cheshire	...	—	...	—	...
Greater Manchester	...	—	—	4	...
Lancashire	...	—	...	—	477
Merseyside	...	—	—	—	...
North West	405	—	234	25	664
England	7 303	1 910	910	234	10 357
Clwyd	—	60	—	—	60
Gwynedd	...	—	—	—	...
Dyfed	—	...	...	—	...
Powys	48	—	...	—	...
Wales	...	...	123	—	445
South of Scotland	—	—	...	—	...
West Central Scotland	120	—	41	—	161
East Central Scotland	...	—	...	—	...
Tayside and Fife	...	...	30	—	30
Highlands	30	...	...	...	30
Orkney	...	...	...	...	...
Scotland	...	...	...	...	362
Great Britain	7 629	(a) 1 970	(a) 1 104	234	11 164

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of clay and shale by end-use 1991–2004

Thousand tonnes

Year	Bricks, pipes and tiles	Cement	Lightweight aggregate	Constructional use	Other uses	Total
1991	9 042	2 626	...	...	...	13 038
1992	7 914	2 365	...	872	...	12 155
1993	6 914	2 366	...	1 398	...	10 891
1994	8 318	2 581	98	1 219	248	12 464
1995	9 316	2 616	—	1 914	85	13 930
1996	8 162	2 169	—	1 196	(a) 277	11 804
1997	7 560	2 339	—	1 104	(a) 319	11 322
1998	8 214	2 384	—	1 089	(a) 543	12 230
1999	8 270	2 148	—	540	...	11 355
2000	7 880	1 939	1	...	...	10 838
2001	7 574	1 884	33	625	(a) 310	10 426
2002	6 985	2 194	...	956	...	10 306
2003	7 090	2 215	...	1 181	...	10 680
2004	7 629	(a) 1 970	...	(a) 1 104	234	11 164

(a) BGS estimate.

Source: Office for National Statistics.

Coal (also see Primary fuels)

In 2005, coal production fell to 20.6 million tonnes, a decrease of 4.5 million tonnes (17.8 per cent) compared with the previous year. This was due to closure and mothballing of deep mines and planning permission constraints for opencast extraction. Of the total production, underground mines contributed 9.6 million tonnes (46 per cent) and opencast mines 10.4 million tonnes (51 per cent) with minor quantities recovered from other sources. For the first time, opencast production exceeded that of deep mines. The value of coal production is estimated to have stayed fairly level at £800 million in 2004 compared to £794 million in 2003. The number of people employed in UK collieries at the end of March 2005 was 4599, and in opencast sites, 2234.

Coal consumption increased from 60.7 million tonnes in 2004 to 62.2 million tonnes in 2005. In 2005, generation of electricity used 52.2 million tonnes, or 83.9 per cent of total consumption. Coal accounted for 40.8 per cent of total electricity generation in 2005, whereas gas accounted for 32.7 per cent. Consumption in coke ovens and blast furnaces accounted for 10.6 per cent and industrial, domestic and other uses for 5.5 per cent. Total stocks of coal at the end of 2005 were 15.5 million tonnes, an increase of 1.9 million tonnes compared to the previous year.

In 2004 imports were largely bituminous coal, with steam coal comprising 81.9 per cent of the total and coking coal 17.6 per cent. Anthracite accounted for only 0.5 per cent of imports. The sources of supply are summarised in the table below. The chief sources of steam coal were South Africa (34 per cent) and Russia (33 per cent) and the chief source of coking coal was Australia (65 per cent). Coal imports increased by 21 per cent from 36.2 million tonnes in 2004 to 43.8 million tonnes in 2005 and are now more than double the domestic production. In 2005 net imports were 69.5 per cent of total consumption.

Coal Authority licences for opencast sites in production 1 February 2006 totalled 41, of which 26 were in Scotland, seven in England and eight in Wales. This is the same number recorded at the end of 2004 but with an increase of three in Scotland and two in Wales. Scottish Coal held the largest number of licences with 14, all in Scotland. This is a significant increase on the ten licences they held in the previous year. Aardvark TMC Ltd, Celtic Energy Ltd and H J Banks & Company Ltd each held four licences. There were 16 operators in total.

Of the seventeen licences for underground mining, seven were held by UK Coal plc operating in the Midlands and Yorkshire. Each of the other ten licensees held one licence.

UK Coal plc showed a loss of £62.2 million in 2005, largely related to the closure of Ellington Colliery in January 2005 and the mothballing of Harworth and Rossington collieries, although there was a return to profitability in the final quarter of the year. Deep mine production fell by three million tonnes to nine million tonnes in 2005, reflecting the closure of the Selby complex in 2004. The estimated reserve of deep mine coal is 64 million tonnes, with a further 209 million tonnes in the resources categories.

Following the completion of coal extraction at Orgreave in January 2006, UK Coal plc is operating one surface mine, Maiden's Hall, Northumberland. Thirty-three other sites are being restored and rehabilitated at a cost of £10.8 million during 2005. Surface mine production fell to one million tonnes, from two million tonnes in 2004, due to the constraints of the existing planning permissions. During 2005 and early 2006, however, surface mine planning consent was granted for two mines, totalling 1.2 million tonnes. Surface mining showed an operating profit of £0.8 million. At the end of 2005, UK Coal plc surface mining reserves with planning consent were 2.7 million tonnes. Applications to mine at four sites were submitted during 2005 and applications to mine at another six sites will be lodged during 2006.

Permitted reserves of opencast coal in operational sites and those with planning permission but not yet worked at the end of 2005 are shown in the table below.

UK supply of coal 2004

Thousand tonnes

	Bituminous		Anthracite	Total
	Steam coal	Coking coal		
Production				
Mine production	...	352	...	24 536
Other sources	...	—	...	561
Stock change	...	–206	...	176
Total production				25 273
Imports				
European Union	1 500	—	80	1 580
South Africa	10 105	—	39	10 144
Australia	2 035	4 140	—	6 175
Russia	9 776	148	8	9 932
Colombia	3 630	—	—	3 630
USA	717	1 342	2	2 061
Canada	25	715	—	740
China P.R.	190	—	43	233
Norway	138	—	—	138
Vietnam	—	—	23	23
Indonesia	1 458	—	—	1 458
Venezuela	39	—	—	39
Other countries	—	—	—	—
Total imports	29 613	6 345	195	36 153
Total exports	–440	–9	–172	–621
Total supply	...	...	...	60 805

Source: DTI

Total permitted reseves (working sites and sites not yet worked) at 31 December

	Tonnes		
Mineral Planning Authority	2003	2004	2005
Derbyshire	485 554	116 496	466 577
Leicestershire	505 611	47 092	61 823
East Midlands	991 165	163 588	528 400
Durham	387 311	117 169	257 000
Northumberland	2 864 271	2 614 498	2 492 246
Newcastle	200 000	229 929	185 984
North East	3 451 582	2 961 596	2 935 230
Lancashire	—	—	15 000
Bolton	964 000	964 000	964 000
St Helens	3 797	—	10 950
North West	967 797	964 000	989 950
Barnsley	185 562	34 031	—
Leeds	451 740	122 601	—
Rotherham	540 240	148 937	60 329
Wakefield	50 307	—	—
Yorkshire and the Humber	1 227 849	305 569	60 329
Shropshire	—	349 318	344 976
West Midlands	—	349 318	344 976
England	6 638 393	4 744 071	4 858 885
Carmarthenshire	188 839	159 119	157 080
Neath Port Talbot	1 911 934	3 563 421	3 622 048
Merthyr Tydfil	—	5 500 000	10 800 000
Powys	3 134 166	2 753 569	2 435 552
Wrexham	117 421	38 558	—
Wales	5 352 360	12 014 667	17 014 680

continued

Total permitted reseves (working sites and sites not yet worked) at 31 December *continued*

Mineral Planning Authority	Tonnes		
	2003	2004	2005
Clackmannanshire	191 406	82 456	—
Borders	450 000	—	—
Dumfries and Galloway	1 878 045	1 878 045	—
East Ayrshire	11 601 204	17 780 204	15 835 443
Falkirk	284 000	405 875	441 925
Fife	3 381 099	2 929 774	1 608 018
Midlothian	—	392 875	181 353
North Lanarkshire	1 103 212	902 347	580 000
South Lanarkshire	11 918 137	10 922 312	10 080 893
West Lothian	1 000 000	1 262 647	754 082
Scotland	31 807 103	36 556 535	29 481 714
Great Britain	43 797 856	53 315 273	51 355 279

Source: The Coal Authority.

Great Britain production of deep-mined and opencast coal 1975–2004

Year	Thousand tonnes								
	Deep-mined			Opencast			Deep-mined and opencast		
	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total
1975	1 407	116 005	117 412	1 127	9 287	10 414	2 534	125 292	127 826
1976	1 249	109 016	110 265	1 114	10 830	11 944	2 363	119 846	122 209
1977	1 209	105 914	107 123	1 320	12 231	13 551	2 529	118 145	120 674
1978	1 453	106 075	107 528	1 499	12 668	14 167	2 952	118 743	121 695
1979	1 693	106 082	107 775	1 337	11 525	12 862	3 030	117 607	120 637
1980	1 607	110 823	112 430	1 295	14 484	15 779	2 902	125 307	128 209
1981	1 566	108 907	110 473	1 343	13 485	14 828	2 909	122 392	125 301
1982	1 406	104 755	106 161	1 478	13 788	15 266	2 884	118 543	121 427
1983	1 249	100 493	101 742	767	13 939	14 706	2 016	114 432	116 448
1984	256	34 987	35 243	961	13 345	14 306	1 217	48 332	49 549
1985	838	74 451	75 289	1 304	14 265	15 569	2 142	88 716	90 858
1986	984	89 382	90 366	1 001	13 274	14 275	1 985	102 656	104 641
1987	917	85 040	85 957	1 174	14 612	15 786	2 091	99 652	101 743
1988	770	82 992	83 762	1 028	16 871	17 899	1 798	99 863	101 661
1989	453	79 175	79 628	1 607	17 050	18 657	2 060	96 225	98 285
1990	573	72 326	72 899	1 372	16 762	18 134	1 945	89 088	91 033
1991	189	73 168	73 357	1 675	16 961	18 636	1 864	90 129	91 993
1992	177	65 623	65 800	1 863	16 324	18 187	2 040	81 947	83 987
1993	115	50 342	50 457	1 289	15 717	17 006	1 404	66 059	67 463
1994	...	...	31 854	...	...	16 804	...	...	48 658
1995	...	...	35 150	...	...	16 369	...	...	51 519
1996	...	...	32 223	...	...	16 315	...	...	48 538
1997	...	...	30 281	...	...	16 700	(a) 2 500	(a) 44 500	46 981
1998	...	...	25 731	...	...	14 315	(a) 2 000	(a) 38 000	40 046
1999	...	...	20 888	...	...	15 275	(a) 2 000	(a) 34 200	36 163
2000	...	...	17 187	...	...	13 412	(a) 2 000	(a) 28 600	30 599
2001	...	...	17 347	...	...	14 166	(a) 2 000	(a) 29 500	31 513
2002	...	...	16 391	...	...	13 148	(a) 2 000	(a) 27 500	29 539
2003	...	...	15 633	...	...	12 126	...	...	27 759
2004	...	...	12 543	...	...	11 993	...	...	24 536

(a) BGS estimate.

Source: Department of Trade and Industry.

United Kingdom regional deep-mined coal production 2000–2005 (a)

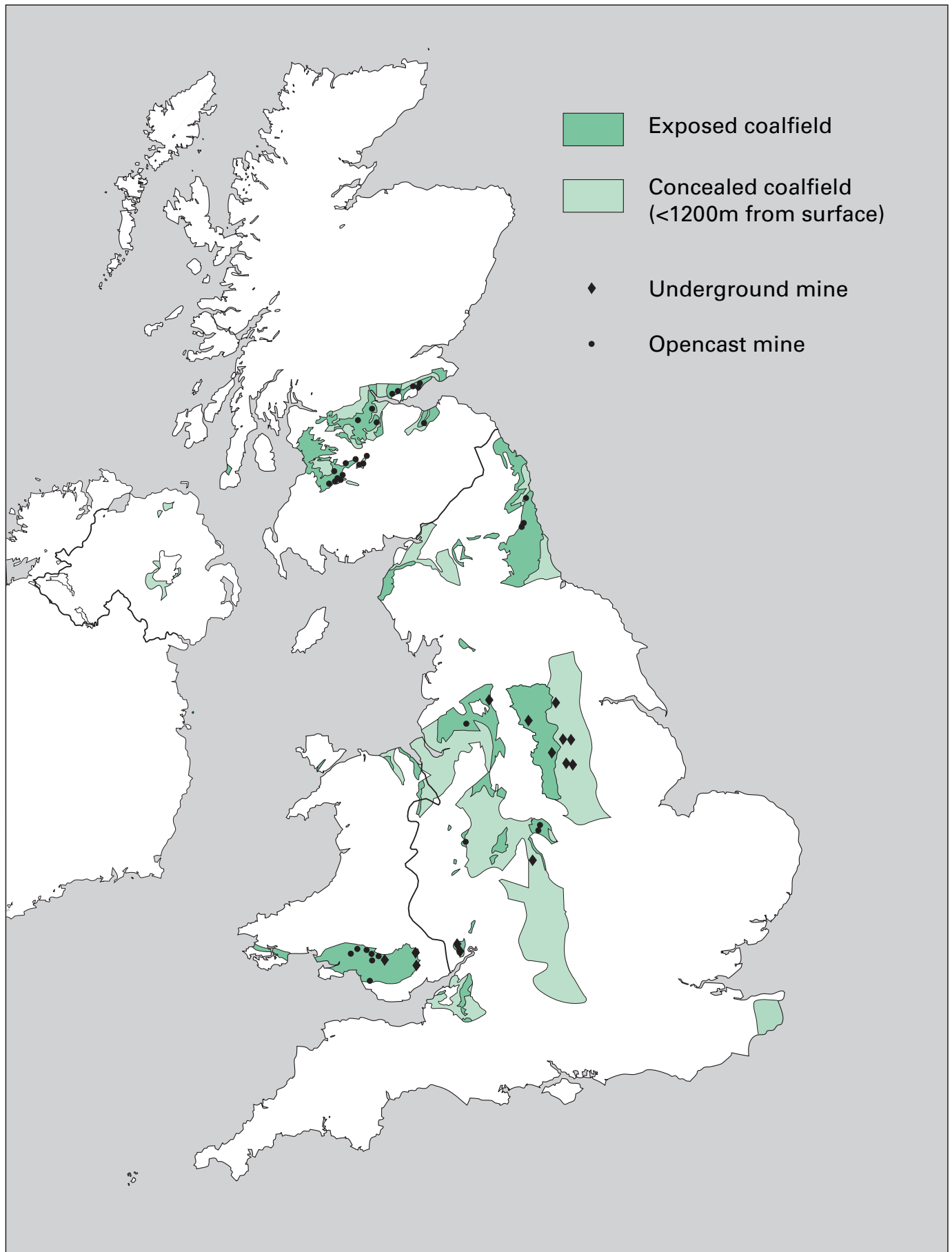
Thousand tonnes

County/Unitary authority	2000/01	2001/02	2002/03	2003/04	2004/05
Doncaster	991	675	1 070	1 030	378
Kirklees	34	31	31	32	24
Sheffield	23	22	—	—	—
Rotherham	931	1 499	1 587	962	1 635
Wakefield	1 354	1 177	414	—	—
Leicestershire	—	—	—	—	—
Warwickshire	1 951	1 582	663	2 252	2 977
Derbyshire	—	—	22	25	21
Nottinghamshire	4 272	4 650	4 733	4 083	2 617
Durham	—	—	—	—	—
Northumberland	394	840	800	598	376
North Yorkshire	5 991	6 174	5 719	5 111	3 054
Lancashire	—	1	0	—	—
Cumbria	1	0	—	—	—
Staffordshire	—	—	—	—	—
Gloucestershire	321	370	926	599	94
England	15 942	16 652	15 039	14 094	11 082
Blaenau Gwent	1	0	—	—	—
Caerphilly	—	—	—	—	—
Merthyr Tydfil	—	—	—	—	—
Rhondda, Cynon Taff	569	567	632	525	398
Carmarthenshire	40	51	84	20	—
Neath Port Talbot	39	50	43	18	26
Torfaen	17	6	7	9	8
Wales	666	674	765	571	431
Clackmannanshire	728	756	—	—	—
West Lothian	—	—	—	—	—
Scotland	728	756	—	—	—
United Kingdom	17 336	18 082	15 805	14 664	11 513

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom onshore coalfields and mines 2005 (a)



United Kingdom regional opencast coal production 2000–2005 (a)

Thousand tonnes

County/Unitary authority	2000/01	2001/02	2002/03	2003/04	2004/05
Barnsley	67	261	398	352	201
Rotherham	446	525	428	463	407
Wakefield	50	—	194	289	—
Leicestershire	535	606	608	572	328
Warwickshire	36	—	—	—	—
Derbyshire	600	706	699	567	255
Durham	233	184	170	231	258
Gateshead	—	73	54	22	—
Newcastle upon Tyne	—	—	—	—	—
Northumberland	1 802	1 697	1 625	852	906
Leeds	752	728	685	249	311
Sunderland	61	—	—	—	—
Shropshire	7	—	—	—	6
St Helens	50	41	76	76	48
Cumbria	111	70	16	—	—
Staffordshire	—	—	—	—	—
Walsall	6	—	—	—	—
Wigan	—	—	—	—	—
Stoke on Trent	13	—	—	—	—
England	4 768	4 890	4 953	3 674	2 720
Blaenau Gwent	—	10	7	—	—
Merthyr Tydfil	—	—	—	—	—
Carmarthenshire	—	0	0	7	29
Neath Port Talbot	1 133	955	423	377	977
Powys	268	214	331	424	354
Flintshire	—	—	—	—	—
Bridgend	—	—	309	355	—
Wrexham	—	—	—	14	66
Wales	1 401	1 178	1 070	1 177	1 426
Clackmannanshire	165	211	150	177	65
East Lothian	43	—	—	—	—
Falkirk	—	—	—	—	39
Midlothian	139	341	215	12	128
Perth & Kinross	—	—	—	—	—
West Lothian	—	—	—	—	262
East Ayrshire	3 469	4 528	4 183	3 908	3 719
Fife	804	763	739	1 035	1 630
North Lanarkshire	756	651	425	188	203
South Lanarkshire	1 701	1 674	1 368	1 456	1 585
Scotland	7 078	8 170	7 080	6 776	7 632
United Kingdom	13 247	14 238	13 103	11 627	11 778

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Coal										
<i>Production</i>	31 197 000	31 930 000	29 989 000	28 279 000	25 097 000					
<i>Consumption</i>	58 860 000	64 535 000	58 689 000	62 303 000	60 679 000					
<i>Imports</i>										
Anthracite	1 057 911	2 757 188	1 550 849	334 883	172 805	39 693	101 548	52 678	15 897	10 739
Bituminous	22 397 393	32 772 976	27 110 435	31 538 546	34 482 107	629 432	1 078 272	797 166	907 426	1 268 175
Total	23 455 304	35 530 164	28 661 284	31 873 429	34 654 912	669 125	1 179 820	849 844	923 323	1 278 914
Briquettes of coal	16 221	10 908	17 025	7 440	7 697	1 597	1 274	1 811	899	838
Lignite (including agglomerated)	976	3 362	1 336	2 685	5 255	49	204	203	340	684
<i>Exports</i>										
Anthracite	304 387	272 985	187 372	180 382	172 447	15 868	14 961	11 267	12 774	11 412
Bituminous	616 291	309 560	341 627	352 620	439 930	24 226	19 075	19 098	19 394	25 772
Total	920 678	582 545	528 999	533 002	612 376	40 094	34 036	30 365	32 168	37 184
Briquettes of coal	76 679	76 419	63 126	59 189	40 256	5 501	6 314	5 272	5 375	4 040
Lignite (including agglomerated)	2 475	2 938	3 670	3 567	3 172	248	308	688	344	250

Cobalt

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Cobalt										
<i>Consumption in Iron and Steel Industry (a)</i>	20	20	20	20	20					
<i>Apparent consumption (a) (b)</i>	1 600	1 500	2 300	1 000	1100					
<i>Imports</i>										
Scrap	515	756	362	414	508	3 608	7 724	1 889	1 627	3 811
Ash and residues	38	1	...	—	—	32	4	...	—	—
Unwrought	2 781	2 646	3 201	2 252	2 463	39 752	34 076	28 560	24 768	48 066
Wrought	590	785	473	690	887	8 259	8 393	6 812	6 935	14 199
Oxides	496	641	487	582	525	6 012	6 858	3 092	4 613	7 456
<i>Exports</i>										
Scrap	379	474	212	537	794	2 823	3 119	1 257	2 352	6 149
Unwrought	787	737	522	507	608	14 476	12 960	8 956	8 031	13 955
Wrought	465	644	386	502	458	13 055	14 474	11 714	11 485	14 839
Oxides	1 141	1 256	1 233	1 380	1 228	14 504	14 111	11 072	13 538	20 024

(a) Metal content.

(b) BGS estimates; see p.v.

Coke and breeze

United Kingdom summary 2000–2004

Commodity		2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
		Tonnes					£ thousand				
Coke and breeze											
<i>Production</i>											
Coke oven	—coke	6 058 000	5 306 000	4 335 000	4 286 000	4 038 000					
	—breeze	148 000	210 000	224 000	315 000	298 000					
<i>Consumption</i>											
Coke oven coke		5 301 000	4 394 000	3 658 000	4 007 000	3 725 000					
Breeze		1 033 000	1 120 000	1 075 000	1 330 000	1 421 000					
<i>Imports</i>											
Coke from coal		482 561	139 041	200 809	764 525	785 585	24 942	11 407	14 092	61 358	134 706
<i>Exports</i>											
Coke from coal		380 146	314 024	312 724	223 408	189 640	23 615	19 604	19 175	14 666	18 073
Coke from lignite		6 898	5 253	4 660	5 312	...	552	578	522	469	...

Copper

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Copper										
<i>Consumption</i>										
Unwrought–										
Refined	322 748	285 880	260 663	242 193	243 417					
Copper in scrap for direct use (a)	132 000	127 000	120 000	120 000	120 000					
<i>Imports</i>										
Ores and concentrates	517	756	789	459	249	2 296	1 391	900	685	567
Matte and cement	17	92	19	7	8	59	308	69	33	61
Scrap	20 597	19 651	19 240	17 378	15 578	15 839	16 349	16 505	17 025	15 535
Ash and residues	122	0	87	262	867	7	1	286	171	370
Unwrought–										
Unrefined	1 085	290	89	14	122	1 339	1 467	206	36	77
Refined	337 969	310 894	316 578	245 152	214 067	415 445	368 498	330 378	269 351	342 488
Alloys	6 641	6 088	4 363	4 427	6 478	8 783	8 444	5 813	5 555	8 800
Master alloys	684	1 161	1 117	1 733	1 592	1 237	1 714	1 663	2 211	2 719
<i>Exports</i>										
Matte and cement	6 704	10 931	10 724	2 723	79	4 345	4 662	3 909	970	445
Scrap	217 016	156 121	163 579	210 169	244 722	128 092	119 579	120 540	145 046	203 163
Ash and residues	2 409	1 873	1 075	1 722	2 017	460	430	187	3 378	1 136
Unwrought–										
Unrefined	450	69	259	687	756	533	347	1 955	3 259	3 306
Refined	10 121	10 246	32 017	2 237	6 580	11 585	12 002	30 496	2 407	9 600
Alloys	17 823	19 689	22 718	20 803	18 271	22 145	25 656	24 456	22 617	25 074
Master alloys	3 405	4 119	3 948	3 318	3 491	4 664	6 318	5 970	4 588	6 642

(a) Additional to that used in secondary metal.

Crushed rock (also see Aggregates)

Great Britain production of crushed rock by region 1975–2004

Thousand tonnes

Year	North East (a)	North West (b)	Yorks. & the Humber	West Midlands	East Midlands	East of England (c)	South East (d)	South West	England	Wales	Scotland	Great Britain
1975	10 714	5 037	10 082	8 693	18 282	...	...	23 059	78 276	15 346	15 971	109 594
1976	11 363	4 285	9 483	7 903	16 094	...	...	...	70 714	14 091	13 520	98 325
1977	10 401	4 414	9 492	7 526	15 911	584	1 244	19 549	69 121	13 352	11 931	94 404
1978	10 926	5 235	9 913	7 601	15 375	693	1 296	19 965	71 006	14 164	13 567	98 737
1979	10 731	5 779	9 502	7 974	16 817	741	1 158	21 205	73 910	15 912	13 687	103 509
1980	9 948	4 951	10 714	7 364	15 996	658	1 114	21 934	72 679	15 998	13 586	102 533
1981	8 677	4 504	9 442	6 713	15 854	534	961	18 763	65 450	14 249	11 681	91 381
1982	9 362	4 779	10 108	8 181	17 237	537	1 112	21 175	72 492	16 754	13 602	102 848
1983	8 978	5 311	11 481	9 192	19 206	...	...	23 178	79 541	18 835	13 706	112 082
1984	9 668	5 116	9 557	8 861	19 142	...	...	25 107	79 650	16 965	14 063	110 678
1985	9 823	5 330	9 444	8 589	21 429	674	1 404	26 510	83 203	17 423	14 370	114 995
1986	9 861	5 469	11 201	8 780	23 038	500	1 597	29 194	89 640	17 881	14 844	122 365
1987	10 375	5 328	15 407	10 015	26 355	772	1 601	34 443	104 296	20 950	16 990	142 237
1988	11 453	6 849	14 885	12 519	32 026	853	2 589	39 108	120 283	23 102	17 629	161 014
1989	13 497	7 078	16 895	12 519	32 646	611	3 254	37 589	124 088	23 581	21 125	168 794
1990	14 602	7 533	15 449	11 047	34 143	709	1 320	33 073	117 875	22 646	21 094	161 615
1991	13 378	6 320	14 269	10 009	29 862	676	1 625	28 037	104 177	22 123	21 707	148 007
1992	12 669	5 899	12 812	8 783	29 879	...	...	28 564	100 553	21 482	21 932	143 967
1993	12 724	6 748	12 734	8 225	31 522	625	1 168	29 848	103 595	23 237	22 743	149 576
1994	13 365	7 892	15 576	8 839	33 713	1 705	1 433	32 141	114 665	24 346	22 746	161 757
1995	10 930	8 077	15 664	...	31 881	629	...	27 419	103 475	23 139	24 224	150 838
1996	10 385	6 448	12 350	6 514	29 001	595	1 210	22 940	89 444	21 273	22 177	132 894
1997	10 619	7 086	12 484	6 416	29 925	536	1 352	23 117	91 535	20 585	21 667	133 787
1998	10 246	6 348	13 745	6 028	26 933	607	1 358	23 411	88 675	19 903	23 138	131 716
1999	9 298	5 829	11 689	5 996	30 724	575	1 343	23 183	88 637	20 429	23 531	132 598
2000	5 441	10 381	11 748	5 533	28 679	475	1 624	24 146	88 027	19 044	23 236	130 307
2001	6 338	9 601	11 718	5 688	30 780	452	1 984	28 067	94 630	17 765	21 364	133 759
2002	5 390	9 426	11 620	5 835	29 604	372	1 068	24 332	87 647	16 724	22 198	126 568
2003	6 081	8 887	10 652	5 538	28 443	(e) 350	(e) 1 008	22 998	83 957	16 837	22 092	122 885
2004	6 455	9 182	11 457	4 861	28 445	423	1 351	23 479	85 653	16 528	25 494	127 674

(a) From 2000, excludes Cumbria.

(b) From 2000, includes Cumbria.

(c) From 2000, includes Essex, Hertfordshire and Bedfordshire.

(d) From 2000, excludes Essex, Hertfordshire and Bedfordshire.

(e) BGS estimate.

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use and area of origin 2004

Thousand tonnes

Area of origin	Crushed rock				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Total
	Roadstone									
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
North East	731	...	...	...	...	...	722	1 561	12	6 455
North West	...	...	1 600	...	...	2 313	1 351	2 417	...	9 182
Yorkshire and the Humber	...	903	2 716	127	—	2 757	1 292	3 333	...	11 457
West Midlands	1 460	498	1 198	...	...	291	...	1 223	...	4 861
East Midlands	2 251	1 146	5 320	379	1 542	4 913	4 658	8 167	68	28 445
East of England	—	—	...	—	—	...	—	...	—	423
South East	—	—	213	...	—	99	...	...	12	1 351
South West	1 831	1 246	5 425	...	...	4 099	4 024	6 048	...	23 479
England	7 074	4 881	17 564	2 157	2 243	15 300	12 388	23 867	179	85 653
Wales	1 959	897	1 871	...	...	3 733	2 469	4 351	...	16 528
Scotland	2 702	1 208	5 825	...	...	2 198	6 159	5 274	...	25 494
Great Britain	11 735	6 986	25 260	3 787	3 832	21 231	21 016	33 492	333	127 674

Source: Office for National Statistics.

Great Britain production of crushed rock for aggregate 2004

Thousand tonnes

Mineral	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Total
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
Limestone (inc. dolomite)	4 858	2 095	14 558	1 474	...	14 931	9 591	21 982	136	...
Igneous rock	5 830	2 742	9 498	1 820	3 074	5 086	9 641	8 147	162	46 000
Sandstone	1 047	2 149	1 205	493	...	1 214	1 784	3 364	35	...
Total	11 735	6 986	25 260	3 787	3 832	21 231	21 016	33 492	333	127 674

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 1992–2004

Thousand tonnes

Year	Roadstone			Railway ballast	Fill	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Total
	Coated	Uncoated	Surface dressing chippings							
1992	26 647	53 471	...	3 150	45 770	14 930	...	...	...	143 967
1993	27 238	54 412	...	(a) 2 620	49 521	15 786	...	...	...	149 576
1994	28 512	51 121	...	(a) 2 300	63 479	16 345	...	...	...	161 757
1995	28 972	49 307	...	(a) 2 916	53 224	16 419	...	...	...	150 838
1996	26 270	40 893	...	(a) 2 061	48 921	14 748	...	...	...	132 894
1997	23 906	40 186	...	(a) 2 304	49 092	18 300	...	...	...	133 787
1998	23 131	36 816	...	(a) 2 481	49 142	20 146	...	...	...	131 716
1999	22 260	38 114	...	(a) 2 196	49 948	20 080	...	...	...	132 598
2000	21 785	36 509	...	(a) 2 189	51 228	18 595	...	...	...	130 307
2001	23 340	34 638	...	(a) 2 682	44 543	28 556	...	...	...	133 759
2002	23 281	27 323	...	3 514	46 109	26 342	...	...	...	126 568
2003	23 139	28 950	...	(a) 2 895	39 313	28 588	...	...	...	122 885
2004	18 721	25 260	3 787	3 832	...	21 231	21 016	33 492	333	127 674

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of crushed rock, gravel and sand for use in concrete, 1991–2004

Thousand tonnes

Year	Sandstone	Igneous rock	Limestone and dolomite	Gravel (a)	Concreting sand (a)	Total
1991	590	2 951	11 663	29 445	31 239	75 888
1992	527	2 890	11 513	28 078	28 573	71 581
1993	589	2 366	12 831	27 215	28 021	71 022
1994	434	2 744	13 166	29 600	30 977	76 921
1995	652	3 022	12 745	27 867	29 390	73 676
1996	498	2 914	11 337	26 020	28 659	69 428
1997	324	3 490	14 486	28 235	30 130	76 665
1998	686	3 749	15 711	30 369	30 244	80 759
1999	773	3 998	15 309	30 349	31 730	82 159
2000	738	3 811	14 046	30 753	31 167	80 515
2001	1 425	6 351	20 780	29 969	31 656	90 181
2002	1 483	4 747	20 112	27 699	31 224	85 265
2003	1 778	6 613	20 197	26 566	31 521	86 675
2004	1 214	5 086	14 931	27 533	32 529	81 293

(a) Including marine-dredged material landed at British ports.

Source: Office for National Statistics.

Great Britain production of crushed rock for use as roadstone, 1991–2004

Thousand tonnes

Year	Sandstone		Igneous rock		Limestone and dolomite		Total	
	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated
1991	2 373	4 290	10 955	16 635	13 060	39 823	26 387	60 748
1992	2 377	2 854	11 850	16 229	12 420	34 388	26 647	53 471
1993	2 273	2 819	12 874	17 187	12 089	34 405	27 236	54 411
1994	2 460	2 824	13 136	14 257	12 916	34 041	28 512	51 122
1995	3 227	2 743	12 297	13 932	13 448	32 631	28 972	49 307
1996	2 944	2 910	11 789	12 431	11 537	25 552	26 270	40 893
1997	2 835	2 741	10 947	12 392	10 124	25 054	23 906	40 186
1998	3 506	2 689	9 273	10 100	10 352	24 027	23 131	36 816
1999	3 140	2 326	9 945	13 307	9 175	22 481	22 260	38 114
2000	3 315	2 201	9 890	13 394	8 580	20 915	21 785	36 509
2001	3 216	1 731	9 523	10 547	10 602	22 360	23 340	34 638
2002	3 402	1 689	11 023	10 326	8 858	15 308	23 281	27 323
2003	3 586	1 741	11 019	10 764	8 533	16 455	23 138	28 950
2004	3 689	(a) 1 698	10 392	(a) 11 318	4 640	(a) 16 032	18 721	(a) 29 047

(a) Including surface dressing chippings

Source: Office for National Statistics.

Great Britain production of crushed rock for railway ballast, 1991–2004

Thousand tonnes

Year	Sandstone	Igneous rock	Limestone and dolomite	Total
1991	206	2 320	291	2 817
1992	153	2 564	433	3 150
1993	(a) 180	2 236	(a) 204	(a) 2 620
1994	(a) 463	1 826	(a) 11	(a) 2 300
1995	(a) 441	2 393	(a) 82	(a) 2 916
1996	(a) 339	1 643	(a) 79	(a) 2 061
1997	(a) 343	1 870	(a) 89	(a) 2 304
1998	(a) 351	2 008	(a) 122	(a) 2 481
1999	(a) 138	1 959	(a) 99	(a) 2 196
2000	(a) 100	1 965	(a) 100	(a) 2 189
2001	(a) 150	2 341	(a) 150	(a) 2 682
2002	190	3 324	—	3 514
2003	...	2 669	...	(a) 2 895
2004	...	3 074	...	(a) 3 630

(a) BGS estimate.

Source: Office for National Statistics.

England production of crushed rock by end-use 1991–2004

Thousand tonnes

Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	Total
	Coated	Uncoated	Surface dressing chippings							
1991	19 522	42 555	...	...	31 364	10 735	...	...	...	104 177
1992	19 345	38 255	...	...	31 649	11 304	...	...	...	100 553
1993	19 831	38 856	...	...	33 342	11 566	...	...	...	103 595
1994	20 563	36 478	...	...	46 133	11 489	...	...	...	114 665
1995	20 584	35 599	...	...	35 858	11 433	...	...	...	103 475
1996	18 381	28 932	...	...	31 992	10 139	...	...	...	89 444
1997	17 405	28 125	...	...	33 252	12 754	...	...	...	91 535
1998	16 076	25 516	...	...	33 080	14 003	...	...	...	88 675
1999	15 663	24 338	...	...	34 754	13 882	...	...	...	88 637
2000	15 618	23 568	...	...	35 500	13 340	...	...	...	88 027
2001	17 202	24 333	...	...	31 518	21 578	...	...	...	94 630
2002	17 002	18 179	...	...	33 611	18 855	...	...	...	87 647
2003	16 511	18 625	...	...	28 545	20 275	...	...	...	83 957
2004	11 995	17 564	2 156	2 243	...	15 300	12 388	23 867	179	85 692

Source: Office for National Statistics.

Wales production of crushed rock by end-use 1991–2004

Thousand tonnes

Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	Total
	Coated	Uncoated	Surface dressing chippings							
1991	...	9 441	...	...	...	2 785	...	...	...	22 123
1992	3 652	7 609	...	...	...	...	...	...	...	21 482
1993	3 645	7 314	...	...	9 330	2 949	...	...	...	23 237
1994	3 905	7 045	...	...	10 004	3 392	...	...	...	24 346
1995	3 747	6 714	...	...	9 344	3 335	...	...	...	23 139
1996	3 687	5 504	...	...	8 921	3 161	...	...	...	21 273
1997	3 235	4 827	...	...	8 946	3 575	...	...	...	20 585
1998	3 318	4 222	...	...	8 445	3 919	...	...	...	19 903
1999	3 342	4 868	...	...	8 268	3 951	...	...	...	20 429
2000	2 748	3 269	...	...	9 532	3 495	...	...	...	19 044
2001	3 269	2 436	...	...	7 212	4 848	...	...	...	17 765
2002	3 340	1 938	...	...	6 508	4 937	...	...	...	16 724
2003	3 039	2 514	...	...	5 640	5 644	...	...	...	16 837
2004	2 856	1 871	...	...	...	3 733	2 469	4 351	...	16 528

Source: Office for National Statistics.

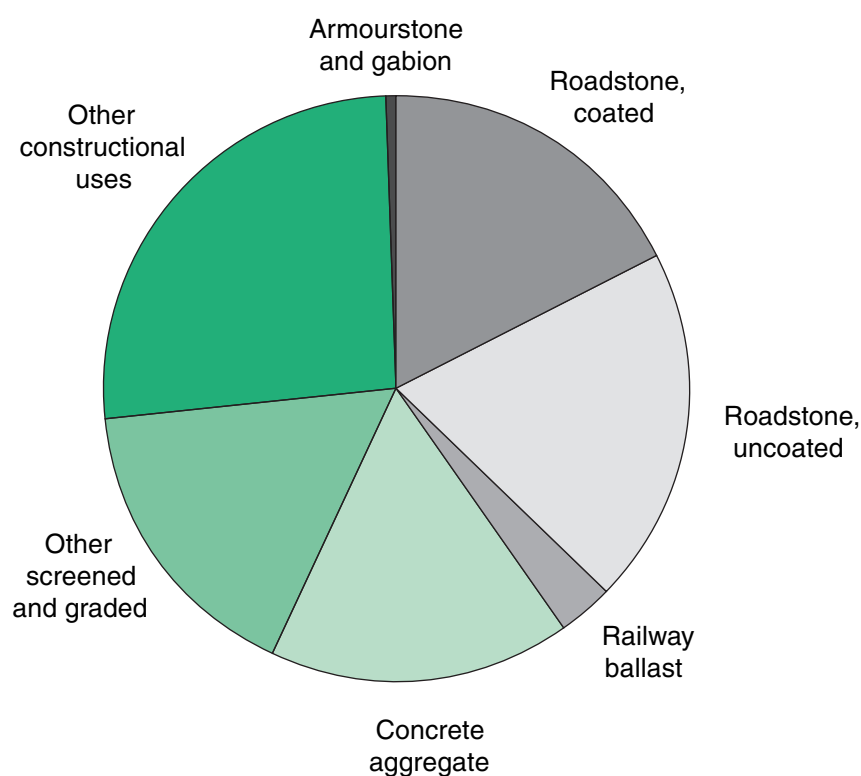
Scotland production of crushed rock by end-use 1991–2004

Thousand tonnes

Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	Total
	Coated	Uncoated	Surface dressing chippings							
1991	...	8 752	...	...	...	1 683	...	...	...	21 707
1992	3 650	7 608	...	...	...	...	...	...	...	21 932
1993	3 762	8 242	...	...	9 468	1 271	...	...	...	22 743
1994	4 043	7 598	...	...	9 641	1 464	...	...	...	22 746
1995	4 640	6 994	...	...	10 937	1 652	...	...	...	24 224
1996	4 203	6 457	...	...	10 069	1 449	...	...	...	22 177
1997	3 266	7 233	...	...	9 198	1 971	...	...	...	21 667
1998	3 738	7 077	...	...	10 098	2 224	...	...	...	23 138
1999	3 255	8 907	...	...	9 122	2 247	...	...	...	23 531
2000	3 420	9 672	...	...	8 385	1 760	...	...	...	23 236
2001	2 870	7 869	...	...	8 495	2 130	...	...	...	21 364
2002	2 939	7 206	...	...	9 503	2 550	...	...	...	22 198
2003	3 589	7 812	...	...	8 023	2 669	...	...	...	22 092
2004	3 910	5 825	...	...	...	2 198	6 159	5 274	...	25 494

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 2004
(total production 122.9 million tonnes)



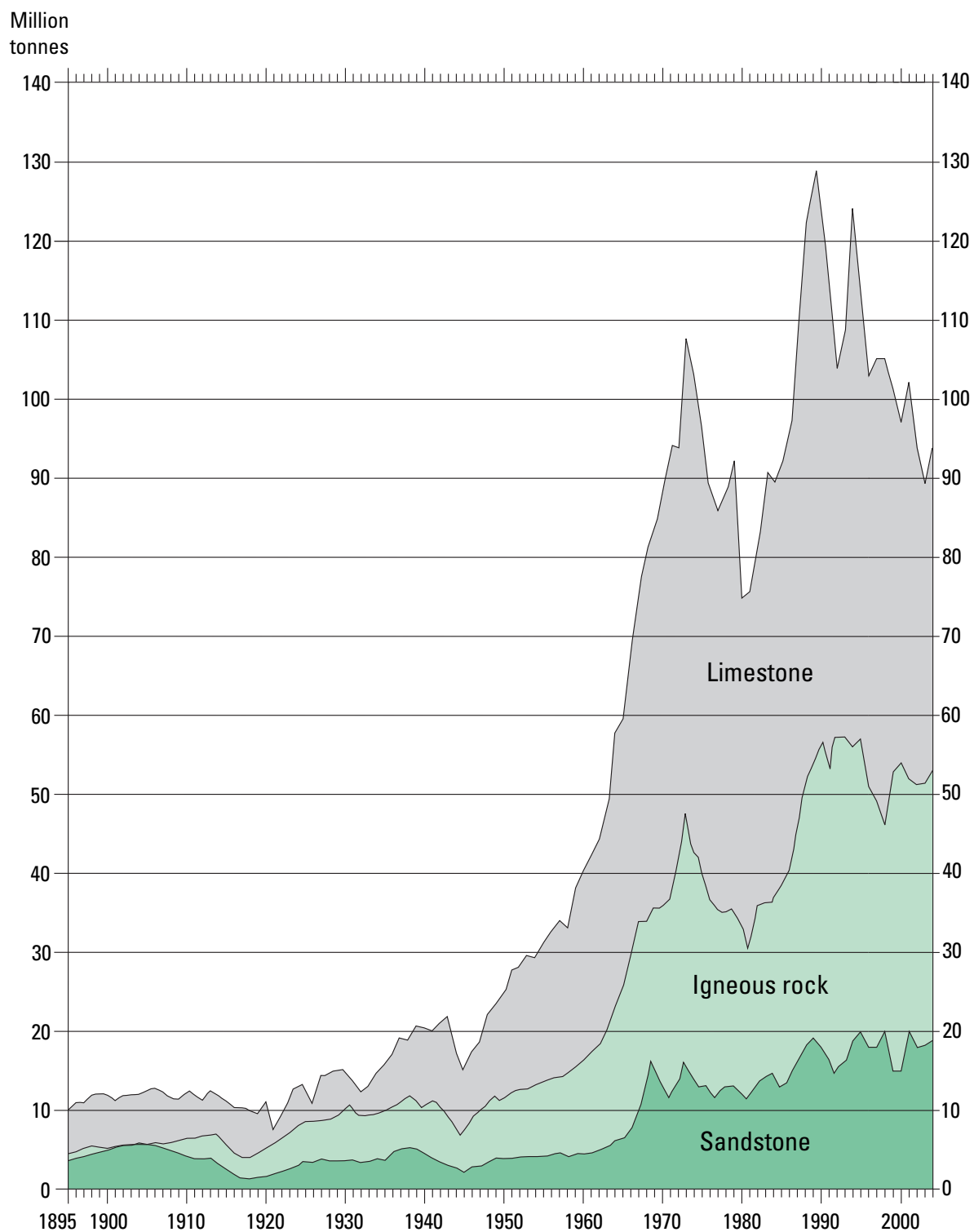
United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Crushed rock										
<i>Production</i>										
Crushed rock (a)	130 307 000	133 759 000	126 568 000	122 885 000	127 674 000					
<i>Imports</i>										
Crushed rock (b)	347 048	409 174	572 971	632 792	619 075	7 771	7 253	9 083	10 064	10 660
<i>Exports</i>										
Crushed rock	2 402 611	3 367 217	3 593 951	3 188 232	4 494 628	9 782	15 089	13 989	13 275	22 674

(a) Great Britain only.

(b) For a number of years, a significant amount of crushed rock imports are believed to have been wrongly classified as 'granite, crude'. In 2004, BGS estimates that crushed rock imports should be approximately 1 500 000 tonnes which includes armourstone.

United Kingdom production of sandstone, igneous rock and limestone (including dolomite) 1895–2004



Cryolite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Cryolite										
<i>Imports</i>										
Natural cryolite	673	123	...	...	...	336	64	...	...	...
<i>Exports</i>										
Natural cryolite	301	137	...	...	...	189	93	...	...	...

Diamond

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Carats					£ thousand				
Diamond										
<i>Imports</i>										
Unsorted	5 560 568	586 774	1 794 607	5 210 022	10 557 065	216 719	31 661	80 423	181 085	256 208
Gem–										
Rough	79 691 733	81 302 570	70 336 037	77 712 486	68 227 020	4 160 309	4 211 641	3 094 473	3 210 787	3 479 633
Cut	6 423 082	4 396 223	5 123 898	4 520 872	9 317 145	691 740	621 099	794 171	631 502	577 773
Industrial	16 208 556	7 344 542	7 804 225	21 518 053	30 993 557	17 853	12 334	11 694	33 872	29 956
Dust	98 133 490	74 756 325	68 359 660	92 290 565	126 276 560	15 162	14 266	10 902	9 564	10 678
<i>Exports</i>										
Unsorted	8 616 140	4 030 600	...	9 744 443	6 394 487	398 825	285 275	274 317	542 541	492 360
Gem–										
Rough	61 757 031	69 542 709	86 681 020	104 300 972	78 613 304	3 552 051	3 754 316	3 743 858	3 757 671	3 638 553
Cut	795 268	899 959	394 881	828 103	1 592 717	358 908	410 299	476 463	480 709	493 848
Industrial	27 030 867	11 861 312	7 837 074	12 177 638	22 770 698	27 900	19 047	17 199	40 468	33 759
Dust	...	88 612 930	...	75 401 775	147 712 050	14 352	13 667	12 027	11 742	11 030

Diatomite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Diatomite										
<i>Production</i>	...	...	...	...	...					
<i>Imports</i>										
Diatomite (a)	35 561	33 474	34 490	37 217	34 988	6 607	6 044	5 917	5 792	5 242
<i>Exports</i>										
Diatomite (a)	511	1 342	816	1 003	2 118	665	1 125	515	560	742

(a) Officially recorded under the heading 'Siliceous fossil meals and similar siliceous earths'. Excludes flux calcined diatomite.

Dolomite (see Limestone)

Feldspar

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Feldspar										
<i>Production</i>										
China stone	3 645	2 995	1 896	2 865	2 274					
<i>Imports</i>										
Feldspar	25 743	18 361	33 196	25 764	31 601	1 436	1 194	905	1 708	2 075
Nepheline-syenite	(a) 50 363	57 268	53 692	52 453	49 731	...	4 142	4 627	4 465	4 204
<i>Exports</i>										
Feldspar	101	93	209	801	261	25	20	36	204	117
Nepheline-syenite	36	54	82	52	45	15	16	31	28	21

(a) Exports from Canada and Norway.

Fireclay

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Fireclay										
<i>Production</i>										
Fireclay (a)	595 000	459 000	491 000	528 000	402 000					
<i>Imports</i>										
Fireclay	220	260	111	67	199	89	459	197	405	108
Fireclay bricks etc	1 309	3 315	3 262	6 212	5 459	834	1 385	1 163	2 352	2 593
Refractory hollow-ware	2 227	1 860	996	880	1 326	2 038	2 725	2 234	2 016	1 917
<i>Exports</i>										
Fireclay	525	611	439	83	96	471	250	175	29	49
Fireclay bricks etc	2 252	1 956	2 312	2 170	1 985	1 482	1 751	2 157	2 765	2 937
Refractory hollow-ware	4 380	2 944	3 055	4 335	4 376	11 681	13 537	9 754	12 801	13 061

(a) Great Britain only. There is a small, undisclosed production in Northern Ireland.

Great Britain production of fireclay by end-use and area of origin 2004

Thousand tonnes				
Area of origin	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
Northumberland	...	...	...	88
Tyne and Wear	...	...	...	7
Durham	...	...	...	3
North East	...	...	...	98
West Yorkshire	...	...	...	...
South Yorkshire	...	...	...	6
Yorkshire and the Humber	...	...	...	...
Leicestershire	...	...	...	...
East Midlands	...	...	...	...
Shropshire	...	...	...	60
Staffordshire	...	...	...	25
West Midlands	...	...	...	86
England	...	...	...	338
Wales	...	...	...	30
Scotland	...	...	...	35
Great Britain	...	...	...	402

Source: Office for National Statistics.

Great Britain production of fireclay by end-use 1991–2004

Thousand tonnes

Year	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
1991	...	475	...	867
1992	...	414	...	572
1993	85	364	30	479
1994	...	550	...	679
1995	201	441	67	708
1996	129	395	13	536
1997	170	168	—	338
1998	...	331	...	577
1999	...	243	...	545
2000	...	287	...	595
2001	...	170	...	459
2002	...	...	...	491
2003	267	219	43	528
2004	...	...	...	402

Source: Office for National Statistics.

Fluorspar

Fluorspar is the commercial term for the mineral fluorite (calcium fluoride, CaF_2), which is the most important, and only UK source of the element fluorine (F). All UK output is of acid-grade fluorspar (>97 per cent, CaF_2), and most is used in the production of hydrofluoric acid (HF), the starting point for the manufacture of a wide range of fluorine-bearing chemicals. Sales of acid-grade fluorspar were some 60 980 tonnes in 2005, up from 50 080 tonnes in 2004, and almost all the ore was derived from the Southern Pennine Orefield in the Peak District National Park.

Trade data for fluorspar make a distinction between fluorspar containing more than and less than 97 per cent CaF_2 . The former corresponds to acid-grade fluorspar. Imports of acid-grade fluorspar in 2004 were 19 295 tonnes valued at £2 million which was mostly derived from Spain.

Glebe Mines Ltd, a privately-owned company, is the sole producer of marketable fluorspar product in the UK. The company operates the Cavendish Mill, near Stoney Middleton for the supply of acid-grade fluorspar, together with by-product barytes, lead concentrate and limestone aggregate. The Cavendish Mill is the second-most important source of barytes in the UK and the only source of galena (lead sulphide). Production of lead concentrate (65% lead) was 800 tonnes in 2005. Fluorspar ore, with associated barytes and galena, is obtained mainly from the company's own open pit operations on Longstone Edge and elsewhere. The Watersaw Mine, also on Longstone Edge, continued to supply small amounts of ore during 2005. A review of the feasibility of reopening the company's Milldam Mine at Great Hucklow, which is currently on a care-and-maintenance basis, is being undertaken as part of an overall underground mine development plan. Reprocessing of historic tailings and supplies from local tributaries also make a significant contribution to company's ore requirement, which is about 400 000 tonnes per year. As individual deposits are relatively small, a continuous exploration programme is required to identify new deposits and process them through the planning system.

Acid-grade fluorspar is a critical raw material for the UK fluorochemicals industry. Most UK output (95 per cent) has been used by two companies — Ineos Fluor at Runcorn and Rhodia at Avonmouth — for the manufacture of hydrofluoric acid (HF). Rhodia closed its anhydrous HF plant at Avonmouth in October 2004. However, the company will continue the manufacture of fluorochemicals at Avonmouth and HF will need to be sourced from other suppliers, including Ineos Fluor.

HF is an important product in its own right and, for example, is used in the manufacture of high-octane petrol. However, it is also the key intermediate for the manufacture of all specialty fluorine-bearing chemicals, notably fluorocarbons. Demand for fluorspar in the UK is, therefore, principally driven by demand for HF and associated fluorochemicals production. Fluorine chemicals have many uses, including in refrigeration and air-conditioning systems, as foam blowing agents, non-stick coatings, aerosols, including medical propellants, anaesthetics, in pharmaceutical products and for specialised cleaning applications.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Fluorine										
<i>Production</i>										
Fluorspar	36 000	50 000	53 000	56 000	50 080					
<i>Imports</i>										
Fluorspar	(a) 40 000	34 999	26 690	21 360	25 092	...	3 236	2 483	2 032	2 458
Natural cryolite	673	123	...	...	1 892	336	64	...	...	1 557
<i>Exports</i>										
Fluorspar	4 879	2 373	636	519	4 592	974	376	127	176	954
Natural cryolite	301	137	...	...	4 860	189	93	...	...	3 113

(a) BGS estimate.

Fuller's earth

Fuller's earth is a sedimentary clay that contains a high proportion of clay minerals of the smectite group, the most important of which is montmorillonite. Smectite clay minerals exhibit a unique combination of properties, including a high 'cation-exchange capacity'. This means that calcium-smectite, the principal constituent of British fuller's earths, can be readily converted to sodium-smectite by a simple process involving the addition of small amounts of sodium carbonate. It is commercial practice in Britain to refer to this sodium-exchanged clay as bentonite, which exhibits markedly different properties to calcium-smectite.

UK sales of fuller's earth, most of which are in the sodium-exchanged form (bentonite), were 26 000 dry tonnes in 2004 and 6200 dry tonnes in 2005 when production finally ceased, bringing to an end this long established minerals industry. UK imports of bentonite in 2005 were 155 832 tonnes valued at £10.6 million.

Fuller's earth was formerly produced by two companies in the UK: Rockwood Absorbents (Baulking) Ltd and Steetley Bentonite and Absorbents Ltd. Rockwood Absorbents (Baulking) Ltd produces fuller's earth at Baulking in Oxfordshire. The clay was processed on site, mainly for conversion into bentonite for use as a filler and fibre retention aid in papermaking and as a bonding agent for foundry sand. The original Baulking quarry was exhausted in summer 2002 and is now restored. Until the closure of the Baulking plant in October 2005, sales were based on stockpiles of crude fuller's earth, both from Baulking and the company's former operation at Clophill in Bedfordshire. Remaining permitted reserves of fuller's earth in the Baulking area are confined to a small satellite deposit at Moor Mill Farm, about 2 km from the plant at Baulking. The deposit contains reserves of some 300 000 dry tonnes and was granted planning permission in 1998 and was to have been opened up in 2004. However, a significant deterioration in the market for fuller's earth has rendered such a small deposit uneconomic and no working will now take place.

Steetley Bentonite and Absorbents Ltd, a wholly-owned subsidiary of Tolsa SA of Spain, formerly produced fuller's earth near Woburn in Bedfordshire. A planning application to extract fuller's earth from a southern extension to the deposit (Wavendon Heath South) was turned down in early 2001. The application was the subject of a public inquiry in September 2001 but the appeal was dismissed by the former ODPM in July 2002. A challenge to this decision was made in the High Court in February 2003 but was also dismissed. Consequently fuller's earth extraction ceased at Woburn in December 2004 with the exhaustion of the remaining reserves and marking the end of a long history of fuller's earth working in the area where it is thought to have been extracted as early as Roman times. Large-scale extraction in the Woburn area by F W Berk Ltd (acquired by the Steetley Co Ltd in 1970) started in 1951 and continued, with a small break between 1954 and 1957, until 2004. The current workings in Aspley Wood started in 1961 and have continued with a series of extensions to the original permission. The Wavendon Heath South site, covering some 54 hectares and containing some 320 000 tonnes of dry product, sufficient for about ten years output, would have been the last site in the area. In recent years fuller's earth from Woburn has been used almost entirely as a filler and fibre retention aid in papermaking.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Fuller's earth										
<i>Crude production</i>	103 000	...	33 000	19 000	115 000					
<i>Sales (a)</i>	65 500	52 000	(b) 44 200	(b) 34 000	(b) 28 000					
<i>Imports</i>	6 563	5 896	9 115	7 085	2 574	780	611	849	697	316
<i>Exports</i>	429	121	74	254	124	157	80	61	53	59

(a) BGS estimates based on data from producing companies. Dry weight.

(b) Including sales from stockpiles.

Gas, natural (see Petroleum)

Germanium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Germanium										
<i>Imports</i>										
Metal	75	7	10	4	2	1 845	921	478	595	1 982
<i>Exports</i>										
Metal	37	10	0	3	1	1 039	668	82	18	86

Gold

Mines Royal (gold and silver) exploration and development in Britain requires a licence from the Crown Estate Mineral Agent. The numbers of licences increased in 2005 from eight to 11, all in Northern Ireland, while leases remained steady at six (see map). There are also three new licences pending in Scotland. This reflected the steady rise in the gold price during the year, reaching \$540 per ounce, before rising further into 2006. The Crown Estate has reviewed its policy on Mines Royal licensing procedures and is prepared to accept applications for licences and leases from bona fide applicants. There has been little activity in Great Britain, apart from small-scale exploration in the Dolgellau area and initial investigations in Scotland. However, in Northern Ireland drilling and other activities have been undertaken in the Omagh and Armagh areas, and one of the deposits has commenced small-scale production. Mines Royal licence and lease activity is distributed throughout the United Kingdom as follows:

	Licences		Leases	
	Granted	Pending	Granted	Pending
England				
Northern Ireland	11		1	
Scotland		3	1	
Wales	2		4	
Total	13	3	6	

Source: Crown Mineral Agent

The 13 Mines Royal licences are held by the following companies:

Northern Ireland	Conroy Diamonds and Gold plc Omagh Minerals Ltd Ulster Minerals Ltd (wholly owned subsidiary of Tournigan Gold Corporation) Dalradian Gold Ltd (wholly owned subsidiary of Tournigan Gold Corporation)
Wales	Cambrian Goldfields Ltd

The three pending licences are all to Aurum Mineral Resources Ltd and are expected to be completed shortly and are included on the map of licences and leases.

The six Mines Royal leases and their current status are as follows:

Company	Country	Activity
Anglesey Mining plc	Wales	Dormant – potential underground Zn-Cu-Pb-Ag-Au mine at Parys Mountain
Anglo Canadian Exploration	Wales	Dormant – part of Anglesey Mining plc (Dolaucothi Mine)
Caledonia Mining Corporation	Scotland	Dormant – potential underground Au-Ag mine at the Cononish deposit, near Tyndrum, Scotland
National Trust	Wales	Visitor and Educational Centre at Dolaucothi Mine
Omagh Minerals Ltd	Northern Ireland	Open-pit gold mining at Cavanacaw deposit
Stoic Mining	Wales	Small-scale exploration

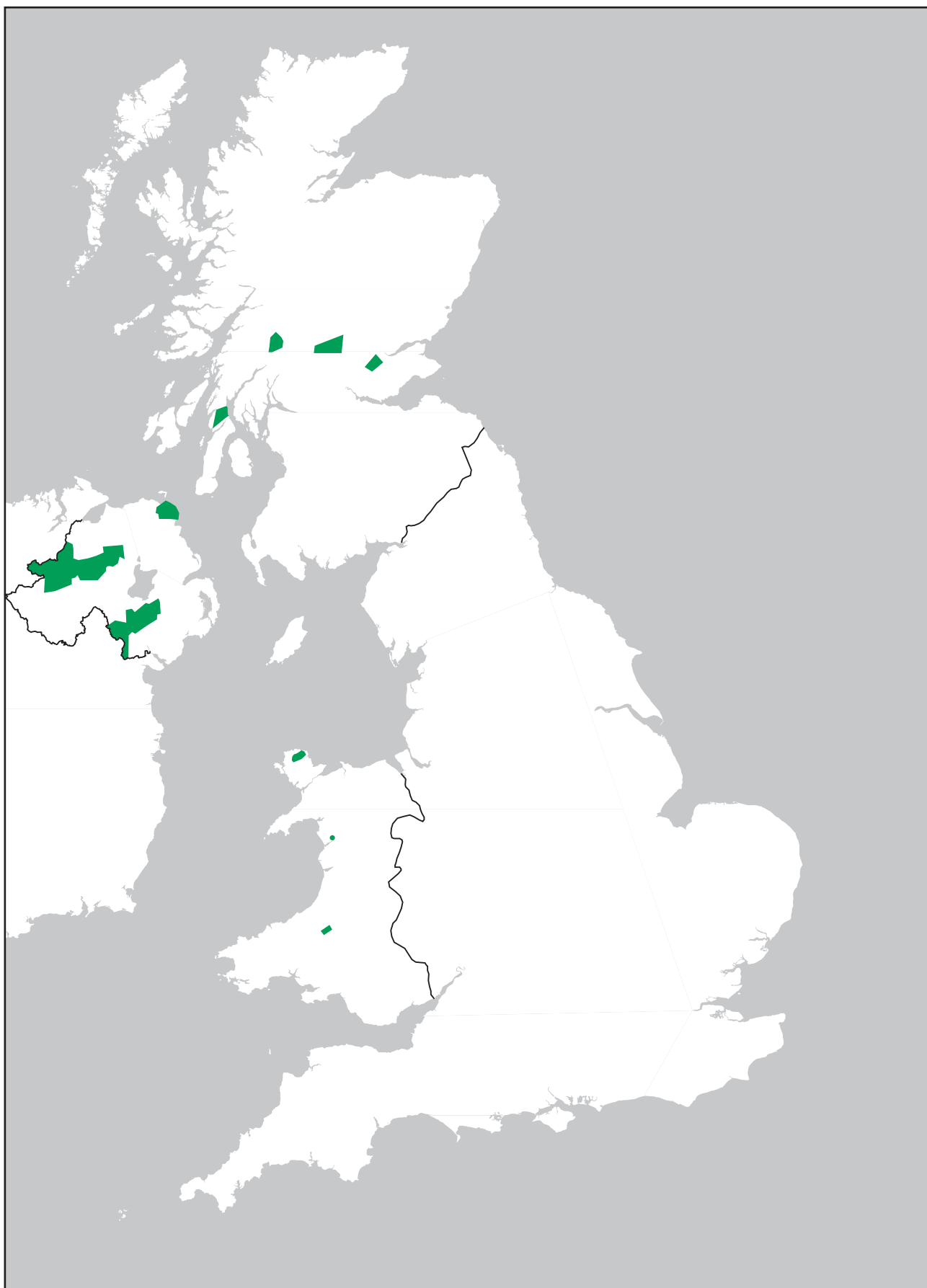
Source: Crown Mineral Agent

Tournigan Gold Corporation have continued their exploration effort at the Curraghinalt deposit 15 km north-east of Omagh in Co. Tyrone. This is a mesothermal quartz-vein hosted deposit with an inferred resource of 527 700 tonnes at 15.45 grams per tonne gold for a total of 262 018 ounces of gold. Additional underground development is planned as part of the on-going feasibility studies. So far only an 800 metre strike length of the vein system has been tested by drilling and underground exploration.

The Cavanacaw deposit, 10 km south-west of Omagh, is owned by Omagh Minerals, a wholly owned subsidiary of Galantas Gold Corporation. Construction is now on schedule for gold production from a small-scale open-pit mine in the spring of 2006 at a rate of 150 tonnes per day with a head grade of between 11 and 20 grams per tonne. The company also carried out a helicopter-borne VTEM survey which located a number of conductors for further investigation. Some of the gold is being marketed through the company's Galantas brand jewellery.

Conroy Diamonds and Gold continue to explore the 'Armagh–Monaghan Gold Belt' in the Longford–Down Massif which extends between Northern Ireland and the Republic of Ireland. The company now controls three licences totalling 750 km² in Northern Ireland. Follow-up sampling confirmed the presence of a gold-bearing structure at the Tivnacree prospect in County Armagh.

Mines Royal Licences and Leases in 2004



As Crown Estate licences for gold and silver exploration are surrendered, the reports on the work carried out are deposited by the Crown Mineral Agent with the British Geological Survey for archive within the National Geoscience Records Centre. Thirty-four reports are now held, some of which are available for public access. Others will become available as the term of confidentiality expires.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Gold										
<i>Imports</i>										
Waste and scrap	319	168	123	231	274	152 634	122 319	78 676	134 567	167 854
Unwrought (a)	915	951	1 257	1 402	1 028	4 191 091	3 231 446	4 882 625	6 972 447	4 575 337
Semi-manufactured	57	21	24	12	25	338 323	119 642	86 369	40 611	76 005
<i>Exports</i>										
Waste and scrap	356	494	549	1 075	472	2 747	5 471	4 503	3 451	4 004
Unwrought (a)	397	353	131	65	343	2 291 595	2 136 962	781 054	402 840	1 083 078
Semi-manufactured	41	52	68	18	64	226 774	301 266	191 856	76 034	88 079

(a) Mainly refined gold bullion in the form accepted in inter-bank transactions.

Granite (see Igneous rock)

Graphite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Graphite										
<i>Imports</i>										
Natural graphite	26 088	22 482	22 435	19 270	19 038	11 396	9 933	8 772	8 670	8 799
Artificial graphite	9 573	16 704	14 162	13 176	12 498	19 227	19 076	15 739	13 356	14 267
Graphite crucibles etc	736	2 027	1 055	1 146	1 171	3 085	3 004	2 343	2 888	3 461
<i>Exports</i>										
Natural graphite	2 429	2 635	2 816	4 158	4 255	2 542	2 825	3 064	3 416	4 058
Artificial graphite	3 168	4 014	4 365	4 058	5 682	9 213	7 126	5 712	7 491	10 913
Graphite crucibles etc	9 886	10 089	11 606	11 240	8 963	22 856	20 139	21 982	20 583	18 318

Gypsum

Gypsum ($\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$) and anhydrite (CaSO_4) are, respectively, the hydrated and anhydrous forms of calcium sulphate. Gypsum is economically the more important. In nature they occur as beds or nodular masses up to a few metres thick. Gypsum is formed by the hydration of anhydrite at or near surface, but passes into anhydrite at depth.

Calcium sulphate is also derived as a synthetic by-product of certain industrial processes. The most important is flue gas desulphurisation (FGD), a process that removes sulphur dioxide from the flue gases at coal-fired power stations. The product, known as desulphogypsum, is now an important supplement to the supply of natural gypsum, both in the UK and elsewhere.

UK consumption of gypsum is derived from three sources: the production of natural gypsum, mainly by underground mining, but with some surface extraction in Nottinghamshire; recovery of synthetic gypsum; and imports of both natural and synthetic gypsum. Natural gypsum, of which British Gypsum Ltd is the sole producer, is extracted in Leicestershire, Nottinghamshire, Staffordshire, Cumbria and East Sussex. Extraction is mainly by underground mining. BPB Plc, which owns British Gypsum and is the world's largest producer of gypsum building products, accepted a takeover offer from the French company Saint-Gobain in November 2005.

Total gypsum output was 1686 thousand tonnes in 2004. Official figures for imports of gypsum are difficult to interpret. In 2004 imports of crude gypsum were reported to be 64 043 tonnes valued at £8.2 million, whilst imports of calcined gypsum, i.e. plasters, were 163 025 tonnes valued at £8.8 million. It is likely that some imports of crude gypsum are being wrongly classified as plaster.

Desulphogypsum produced by the neutralisation of sulphur dioxide contained in flue gases at coal-fired power stations, is currently produced at five sites in Britain. Their output of desulphogypsum is shown in the table.

Thousand tonnes											
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Drax	320	510	549	323	483	565	506	485	699	653	565
Ratcliffe-on-Soar	280	300	296	278	220	260	291	358	384	350	235
West Burton	—	—	—	—	—	—	—	—	—	274	...
Eggborough	—	—	—	—	—	—	—	—	—	—	...
Cottam	—	—	—	—	—	—	—	—	—	—	...
Total	600	810	845	510	703	825	797	843	1 083	1 228	...

The FGD plant at the 2000 MW West Burton power station in Nottinghamshire, which is owned by EDF Energy, came on stream in December 2003. The new plant produced 274 000 tonnes of desulphogypsum in 2004 of which 225 000 tonnes was sold for plasterboard manufacture. FGD capacity has also been fitted to two of the four units at the Eggborough 2000 MW station in North Yorkshire and FGD plant has been retrofitted to EDF Energy's 2000 MW Cottam station in Nottinghamshire; these were commissioned in 2005. Additional FGD plants are being planned for several other coal-fired power stations in the UK.

The amount of desulphogypsum produced at FGD plants is dependent on two main factors: the electricity output of the station and the amount of sulphur in the coal. About 0.7 tonnes of high purity limestone are required for each tonne of desulphogypsum produced.

Synthetic gypsum is also produced by the neutralisation of acid effluent from the manufacture of titanium dioxide by the sulphate process at Huntsman Tioxide Ltd's plant at Grimsby. Production of white titanogypsum is used by Knauf for the manufacture of plasterboard at their Immingham plant. UK titanogypsum production reduced by half in 2004 (to approx. 100 000 tonnes per year) due to a reduction in plant capacity.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Gypsum and plaster										
<i>Production</i>										
Gypsum, natural	(a) 1 500 000	(a) 1 700 000	(a) 1 700 000	(a) 1 700 000	1 686 000					
<i>Imports</i>										
Gypsum—										
Gypsum	492 422	755 112	(b) 234 397	(b) 47 751	(b) 64 043	14 501	10 390	6 944	8 603	8 160
Calcined gypsum (plasters)	62 728	31 481	(b) 412 492	(b) 855 317	(b) 163 025	9 231	6 029	7 576	8 441	8 780
<i>Exports</i>										
Gypsum—										
Gypsum	9 709	3 049	14 460	2 601	3 814	657	459	692	463	560
Calcined gypsum (plasters)	31 474	29 474	44 827	39 515	49 710	7 894	7 505	10 283	8 689	11 559

(a) BGS estimates.

(b) Large quantities of gypsum are imported into the UK. These appear to have been wrongly classified as calcined gypsum (plasters).

Hafnium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Hafnium										
<i>Imports</i>	9	2	2	7	3	537	327	320	217	285
<i>Exports</i>	1	2	...	11	57	48	169	248	66	242

Igneous rock (for graph, see Crushed rock)

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Igneous rock – see also Building and dimension stone										
<i>Production (a)</i>	54 113 000	51 501 000	51 225 000	51 356 000	53 037 000					
<i>Imports</i>										
Granite–										
Unworked	865 710	1 781 220	1 656 235	1 145 887	1 643 091	36 452	28 908	29 447	30 386	39 649
Worked	34 928	37 533	57 885	66 177	81 545	24 215	26 334	37 543	45 125	50 074
<i>Exports</i>										
Granite–										
Unworked	1 594	1 558	931	1 369	1 804	331	370	252	251	224
Worked	713	53	732	290	489	360	99	755	399	546

(a) Excluding a small production of granite in Northern Ireland.

Great Britain production of igneous rock by end-use and area of origin 2004

											Thousand tonnes				
Area of origin	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Total			
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings										
North East	1	446	...	...	...	...	...	...	239	...	—	2 087			
East Midlands	...	1 183	...	2 315	...	...	...	...	1 931	44	2	13 169			
South West	8	327	168	530	...	...	210	194	526	8	—	2 214			
West Midlands	...	912	140	...	—	...	...	...	...	...	1	...			
North West	...	...	...	...	...	...	...	4	...	1	—	...			
England	12	2 868	1 473	3 722	938	1 779	2 623	3 493	3 203	60	3	20 174			
Wales	3	477	179	209	...	...	357	...	391	10	—	2 295			
Scotland	174	2 485	1 090	5 568	...	...	2 107	...	4 552	92	—	23 724			
Great Britain	189	5 830	2 742	9 498	1 820	3 074	5 086	9 641	8 147	162	3	46 193			
England		Wales				Scotland									
County		Total		County		Total		Region				Total			
Northumberland		...		Powys		...		South of Scotland				926			
Durham		...		Dyfed		...		West Central Scotland				10 195			
Cumbria		...		Gwynedd		...		East Central Scotland				2 504			
West Midlands		...						Tayside and Fife				2 740			
Shropshire		...				Wales		2 295		North East Scotland				1 412	
Warwickshire		...								Highlands				5 662	
Leicestershire		13 169								Western Isles				158	
Somerset		...								Shetland				127	
Devon		...													
Cornwall		1 341												Scotland 23 724	
England		20 174													

Source: Office for National Statistics.

England production of igneous rock by end-use 1991–2004

Thousand tonnes

Year	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
1991	22	4 129	2 665	7 407	...	1 711	1 270	...	5 770	...	...	151	23 126
1992	25	4 098	3 420	8 387	...	1 847	1 640	...	5 543	...	...	277	25 238
1993	47	4 139	...	8 555	...	...	1 190	...	4 901	...	...	292	24 783
1994	...	3 970	4 072	6 183	...	1 197	1 173	...	8 303	...	...	...	25 134
1995	...	4 171	3 657	6 212	...	...	1 272	...	7 434	...	...	185	24 651
1996	7	3 753	3 733	5 816	...	921	1 399	...	5 793	...	...	105	21 526
1997	49	3 120	4 412	5 141	...	1 020	1 434	...	5 073	...	...	87	20 335
1998	26	2 505	3 384	2 935	...	944	...	...	5 926	...	...	...	17 228
1999	37	2 568	3 919	...	...	...	1 724	...	7 538	...	...	...	20 803
2000	27	2 726	3 916	3 587	...	...	2 106	...	6 799	...	...	...	20 435
2001	...	2 792	3 523	2 844	...	...	4 059	...	8 051	...	...	6	22 647
2002	12	2 778	4 872	3 477	...	1 612	2 110	...	7 028	...	...	—	21 889
2003	28	2 974	4 066	3 185	...	1 701	3 458	...	6 460	...	...	5	21 878
2004	12	2 868	1 473	3 722	938	1 779	2 623	3 493	3 203	60	3	...	20 174

Source: Office for National Statistics.

Wales production of igneous rock by end-use 1991–2004

Thousand tonnes

Year	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
1991	11	812	275	992	...	248	168	...	777	...	...	12	3 294
1992	14	826	370	927	...	...	...	...	825	...	...	8	3 329
1993	24	947	457	1 084	...	...	...	...	781	...	...	...	3 621
1994	14	...	...	1 079	...	...	217	...	1 128	...	...	...	4 208
1995	...	...	...	1 222	...	...	204	...	735	...	...	29	3 259
1996	...	...	...	...	...	...	157	...	386	...	...	—	2 272
1997	(a) 11	...	359	472	...	...	...	...	486	...	...	—	2 172
1998	4	...	339	578	...	...	203	...	364	...	...	...	2 110
1999	6	...	355	...	...	...	164	...	556	...	...	—	2 730
2000	...	314	227	659	...	...	...	...	...	...	...	—	2 743
2001	...	393	197	266	...	...	369	...	...	...	...	—	2 372
2002	9	375	366	241	...	219	396	...	506	...	...	—	2 111
2003	5	375	257	327	...	—	...	...	...	...	...	—	2 507
2004	3	477	179	209	...	...	357	...	391	10	—	...	2 295

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of igneous rock by end-use 1991–2004

Thousand tonnes

Year	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
1991	94	2 356	718	8 236	...	361	1 513	...	6 298	...	...	12	19 588
1992	112	2 472	684	6 916	...	...	...	...	8 243	...	...	52	20 064
1993	142	2 613	...	7 548	...	...	...	...	8 274	...	...	...	20 806
1994	...	...	...	6 995	...	...	1 354	...	8 179	...	...	...	20 672
1995	130	...	...	6 498	...	...	1 546	...	9 407	...	...	16	21 731
1996	128	...	...	...	...	...	1 358	...	8 488	...	...	...	19 933
1997	129	...	693	6 778	...	...	...	...	7 812	...	...	(a) 24	19 863
1998	107	...	934	6 587	...	...	...	...	8 140	...	...	2	20 500
1999	141	...	804	8 367	...	740	2 110	...	7 702	...	...	...	21 761
2000	179	1 762	945	9 148	...	...	...	...	...	...	...	39	21 455
2001	423	1 608	1 010	7 437	...	...	1 922	...	...	...	...	26	20 034
2002	196	1 595	1 037	6 608	...	1 494	2 241	...	7 332	...	...	40	20 543
2003	179	2 101	1 246	7 251	...	967	...	...	...	...	...	308	20 920
2004	171	2 485	1 090	5 568	...	...	2 107	...	4 552	92	—	...	23 724

(a) BGS estimate.

Source: Office for National Statistics.

Insulating materials

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Insulating materials										
<i>Imports</i>										
Mineral wools (a)	30 735	25 008	25 520	27 034	33 097	17 128	17 266	21 003	24 780	26 731
Expanded minerals (b)	58 347	60 811	68 475	77 906	110 168	7 169	5 291	5 899	5 857	6 911
Other (c)	73 900	32 951	33 764	33 690	40 897	27 353	26 346	29 538	30 987	35 258
<i>Exports</i>										
Mineral wools (a)	14 752	12 830	12 709	18 482	21 613	20 670	22 435	21 088	29 829	38 012
Expanded minerals (b)	27 895	27 752	25 782	11 847	18 786	12 220	15 340	14 580	7 087	17 478
Other (c)	16 477	17 685	25 341	38 272	43 682	25 786	33 206	29 491	41 940	42 140

(a) Slag wool, rock wool and similar mineral wools.

(b) Exfoliated vermiculite, expanded clays, foamed slag and similar expanded mineral materials.

(c) Mixtures and articles of heat-insulating, sound-insulating or sound-absorbing mineral materials.

Iodine

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Iodine										
<i>Imports</i>	1 305	1 015	744	826	803	12 859	9 592	5 966	6 366	5 302
<i>Exports</i>	385	507	207	169	107	1 788	1 844	1 887	1 267	819

Iron compounds and earth colours

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Iron compounds and earth colours										
<i>Imports</i>										
Natural micaceous oxides	3 916	2 244	...	...	—	1 206	684	...	...	—
Earth colours containing 70% or more ferric oxide	93	94	65	111	95	62	43	93	48	45
Other iron compounds—Oxides and hydroxides	68 839	50 299	52 314	52 205	43 228	34 626	22 996	24 208	26 567	22 255
<i>Exports</i>										
Natural micaceous oxides	3 293	3 037	...	...	—	1 304	1 242	...	...	—
Earth colours containing 70% or more ferric oxide	92	42	144	93	97	113	50	204	170	216
Other iron compounds—Oxides and hydroxides	21 349	17 077	20 218	17 572	8 354	17 131	15 233	16 873	14 105	9 619

Iron ore

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Iron ore										
<i>Production</i> (a)	1 033	510	464	500	500					
Fe content	568	281	255	275	275					
<i>Consumption</i>										
Home-produced (b)	1 000	500	500	500	500					
Imported	16 955 000	15 108 300	13 181 000	15 766 200	16 013 200					
<i>Imports</i>										
Iron ore	16 778 947	15 351 877	13 316 026	16 121 350	15 298 713	260 406	248 246	184 578	243 973	321 118
Fe content (b)	10 300 000	9 500 000	8 200 000	9 900 000	9 200 000					
<i>Exports</i>										
Iron ore	898	5 257	350	343	212	129	417	138	145	213

(a) The Florence mine near Egremont, Cumbria produces high-grade hematite for foundry uses, mineral specimens and jewellery. The mine is also an active tourist attraction.

(b) BGS estimates.

Iron and steel

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Iron and steel										
<i>Production</i>										
Pig iron	10 890 500	9 870 400	8 560 600	10 277 800	10 179 600					
Crude steel–										
Alloy qualities	1 076 400	984 700	932 800	897 800	957 100					
Other	13 942 100	12 418 400	10 594 800	12 230 700	12 808 600					
Total	15 018 500	13 403 100	11 527 600	13 128 500	13 765 700					
<i>Consumption</i>										
Scrap (a)	5 675 000	4 864 000	4 138 000	4 397 000	5 037 000					
Pig iron (a)	10 970 000	9 713 000	8 312 000	9 955 000	10 010 000					
Finished steel (b)	13 484 000	13 473 000	12 591 000	12 314 000	13 176 000					
<i>Imports</i>										
Scrap	201 251	178 923	113 107	139 089	224 885	72 142	50 275	46 034	37 225	70 038
Pig iron	133 734	159 725	124 682	116 724	81 309	12 887	16 087	12 229	12 669	15 681
Shot, powder, sponge etc.	56 892	37 128	43 111	38 454	43 625	21 444	19 154	20 966	22 240	26 856
Ferro-alloys	361 692	327 666	369 966	305 212	362 798	136 322	126 781	130 211	140 783	219 064
Iron and steel–										
Ingots and other primary forms	518 194	388 350	1 453 884	540 537	737 919	134 381	121 148	257 803	130 116	221 893
<i>Exports</i>										
Scrap	4 378 117	4 821 840	5 538 569	7 174 934	6 772 012	323 233	369 196	467 968	716 223	1 005 835
Pig iron	679	6 749	3 376	94 788	943	248	3 441	2 139	147 558	505
Shot, powder, sponge etc.	83 430	66 637	63 346	53 669	52 776	27 701	27 903	28 181	29 988	31 713
Ferro-alloys	38 005	36 495	44 191	39 659	57 013	65 627	68 042	90 403	116 686	236 441
Iron and steel–										
Ingots and other primary forms	520 306	746 730	560 796	1 305 976	1 711 835	193 789	219 641	289 055	472 338	5 348 146

(a) Consumption in steel making only.

(b) Net home disposals.

Consumption in the United Kingdom iron and steel industry 1995–2004

	Thousand tonnes									
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Iron ore –										
Home produced (a)	1	1	1	1	1	1	1	1	1	1
Imported (b)	18 671	19 720	20 371	19 510	18 739	16 955	15 108	13 181	15 766	16 013
Manganese ore	32	48	36	22	14	36	4	4	0	6
Iron and steel scrap (f)	7 000	6 822	7 206	6 409	5 884	5 675	4 864	4 138	4 397	5 037
Pig iron (f)	12 121	12 753	13 018	12 619	11 859	10 970	9 713	8 312	9 955	10 010
Alloy metals (c) –										
Nickel	24.7	21.5	18.3	13.8	14.2	13.7	13.9	14.7	15.8	16.8
Molybdenum	2.9	2.7	2.7	2.5	2.4	2.3	2.0	1.8	2.1	2.1
Tungsten	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vanadium	1.0	1.0	0.9	0.8	0.8	0.7	0.6	0.5	0.1	0.1
Cobalt	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Chromium	66.9	66.5	66.1	61.9	55.7	52.6	47.1	46.0	52.9	53.9
Niobium	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.4	0.4	0.4
Ferro-alloys –										
Ferro-manganese	129.1	128.1	133.8	125.2	112.2	105.9	90.9	77.5	93.8	95.5
Ferro-silico-manganese	32.5	31.7	33.7	31.5	28.6	26.5	23.7	21.0	22.7	23.1
Ferro-aluminium	2.9	2.8	3.4	3.1	3.1	2.9	2.8	2.5	2.9	2.9
Ferro-chromium	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
Ferro-silico-chromium	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
Ferro-silicon	51.6	51.2	53.9	50.5	43.9	41.7	36.4	35.1	36.6	37.3
Ferro-silico-zirconium	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Calcium silicide	1.2	1.1	1.3	1.2	1.1	0.1	0.1	0.1	0.1	0.1
Ferro-phosphorus	1.5	1.4	1.5	1.4	1.3	1.3	1.2	1.0	1.1	1.2
Ferro-niobium	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
Ferro-titanium	1.1	1.1	1.2	1.1	1.0	1.0	0.9	0.8	0.9	1.0
Dolomite (raw and burnt) (e)	382.7	455.9	503.8	495.3	369.5	338.0	264.4	226.8	257.6	262.6
Limestone (e)	2 317.5	2 224.7	2 445.2	2 411.2	2 408.3	2 166.0	1 890.9	1 683.6	2 018.6	2 067.9
Lime (e)	787.3	743.9	750.5	739.0	698.4	660.1	563.6	503.7	532.4	583.8
Zinc for galvanising	110.8	89.9	104.0	96.8	88.6	87.4	63.5	66.1	61.9	52.3
Tin for tinplating	3.6	3.1	3.4	3.5	3.3	3.4	2.8	2.6	2.2	2.6

Average Fe content: (a) 2004: 55%, (b) 2004: 62%.

(c) Metal content.

(d) Included under alloying metals.

(e) Restricted to consumption in blast furnaces, sinter plants and steel furnaces.

(f) Consumption in steel making only.

Source: Iron and Steel Statistics Bureau.

Lead

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Lead										
<i>Production</i>										
Concentrate (a)										
Pb content (c)	1 000	800	700	700	500					
Unwrought–										
Bullion	36 700	36 000	36 000	9 000	36 000					
Refined–										
Primary (b)	157 164	202 915	207 719	195 000	125 938					
Secondary	170 740	163 390	166 927	169 574	120 000					
<i>Consumption</i>										
Refined	293 954	298 276	305 664	314 700	260 500					
Scrap	40 894	40 661	41 446	40 045	41 509					
<i>Imports</i>										
Ores and concentrates (c)	34 000	33 000	30 000	5000	—					
Ash and residues	2 510	2 503	406	423	51	126	212	18	278	19
Scrap	10 849	15 633	4 946	6 043	6 108	2 295	4 271	1 654	2 163	2 562
Unwrought										
Unrefined–										
Bullion (e)	140 344	184 518	184 060	168 228	127 970	61 846	94 002	92 054	83 515	93 506
Other	1 461	1 538	697	7 042	16 354	624	1 071	519	2 215	6 811
Refined	98 090	28 623	23 993	18 165	31 531	33 095	10 738	8 188	5 417	13 725
Alloys	9 551	3 041	7 778	2 925	3 497	2 994	1 146	2 547	1 240	2 178

continued

United Kingdom summary 2000–2004 *continued*

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Lead <i>continued</i>										
<i>Exports</i>										
Ores and concentrates	5	39	16	5	26	6	44	22	50	44
Ash and residues	—	4	0	85	0	—	1	7	79	1
Scrap	7 352	10 700	17 116	28 569	45 646	2 261	3 737	3 950	7 259	15 909
Unwrought										
Unrefined—										
Bullion	306	—	24	70	5	143	—	14	39	14
Other	3 340	7 640	4 670	3 688	684	2 297	3 586	2 290	1 775	234
Refined	78 893	85 912	97 138	57 924	34 020	26 535	32 200	34 907	22 214	19 596
Alloys	35 145	42 308	57 249	44 091	30 781	13 024	17 495	22 813	17 818	17 519

(a) Byproduct of Pennine fluorspar operations.

(b) Refined from imported bullion including lead content of alloys.

(c) BGS estimate.

(d) Estimates published by the World Bureau of Metal Statistics. Lead content of both lead concentrate and mixed zinc-lead concentrate.

(e) Containing substantial quantities of silver; see p.97.

Limestone, dolomite and chalk (for graph, see Crushed rock)

Great Britain production of limestone, dolomite and chalk by broad end-uses 2004

Thousand tonnes					
Mineral	Constructional uses (b)	Cement	Agricultural uses (a)	Industrial uses (a)	Total
Limestone	59 615	9 474	921	6 003	76 014
Dolomite	10 839	—	...	...	12 226
Chalk	705	5 177	...	...	7 997
Total	71 160	14 651	1 811	8 614	96 237

(a) Including material for calcination.

(b) Including building stone.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for agricultural and industrial uses (a) 2004

Thousand tonnes					
Use	Limestone	Dolomite	Chalk	Total	Of which for conversion by calcination
Agricultural	921	...	...	1 811	...
Iron and steel	1 592	627	...	...	1 463
Glass making	114	...	—	...	—
Asphalt filler	142	7	—	149	—
Other fillers	...	...	...	...	—
Chemical use	1 156	—	...	...	...
Building materials	...	...	...	...	...
Other uses	...	—	...	...	...
Total	6 925	1 386	2 115	10 426	2 897

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone and chalk for cement, 1992–2004

Thousand tonnes

Year	Limestone	Chalk	Total
1992	8 622	...	...
1993	(a) 9 137	(a) 5 839	14 976
1994	(a) 10 089	(a) 6 731	16 820
1995	(a) 10 234	(a) 6 343	16 577
1996	(a) 9 673	(a) 5 697	15 369
1997	(a) 9 959	(a) 6 157	16 115
1998	(a) 10 465	(a) 6 736	17 201
1999	(a) 9 831	(a) 6 345	16 176
2000	(a) 9 821	(a) 6 288	16 109
2001	10 123	5 111	15 234
2002	9 642	5 550	15 192
2003	9 573	5 360	14 933
2004	9 474	5 177	14 651

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for agricultural uses, 1992–2004

Thousand tonnes

Year	Limestone	Dolomite	Chalk	Total	Calcination (a)
1992	1 384	2 114	435	3 934	...
1993	1 039	999	466	2 504	20
1994	1 169	1 070	574	2 813	18
1995	1 476	...	...	3 405	18
1996	1 414	(b) 1 321	(b) 624	3 359	20
1997	...	...	590	3 053	42
1998	(b) 1 009	...	...	2 343	10
1999	...	...	...	1 961	8
2000	...	...	...	1 749	2
2001	810	...	...	1 610	11
2002	789	...	...	1 639	...
2003	1 007	...	...	2 036	...
2004	921	...	...	1 811	...

(a) Comprises material included in the total which, after calcination, was used as lime and dolomitic lime.

Source: Office for National Statistics.

(b) BGS estimate.

Great Britain production of limestone, dolomite and chalk for industrial uses, 1992–2004

Thousand tonnes

Year	Limestone	Dolomite	Chalk	Total	Calcination
1992	6 326	...	...	9 345	(b) 4 069
1993	(c) 6 416	1 578	(c) 1 858	9 852	(a) 4 373
1994	(c) 7 489	1 397	(c) 1 955	10 841	(a) 4 316
1995	(c) 7 211	...	...	10 774	(a) 5 032
1996	(c) 7 618	(c) 1 551	1 879	11 048	(a) 5 074
1997	...	...	(c) 2 035	11 332	(a) 5 579
1998	(c) 7 705	...	...	11 345	(a) 5 694
1999	...	...	...	10 282	(a) 5 258
2000	...	...	...	9 867	(a) 4 797
2001	6 357	...	...	9 625	(a) 4 925
2002	6 536	...	...	8 915	(b) 3 766
2003	6 799	...	...	9 684	(b) 3 906
2004	6 003	...	...	8 614	(b) 2 897

(a) Comprises material included in the total which, after calcination, was used for industrial purposes as lime or dolomitic lime. Excludes small amounts for agricultural purposes.

Source: Office for National Statistics.

(b) Including small amounts used for agricultural purposes but excluded from the total.

(c) BGS estimate.

Great Britain production of limestone, dolomite and chalk for industrial uses by end-use, 1991–2004

Thousand tonnes

Year	Iron and steel making (a)	Chemicals (a)	Glass making	Special fillers	Asphalt fillers	Building materials (a)	Others (a)	Total (a)
1991	4 273	2 020	330	1 490	499	302	849	9 763
1992	4 285	...	...	1 605	391	...	645	9 345
1993	4 254	1 952	...	1 710	...	220	966	9 852
1994	4 813	2 004	...	...	408	175	...	10 841
1995	4 778	...	...	...	414	292	1 067	10 774
1996	5 091	2 185	344	1 561	342	399	1 127	11 048
1997	...	...	361	...	340	...	...	11 332
1998	...	2 047	375	...	...	459	...	11 345
1999	...	1 689	203	...	...	460	...	10 282
2000	...	1 864	...	...	192	474	1 144	9 867
2001	...	2 630	278	...	211	957	1 384	9 625
2002	...	...	233	1 759	164	...	1 154	8 915
2003	...	...	...	...	325	...	...	9 686
2004	...	...	...	...	149	...	...	8 615

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for calcination by end-use, 1991–2004

Thousand tonnes

Year	Agriculture	Iron and Steel	Chemicals	Building materials	Others	Total
1991	...	1 944	2 020	302	...	4 437
1992	...	1 864	...	...	...	4 069
1993	20	2 081	1 952	220	120	4 393
1994	18	2 015	2 004	175	122	4 334
1995	18	2 381	2 289	291	71	5 050
1996	20	2 400	2 184	398	92	5 094
1997	42	2 595	2 332	435	217	5 621
1998	10	3 035	2 047	459	153	5 704
1999	8	2 970	1 689	460	139	5 266
2000	2	2 301	1 864	474	158	4 799
2001	11	1 248	2 630	957	90	4 936
2002	...	1 228	1 922	537	...	3 766
2003	...	1 353	1 858	...	...	3 906
2004	...	1 463	...	...	...	2 897

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for iron and steel making, 1991–2004

Thousand tonnes

Year	Limestone	Dolomite and chalk	Total	Calcination (a)
1991	2 206	2 067	4 273	1 944
1992	2 318	1 967	4 285	1 864
1993	2 438	1 816	4 254	2 081
1994	2 703	2 110	4 813	2 015
1995	2 699	2 079	4 778	2 381
1996	3 043	2 048	5 091	2 400
1997	2 935	...	...	2 595
1998	3 346	...	...	3 035
1999	3 239	...	...	2 970
2000	2 500	...	...	2 301
2001	1 844	...	...	1 248
2002	1 866	...	...	1 228
2003	1 948	...	...	1 353
2004	1 592	...	...	1 463

(a) Comprises material included in the total which, after calcination, was used as lime or dolomitic lime.

Source: Office for National Statistics.

Great Britain production of limestone by end-use and area of origin 2004

Area of origin	Building stone	For constructional uses (a)				For other uses					
		Roadstone				Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
North East	—	285	138	679	310	394	752	...	1 261	...	34
Yorkshire and the Humber	4	...	350	2 654	...	—	2 672	1 221	2 945	14	39
East Midlands	...	1 068	450	2 980	137	—	2 642	1 559	6 196	22	195
East of England	—	—	—	...	—	—	...	—	...	—	—
South East	4	—	—	213	...	—	99	...	688	12	...
South West	...	1 461	816	4 851	...	—	3 845	3 762	5 402	22	348
West Midlands	...	218	53	...	...	—	64	43	...	—	...
North West	4	...	111	955	14	—	...	586	1 360	...	46
England	...	3 829	1 918	13 029	1 015	394	11 949	7 863	18 760	94	686
Wales	29	953	...	1 416	...	...	2 977	...	3 142	...	99
Scotland	...	77	...	112	...	—	4	...	79	...	136
Great Britain	226	4 858	2 095	14 558	...	...	14 931	9 591	21 982	136	921
England											
County		Total		County		Total					
Avon		4 355		Humberside		49					
Cambridgeshire		...		Nottinghamshire		166					
Cumbria		3 753		Lincolnshire		843					
Derbyshire		20 247		Dorset		291					
Devon		...		Northamptonshire		319					
Cornwall		77		Northumberland		616					
Cleveland		35		Tyne and Wear		145					
Durham		3 549		North Yorkshire		7 256					
Gloucestershire		2 059		West Yorkshire		...					
Hereford and Worcester		...		South Yorkshire		...					
Shropshire		...		Oxfordshire		553					
Warwickshire		...		Somerset		12 582					
Staffordshire		2 017		Wiltshire		...					
Kent		...		Isle of Wight		...					
Lancashire		4 677		Buckinghamshire		1					
Leicestershire		3 561									
England						72 173		continues			

(a) Including dolomite.

(b) For filler in asphalt and as mine dust.

(c) For other fillers, powders and whittings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).

(d) For water & effluent treatment and pollution control

Source: Office for National Statistics.

Thousand tonnes

								Total
Iron and steel	Cement	Chemical uses	Building materials	Environmental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	
—	—	—	—	—	—	...	—	4 345
...	—	—	—	—	—	—	—	10 427
279	4 117	1 036	462	1 504	114	73	...	23 762
—	—	—	—	—	—	16	—	...
—	—	—	—	—	—	—	—	...
...	—	—	...	...	—	...	...	21 345
—	1 147	—	—	—	—	—	—	2 903
...	1 859	119	4	—	—	13	...	7 791
948	7 122	1 156	...	...	114	113	1 013	72 173
643	1 142	—	1	—	—	...	—	12 926
—	1 210	—	—	—	—	...	...	1 746
1 592	9 474	1 156	...	...	114	142	...	86 846
Wales				Scotland				
County		Total	Region		Total			
Clwyd		5 065	West Central Scotland		...			
Dyfed		1 376	East Central Scotland		1 210			
Gwynedd		...	Tayside and Fife		...			
Powys		162	North East Scotland		168			
Gwent		...	Highlands		153			
Mid Glamorgan		4 702						
South Glamorgan		...			Scotland	1 746		
Wales		12 926						

England production of limestone by end-use 1993–2004

Year	Building stone	For constructional uses (a)				For other uses					
		Roadstone				Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
1993	105	6 025	4 282	28 252	...	...	9 995	...	21 833	...	758
1994	...	6 994	4 051	28 104	...	...	10 012	...	30 775	...	930
1995	...	6 933	4 551	27 487	...	...	9 793	...	20 968	...	1 174
1996	211	6 020	3 584	21 291	...	14	8 405	...	21 372	...	1 025
1997	212	5 192	3 440	21 380	...	18	11 144	...	22 775	...	947
1998	...	4 441	4 425	21 124	...	12	12 094	...	21 989	...	765
1999	245	4 226	3 528	19 265	...	...	11 610	...	22 616	...	685
2000	278	4 079	3 363	18 648	...	...	10 654	...	23 897	...	537
2001	168	...	4 956	20 502	...	...	16 457	...	19 545	...	561
2002	145	3 726	3 755	13 931	...	—	15 985	...	21 697	...	524
2003	160	3 597	3 720	14 586	...	2	15 925	...	17 627	...	700
2004	...	3 829	1 918	13 029	1 015	394	11 949	7 863	18 760	94	686

continued

continued

(a) Including dolomite.

(d) BGS estimate.

(b) For filler in asphalt and as mine dust.

(e) For water & effluent treatment and pollution control

(c) For other fillers, powders and whittings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).

Source: Office for National Statistics.

Wales production of limestone by end-use 1993–2004

Year	Building stone	For constructional uses (a)				For other uses					
		Roadstone				Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
1993	22	...	190	5 936	...	...	2 836	...	7 674	...	196
1994	...	...	182	5 687	...	—	3 154	...	7 975	...	...
1995	46	...	183	5 029	...	...	...	...	7 100	...	...
1996	10	...	177	4 164	...	(d) 65	...	...	7 192	...	...
1997	(d) 6	1 123	329	3 588	...	(d) 71	3 322	...	6 952	...	228
1998	37	1 107	341	2 849	...	(d) 110	3 607	...	6 653	...	119
1999	52	...	275	3 136	...	...	3 688	...	6 502	...	110
2000	45	...	206	2 177	...	...	3 375	...	6 676	...	106
2001	44	...	328	1 731	...	...	4 299	...	4 802	...	101
2002	45	912	...	1 280	...	—	4 115	...	4 761	...	...
2003	39	866	...	1 756	...	...	...	...	3 845	...	133
2004	29	953	...	1 416	...	...	2 977	...	3 142	...	99

continued

continued

(a) Including dolomite.

(d) BGS estimate.

(b) For filler in asphalt and as mine dust.

(e) For water & effluent treatment and pollution control

(c) For other fillers, powders and whittings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).

Source: Office for National Statistics.

Scotland production of limestone by end-use 1993–2004

Year	Building stone	For constructional uses (a)				For other uses					
		Roadstone				Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
1993	—	...	—	217	...	—	—	...	132	...	84
1994	—	...	—	249	...	—	—	...	178	...	...
1995	...	...	—	114	...	—	...	...	79	...	...
1996	—	...	—	97	...	—	...	...	108	...	...
1997	—	41	—	86	...	—	20	...	107	...	...
1998	...	38	—	53	...	—	10	...	123	...	(d) 125
1999	(d) 4	...	—	80	...	—	11	...	144	...	...
2000	...	...	—	90	...	—	17	...	149	...	...
2001	...	...	—	127	...	—	24	...	126	...	148
2002	1	26	...	96	...	—	12	...	119	...	...
2003	...	30	...	104	...	—	...	...	98	...	174
2004	...	77	...	112	...	—	4	...	79	...	136

continued

continued

(a) Including dolomite.

(d) BGS estimate.

(b) For filler in asphalt and as mine dust.

(e) For water & effluent treatment and pollution control

(c) For other fillers, powders and whittings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).

Source: Office for National Statistics.

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (e)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
...	...	...	...	...	222	...	...	...	84 123
...	...	...	...	...	251	247	...	3 316	95 448
...	...	...	...	...	257	260	...	2 867	85 379
1 884	...	...	...	...	...	211	...	2 961	75 633
2 045	...	...	...	...	...	213	...	3 045	79 342
...	...	...	...	...	255	...	...	2 775	79 780
...	...	...	...	...	...	...	...	...	75 820
1 620	...	...	...	...	115	...	...	2 983	74 954
...	...	...	...	...	...	109	...	...	79 902
...	7 595	...	...	...	...	107	...	3 045	73 528
1 382	7 087	...	...	...	96	209	1 313	3 103	69 507
948	7 122	1 156	...	...	114	113	1 013	...	72 173

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (e)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
...	...	...	...	...	—	35	—	—	20 330
...	...	...	...	...	—	—	26	—	20 883
...	...	...	...	...	—	...	31	—	19 249
1 158	...	...	...	...	—	—	...	—	18 863
890	...	...	...	...	—	—	...	—	17 752
...	...	...	...	...	—	...	...	—	17 136
...	...	...	...	...	—	...	...	...	17 220
880	...	...	...	...	—	12	...	...	15 543
...	...	...	...	...	—	—	8	...	14 238
...	887	...	...	...	—	3	11	—	12 850
565	1 238	...	...	...	—	...	...	...	13 208
643	1 142	—	1	—	—	...	—	...	12 926

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (e)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
—	...	...	...	...	—	...	...	...	1 432
—	...	...	...	...	—	...	...	—	1 650
—	...	...	...	...	—	...	...	—	1 540
—	...	...	...	...	—	...	...	—	1 607
—	...	...	...	...	—	...	...	—	1 624
—	...	...	...	...	—	...	...	—	1 535
—	...	...	...	...	—	...	...	—	1 507
—	...	...	...	...	—	...	...	—	1 722
—	1 218	...	...	...	—	...	...	—	1 733
—	1 160	...	...	...	—	...	...	—	1 635
—	1 248	...	...	...	—	...	...	—	1 730
—	1 210	—	—	—	—	...	...	...	1 746

Great Britain consumption of dolomite, limestone and lime in iron and steel production, 1970–2004

Thousand tonnes

Year	Dolomite, incl. calcined dolomite (dolime)			Limestone			Lime	
	Blast furnaces and sinter plants	Steel furnaces	Other purposes	Blast furnaces and sinter plants	Steel furnaces	Other purposes	Steel Furnaces	Other purposes
1970	532	250	0	2 351	713	313	1 482	19
1971	455	186	0	2 073	570	281	1 254	18
1972	392	166	0	2 023	480	306	1 396	19
1973	446	157	8	2 291	518	288	1 532	22
1974	468	95	8	1 785	303	162	1 251	11
1975	300	90	8	1 735	280	65	1 205	8
1976	517	150	0	1 777	334	7	1 288	36
1977	643	192	—	1 487	252	5	1 175	14
1978	647	183	—	1 399	106	—	1 227	—
1979	859	323	—	1 090	116	—	1 323	—
1980	389	182	—	611	7	—	663	—
1981	400	308	—	1 031	2	—	911	—
1982	280	255	—	888	2	—	799	—
1983	400	298	—	1 164	1	—	865	—
1984	405	310	—	1 143	1	—	824	—
1985	425	284	—	1 562	—	—	801	—
1986	333	270	—	1 494	2	—	680	—
1987	405	275	—	1 827	—	—	761	—
1988	477	319	—	1 948	—	—	810	—
1989	430	315	—	2 062	—	—	822	—
1990	410	287	—	1 992	—	—	778	—
1991	323	264	—	2 124	—	—	696	—
1992	391	246	—	2 033	—	—	682	—
1993	276	238	—	2 077	—	—	719	—
1994	201	264	—	2 236	—	—	767	—
1995	67	316	—	2 318	—	—	787	—
1996	59	397	—	2 225	—	—	744	—
1997	42	462	—	2 445	—	—	751	—
1998	3	492	—	2 411	—	—	739	—
1999	5	364	—	2 408	—	—	698	—
2000	1	337	—	2 166	—	—	660	—
2001	7	257	—	1 891	—	—	564	—
2002	8	219	—	1 684	—	—	504	—
2003	8	250	—	2 019	—	—	532	—
2004	3	260	—	2 068	—	—	584	—

Source: Iron and Steel Statistics Bureau.

This table shows the consumption of fluxes used in iron and steelmaking. Dolomite and limestone are used in blast furnaces and in sinter plants, whilst lime and calcined dolomite, or dolime, are used in steelmaking. These figures do not entirely agree with those shown on p.61 for the production of limestone, dolomite and chalk for iron and steelmaking, even allowing for the conversion of lime and dolime to carbonate.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Limestone —see Building and dimension stone										
<i>Production</i>										
Limestone	84 348 000	88 238 000	80 688 000	78 935 000	81 641 000					
Dolomite	13 069 000	14 314 000	12 946 000	12 167 000	12 226 000					
<i>Imports</i>										
Dolomite	174 353	188 312	184 947	179 003	170 888	3 798	3 671	3 694	4 129	3 631
Limestone flux (a)	4 035	7 613	...	4 976	9 155	704	1 025	1 056	469	646
Lime	3 191	3 877	13 742	15 487	12 651	509	364	1 616	2 140	2 536
<i>Exports</i>										
Dolomite (c)	112 875	131 073	104 126	35 804	24 736	4 947	4 653	4 393	1 677	1 271
Limestone flux (a)	232 480	81 519	95 364	247 665	234 101	4 180	2 094	2 513	3 631	3 430
Lime	125 104	113 753	88 783	360 584	110 064	9 047	9 404	8 628	12 745	10 974
Chalk										
<i>Production</i> (b)	9 213 000	8 205 000	8 587 000	8 066 000	7 997 000					
<i>Imports</i>	5 566	3 465	3 935	5 847	6 128	365	310	338	528	537
<i>Exports</i>	25 266	23 952	24 974	26 858	40 921	2 698	1 898	2 079	2 036	2 117

(a) Including calcareous stone commonly used for the manufacture of lime or cement.

(c) Crude.

(b) Great Britain only. There is a small, undisclosed production in Northern Ireland.

Great Britain production of dolomite by end-use and area of origin 2004

Thousand tonnes

Area of origin	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
North East	3	2 818	434	15	3 270
Yorkshire and the Humber	3	...	28	...	2 988
East Midlands	...	...	71	588	2 768
South West	...	...	...	...	...
West Midlands	...	...	37	—	...
England	8	...	...	...	...
Wales	—	...	...	—	...
Scotland	—	...	...	—	...
Great Britain	8	10 832	...	...	12 226

(a) Data also included in table for 'Limestone'.

Source: Office for National Statistics.

(b) Including material for calcination.

Great Britain production of dolomite by end-use 1992–2004

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
1992	...	...	2 114	...	18 539
1993	14	15 394	999	1 578	17 985
1994	(c) 13	(c) 15 136	1 070	1 397	17 616
1995	14	(c) 15 236	...	...	17 966
1996	(c) 21	(c) 13 662	(c) 1 321	(c) 1 551	16 555
1997	(c) 10	14 465	...	...	17 282
1998	10	13 070	...	...	15 632
1999	14	11 833	...	...	13 698
2000	15	11 409	...	...	13 069
2001	34	12 381	...	...	14 314
2002	9	11 839	...	...	12 946
2003	7	10 391	...	...	...
2004	8	10 832	...	...	12 226

(a) Data also included in table for 'Limestone'.

Source: Office for National Statistics.

(b) Including material for calcination.

(c) BGS estimate.

England (d) production of dolomite by end-use 1992–2004

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
1992	...	...	...	1 397	...
1993	13	...	918	...	...
1994	(c) 13	...	...	...	...
1995	14	...	...	...	...
1996	(c) 21	...	1 230	...	...
1997	(c) 10	11 607	1 070	(c) 1 593	14 280
1998	...	11 289	...	...	13 723
1999	...	9 681	...	...	11 485
2000	15	9 509	...	...	11 120
2001	...	...	426	...	...
2002	9	...	543	...	...
2003	7	...	676	...	10 327
2004	8	...	...	...	...

(a) Data also included in table for 'Limestone'.

(d) Small amounts of dolomite are also produced in Wales and very minor amounts in Scotland.

(b) Including material for calcination.

(c) BGS estimate.

Source: Office for National Statistics.

Great Britain production of chalk by end-use and area of origin 2004

Thousand tonnes

Area of origin	Cement	Construc- tional use	Agricultural use	Industrial uses	Total
Humberside	743	472	...	...	...
North Yorkshire	—	...	...	—	...
Yorkshire and the Humber	743	...	23	...	2 917
Lincolnshire	—	...	...	...	...
East Midlands	—	...	...	...	...
Cambridgeshire	239	—	...	...	...
Norfolk	—	—	...	—	...
Suffolk	—	—	...	...	...
Essex	—	—	...	—	...
Hertfordshire	—	—	28	—	28
Bedfordshire	1 480	...	—	—	...
East of England	1 719	...	129	...	...
Berkshire	—	2	16	—	18
Buckinghamshire	—	—	...	—	...
East Sussex	—	—	—	...	...
Hampshire	—	...	...	—	...
Isle of Wight	—	14	5	—	20
Kent	1 900	3	39	—	1 941
Surrey	—	4	10	—	14
West Sussex	—	2	...	—	...
South East	1 900	...	124	...	2 057
Devon	—	...	...	...	...
Wiltshire	814	—	—	25	839
South West	814	...	...	...	...
Great Britain (England)	5 177	705	...	...	7 997

Source: Office for National Statistics.

England production of chalk by end-use 1992–2004

Thousand tonnes

Year	Cement	Construc- tional use	Agricultural use	Industrial uses	Total
1992	...	1 260	435	483	9 171
1993	(a) 5 839	914	466	(a) 1 858	9 076
1994	(a) 6 731	976	574	(a) 1 955	10 236
1995	(a) 6 343	828	...	488	9 949
1996	(a) 5 697	1 039	(a) 624	...	9 239
1997	(a) 6 157	768	590	...	9 550
1998	(a) 6 736	768	...	397	9 934
1999	(a) 6 345	1 021	...	...	9 667
2000	(a) 6 288	683	...	352	9 213
2001	5 111	925	...	...	8 205
2002	5 550	904	...	...	8 587
2003	5 360	561	...	...	8 066
2004	5 177	705	...	...	7 997

(a) BGS estimate.

Source: Office for National Statistics.

Lithium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Lithium										
<i>Imports</i>										
Oxide and hydroxide	376	374	409	554	498	973	1 222	1 129	1 435	950
Carbonate	779	499	626	687	490	1 197	851	889	1 037	808
<i>Exports</i>										
Oxide and hydroxide	116	95	186	169	285	346	663	440	397	287
Carbonate	285	214	147	193	159	623	296	197	323	236

Magnesia

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Magnesia										
<i>Imports</i>										
Dolomite	174 353	188 312	184 947	179 003	170 888	3 798	3 671	3 694	4 129	3 631
Magnesite	24 541	7 122	9 252	20 287	11 187	2 236	693	617	1 877	1 396
Magnesia–										
Dead burned	34 158	32 207	38 815	32 681	28 952	7 206	7 128	8 047	6 291	6 243
Caustic-calcined	82 680	73 952	46 708	35 217	38 708	8 101	7 065	5 924	6 322	5 549
Other	10 522	2 830	12 553	14 202	15 469	4 050	2 510	4 554	4 842	5 503
Kieserite	4 327	6 512	6 275	13 598	11 463	735	765	637	1 369	1 336
Magnesite or chrome-magnesite refractory bricks and shapes (a) (b)	69 081	83 447	85 491	77 411	50 165	8 914	6 632	15 347	18 986	19 658
<i>Exports</i>										
Dolomite (c)	112 875	131 073	104 126	35 804	24 736	4 947	4 653	4 393	1 677	1 271
Magnesite	89	78	337	34	49	85	41	94	19	58
Magnesia–										
Dead burned	632	1 044	3 300	4 304	3 504	170	310	1 574	1 988	1 827
Caustic-calcined	6 419	4 097	2 356	2 886	2 270	2 856	1 449	1 104	833	2 114
Other	36 784	34 882	20 804	19 058	18 440	17 537	16 322	13 752	14 302	13 864
Magnesite or chrome-magnesite refractory bricks and shapes (a) (b)	85 856	88 896	64 850	58 713	13 052	25 579	31 365	23 266	17 774	5 303

(a) Fired bricks and shapes only: unfired (chemically bonded) products excluded.

(b) Including dolomite bricks.
(c) Crude.

Magnesium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Magnesium										
<i>Consumption</i>										
Magnesium and alloys (a)	12 700	15 800	10 400	...	...					
<i>Imports</i>										
Ferro-silico-magnesium	6 965	5 318	5 820	5 663	4 862	3 790	3 007	2 697	3 010	2 367
Scrap	9 670	11 385	8 470	4 309	2 352	9 607	11 299	8 071	4 170	1 465
Unwrought	7 067	6 679	4 380	5 788	3 732	10 725	8 416	5 303	6 197	4 184
Unwrought alloys	3 261	2 247	1 979	2 229	5 737	3 859	2 800	2 361	2 702	6 429
Wrought	4 250	2 326	2 007	3 265	3 215	5 948	5 193	6 963	12 100	10 676
<i>Exports</i>										
Ferro-silico-magnesium	1 543	1 453	431	282	316	1 011	1 033	361	330	213
Scrap	108	169	146	23	181	122	229	133	25	173
Unwrought	...	341	77	862	375	385	478	146	1 656	589
Unwrought alloys	10 646	11 879	7 789	6 184	5 569	20 220	25 702	18 965	14 976	13 143
Wrought	667	339	552	1 054	268	2 941	2 444	2 934	3 821	2 680

(a) BGS estimates.

Manganese

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Manganese										
<i>Consumption in Iron and Steel Industry</i>										
Ore	35 700	3 800	4 300	—	6 400					
Ferro-manganese	105 910	90 910	77 480	93 750	95 490					
Ferro-silico-manganese	26 520	23 740	21 030	22 660	23 080					
<i>Apparent consumption (a)</i>	123 000	102 000	117 000	101 000	116 000					
<i>Imports</i>										
Ores and concentrates	2 956	2 701	1 218	2 102	2 585	942	534	598	740	1 140
Ferro-manganese	91 053	73 507	86 681	76 686	91 832	26 088	22 499	24 712	26 699	55 380
Ferro-silico-manganese	66 279	53 747	64 565	53 421	63 235	18 021	15 465	18 264	18 537	34 349
Scrap	217	220	23	—	—	156	205	13	—	—
Unwrought	7 880	8 926	7 229	7 949	8 898	6 163	7 437	5 669	5 671	8 309
Wrought	523	490	348	301	291	823	640	364	333	363
Oxides	5 795	5 344	6 053	7 759	5 807	3 939	1 868	1 282	1 800	1 625
<i>Exports</i>										
Ores and concentrates	290	714	208	220	105	559	382	402	485	271
Ferro-manganese	1 327	792	1 874	434	1 508	1 219	1 342	2 029	1 792	1 704
Ferro-silico-manganese	1 307	8	116	42	8 246	313	7	42	22	5 062
Scrap	38	1	—	—	62	118	1	—	—	24
Metal (b)	3 800	6 000	4 300	5 500	3 100	3 800	5 000	3 000	3 000	7 000
Oxides	394	1 146	279	4 820	3 198	763	492	348	793	1 054

(a) BGS estimates; see p.v.

(b) BGS estimates.

Marble

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Marble										
<i>Imports</i>										
Dimension stone—										
Unworked	29 015	9 985	12 708	18 565	29 890	7 709	7 727	8 855	11 930	14 651
Worked	32 425	64 637	48 237	60 473	69 876	23 668	28 291	32 555	40 413	46 688
Crushed and powdered	145 496	239 563	259 012	135 862	112 938	3 011	4 002	4 971	4 772	3 476
<i>Exports</i>										
Dimension stone—										
Unworked	8 668	4 140	4 853	6 203	2 362	501	770	585	447	200
Worked	839	526	946	1 072	1 636	1 407	1 456	1 893	3 320	3 725
Crushed and powdered	865	4 995	4 579	3 133	2 786	53	148	107	88	247

Mercury

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Mercury										
<i>Imports</i>										
Elemental	19	5	23	30	28	181	140	111	139	169
Oxide	1	0	0	0	0	7	20	10	3	4
<i>Exports</i>										
Elemental	3	17	6	1	3	71	65	68	50	59
Oxide	0	0	0	0	0	3	2	5	—	4

Mica

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Mica										
<i>Imports</i>										
Crude (a)	203	344	240	424	1 769	118	186	161	183	362
Ground	5 355	7 258	9 349	8 327	6 286	1 531	1 699	1 874	1 968	1 700
Waste	8 119	4 016	4 224	5 050	4 374	974	478	489	518	475
Worked	691	732	590	323	582	5 003	4 514	3 910	2 349	3 091
<i>Exports</i>										
Crude (a)	68	22	20	34	—	87	23	52	48	—
Ground	3 638	3 758	4 023	4 740	9 339	2 337	2 199	2 683	3 035	3 982
Waste	56	17	46	0	23	63	50	89	1	9
Worked	279	266	394	383	363	2 916	2 481	2 415	3 338	3 501

(a) Including sheets or splittings.

Molybdenum

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Molybdenum										
<i>Consumption in Iron and Steel Industry (a)</i>	2 240	2 010	1 800	2 080	2 120					
<i>Apparent consumption (a) (b)</i>	3 500	4 600	6 100	3 500	2 100					
<i>Imports</i>										
Roasted molybdenite concentrates	9 644	14 327	19 654	17 463	16 779	18 648	28 056	48 060	51 607	94 531
Other ores and concentrates	2 813	2 045	1 783	1 421	1 592	6 030	5 003	5 906	6 666	12 384
Ferro-molybdenum	490	351	338	434	836	1 304	1 041	1 545	2 395	6 862
Scrap	303	449	472	579	668	1 904	2 093	2 257	2 672	8 298
Powders	18	86	56	102	65	217	585	216	770	634
Unwrought	158	175	139	104	101	1 344	2 281	1 728	1 249	1 559
Wrought	366	455	553	384	1 020	7 192	10 655	8 533	5 916	6 727
Oxides and hydroxides	34	60	106	7	2	225	180	621	52	46
<i>Exports</i>										
Roasted molybdenite concentrates	181	213	351	32	106	398	451	907	160	1 246
Other ores and concentrates	136	83	67	52	74	422	285	244	189	318
Ferro-molybdenum	7 251	9 278	11 965	14 081	14 213	23 374	27 156	48 756	70 647	150 292
Scrap	21	167	64	82	116	161	778	416	654	1 672
Powders	13	55	46	1	17	354	598	395	6	269
Unwrought	5	26	10	23	26	54	186	106	181	375
Wrought	239	798	206	124	153	1 485	2 306	1 890	1 665	2 158
Oxides and hydroxides	7	7	11	7	86	54	58	65	63	1 106

(a) Metal content.

(b) BGS estimates; see p.v.

Nepheline syenite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002
	Tonnes					£ thousand		
Nepheline-syenite								
<i>Imports</i>	(a) 50 363	57 268	53 692	52 453	49 731	...	4 142	4 627
<i>Exports</i>	36	54	82	52	45	15	16	31

(a) Exports from Canada and Norway.

Nickel

Alba Mineral Resources carried out exploratory drilling and other activities over the Arthrath nickel-copper prospect in Aberdeenshire. This property was investigated by Exploration Ventures Ltd in the late 1960s and early 1970s as part of a regional exploration programme over all the large Ordovician basic intrusions in north-east Scotland. A number of holes were drilled at that time and extensive low-grade nickel-copper sulphide mineralisation was found. Alba have announced the results of their initial investigation which included an intersection of 109.7 metres at 0.26% Ni, 0.29% Cu and 0.019% Co from 17.3 m depth. Elevated levels of platinum group elements (PGE) and gold were also reported.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Nickel										
<i>Production</i> (a) (e)	37 976	33 820	33 790	26 788	38 606					
<i>Consumption</i> (b)										
Iron and steel industry	13 700	13 900	14 670	15 820	16 800					
Other (c)	21 200	41 900	24 200	16 500	15 700					
Total (d)	34 870	55 802	38 935	32 308	32 470					
<i>Imports</i>										
Matte, oxide sinter etc	54 768	51 963	52 514	43 968	64 192	156 260	131 751	122 987	133 282	237 464
Ash and residues	15	4	246	12	24	57	13	195	16	157
Scrap	22 644	14 963	25 270	20 038	8 695	26 571	19 571	28 359	22 109	22 344
Ferro-nickel	2 503	7 166	11 010	16 437	14 628	3 424	6 614	12 508	19 932	28 544
Unwrought	18 825	47 030	46 610	34 162	45 264	103 322	117 134	129 301	169 206	240 872
Unwrought alloys	2 095	2 788	1 868	31 491	2 238	15 919	23 788	14 129	151 620	16 763
Oxides	131	145	130	61	103	689	830	690	367	704
<i>Exports</i>										
Matte, oxide sinter etc	1 634	136	128	200	964	1 772	805	515	754	2 640
Ash and residues	13 648	7 843	8 110	787	18	22 682	13 409	14 954	1 392	74
Scrap	7 015	7 736	7 912	7 861	10 340	14 383	17 893	15 495	19 082	29 414
Ferro-nickel	9	104	368	424	125	80	138	538	1 124	756
Unwrought	21 678	21 670	19 775	19 200	38 245	116 445	104 050	86 918	95 233	236 527
Unwrought alloys	5 203	5 955	4 257	4 899	4 624	49 075	64 131	33 750	33 016	38 214
Oxides	1	1	17	13	10	6	29	97	40	114

(a) Nickel content of refinery products.

(b) Metal content.

(c) Not independently recorded; obtained by subtraction. Believed to include stocks.

(d) Including the nickel content of ferro-nickel and other smelter products.

(e) Following the increase in the nickel price in 2003, there have been a number of enquiries relating to nickel in northeast Scotland where two small sub-economic deposits were discovered in the late 1960s.

Niobium and tantalum

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Niobium and tantalum										
<i>Consumption in Iron and Steel Industry</i>										
Niobium (a)	430	380	350	410	420					
<i>Imports</i>										
Ores and concentrates	9	2	8	1	0	1 026	67	5	23	15
Ferro-niobium	1 548	1 261	1 029	1 148	1 236	8 206	8 853	6 502	6 246	6 132
Tantalum	979	1 610	3 480	842	223	122 081	133 549	106 350	76 281	57 461
Niobium (b)	129	192	132	116	103	3 677	4 431	2 553	2 331	2 917
<i>Exports</i>										
Ferro-niobium	107	280	46	59	47	975	660	224	499	373
Tantalum	569	395	280	278	50	72 265	78 838	79 636	55 155	11 643
Niobium (b)	24	31	...	55	21	558	812	674	631	525

(a) Metal content.

(b) Including rhenium.

Peat

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Thousand cubic metres				£ thousand					
Peat										
<i>Production</i>	1 626	1 814	973	2 008	1 262					
	Tonnes									
<i>Imports</i>										
Peat and agglomerated peat	407 226	414 833	441 213	520 464	512 650	24 512	25 620	26 787	28 572	28 965
<i>Exports</i>										
Peat and agglomerated peat	38 412	35 551	33 331	38 860	32 716	3 405	2 993	2 842	3 760	3 630

Perlite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes				£ thousand					
Perlite										
<i>Imports</i>	(a) 94 580	46 250	95 912	59 046	91 914	3 005	2 343	4 201	2 986	2 294
<i>Exports</i>	(a) 9 614	720	695	1 025	7 256	112	103	174	252	436

(a) Figure believed to be too high.

Petroleum and natural gas (also see Primary fuels)

Once again the price of crude oil was a major concern throughout the year. From just over \$40 per barrel at the beginning of January the price climbed to its yearly maximum of just over \$67 per barrel at the end of August after which it steadied somewhat (Figure 1). This represents a 225 per cent increase in price since January 2004. It is apparent from Figure 2 that the last few years have seen the maximum rates of increase after relative price stability through the 1990s and up to the end of 2003.

The post-consultation report for the Fifth Strategic Environmental Assessment (SEA5) was published in January 2005. The area of the report covered approximately 78 000 square kilometres of the East Shetland Platform, the Inner Moray Firth and the Inner and Outer Firth of Forth. Blocks in the area were subsequently included in the 23rd Offshore Oil and Gas Licensing Round (see below).

In February the UK and Norwegian governments announced that a Framework Treaty had been agreed for co-operation between the two countries. This would speed up the development of cross-border fields, construction of submarine pipelines and ensure optimal use of existing infrastructure.

In September the SEA6 report was published. This covered the area of the North Channel (between Scotland and Northern Ireland), the Firth of Clyde, most of the UK parts of the Irish Sea and Cardigan Bay. Public consultation closed on 31st January 2006.

During 2005 work started on the SEA7 area which comprises the UK designated area west of Scotland and extends several hundred kilometres from the Scottish coast into the North Atlantic Ocean and from the UK–Faroe Islands median line in the north to the UK–Irish median line in the south.

Details of data specifically acquired for the SEAs programme can be accessed through the UK DEAL website (www.ukdeal.co.uk). Downloadable files of the SEA reports can be accessed at www.offshore-sea.org.uk.

The UK DEAL Data Registry continued to develop in 2005. In particular, UKOOA commissioned a new feature illustrating pipeline systems where spare capacity could be made available, complying with the Industry Code of Practice (ICOP). This allows potential developers of new fields to identify appropriate infrastructure and negotiate fluid transportation with a third party.



Figure 1. The price of a barrel of Brent crude through 2005. The price peaked at over \$67 per barrel at the end of August.

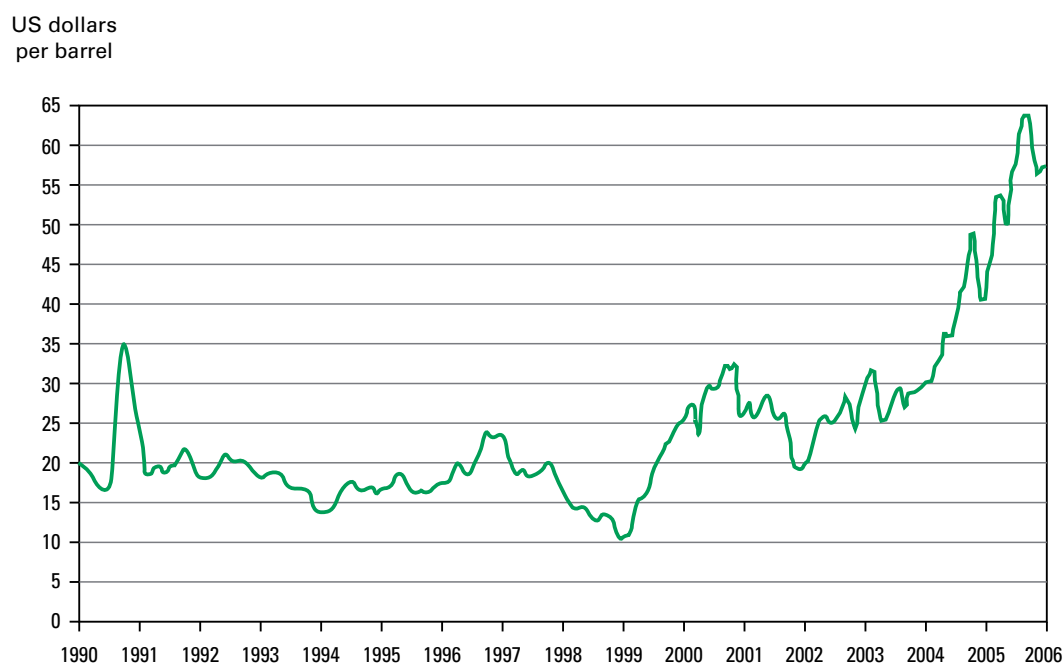


Figure 2. The price of a barrel of Brent crude. A rapid escalation in price has occurred since the start of 2004.

Another major development was the implementation of an entitlements system where registered oil company users could view their own data catalogues, submitted under DTI's Petroleum Operations Notice 9 (PON9) regulations. The DTI has a view of the whole data catalogue. Each oil company PON9 co-ordinator can now create a user ID and role for each member of their company directly.

In addition, the CDA (UKOOA) members' database of seismic navigation data was implemented. Layers of solid geology and bathymetry were also added to DEAL.

In July the DTI published updated figures (to the end of 2004) for UK ranges of hydrocarbon reserves and undiscovered resources. These were based on data provided by companies in January and February 2005 and included both onshore and offshore areas. The total UK reserves (including potential additional reserves and undiscovered resources) were estimated to be in the range 1002 – 1879 – 3611 million tonnes of oil (a slight increase on the previous year) and 888 – 1476 – 2666 billion cubic metres (bcm) of gas (a slight decrease). Cumulative production to date is 3005 million tonnes of oil and 1921 bcm of gas.

The annual economic report from the UK Offshore Operators Association (UKOOA), released in July, suggested that the UK will become increasingly dependent on oil and gas for its energy needs over the next ten to 15 years. Investment would have to be maintained at the current rate so that, by 2020, the UK was still able to produce 65 per cent of its total oil requirements and 25 per cent of gas requirements. The DTI predicted that, on an annual basis, gas import dependency might rise to 40 per cent by 2010–2011.

In November UKOOA released its revised forecast of capital expenditure on the UKCS for 2005 up from £3.8 billion in January to £4.5 billion with total spend for the year (which includes operation and exploration expenditure) being in the region of £11 billion. This is the highest level for seven years. Operating costs were also at a record level, up by £300 million compared with 2004 to £5 billion.

In December the Chancellor, in his pre-budget statement, announced an increase in Corporation Tax on UK oil and gas producers. This would raise the rate at which the industry pays Corporation Tax to 50 per cent. This unexpected extra tax burden was received with some dismay by UKOOA who estimated it would take an extra £6.5 billion out of the industry over the next three years at a time when the Treasury would already receive £11 billion in tax revenues from North Sea producers in 2005, double the amount paid in 2004.

Development and production

Twenty-one development wells were spudded onshore in 2005 compared with 14 in 2004. This is the first time in three years that the number has increased.

Similarly, the downward trend of offshore development wells being spudded was also reversed with 227 wells being started in 2005 compared with 166 in 2004 and 204 in 2003. The most active areas were the Central and Northern North Sea where 77 per cent of all development wells were drilled in 2005.

No new oil or gas fields were approved for development onshore in 2005. Offshore there were 13 new approvals:

Name of field	Field type	Block number	Operator at time of approval	When approved
Wood	Oil	22/18	Paladin	May
Blane (UK)	Oil	30/3a	Paladin	June
Enoch (UK)	Oil	16/13a	Paladin	June
Brenda	Oil	15/25b	Oilexco	November
Chestnut	Oil	22/2a	Venture	November
Maria	Oil	16/29a	BG	December
Forvie North	Condensate	3/15	Total	March
Munro	Gas	44/17b	ConocoPhillips	March
Cutter	Gas	49/9d	Shell	June
Garrow	Gas	43/21	ATP	July
Kilmar	Gas	43/22	ATP	July
Cavendish	Gas	43/19	RWE Data	August
Hunter	Gas	44/23	Caledonia	September

In the period from the beginning of January 1976 to the end of December 2005 there have been 157 oilfield, 122 gasfield and 29 condensate-field approvals.

The Elgin field in the Central North Sea was the biggest oil producing field on the UKCS in 2005. The reservoir here is Upper Jurassic sandstone. The Forties, Schiehallion, Alba and Foinaven fields were the next four biggest producers. Notably, all these produced from much younger Palaeogene reservoirs and two of them, Schiehallion and Foinaven, are located west of Shetland. Wytch Farm in Dorset was again the biggest onshore producing oilfield. This produced far more than the combined production from all other onshore fields.

The largest gas producing field was Morecambe South, followed by Leman, Nuggets, Sean and Morecambe North.

Several new oil and gas fields came on stream in 2005:

Field name	Field type	Discovery well	Date on stream	Operator
Brechin	Oil	22/23a-7	June	Paladin
Carnoustie	Oil	22/17-T2	February	Talisman
Clair	Oil	206/8-1A	February	BP
Farragon	Oil	16/28-17	November	BP
Gadwall	Oil	21/19-6	April	Venture
Pict	Oil	21/23b-1	June	Petro
Canada				
Rhum	Oil	3/29a-2	December	BP
Annabel	Gas	48/10a-12	April	Venture
Forvie	Gas	3/15-9a	December	Total
Horne	Gas	53/3c-3	June	Tullow
Munro	Gas	44/17b-7	August	BG
Saturn	Gas	48/10b-3	September	
ConocoPhillips Wren	Gas	53/3c-6	June	Tullow

The highlight was undoubtedly BP's giant Clair field situated approximately 75 km west of Shetland. The field was originally discovered in 1977 but development was delayed by technical and economic reasons. By the end of 2005 over 4.83 million barrels of oil and 1.31 billion cubic feet of gas had been produced from the field. It is estimated that 250 million barrels of oil are recoverable from the first part (Phase I) of the field development.

Decommissioning of surface installations associated with exhausted fields is becoming more common and is often an enormous undertaking. For example, Shell's Indefatigable gasfield in the southern North Sea, which came on stream in October 1971, is approaching the end of its economic life. Twenty-six wells, 21 km of pipelines within the immediate field area and five platforms will have to be dismantled and/or made safe. The platform weights, when installed, exceeded 13 500 tonnes. Other fields where decommissioning is planned are BP's North-west Hutton and Total's Frigg (UK part).

Exploration

Six onshore exploration wells were started in 2005, twice the number for 2004 and the highest since 2002. Two appraisal wells were also drilled (zero in 2004). However no onshore discoveries were made in 2005 and none have been made since the Avington 2 (Hampshire) discovery well in 2003.

Offshore, 41 exploration wells were spudded (the highest number since 1998) with 25 being in the Central North Sea. None was started west of Shetland for the first time in many years. There were seven significant discoveries:

Well	Hydrocarbon type	Operator at time of discovery	Date of discovery
13/23b-5Z	Oil	Talisman	September
21/5a-6	Oil	ConocoPhillips	November
21/5a-6Z	Oil	ConocoPhillips	November
22/6a-14Z	Oil	Apache	July
22/15-3	Oil/Gas	BG	December
43/25a-2W	Gas	GdF	May
44/23b-11	Gas	ConocoPhillips	September

BG, Century, Nexen and Talisman drilled more exploration wells than other companies, followed closely by Apache, Burlington and ConocoPhillips. The Finlaggan discovery (well 21/5a-6Z) proved a 169 ft hydrocarbon column in Lower Cretaceous sands. Thirty-seven appraisal wells (the highest number since 1996) were spudded, 21 of which were in the Central North Sea.

Licensing

In January the DTI published a new listing of fallow blocks and discoveries. This sixth release added 67 new fallow blocks and 23 new fallow discoveries to the list. The idea of this ongoing process is to force companies to either explore further, develop or relinquish acreage which they hold but on which they have not undertaken significant recent work.

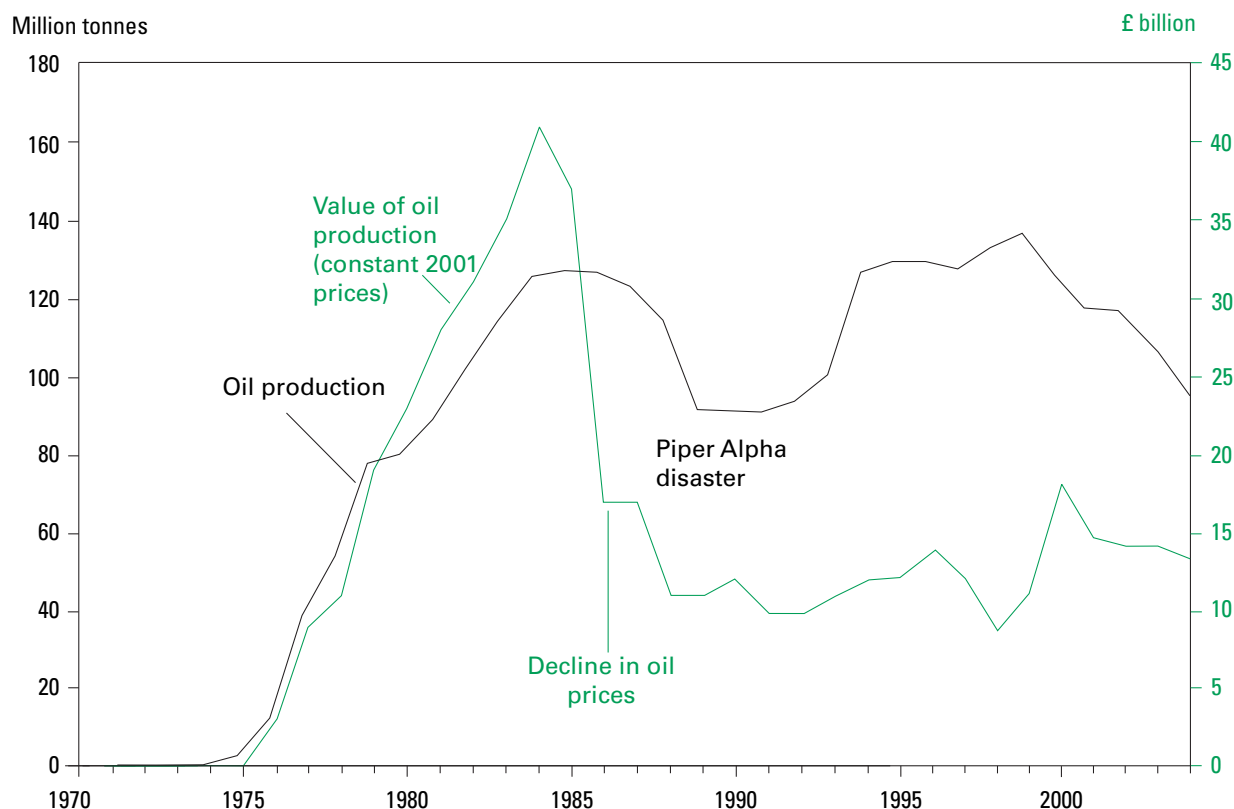
In March the DTI announced that a total of 1329 blocks would be open for companies to apply for licences in the 23rd Offshore Oil and Gas Licensing Round. This would include the whole of the North Sea and the west of Shetland area. 'Frontier' licences would be available in the west of Shetland area and 'promote' licences elsewhere in the North Sea. These two licence types include additional incentives to find oil and gas in new regions. Traditional licences would be available everywhere. Applications should be lodged by 9th June.

A total of 134 applications was received (seven frontier, 60 promote and 67 traditional) for 279 blocks. This involved 114 companies of which 28 were new applicants to the North Sea. Following interviews with the companies, and some rationalisation of the applications, the results of the round were announced in September. A record 152 licences (six frontier, 76 promote and 70 traditional) for 264 blocks were offered to 99 companies, 24 of which were new to the North Sea. The previous highest number of licences offered in a round was 118 in the 4th offshore round in 1972. Hence the 23rd round was regarded as a great success although firm commitments had only been received for 17 wells.

The year also saw 102 offshore licences, affecting 140 blocks or part blocks, surrendered either on a voluntary or mandatory basis.

There was no onshore licence round in 2005 as the DTI commenced a Strategic Environmental Assessment of the possible onshore hydrocarbon prospective areas of the UK. An announcement concerning the start of the next (13th) onshore round is planned for late Summer or Autumn 2006.

United Kingdom production and value of oil, including condensate 1970–2004



United Kingdom production of onshore crude petroleum and natural gas by fields 1993–2004

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Oil fields												
	Thousand tonnes											
Beckingham W	1	1	1	1	1	1	1	1	1	1	1	1
Cold Hanworth	—	—	—	—	—	2	2	1	4	13	20	15
Crosby Warren	6	4	2	3	4	4	1	0	3	3	3	2
Farleys Wood	2	2	2	0	0	1	0	0	0	0	0	0
Fiskerton Airfield	—	—	—	—	—	1	19	18	5	1	0	0
Glentworth E	1	1	1	1	1	2	2	1	1	1	1	2
Goodworth	—	—	—	—	1	3	2	2	2	2	2	2
Herriard	2	2	4	3	2	1	1	1	—	1	2	1
Hordean	20	16	19	17	15	14	13	10	9	8	11	9
Humbly Grove	52	48	51	36	37	29	24	14	16	11	13	15
Keddington	—	—	—	—	—	2	5	3	1	1	2	2
Kirklington	—	—	0	0	0	0	—	—	—	—	1	0
Long Clawson	8	7	7	8	8	9	10	9	8	9	9	9
Nettleham	4	3	1	1	6	9	7	5	3	3	4	3
Newton-on-Trent	—	—	—	—	—	—	2	1	0	0	0	0
Palmers Wood	45	38	37	24	23	19	10	10	12	15	11	7
Rempstone	2	2	5	3	3	2	2	1	1	1	1	1
Scampton	—	—	—	1	2	0	0	0	0	0	0	0
Scampton N	12	8	8	13	17	12	11	11	11	10	9	9
Singleton	39	34	35	36	36	27	21	21	23	22	20	22
Stainton	2	1	1	1	1	1	0	1	1	1	1	1
Stockbridge	41	78	92	86	79	110	87	42	42	37	36	38
Storrington	—	—	—	—	—	14	15	8	4	20	21	20
Wareham	77	66	56	42	32	20	21	15	19	9	6	9
Welton	132	138	127	153	150	123	90	87	77	64	58	54
West Firsby	16	12	14	26	27	17	10	8	5	6	4	5
Whisby	4	4	4	1	0	0	0	0	0	0	5	9
Wyth Farm	3 210	4 123	4 543	4 730	4 481	4 690	3 867	2 919	2 656	2 381	1 915	1 649
Other	61	61	58	53	23	51	44	42	39	34	32	38
Total	3 737	4 649	5 067	5 240	4 949	5 161	4 269	3 234	2 944	2 652	2 186	1 924
Gas fields												
	Million cubic metres											
Wyth Farm	120	161	182	245	242	156	149	111	115	108	82	73
Others	107	80	140	137	146	179	140	106	91	65	90	49
Total (a) (b)	227	241	322	382	388	335	289	217	205	173	172	122

(a) Gross production, i.e. includes own use for drilling purposes, production and pumping operations, but excludes gas flared and vented.

(b) Other than colliery methane.

Source: Department of Trade and Industry.

United Kingdom production of offshore crude petroleum and natural gas by fields 1993–2004

	Thousand tonnes											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Oil fields												
Alba	—	2 300	3 772	3 808	4 850	4 381	3 993	4 156	4 319	3 329	4 501	3 645
Alwyn N	2 891	1 943	1 391	1 066	966	1 078	1 093	891	808	704	551	445
Andrew	—	—	—	856	2 798	3 244	3 298	2 540	1 856	1 542	1 250	865
Angus	211	—	—	—	—	—	—	—	168	323	112	85
Arbroath	1 568	1 503	1 662	1 452	1 109	1 115	1 100	931	778	675	519	589
Ardmore	—	—	—	—	—	—	—	—	—	—	181	404
Arkwright	—	—	—	65	462	300	185	261	253	227	272	202
Auk	399	528	607	458	647	784	621	558	392	421	366	308
Balmoral	1 011	805	637	410	467	392	354	275	292	219	185	94
Banff	—	—	—	380	278	—	1 102	711	834	546	665	432
Beatrice	605	537	473	438	151	365	194	137	97	357	270	212
Beaulieu	—	—	—	—	—	—	—	—	480	394	213	94
Beinn	112	212	391	389	286	214	116	30	47	93	75	61
Beryl	4 631	4 159	4 426	4 234	3 748	2 961	2 296	1 621	1 541	1 559	1 356	1 198
Birch	—	—	286	1 025	768	500	226	94	101	0	9	173
Bittern	—	—	—	—	—	—	—	1 150	2 404	2 346	2 330	2 103
Bladon	—	—	—	—	108	283	145	32	—	—	—	—
Blake	—	—	—	—	—	—	—	—	1 024	2 024	1 733	1 565
Blenheim	—	—	1 044	846	399	219	141	38	—	—	—	—
Brae Central	556	518	487	406	385	475	288	242	169	183	227	206
Brae E	17	2 637	3 323	2 739	2 074	1 459	1 192	837	593	374	269	209
Brae N	1 134	876	542	468	363	412	335	280	262	228	250	166
Brae S	459	521	533	522	443	412	268	250	275	208	143	183
Brae W/Sedgwick	—	—	—	—	159	1 627	1 505	1 633	1 435	1 159	883	744
Braemar	—	—	—	—	—	—	—	—	—	—	46	245
Brent	10 906	9 495	9 205	9 468	6 264	6 054	4 536	3 538	2 843	1 925	1 122	766
Brimmond	—	—	—	18	60	80	48	48	31	34	16	8
Britannia	—	—	—	—	—	555	1 848	1 618	1 319	1 032	998	899
Broom	—	—	—	—	—	—	—	—	—	—	—	480
Bruce	853	2 090	1 713	1 705	1 289	898	1 845	1 647	1 448	1 328	1 212	744
Buchan	515	602	492	536	445	402	344	351	385	348	340	366
Buckland	—	—	—	—	—	—	474	1 601	1 141	643	566	373
Caledonia	—	—	—	—	—	—	—	—	—	—	406	244
Captain	—	—	—	—	1 461	2 836	2 525	2 458	3 107	3 109	2 974	3 580
Chanter	191	67	92	103	48	15	7	8	6	4	2	4
Clapham	—	—	—	—	—	—	—	—	—	—	0	416
Claymore	2 355	2 235	2 258	2 154	2 096	1 818	1 658	1 564	1 411	1 425	1 268	1 394
Clyde	976	761	797	666	698	638	586	450	400	348	297	287
Columba B & D	—	102	288	579	511	319	243	538	931	543	481	558
Columba E	—	—	—	—	—	217	170	153	136	112	73	296
Cook	—	—	—	—	—	—	—	406	876	796	544	531
Cormorant N	1 706	2 128	2 074	1 470	1 477	1 638	1 541	1 513	1 469	1 110	923	659
Cormorant S	685	909	810	968	1 012	820	1 023	915	626	597	395	171
Curlew	—	—	—	—	86	1 438	1 508	817	386	218	214	179
Cyrus	—	—	—	203	603	541	402	253	181	190	141	119
Dauntless	—	—	—	—	197	308	38	—	—	—	—	—
Deveron	58	46	55	58	26	52	40	10	11	19	19	24
Don	202	207	234	169	108	100	89	69	45	19	2	0
Donan	486	421	357	283	193	—	—	—	—	—	—	—
Douglas	—	—	—	768	1 604	1 324	937	779	1 118	918	645	526
Douglas W	—	—	—	—	—	—	—	—	—	—	205	100
Drake	—	—	—	—	80	282	317	261	226	193	75	47
Dunbar	—	41	1 822	2 408	2 491	2 101	1 886	1 627	1 440	1 540	1 093	859
Dunlin	1 124	1 040	961	755	807	643	627	525	574	468	308	181
Dunlin SW	—	—	—	259	197	236	232	109	88	84	54	33
Durward	—	—	—	—	273	589	45	—	—	—	—	—
Egret	—	—	—	—	—	—	383	214	95	115	65	282
Eider	1 554	1 224	908	815	654	616	601	356	242	216	170	133
Elgin	—	—	—	—	—	—	—	—	1 974	4 146	4 502	3 622
Ellon	—	6	98	140	377	283	129	152	77	46	57	23
Emerald	899	633	423	41	—	—	—	—	—	—	—	—
Erskine	—	—	—	—	4	791	883	82	837	973	816	665
Everest	138	232	262	277	313	286	235	203	230	238	245	207
Fergus	—	—	—	249	562	276	161	81	57	48	60	75
Fife	—	—	745	1 624	1 077	820	362	585	449	539	490	294
Fleming	—	—	—	—	93	507	477	424	367	300	237	216
Flora	—	—	—	—	—	152	506	495	278	168	139	124
Foinaven	—	—	—	—	252	3 691	4 262	4 588	4 419	5 358	4 085	3 521
Forties	5 841	6 044	5 252	5 140	4 109	3 998	3 227	2 720	2 828	2 624	2 038	2 679
Franklin	—	—	—	—	—	—	—	—	199	1 006	1 175	1 621
Fulmar	2 623	1 955	1 242	1 040	547	468	373	228	172	165	134	100
Galley	—	—	—	—	—	946	1 333	1 602	1 099	795	573	456
Gannet A	19	587	956	1 315	1 192	1 015	866	711	553	562	380	359
Gannet B	85	87	148	97	58	35	29	29	51	72	110	82
Gannet C	1 295	1 423	1 573	1 640	1 151	919	688	390	417	310	208	175
Gannet D	320	310	303	389	437	467	359	478	538	320	339	231
Gannet E	—	—	—	—	—	644	366	369	383	446	657	488
Gannet F	—	—	—	—	327	464	327	208	148	114	75	50
Gannet G	—	—	—	—	—	—	261	697	317	232	188	134
Glamis	226	346	152	72	50	47	36	21	16	14	14	9
Grant	—	—	—	—	—	138	257	217	171	143	133	99
Gryphon	222	1 702	2 204	1 879	1 542	1 348	1 094	904	962	566	456	574
Guillemot A	—	—	—	249	1 026	688	420	283	213	326	344	334
Guillemot NW	—	—	—	—	—	—	—	20	13	216	194	150
Guillemot W	—	—	—	—	—	—	—	329	467	482	509	407
Halley	—	—	—	—	—	—	—	—	—	175	141	130
Hamish	13	23	5	3	17	10	8	6	3	0	0	3
Hannay	—	—	—	—	—	—	—	—	—	149	194	209

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1993–2004 *continued*

	Thousand tonnes											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Oil fields <i>continued</i>												
Harding	—	—	—	1 930	3 860	4 655	4 281	4 328	3 178	3 192	2 536	2 024
Hawkins	—	—	—	—	—	—	—	—	—	17	91	57
Heather	375	341	295	285	251	225	204	191	222	203	183	117
Heron	—	—	—	—	—	—	2 369	2 466	1 604	939	678	326
Highlander	419	415	307	272	149	188	102	160	166	144	105	96
Howe	—	—	—	—	—	—	—	—	—	—	—	65
Hudson	820	1 461	1 504	1 516	1 595	400	1 245	1 227	981	803	709	613
Hutton	1 078	1 227	1 186	901	787	581	558	414	147	0	—	—
Hutton NW	511	347	340	296	308	262	295	83	113	30	0	—
Iona	—	—	—	—	28	13	77	53	24	9	2	0
Ivanhoe	1 343	882	619	520	401	282	239	327	309	349	186	100
Jade	—	—	—	—	—	—	—	—	—	507	845	760
James	—	—	—	—	—	—	—	—	—	—	—	53
Janice	—	—	—	—	—	—	1 713	1 351	1 019	720	574	495
Joanne	—	—	40	258	1 200	1 249	924	537	401	385	243	152
Judy	—	—	27	99	651	755	532	428	525	594	810	627
Keith	—	—	—	—	—	—	—	59	293	152	132	106
Kestrel	—	—	—	—	—	—	—	—	51	221	326	161
Kingfisher	—	—	—	—	211	1 315	988	804	874	608	403	257
Kittiwake	1 400	1 507	1 365	1 056	629	444	228	157	33	54	113	88
Kyle	—	—	—	—	—	—	—	—	515	439	328	193
Larch	—	—	—	—	—	169	14	73	170	411	106	64
Leadon	—	—	—	—	—	—	—	—	158	971	578	425
Lennox	—	—	—	105	454	894	857	1 376	1 798	1 697	1 573	1 236
Leven	224	76	83	59	83	42	37	125	90	57	52	156
Lomond	67	194	152	181	198	207	182	186	166	160	147	150
Loyal	—	—	—	—	—	98	931	1 190	925	990	893	680
Lyell	471	775	449	433	278	215	146	116	117	88	36	118
MacCulloch	—	—	—	—	583	2 001	1 755	1 354	1 087	1 442	1 409	1 318
Machar	—	625	839	444	—	396	1 733	1 496	1 310	756	433	686
Maclure	—	—	—	—	—	—	—	—	—	264	475	514
Madoes	—	—	—	—	—	—	—	—	—	36	1 018	1 140
Magnus	6 711	6 812	5 362	4 546	3 091	3 148	3 046	2 924	2 214	1 902	1 852	1 745
Magnus S	—	—	—	235	383	435	482	311	256	150	249	209
Mallard	—	—	—	—	—	148	701	459	244	219	157	69
Marnock	—	—	—	—	—	12	747	982	656	503	308	190
Maureen	874	762	516	447	495	474	173	—	—	—	—	—
Medwin	—	84	53	7	0	0	0	0	0	0	0	0
Merlin	—	—	—	—	75	677	1 001	619	429	302	276	96
Miller	5 743	6 360	6 422	6 467	5 195	3 441	2 732	2 057	1 383	947	409	514
Mirren	—	—	—	—	—	—	—	—	—	79	431	270
Moir	56	55	39	29	17	12	3	—	—	—	—	—
Monan	—	—	—	—	—	75	560	163	87	34	26	31
Montrose	87	171	128	90	62	64	55	37	34	16	19	38
Mungo	—	—	—	—	—	706	1 876	2 440	2 534	2 343	1 930	1 694
Murchison UK	819	644	535	681	806	792	744	495	411	309	338	267
Nelson	—	5 123	6 869	7 082	5 603	4 695	4 515	4 089	2 913	3 907	3 279	2 255
Ness	292	175	92	80	171	104	123	41	134	117	94	9
Nethan	—	—	—	—	—	—	—	—	—	—	—	14
Nevis	—	—	—	184	744	1 084	1 595	1 447	1 146	942	971	947
Ninian	3 280	3 236	2 764	2 423	2 367	2 197	2 054	1 723	1 764	1 510	1 448	1 238
Orion	—	—	—	—	—	—	137	322	263	211	172	150
Osprey	1 649	1 251	1 420	1 299	1 204	764	618	295	450	292	116	148
Otter	—	—	—	—	—	—	—	—	—	96	1 081	1 278
Pelican	—	—	—	1 403	1 269	1 282	1 075	717	462	551	345	221
Penguin E	—	—	—	—	—	—	—	—	—	—	660	738
Penguin W	—	—	—	—	—	—	—	—	—	—	91	140
Petronella	448	428	297	137	119	123	52	61	79	106	81	73
Pierce	—	—	—	—	—	—	1 416	2 508	1 793	1 418	1 105	773
Piper	2 604	3 811	4 027	3 148	2 416	1 951	1 490	1 156	957	813	670	567
Playfair	—	—	—	—	—	—	—	—	—	—	—	42
Renee	—	—	—	—	—	—	715	240	44	62	45	41
Rob Roy	1 743	1 889	1 413	1 076	570	289	272	180	185	152	104	105
Ross	—	—	—	—	—	—	761	1 208	459	483	330	267
Rubie	—	—	—	—	—	—	185	346	215	191	162	141
Saltire	698	1 821	1 763	1 831	1 908	1 335	757	479	360	311	166	109
Scapa	1 353	1 171	847	947	915	770	638	444	370	329	377	300
Schiehallion	—	—	—	—	—	1 100	4 183	5 073	4 780	5 061	5 161	4 795
Scoter	—	—	—	—	—	—	—	—	—	—	0	180
Scott	1 547	8 048	8 769	7 037	5 569	4 531	4 017	2 771	2 162	1 889	1 264	1 127
Seymour	—	—	—	—	—	—	—	—	—	—	100	114
Shearwater	—	—	—	—	—	—	—	82	650	2 299	2 353	2 568
Skene	—	—	—	—	—	—	—	—	7	329	259	192
Skua	—	—	—	—	—	—	—	—	195	634	290	217
Staffa	152	93	—	—	—	—	—	—	—	—	—	—
Stafford UK	3 806	4 528	3 931	3 424	3 581	2 346	1 768	1 187	797	702	613	897
Stirling	—	—	61	42	37	9	16	17	28	25	25	15
Strathspey	—	1 408	1 686	1 499	1 331	1 006	643	414	352	530	419	464
Sycamore	—	—	—	—	—	—	—	—	—	—	358	134
Tartan	318	580	453	475	333	332	272	240	177	155	133	170
Teal	—	—	—	—	1 091	1 123	1 216	1 511	1 040	543	289	222
Teal S	—	—	—	44	268	122	136	79	86	42	77	32
Telford	—	—	—	104	1 519	1 521	1 014	1 092	1 141	1 128	853	628
Tern	3 323	3 668	3 326	2 781	2 593	2 287	2 125	1 803	1 681	1 370	1 043	780
Thelma	—	—	—	165	1 309	1 051	905	773	669	324	272	283
Thistle	876	724	665	536	430	363	305	288	191	252	219	172
Tiffany	197	1 751	1 802	1 764	1 205	762	425	275	190	143	129	109
Toni	15	602	1 331	1 057	684	794	655	467	383	378	519	258
Tullich	—	—	—	—	—	—	—	—	—	254	646	452
Other	28	83	—	—	94	—	—	202	—	—	—	—
Total	90 213	114 383	115 096	116 500	115 395	119 049	124 886	114 830	106 547	105 369	96 811	86 784

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1993–2004 *continued*

	Million cubic metres											
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gas fields												
Alison	—	—	31	128	91	97	18	53	55	39	81	51
Alwyn N (h)	3 100	2 508	1 876	1 829	2 039	1 730	1 608	1 288	832	1 272	1 254	961
Amethyst E	1 338	1 048	991	1 416	848	870	724	612	527	297	392	191
Amethyst W	400	451	312	421	515	423	262	471	643	509	469	257
Anglia	545	532	615	439	284	391	296	383	294	209	225	163
Ann	153	488	399	428	270	140	166	160	85	33	98	74
Apollo	—	—	—	—	—	—	—	—	—	—	319	711
Audrey	1 943	1 458	1 179	1 197	1 171	729	531	624	523	172	250	235
Bains	—	—	—	—	—	—	—	—	—	109	505	330
Baird	24	193	219	459	435	374	311	138	228	214	274	274
Barque	952	788	577	1 829	2 244	1 503	1 327	2 190	1 823	910	1 003	654
Barque S	—	—	6	—	8	2	0	0	0	0	0	0
Beaufort	—	—	—	—	—	—	—	—	1	—	—	—
Bell	—	—	—	—	—	—	344	941	662	673	389	124
Besemer	—	—	139	777	812	735	692	1 204	391	208	128	101
Boulton	—	—	—	—	—	925	459	587	299	607	713	607
Boulton H	—	—	—	—	—	—	—	—	—	—	—	140
Boyle	—	—	—	—	—	—	—	—	—	143	456	349
Brigantine A	—	—	—	—	—	—	—	—	637	597	639	415
Brigantine B	—	—	—	—	—	—	—	—	573	428	166	157
Brigantine C	—	—	—	—	—	—	—	—	—	344	655	347
Brigantine D	—	—	—	—	—	—	—	—	—	0	5	28
Brown	—	—	—	—	—	(d)	(d)	(d)	(d) 118	39	0	0
Bruce (h)	1 720	4 481	5 175	6 577	5 613	4 959	5 164	5 678	6 264	6 277	6 195	4 748
Bure	139	103	58	55	42	64	12	35	21	18	15	2
Bure W	—	—	—	—	—	22	124	157	128	105	71	53
Caister Bunter	16	269	388	295	343	235	315	306	375	232	98	56
Caister Carboniferous	179	646	745	649	642	364	390	257	130	112	176	118
Callisto	—	—	102	254	254	199	104	24	86	95	69	53
Callisto N	—	—	—	—	—	—	—	16	119	69	40	7
Camelot C & S	371	420	526	403	846	563	187	206	150	114	52	30
Camelot N	55	88	246	84	49	30	1	—	11	0	3	0
Camelot NE	107	117	10	204	58	2	—	—	—	—	—	—
Captain (h)	—	—	—	—	—	—	—	—	71	72	56	76
Carrack	—	—	—	—	—	—	—	—	—	—	75	1 220
CATS (g)	941	1 985	1 941	2 334	4 429	10 126	13 605	13 618	13 038	14 253	14 972	13 812
Cleeton	893	897	997	1 587	1 466	472	5	—	—	—	—	—
Clipper	880	954	621	1 190	1 152	669	598	1 101	903	459	409	247
Corvette	—	—	—	—	—	—	1 782	1 048	517	154	129	471
Dalton	—	—	—	—	—	—	267	471	32	2	110	121
Davy	—	—	197	930	806	(d) 719	(d) 908	(d) 881	(d) 381	109	66	157
Davy N	—	—	—	—	—	—	—	—	75	437	225	141
Dawn	—	—	1	170	92	94	102	29	0	0	0	0
Deben	—	—	—	—	—	66	240	93	28	13	11	6
Delilah	—	—	—	—	—	42	103	100	87	68	34	0
Dunbar (h)	—	23	954	1 371	1 359	1 121	1 133	1 216	1 229	1 476	1 243	1 089
Ellon (h)	—	26	337	521	791	448	162	129	188	116	179	43
Europa	—	—	—	—	—	—	—	322	451	271	220	148
Esmond	403	233	36	—	—	—	—	—	—	—	—	—
Excalibur	—	232	811	876	599	681	552	453	427	365	269	224
FLAGS (e)	6 482	6 430	6 214	6 459	6 948	7 417	7 596	(k) 10 307	(k) 11 651	(k) 10 578	(k) 7 890	(k) 7 528
Forbes	2	—	—	—	—	—	—	—	—	—	—	—
Frigg (UK) (h)	541	863	474	466	191	511	253	367	463	415	457	495
Fulmar (f)	1 103	1 456	1 854	1 716	1 505	1 890	2 104	(k)	(k)	(k)	(k)	(k)
Galahad	—	—	106	456	707	509	431	344	337	259	211	175
Galleon	—	270	518	1 398	1 501	1 493	1 168	1 677	1 635	1 311	1 336	1 539
Galley (h)	—	—	—	—	—	257	410	460	230	122	-6	-14
Ganymede	—	—	532	1 708	1 655	947	669	197	384	326	285	229
Gawain	—	—	92	929	820	798	666	694	690	579	345	141
Gordon	157	203	22	—	—	—	—	—	—	—	—	—
Grant (h)	—	—	—	—	—	322	672	675	557	563	549	355
Guinevere	144	311	358	243	271	227	232	222	138	154	96	79
Hamilton	—	—	—	—	1 176	1 752	1 416	1 685	1 933	1 536	1 833	1 370
Hamilton E	—	—	—	—	—	—	—	—	167	503	354	216
Hamilton N	—	—	—	625	667	546	454	543	553	368	566	428
Hawksley	—	—	—	—	—	—	—	—	—	489	610	290
Helvellyn	—	—	—	—	—	—	—	—	—	—	—	255
Hewett & Della	2 164	1 671	1 290	2 188	1 301	1 324	1 133	1 484	1 211	818	593	475
Hoton	—	—	—	—	—	—	—	—	7	420	370	271
Hyde	171	415	346	357	284	291	259	219	195	163	152	127
Indefatigable	2 773	1 245	1 133	2 139	1 507	2 055	1 345	1 197	1 310	1 110	769	801
Indefatigable SW	—	—	63	242	210	179	198	126	188	145	74	62
Ivanhoe & Rob Roy (h)	221	237	159	152	79	38	48	15	22	12	-2	10
Johnston	—	136	543	585	469	327	540	667	414	273	387	461
Keith (h)	—	—	—	—	—	—	—	12	79	50	45	47
Ketch	—	—	—	—	—	—	297	1 233	819	549	478	317
KX	—	—	27	81	60	62	52	46	58	55	50	48
Lancelot	495	888	868	685	621	557	761	696	495	504	414	339
Leman	4 874	3 584	4 049	3 468	3 013	4 740	3 060	3 957	3 835	3 061	3 009	3 178
Malory	—	—	—	—	—	126	668	571	449	361	305	259
Markham (UK)	621	865	933	807	663	514	485	463	350	304	207	192
McAdam	—	—	—	—	—	—	—	—	—	—	—	514
Mercury	—	—	—	—	—	—	5	402	627	547	333	365
Miller (i)	2 126	2 388	2 467	2 534	2 028	1 254	1 109	624	328	302	163	174
Millom	—	—	—	—	—	—	29	144	1 023	1 048	927	801
Minerva	—	—	—	—	—	—	—	—	—	—	577	576
Mordred	—	—	26	82	17	39	43	31	37	37	26	28
Morecambe N	—	555	2 399	2 626	2 930	1 294	848	3 872	3 017	3 128	2 594	2 118
Morecambe S	8 691	7 444	7 675	7 099	6 170	7 993	9 971	8 436	8 328	7 513	7 526	8 055
Murdoch	288	1 063	1 110	1 127	1 150	1 376	836	1 197	948	641	627	447
Murdochk	—	—	—	—	—	—	—	—	—	—	1 378	1 209

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1993–2004 *continued*

Million cubic metres

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Gas fields <i>continued</i>												
Neptune	—	—	—	—	—	—	17	1 466	2 007	1 685	1 301	1 168
Newsham	—	—	—	68	127	94	71	60	44	35	34	39
Nuggets (h)	—	—	—	—	—	—	—	—	134	1 333	1 746	1 681
Orwell	332	1 028	1 470	789	720	832	667	716	507	373	389	278
Pickerrill	1 812	1 933	1 790	1 345	1 288	879	626	366	351	284	208	142
Piper & Tartan Area (h)	475	924	1 037	950	633	452	421	396	353	297	44	69
Ravenspurn N	2 826	2 494	1 716	2 942	2 968	1 580	1 319	1 294	761	497	317	362
Ravenspurn S	1 198	1 164	852	1 253	1 433	1 186	1 006	871	725	636	465	370
Renee/Rubie (h)	—	—	—	—	—	—	1	...	18	11	2	15
Rose	—	—	—	—	—	—	—	—	—	—	—	206
Ross (h)	—	—	—	—	—	—	28	89	60	144	126	95
Rough (b)	—	—	—	—	—	—	—	428	17	0	0	0
SAGE (j)	2 781	3 941	6 829	7 321	8 035	10 398	15 459	16 802	15 449	15 138	15 707	14 827
Schooner	—	—	—	243	1 245	1 088	1 237	882	917	380	485	475
Sean E	—	65	501	512	301	227	253	148	124	32	36	7
Sean N & S	186	493	428	942	639	50	312	581	1 120	493	601	306
Shearwater/Elgin (SEAL) (l)	—	—	—	—	—	—	—	93	2 207	7 026	7 391	8 464
Sinope	—	—	—	—	—	—	75	274	20	0	0	3
Skiff	—	—	—	—	—	—	—	146	843	1 254	1 339	924
Thames	427	228	61	157	119	60	92	90	89	67	53	43
Trent	—	—	—	80	279	347	521	341	228	213	195	150
Tristan	254	312	206	27	18	7	90	35	38	17	3	0
Tyne N	—	—	—	—	76	130	255	222	77	28	22	21
Tyne S	—	—	—	109	539	435	479	360	321	184	153	98
Valiant N	305	180	144	277	295	334	172	274	210	163	167	137
Valiant S	764	507	177	349	391	397	298	538	424	343	238	211
Valkyrie	—	—	—	—	—	—	—	—	—	—	—	210
Vampire	—	—	—	—	—	—	367	727	317	122	81	35
Vanguard	293	134	30	109	120	132	78	166	184	158	107	113
Victor	1 226	1 545	1 399	1 657	1 724	1 064	949	970	775	525	563	503
Viking B	741	636	466	628	687	629	2 465	1 542	1 329	992	872	912
Viscount	—	—	—	—	—	—	—	—	—	—	12	3
Vixen	—	—	—	—	—	—	—	499	1 035	771	558	242
Vulcan	1 611	915	415	656	827	816	584	952	797	642	497	423
Watt	—	—	—	—	—	—	—	—	—	—	—	16
Waveney	—	—	—	—	—	137	741	594	305	194	117	95
Welland NW	689	534	411	358	386	629	326	212	119	17	0	0
Welland S	366	229	208	117	173	210	155	76	44	17	0	0
Wensum	1	2	4	3	3	—	2	0	0	0	0	1
West Sole	1 231	1 037	1 214	857	1 224	1 218	1 170	1 050	940	844	765	473
Whittle	—	—	—	—	—	—	—	—	—	—	397	481
Windermere	—	—	—	—	279	438	320	273	196	166	125	87
Yare	126	89	63	51	14	72	21	11	45	31	39	9
Others (c)	2 453	2 989	3 016	3 175	3 361	3 719	3 937	3 763	4 658	4 718	4 503	4 513
Total (a)	65 109	69 343	75 158	89 514	91 170	95 171	104 760	114 663	112 563	109 694	107 919	100 844

(a) Gross production, i.e. includes own use for drilling purposes, production and pumping operations, but excludes gas flared and vented.

(b) Rough was converted for use as an off-peak storage unit with effect from 1985.

(c) Associated gas, mainly methane, produced and used mainly on Northern Basin oil production platforms including those in the CATS, FLAGS (including the Fulmar system), SAGE and SEAL systems.

(d) From December 1998 to January 2001, Davy includes Brown.

(e) Gas delivered to land via the Far-north Liquids and Associated Gas System from Brent, Clapham, North and South Cormorant, Kyle, Magnus, Magnus South, Murchison (UK), Pelican, Penguin, Statfjord (UK), Strathspey and Thistle.

(f) Gas delivered to land via the Fulmar pipeline from Bittern, Clyde, Cook, Curlew, Fulmar, Gannet A-G, Guillemot A, NW and W, Howe, Kittiwake, Leven, Mallard, Medwin, Nelson, Orion, Teal and Teal South.

(g) Gas delivered to land via the Central Area Transmission

System from Andrew, Banff, Drake, Egret, Erskine, Everest, Fleming, Hawkins, Heron, Jade, James, Janice, Joanne, Judy, Lomond, Machar, Madoes, Marnock, Mirren, Monan, Mungo Seymour and Skua.

(h) Associated gas used offshore or delivered to land via the Frigg pipeline system.

(i) Gas delivered direct to Boddam (Peterhead) power station by dedicated pipeline.

(j) Gas delivered to land via the Scottish Area Gas Evacuation system from Beinn, Beryl, Brae (Central, East, North, South and West), Braemar, Britannia, Caledonia, Maclure, Ness, Nevis, Scott, Skene, Thelma, Tiffany, Toni and Tullich.

(k) FLAGS includes Fulmar.

(l) Shearwater - Elgin Area Line (SEAL) includes Elgin, Franklin, Halley, Scoter and Shearwater

Source: Department of Trade and Industry.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Petroleum										
<i>Production</i>										
Crude petroleum	117 680 000	108 386 000	107 430 000	97 835 000	87 516 000					
Condensates and other (a)	8 363 000	8 292 000	8 514 000	8 238 000	7 858 000					
Refined petroleum products	86 341 000	82 109 000	83 996 000	84 529 000	89 828 000					
<i>Consumption (inland deliveries) of refined products</i>										
Used as fuels—										
Refineries	5 603 000	5 059 000	5 677 000	5 528 000	5 455 000					
Elsewhere	61 333 000	61 058 000	60 145 000	61 107 000	63 181 000					
Not used as fuels	10 055 000	8 887 000	9 673 000	10 411 000	10 584 000					
Total	76 991 000	75 004 000	75 495 000	77 046 000	79 220 000					
<i>Imports</i>										
Crude petroleum	36 552 593	38 542 685	40 838 161	44 511 352	55 279 840	5 032 686	4 956 773	4 985 613	5 954 247	8 388 466
Partly refined petroleum and refined products	19 181 246	21 565 818	21 596 063	23 792 249	25 622 522	3 302 995	3 539 830	3 148 748	3 782 547	4 796 778
<i>Exports</i>										
Crude petroleum	78 022 274	82 057 946	79 943 787	69 617 507	60 743 679	10 536 029	10 497 748	9 834 692	9 254 832	9 373 420
Partly refined petroleum and refined products	24 620 358	23 050 414	25 901 034	27 852 607	32 027 455	3 977 424	3 454 196	3 636 438	4 376 653	5 698 361
Natural gas										
<i>Production</i>										
Methane (c)										
Colliery	42 000	63 000	60 000	74 000	70 000					
Offshore and onshore	108 355 000	105 807 000	103 586 000	102 848 000	95 937 000					
<i>Consumption</i>										
Natural gas (b)	95 626 000	95 345 000	94 175 000	94 465 000	96 937 000					
<i>Imports</i>										
Liquefied natural gas	1 119 528	1 156 724	582 878	509 848	661 898	147 348	138 255	87 293	132 619	140 779
Other natural gas	1 317 722	1 365 402	2 105 453	...	5 343 071	122 520	166 063	269 849	...	693 076
<i>Exports</i>										
Liquefied natural gas	5 313 838	4 173 082	4 201 100	3 734 960	3 644 369	855 754	719 608	610 297	673 538	764 483
Other natural gas	5 530 250	7 552 590	8 718 186	1 519 493	186 614	516 188	776 178	895 802	1 036 236	702 893

(a) Including ethane, propane and butane, in addition to condensates.

(c) Oil equivalent: converted from original data at 397 therms = 1 tonne.

(b) Tonnes oil equivalent: excluding minor consumption for non-energy use.

Phosphorus

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Phosphorus										
<i>Consumption in Iron and Steel Industry</i>										
Ferro-phosphorus	1 280	1 160	990	1 130	1 150					
<i>Imports</i>										
Phosphate rock	13 808	9 223	10 275	1 242	11 586	1 420	1 418	1 140	259	1 545
Ammonium phosphates—										
Fertiliser	165 034	145 952	196 776	192 537	151 562	22 164	19 820	25 437	22 984	22 690
Superphosphates	221 040	230 374	204 073	212 297	174 490	22 777	21 866	19 883	20 327	19 329
Basic slag	7 888	11 216	5 150	6 215	5 931	385	462	215	244	278
Other phosphatic fertilisers	5 697	21 548	17 336	14 425	14 118	508	2 187	1 303	1 073	1 517
Elemental phosphorus	14 738	14 143	14 437	12 270	15 739	14 344	15 164	13 828	12 488	17 369
Phosphoric acids	318 645	315 593	197 558	220 427	175 578	50 991	48 085	37 068	44 408	34 898
Calcium phosphates	103 132	112 485	120 414	120 167	114 024	20 763	22 229	23 878	23 470	19 350
Sodium phosphates and orthophosphates (b)	49 841	38 307	51 623	45 019	34 128	22 340	19 472	22 560	18 131	13 458
<i>Exports</i>										
Phosphate rock	1 295	317	386	111	34	269	80	79	85	27
Ammonium phosphates—										
Fertiliser	9 060	1 619	630	493	519	2 596	558	433	444	452
Other (a)	...	...	...	...	28	...	...	...	...	91
Superphosphates	3	4	5 229	2 484	6	2	16	670	320	6
Basic slag	3	2	—	1	—	2	1	—	5	—
Other phosphatic fertilisers	280	110	292	333	426	458	86	158	123	136
Phosphoric acids	28 851	21 109	18 755	16 322	12 873	9 403	8 299	6 911	6 789	5 406
Calcium phosphates	16 866	17 567	15 123	15 046	15 104	8 706	8 488	8 204	8 752	8 465

(a) Including polyphosphates.

(b) Excluding polyphosphates.

Platinum group metals

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Platinum group metals										
<i>Imports</i>										
Scrap	593	729	776	367	589	347 219	329 986	115 886	170 533	154 153
Unwrought or partly worked–										
Platinum	36	18	10	14	48	284 668	188 045	106 075	169 110	358 887
Palladium	34	20	16	48	25	331 739	257 947	80 100	245 258	98 899
Other platinum group	10	6	4	9	8	147 893	90 525	38 840	30 306	67 054
<i>Exports</i>										
Scrap	1 156	1 124	914	1 863	2 681	47 972	37 493	15 535	13 676	18 989
Unwrought or partly worked–										
Platinum	32	32	44	37	44	387 533	436 159	448 364	447 735	610 972
Palladium	17	23	18	28	61	218 961	339 248	148 069	117 277	286 892
Other platinum group	8	6	5	10	12	128 442	115 558	47 105	51 748	126 368

Potash

Potash is a generic term for a variety of potassium-bearing minerals and refined products. There are many potassium-bearing minerals but only those that are water-soluble are of significant commercial interest. Sylvine (potassium chloride, KCl) is by far the most important source of potash worldwide, because of its solubility and high potassium content, and accounts for all the potash produced in the UK to date. Potassium minerals rarely occur in pure form and the mined material is invariably a physical mixture of salts. Sylvinite is a mixture of sylvine and halite (salt, NaCl) in varying proportions and this is the material that is mined in the UK. Potassium is one of the three primary nutrients essential for plant growth (the others being nitrogen and phosphorus). These nutrients form the basis of fertiliser production in the UK and throughout the world. About 90 per cent of UK potash production is consumed in the manufacture of fertilisers, with the remainder in a range of industrial applications.

There is only one source of potash in the UK, the Boulby mine in the North York Moors National Park. Production of potash is thought to have declined in 2005, to an estimated 800 000 tonnes KCl, a large proportion of which was exported through the company's deepwater terminal on the River Tees. This compares with production of 912 000 tonnes KCl in 2004. Rock salt production was 0.60 million tonnes in 2004. Salt is mined from the arterial roadways in the underlying Boulby Halite to maintain access to current potash mining areas and to explore and develop new areas for potash production.

Boulby Mine is operated by Cleveland Potash Ltd, a wholly-owned subsidiary of Israel Chemicals Ltd. The parent company is the second largest potash producer in Europe and the fifth largest in the world with a total output of some five million tonnes per year.

The Boulby mine employs some 800 people and is the single most important non-hydrocarbon mineral operation in Britain generating total sales approaching £100 million in 2004, including by-product rock salt. The workings extend some 14 km, reaching 5 km offshore to the north where they are approximately 750 m below the sea bed. In the south, a combination of seam dip and topographic relief takes the workings to more than 1300 m below the land surface.

The potash ore is a mixture of sodium and potassium chloride crystals with occasional inclusions of insoluble material, usually clays. Returning the insoluble waste material (mainly clay) into disused mine workings was started in 2003 thereby reducing discharges into the North Sea. Infrastructure and development work for the project was part funded by a European Commission grant.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Potassium compounds										
<i>Indigenous production</i>										
KCl product	966 000	882 000	900 000	1 040 000	912 000					
<i>Apparent consumption (a)</i>										
Potassic fertilisers										
(K ₂ O content)	404 100	393 800	339 100	388 400	392 900					
<i>Imports</i>										
Crude natural salts	18 050	16 154	19 366	12 751	9 204	1 235	1 053	1 141	661	400
Chloride	255 572	335 398	372 031	246 164	207 056	24 824	26 679	19 462	22 023	20 808
Sulphate	10 514	14 243	8 159	3 765	11 742	1 669	2 145	1 676	1 152	1 933
Other potassic fertilisers	376	263	645	1 674	641	199	215	223	343	413
<i>Exports</i>										
Crude natural salts	23	91	26	48	11	58	36	9	71	59
Chloride (b)	630 000	530 000	440 000	630 000	512 000	...	...	...	...	...
Sulphate	1 036	264	283	153	21	318	73	102	82	12
Other potassic fertilisers	107	877	457	456	641	326	360	497	395	396

(a) Home deliveries plus imports.

(b) BGS estimate.

Precious and semi-precious stones

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Precious and semi-precious stones (excluding diamond) (a)										
<i>Imports</i>										
Natural stones	234	713	492	427	346	44 708	60 792	70 129	52 655	52 027
Synthetic stones	11	10	8	12	23	5 952	6 994	3 851	3 653	5 927
Dust and powder	1	2	0	0	1	551	715	154	166	220
<i>Exports</i>										
Natural stones	62	21	27	6	207	34 380	49 158	56 112	43 278	43 590
Synthetic stones	1	41	0	12	6	1 038	1 330	505	4 510	2 009
Dust and powder	...	2	...	19	0	43	153	76	40	105

(a) Unworked, cut or otherwise worked, but not mounted, set or strung.

Primary fuels

United Kingdom production of primary fuels 1978–2004 (energy supplied basis)

Million tonnes of oil equivalent (a)

Year	Coal	Petroleum	Natural gas (b)	Nuclear electricity	Hydro-electricity (c)	Total (d)
1978	75.5	58.2	36.2	10.0	0.3	180.2
1979	74.0	84.0	36.6	10.2	0.4	205.2
1980	78.5	86.9	34.8	9.9	0.3	210.5
1981	78.0	96.9	34.7	10.2	0.4	220.2
1982	76.1	112.5	35.3	11.9	0.4	236.1
1983	72.7	125.5	36.4	13.5	0.4	248.4
1984	30.7	137.6	35.6	14.5	0.3	218.8
1985	56.6	139.4	39.7	16.5	0.4	252.5
1986	65.6	139.1	41.7	15.4	0.4	262.2
1987	63.2	135.1	43.7	14.4	0.4	256.7
1988	63.3	125.5	42.1	16.6	0.4	248.5
1989	60.9	100.4	41.2	17.7	0.4	221.3
1990	56.4	100.1	45.5	16.3	0.4	219.4
1991	57.6	99.9	50.6	17.4	0.4	226.7
1992	51.5	103.7	51.5	18.5	0.5	226.5
1993	41.6	109.6	60.5	21.6	0.5	234.9
1994	29.7	138.9	64.6	21.2	0.4	256.6
1995	32.8	142.7	70.8	21.3	0.5	269.7
1996	31.1	142.1	84.2	22.1	0.3	281.6
1997	30.3	140.4	85.9	23.1	0.4	282.1
1998	25.8	145.3	90.2	23.4	0.5	287.2
1999	23.2	150.2	99.1	22.4	0.5	297.7
2000	19.6	138.3	108.4	19.6	0.5	288.7
2001	20.0	127.8	105.8	20.8	0.4	277.4
2002	18.8	127.0	103.6	20.1	0.5	272.9
2003	17.6	116.2	102.9	20.0	0.4	260.3
2004	15.7	104.5	96.0	18.1	0.5	238.5

(a) Based on a standard 'tonne of oil equivalent' equal to 397 therms.

(b) Including colliery methane.

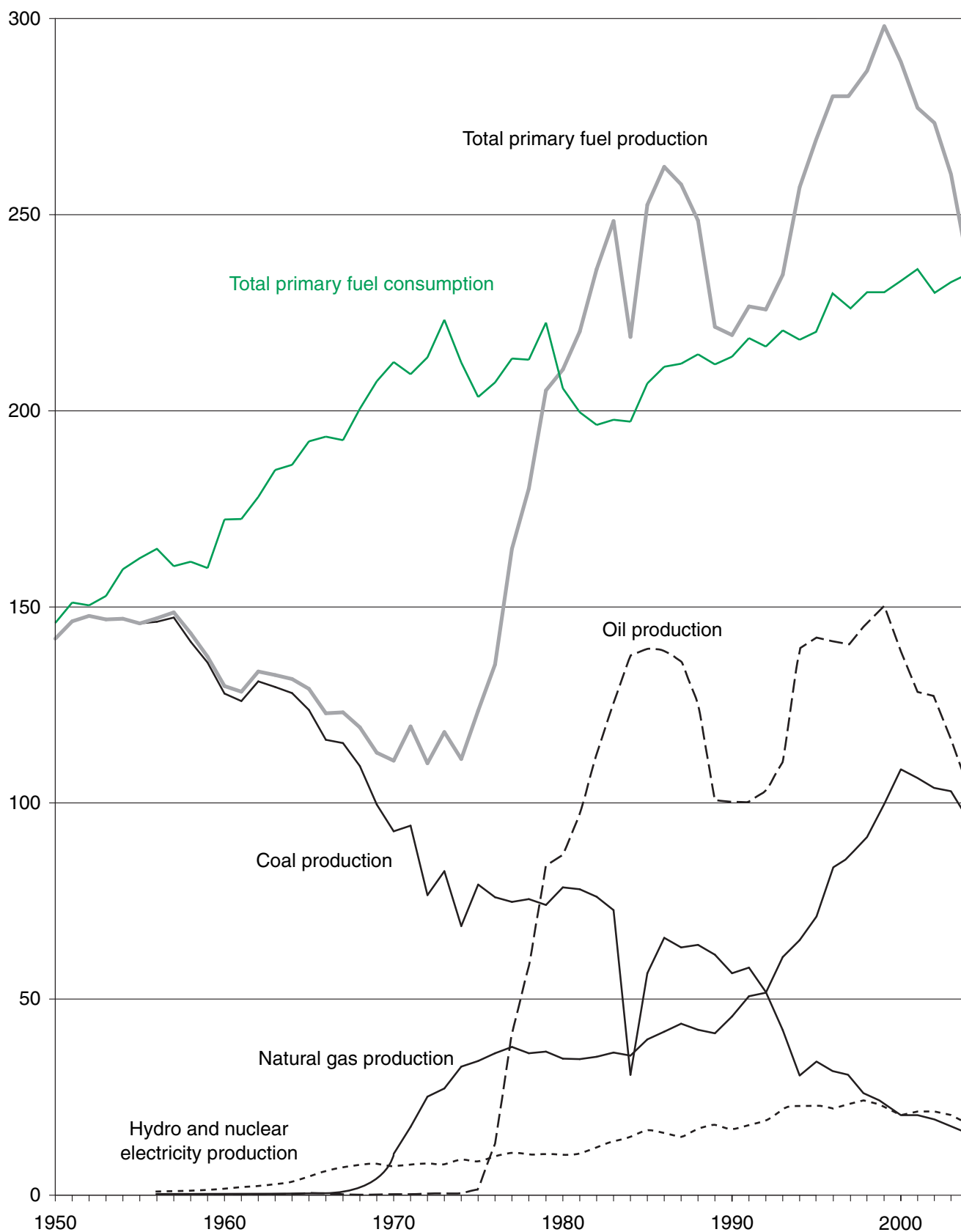
(c) Including, from 1988, other renewable primary electricity sources (wind, etc.).

(d) Including, from 1988, small amounts of primary heat sources (solar, geothermal, etc.), solid renewable sources (wood, waste, etc.) and gaseous renewable sources (landfill gas, sewage gas, etc.).

Source: Department of Trade and Industry.

United Kingdom production and consumption of primary fuels 1950–2004

Million tonnes of oil
or oil equivalent



United Kingdom consumption of energy (primary fuel input) 1978–2004 (energy supplied basis)

Million tonnes of oil equivalent (a)

Year	Coal	Petroleum	Natural gas (b)	Nuclear electricity	Hydro-electricity (c)	Net imports of electricity	Total (d)
1978	73.3	87.2	41.0	10.0	0.3	—	211.8
1979	78.8	87.7	44.9	10.2	0.4	—	222.0
1980	73.3	76.2	44.8	9.9	0.3	—	204.5
1981	72.9	69.5	45.4	10.2	0.4	—	198.4
1982	68.0	70.7	45.2	11.9	0.4	—	196.1
1983	68.6	67.2	47.1	13.5	0.4	—	196.8
1984	48.7	84.7	48.2	14.5	0.3	—	196.4
1985	64.8	72.2	51.8	16.5	0.4	—	205.7
1986	70.0	71.1	52.7	15.4	0.4	0.4	210.0
1987	71.7	69.4	54.1	14.4	0.4	1.0	211.0
1988	69.6	74.0	51.4	16.6	0.4	1.1	213.1
1989	67.0	75.4	49.1	17.7	0.4	1.1	211.4
1990	67.0	77.2	51.2	16.3	0.4	1.0	213.7
1991	67.1	77.1	55.4	17.4	0.4	1.4	219.5
1992	63.1	77.5	55.1	18.5	0.5	1.4	216.8
1993	54.9	78.1	62.9	21.6	0.5	1.4	220.6
1994	51.3	76.7	64.9	21.2	0.4	1.5	217.5
1995	48.9	75.4	69.2	21.3	0.5	1.4	218.4
1996	45.7	77.8	81.0	22.1	0.3	1.4	230.0
1997	40.8	75.5	83.5	23.1	0.4	1.4	226.8
1998	40.9	76.1	86.9	23.4	0.5	1.1	230.8
1999	36.7	76.0	91.4	22.4	0.5	1.2	230.4
2000	38.1	75.9	95.6	19.6	0.5	1.2	233.0
2001	41.2	75.6	95.4	20.8	0.4	0.9	236.8
2002	37.7	74.4	94.2	20.1	0.5	0.7	230.3
2003	40.0	74.3	94.5	20.0	0.4	0.2	232.5
2004	39.3	76.5	96.1	18.3	0.6	0.6	234.9

(a) Based on a standard 'tonne of oil equivalent' equal to 397 therms.

(b) Including colliery methane.

(c) Including, from 1988, other renewable primary electricity sources (wind, etc.).

(d) Including, from 1988, small amounts of primary heat sources (solar, geothermal, etc.), solid renewable sources (wood, waste, etc.) and gaseous renewable sources (landfill gas, sewage gas, etc.).

Source: Department of Trade and Industry.

Pumice

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Pumice										
<i>Imports</i>	19 210	17 165	...	21 406	35 533	2 073	2 377	2 703	2 978	1 898
<i>Exports</i>	379	1 397	319	1 389	237	719	666	654	702	447

Pyrite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Pyrite										
<i>Imports</i>										
Iron pyrites (incl. cupreous) –										
Unroasted	5	220	85	11	29	6	157	25	13	28
Roasted	29 446	17 130	...	19 230	2 436	792	351	627	406	364
<i>Exports</i>										
Iron pyrites (incl. cupreous) –										
Unroasted	246	132	...	32	4	149	55	76	14	2
Roasted	—	0	—	0	1	—	10	—	3	1

Quartz and quartzite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Quartz and quartzite										
<i>Imports</i>										
Quartz	7 714	2 360	3 645	541	317	1 988	2 321	1 315	173	142
Quartzite	703	1 052	851	472	413	1 037	865	490	368	596
<i>Exports</i>										
Quartz	87	146	163	94	188	86	65	176	399	234
Quartzite	190	129	125	120	1 769	563	233	270	388	321

Radioactive and associated materials

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Radioactive and associated materials										
<i>Imports</i>										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	...	...	...	...	...	246 503	322 264	284 737	303 640	568 811
<i>Exports</i>										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	...	...	...	...	...	431 878	512 972	497 413	610 490	647 539

Rare earths

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Rare earths										
<i>Imports</i>										
Rare earth metals (a)	226	172	64	115	136	3 337	2 404	529	978	690
Cerium compounds	2 388	2 227	3 070	2 519	1 914	6 035	8 367	8 598	7 278	3 915
Other rare earth compounds (b)	466	403	491	471	774	3 922	3 021	3 384	2 552	4 713
Ferro-cerium and other pyrophoric alloys	14	1	34	1	9	3 745	38	102	99	32
<i>Exports</i>										
Rare earth metals (a)	60	51	148	16	10	897	1 077	982	312	281
Cerium compounds	317	415	88	118	43	4 763	3 976	1 748	2 953	1 539
Other rare earth compounds (b)	354	329	1 128	1 105	1 130	3 716	3 764	6 772	6 055	4 669
Ferro-cerium and other pyrophoric alloys	26	9	...	768	197	...	85	335	323	190

(a) Including yttrium and scandium.

(b) Including yttrium and scandium compounds.

Salt

Salt (sodium chloride, NaCl), occurs in nature in solid form as rock salt (halite), or in solution as brine. Rock salt occurs in beds, commonly associated with mudstone, up to several hundred metres in thickness. Natural brine is produced by the dissolution of salt-bearing strata by circulating groundwater or by solution mining which entails injecting water into salt beds and pumping out the resulting salt solution. This may contain up to 26% NaCl when fully saturated.

Official figures for the production of rock salt and white (or brine) salt have not been disclosed for many years, but estimates have been made by the BGS. Production of rock salt, which is largely used for de-icing roads, is dependent on the weather. UK sales are estimated at 2 million tonnes in 2005. Rock salt is produced at three locations in the UK. The Winsford mine in Cheshire operated by the Salt Union is the largest source, but large tonnages are also produced at the Boulby potash mine in the North

York Moors National Park. The third producer, Irish Salt Mining and Exploration Co Ltd, operates the Kilroot mine at Carrickfergus in Northern Ireland and produced an estimated 250 000 tonnes in 2005. A proportion of the rock salt from this mine is exported to the eastern seaboard of the USA.

The Winsford mine, with some 26 million cubic metres of space, has a constant temperature and humidity and is dry and gas-free. Part of the mine is currently being used for secure document storage. In addition, the mine's Minosus waste disposal project cleared a final legal challenge in the High Court in December 2004. Limited hazardous waste disposal commenced in August 2005, pending the completion of simulated mine condition test methods that have to be approved by the Environment Agency. Approval was reached in March 2006 meaning that Minosus can now accept the full range of 42 different waste types it was designed for. To date input has been running at around 15% of capacity but is expected to double during the course of this year. Strict criteria will be used for the type of material stored, which will be dry waste that is non-flammable, non-biodegradable and non-radioactive.

In addition to the extraction of rock salt by underground mining, large quantities of salt are also produced by controlled solution mining. Production is now confined to Cheshire, where controlled solution mining is undertaken by two companies, Ineos Chlor Ltd and British Salt Ltd. Ineos Chlor supplies brine from the Holford brinefield for its own plant at Runcorn for the production of chlorine and caustic soda by the electrochemical process. The company also supplies brine to two plants operated by Brunner Mond in Northwich for the production of soda ash by the ammonia-soda process. Ineos has recently acquired Salt Union's vacuum (white) salt operations at Runcorn, which also uses brine from Holford.

British Salt Ltd also produces brine from the Warmingham brinefield in Cheshire for the production of white salt at its plant near Middlewich. British Salt is a wholly-owned subsidiary of US Salt Holdings. New Cheshire Salt Works Ltd extracts natural brine at the Wincham brinefield, near Northwich for the production of small quantities of white salt. Total UK production of white (brine) salt is estimated to be about one million tonnes and salt-in-brine for use as a chemical feedstock, 2.8 million tonnes.

At the Warmingham brinefield, specially created salt cavities have been produced for natural gas storage and a proposal by Scottish Power for gas storage at the Holford brinefield has recently been granted permission. A similar proposal has been made to create an underground natural gas storage facility to the east of the Wyre Estuary in the Preesall saltfield in Lancashire. Twenty cavities are being proposed by solution mining at depths of up to 350 m. Brine produced by creating new cavities will be discharged into the sea. Brine extraction ceased at the Preesall saltfield in 1993 because of the closure of the Hillhouse chlorine plant in Fleetwood. Portland Gas Ltd, a wholly owned subsidiary of Egdon Resources Plc, is planning to create a salt cavity for natural gas storage beneath the Isle of Portland in Dorset.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Salt										
<i>Production</i>										
Salt, rock (a)	1 700 000	1 900 000	1 500 000	1 700 000	2 000 000					
Salt from brine (a)	1 100 000	1 100 000	1 000 000	1 000 000	1 000 000					
Salt in brine (a) (b)	3 000 000	3 000 000	3 200 000	3 200 000	2 800 000					
<i>Imports</i>	(c) 201 400	(c) 234 900	306 488	217 009	219 437	...	...	12 870	10 928	13 713
<i>Exports</i>	307 899	299 607	326 760	537 497	691 010	16 548	17 466	20 135	23 202	26 638

(a) BGS estimate.

(b) Used for purposes other than salt making.

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

Sand and gravel (see also Aggregates)

United Kingdom summary 2000–2004

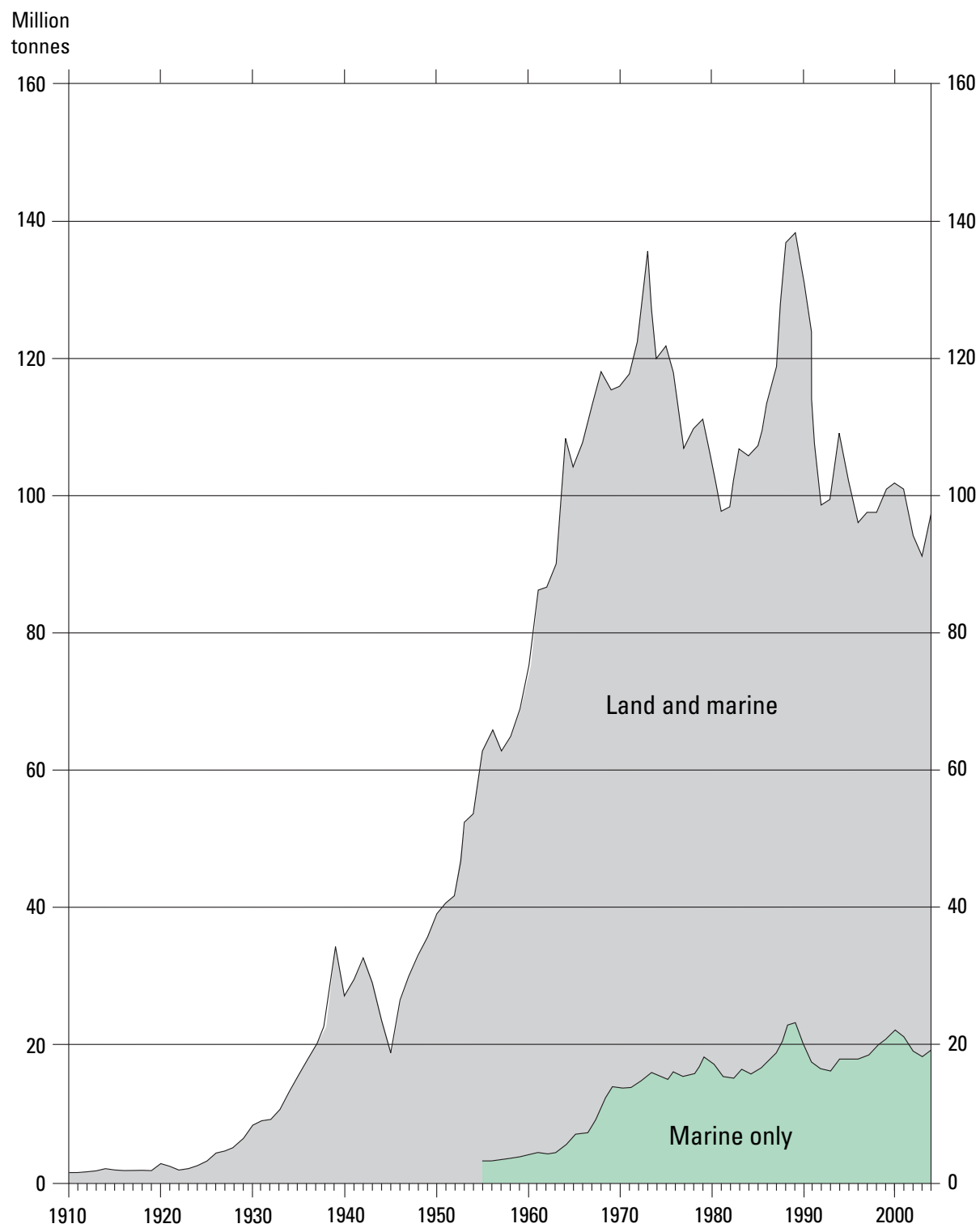
Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Sand and gravel										
<i>Production</i>										
Sand & gravel (a)	101 621 000	101 397 000	94 424 000	91 211 000	97 333 000					
<i>Consumption</i> (b)										
Building sand	14 017 000	13 511 000	12 947 000	13 395 000	12 761 000					
Concreting sand	31 167 000	31 656 000	31 224 000	31 411 000	32 529 000					
Gravel and hoggins	44 049 000	43 043 000	38 550 000	35 415 000	40 768 000					
Total	89 234 000	88 210 000	82 721 000	80 211 000	86 057 000					
<i>Imports</i>										
Sand and gravel	168 358	362 076	413 992	861 439	924 283	6 688	9 417	9 453	11 406	14 473
<i>Exports</i>										
Sand and gravel (c)	9 931 641	9 871 523	8 881 454	8 419 845	8 174 237	31 264	32 389	32 104	36 708	36 411

(a) Including production from marine dredging.

(b) Great Britain: production for the home market including landings of marine-dredged materials at British ports.

(c) Principally marine-dredged sand and gravel. Source: HM Customs and Excise. However, the Crown Estate Commissioners give the following figures for marine-dredged sand and gravel landed at foreign ports (tonnes): 2000: 7 314 813; 2001: 6 992 731; 2002: 6 190 905; 2003: 6 095 640; 2004: 6 191 867

United Kingdom production of sand and gravel 1910–2004



United Kingdom production of sand and gravel 1983–2004

Million tonnes

Year	Land-based production			Marine-dredged			Total production United Kingdom	For beach replenishment (c) (d)
	Great Britain (a)	Northern Ireland (b)	Total	For home market (a)	For export (c)	Total		
1983	88.0	3.2	91.2	12.8	3.1	15.9	107.1	1.4
1984	87.1	3.5	90.6	12.6	2.8	15.4	106.0	1.2
1985	87.8	3.6	91.4	13.8	2.5	16.3	107.7	1.7
1986	90.2	4.2	94.4	15.3	2.3	17.6	112.0	2.2
1987	95.4	3.6	99.0	16.2	2.6	18.8	117.8	5.5
1988	110.5	3.9	114.4	19.6	2.4	22.0	136.4	3.9
1989	110.5	4.6	115.1	20.7	2.6	23.3	138.4	4.3
1990	99.0	4.0	103.0	17.2	3.8	21.0	124.0	2.3
1991	85.5	3.8	89.3	12.4	4.6	17.0	106.3	1.9
1992	78.3	3.7	82.0	10.6	6.3	16.9	98.9	1.3
1993	79.4	4.3	83.7	10.1	6.2	16.3	100.0	0.8
1994	86.3	5.1	91.5	11.3	6.6	18.0	109.4	1.3
1995	78.0	5.3	83.3	11.6	6.8	18.4	101.7	5.2
1996	70.5	5.3	75.7	11.5	6.7	18.2	93.9	7.2
1997	74.4	5.1	79.5	12.0	6.9	18.9	98.4	4.9
1998	73.0	5.3	78.3	13.0	7.0	20.0	98.3	2.4
1999	74.8	5.5	80.3	13.4	7.2	20.7	101.0	2.8
2000	74.9	5.1	80.0	14.4	7.3	21.7	101.6	2.4
2001	74.6	6.2	80.8	13.6	7.0	20.6	101.4	1.6
2002	69.9	5.5	75.4	12.8	6.2	19.0	94.4	1.5
2003	68.1	4.9	73.0	12.1	6.1	18.2	91.2	2.1
2004	73.1	5.1	78.1	13.0	6.1	19.2	97.3	1.8

Sources:

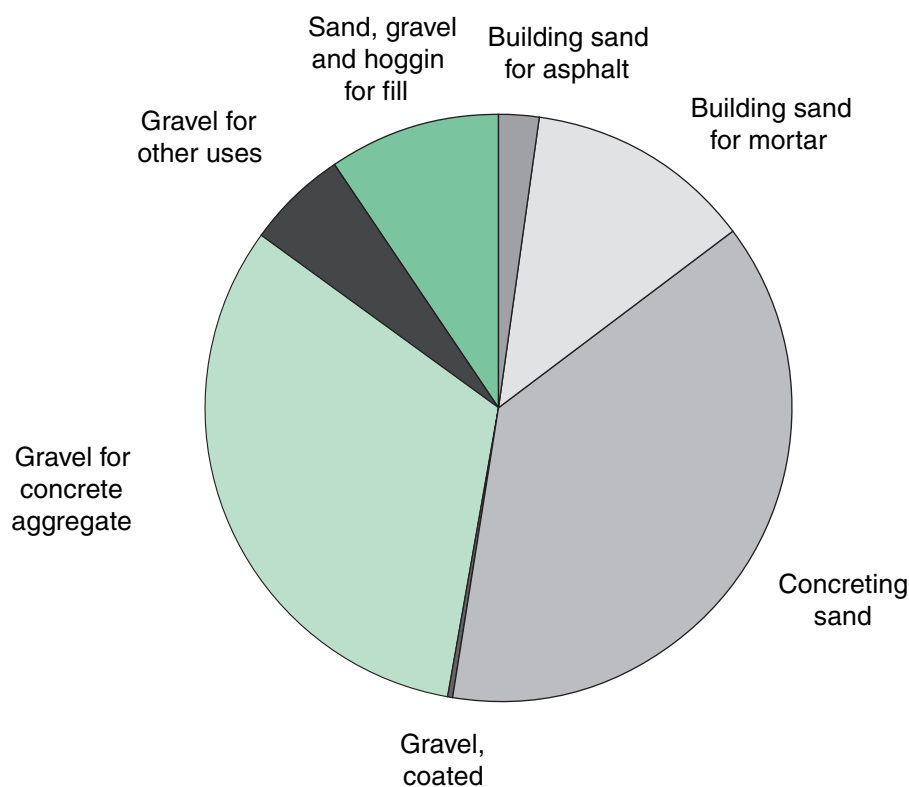
(a) Office for National Statistics.

(b) Department of Enterprise, Trade & Investment.

(c) Crown Estate Commissioners.

(d) These figures for marine-dredged sand and gravel used for beach replenishment and contract fill may be included in home market production, and have therefore not been included in the totals.

Great Britain production of sand and gravel by end-use 2004 (total production 97.3 million tonnes)



Great Britain production of sand and gravel by end-use and area of origin 2004

Thousand tonnes

Area of origin	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (c)		
	For asphalt	For use in mortar						
North East	59	253	(a) 638	1	(a) 531	57	37	(a) 1 576
Yorkshire and the Humber	37	623	(a) 2 133	...	(a) 1 591	459	...	(a) 5 197
East Midlands	802	875	4 738	...	3 694	406	...	10 906
East of England	411	(a) 1 385	(a) 5 313	91	(a) 5 270	(a) 796	(a) 2 195	(a) 15 461
South East	...	(a) 2 406	(a) 6 840	...	(a) 8 706	(a) 762	(a) 854	(a) 19 885
South West	...	(a) 968	(a) 3 150	...	(a) 1 556	...	(a) 1 659	(a) 8 065
West Midlands	...	1 201	3 644	...	3 480	495	422	9 401
North West	...	(a) 1 557	(a) 1 401	—	185	...	402	(a) 3 992
England								
Land-won	...	...	...	...	...	...	...	62 735
Marine (b)	—	...	...	—	...	...	...	11 747
Total	1 876	(a) 9 268	(a) 27 856	285	(a) 25 013	(a) 3 931	(a) 6 253	(a) 74 482
Wales								
Land-won	...	...	...	—	...	...	...	1 871
Marine	...	...	...	—	...	—	...	1 249
Total	(a) 16	(a) 688	(a) 1 364	—	(a) 526	142	(a) 384	(a) 3 120
Scotland								
Total	181	732	3 309	79	1 994	740	1 421	8 455
Great Britain								
Land-won	2 070	10 024	27 398	364	20 788	4 734	7 685	73 061
Marine (b)	3	664	5 131	-	6 745	79	373	12 996
Total	(a) 2 073	(a) 10 688	(a) 32 529	364	(a) 27 533	(a) 4 813	(a) 8 058	(a) 86 057

(a) Including marine-dredged material.

(b) Excluding marine-dredged landings at foreign ports (exports), see p.87.

(c) This heading is now believed to include material previously classified as construction fill.

Source: Office for National Statistics.

Great Britain production of sand and gravel (a) by region 1976–2004

Thousand tonnes

Year	North East (b)	North West (c)	Yorks. & the Humber	West Midlands	East Midlands	East of England (d)	South East (e)	South West	England	Wales	Scotland	Great Britain
1976	3 855	3 948	5 288	10 920	11 844	7 264	43 412	6 499	93 030	4 353	12 506	109 888
1977	4 178	3 330	4 552	9 783	10 277	7 821	37 994	5 656	83 592	3 769	11 645	99 007
1978	3 995	3 371	4 469	9 546	10 620	8 511	39 730	6 067	86 310	4 229	11 817	102 356
1979	4 072	3 445	4 755	9 957	10 449	8 312	39 534	6 350	86 875	4 373	11 507	102 755
1980	3 872	3 207	4 250	9 090	10 440	7 234	36 331	6 279	80 704	4 033	11 421	96 158
1981	2 798	3 043	4 668	8 109	9 217	6 532	35 864	5 843	76 074	3 492	9 886	89 453
1982	2 685	3 410	4 397	9 892	9 100	7 026	35 374	6 017	77 901	3 444	9 861	91 206
1983	3 087	3 730	4 690	9 847	10 470	7 581	39 035	8 017	86 457	4 033	10 309	100 799
1984	3 062	4 080	4 680	10 827	10 604	6 934	38 862	7 010	86 060	3 437	10 178	99 675
1985	2 717	3 823	4 537	10 728	10 609	7 540	39 930	6 981	86 865	3 420	11 320	101 605
1986	2 863	4 036	4 686	10 486	11 743	7 547	42 192	7 152	90 706	4 083	10 710	105 498
1987	2 932	4 006	4 780	11 095	13 348	8 306	43 563	8 495	96 525	4 793	10 311	111 629
1988	3 291	4 156	5 306	14 138	15 603	11 361	50 970	9 843	114 667	4 734	10 753	130 154
1989	3 802	4 709	5 722	14 020	15 892	10 145	51 208	9 142	114 640	4 588	12 004	131 232
1990	3 951	4 641	5 485	12 581	14 051	8 762	42 516	7 559	99 547	3 990	12 634	116 172
1991	3 017	4 243	4 960	10 698	12 683	7 288	33 318	6 045	82 253	3 439	12 226	97 918
1992	2 732	3 894	4 028	9 976	12 072	6 456	28 590	6 171	73 290	3 205	11 774	88 898
1993	2 856	4 028	4 539	10 345	12 364	5 962	28 600	6 138	74 833	3 278	11 359	89 470
1994	3 268	4 843	4 907	12 207	12 860	6 947	31 140	6 765	82 937	3 312	11 423	97 672
1995	3 086	4 529	4 333	10 722	11 556	6 550	28 046	6 684	75 506	3 260	10 889	89 656
1996	2 909	3 792	3 923	9 633	10 827	5 623	26 485	5 790	68 983	3 111	9 904	81 997
1997	3 109	4 294	4 041	9 966	10 899	5 899	29 154	6 054	73 416	3 050	9 900	86 366
1998	3 056	3 579	4 381	9 721	10 416	5 979	29 637	6 166	72 935	2 959	10 074	85 968
1999	3 117	3 801	4 872	9 901	10 216	6 395	30 821	6 016	75 139	3 039	10 031	88 209
2000	2 003	4 003	4 559	9 879	10 253	15 637	22 553	7 385	76 272	2 939	10 022	89 234
2001	1 566	3 402	5 171	9 894	9 716	15 694	22 004	7 126	74 572	2 886	10 753	88 210
2002	1 344	3 890	4 999	9 159	9 608	15 317	19 872	7 131	71 320	2 758	8 643	82 721
2003	1 254	5 220	4 770	9 590	9 842	14 381	17 915	6 413	69 385	2 733	8 103	80 221
2004	1 576	3 992	5 197	9 401	10 906	15 461	19 885	8 065	74 482	3 120	8 455	86 057

(a) Including marine-dredged material.

(b) From 2000, excludes Cumbria.

(c) From 2000, includes Cumbria.

(d) From 2000, includes Essex, Hertfordshire and Bedfordshire.

(e) From 2000, excludes Essex, Hertfordshire and Bedfordshire.

Source: Office for National Statistics.

England production of sand and gravel by end-use 1991–2004

Thousand tonnes

Year	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (b)		
	For asphalt	For use in mortar						
1991								
Land-won	3 517	10 854	22 330	356	19 843	2 210	12 308	71 417
Marine (a)	86	28	3 927	—	6 256	145	393	10 836
Total	3 604	10 882	26 257	356	26 099	2 355	12 700	82 253
1992								
Land-won	...	9 735	...	484	19 880	...	...	65 006
Marine (a)	...	114	...	—	4 930	...	...	8 913
Total	3 596	9 849	24 078	484	24 810	842	10 262	73 920
1993								
Land-won	...	9 343	...	...	...	...	...	66 320
Marine (a)	...	158	...	...	...	...	...	8 513
Total	4 113	9 502	23 719	...	24 381	...	12 058	74 833
1994								
Land-won	...	...	...	...	...	...	...	73 161
Marine (a)	...	...	...	...	...	...	...	9 776
Total	3 803	11 214	26 250	...	26 876	...	13 535	82 937
1995								
Land-won	...	...	21 306	301	...	1 457	9 131	65 480
Marine (a)	...	...	3 387	—	...	—	450	10 026
Total	3 402	10 776	24 693	301	25 297	1 457	9 581	75 506
1996								
Land-won	2 663	...	20 734	237	...	752	8 179	59 067
Marine (a)	23	...	3 430	1	...	—	389	9 915
Total	2 685	8 979	24 164	238	23 596	752	8 568	68 983
1997								
Land-won	...	9 050	21 982	...	19 315	419	...	63 010
Marine (a)	...	326	3 577	...	6 250	—	...	10 406
Total	2 634	9 376	25 559	653	25 565	419	9 210	73 416
1998								
Land-won	...	8 645	21 892	...	20 495	433	...	61 241
Marine (a)	...	274	3 861	...	7 375	3	...	11 694
Total	1 991	8 919	25 753	408	27 870	436	7 559	72 935
1999								
Land-won	...	...	22 936	...	20 421	...	7 591	62 954
Marine (a)	...	...	4 297	...	7 292	...	167	12 185
Total	1 847	9 372	27 234	150	27 713	1 065	7 758	75 139
2000								
Land-won	...	9 189	22 769	...	20 164	746	...	63 196
Marine (a)	...	345	4 206	...	8 272	—	...	13 076
Total	1 817	9 533	26 975	135	28 436	746	8 631	76 272
2001								
Land-won	...	...	...	...	...	...	...	62 177
Marine (a)	...	...	...	...	...	...	...	12 395
Total	1 605	9 317	27 658	189	26 731	3 994	5 077	74 572
2002								
Land-won	...	...	...	...	...	...	...	59 633
Marine (a)	...	...	...	...	...	...	...	11 687
Total	1 397	9 233	27 331	...	25 422	3 580	...	71 320
2003								
Land-won	...	...	...	...	...	...	...	58 484
Marine (a)	...	...	...	...	...	...	...	10 901
Total	...	9 810	27 452	...	24 110	2 927	3 718	69 385
2004								
Land-won	1 876	...	...	285	...	...	...	62 735
Marine (a)	—	...	...	—	...	...	...	11 747
Total	1 876	9 268	27 856	285	25 013	3 931	6 253	74 482

(a) Excluding marine-dredged landings at foreign ports (exports), see p.87.

Source: Office for National Statistics.

(b) From 2001, this heading is believed to include material previously classified as construction fill.

Wales production of sand and gravel by end-use 1995–2004

Thousand tonnes

Year	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (b)		
	For asphalt	For use in mortar						
1995								
Land-won	...	...	675	—	...	—	396	1 661
Marine	...	...	631	—	...	—	3	1 599
Total	97	993	1 306	—	464	—	399	3 260
1996								
Land-won	44	...	610	—	...	—	460	1 519
Marine	33	...	683	—	...	—	4	1 593
Total	77	817	1 293	—	459	—	464	3 111
1997								
Land-won	27	162	598	—	327	—	338	1 452
Marine	32	590	774	—	201	—	1	1 598
Total	59	752	1 372	—	528	—	339	3 050
1998								
Land-won	...	270	712	—	370	—	...	1 701
Marine	...	497	570	—	162	—	...	1 258
Total	45	768	1 282	—	532	—	333	2 959
1999								
Land-won	...	...	683	—	453	2	354	1 800
Marine	...	...	543	—	175	—	3	1 240
Total	37	789	1 226	—	628	2	357	3 039
2000								
Land-won	...	331	502	—	404	...	386	1 658
Marine	4	620	489	—	164	—	3	1 280
Total	...	951	991	—	568	...	389	2 939
2001								
Land-won	...	...	...	—	...	116	...	1 670
Marine	...	...	...	—	...	—	...	1 216
Total	16	1 120	923	—	524	116	187	2 886
2002								
Land-won	...	...	...	—	...	...	...	1 613
Marine	...	...	...	—	...	—	...	1 145
Total	...	862	1 140	—	487	134	...	2 758
2003								
Land-won	...	...	...	—	...	...	...	1 503
Marine	...	...	...	—	...	—	...	1 230
Total	...	987	1 073	—	430	...	107	2 733
2004								
Land-won	...	...	...	—	...	142	...	1 871
Marine	...	...	...	—	...	—	...	1 249
Total	16	688	1 364	—	526	142	384	3 120

(a) BGS estimate.

Source: Office for National Statistics.

(b) From 2001, this heading is believed to include material previously classified as construction fill.

Scotland (land-won) production of sand and gravel by end-use 1995–2004

Thousand tonnes

Year	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (a)		
	For asphalt	For use in mortar						
1995	709	1 412	3 391	96	2 106	158	3 018	10 889
1996	546	1 265	3 202	47	1 965	203	2 676	9 904
1997	547	1 268	3 199	48	2 142	64	2 632	9 900
1998	447	1 153	3 210	79	1 968	198	3 020	10 074
1999	455	1 195	3 270	95	2 008	198	2 809	10 031
2000	...	1 274	3 202	67	1 749	...	3 031	10 022
2001	374	1 079	3 075	72	2 715	1 056	2 382	10 753
2002	...	1 096	2 753	...	1 790	1 021	1 581	8 643
2003	359	1 053	2 886	...	1 724	...	1 132	8 103
2004	181	732	3 309	79	1 994	740	1 421	8 455

(a) From 2001, this heading is believed to include material previously classified as construction fill.

Source: Office for National Statistics.

Sandstone (for graph, see Crushed rock)

United Kingdom summary 2000–2004

Tonnes

Commodity	2000	2001	2002	2003	2004
Sandstone —see Building and dimension stone					
<i>Production</i>	14 900 000	19 967 000	18 362 000	18 259 000	18 844 000

Great Britain production of sandstone by end-use and area of origin 2004

Thousand tonnes

Area of origin	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other con- structional uses	Armour- stone & Gabion	Industrial uses	Total	
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
North East Yorkshire and the Humber	}	62	—	—	—	—	—	—	61	—	—	122	
North West		220	...	552	...	...	—	85	71	388	...	—	1 357
West Midlands		...	—	...	...	...	—	...	761	...	20	—	3 104
East Midlands		...	330	305	192	44	—	99	38	232	—	36	...
East of England		...	—	—	25	—	—	...	95	...	...	—	320
South East		...	—	—	—	—	—	—	—	170	—	—	...
South West		2	—	—	—	—	—	—	—	...	—	—	...
	...	...	...	...	18	70	...	67	119	...	—	686	
England	398	377	1 490	813	203	70	728	1 032	1 904	25	36	7 076	
Wales	...	529	...	246	173	399	480	1	817	...	—	3 241	
Scotland	28	141	...	145	116	...	87	272	643	...	1	1 613	
Great Britain	439	1 047	2 149	1 205	493	...	1 214	1 784	3 364	35	38	11 929	
England										Wales			
County		Total		County		Total		County		Total			
Avon		...		Oxfordshire		...		Powys		1 652			
Gloucestershire		...		Durham		23		Dyfed		...			
Wiltshire		...		Norfolk		170		West Glamorgan		...			
Somerset		...		Northumberland		99		Mid Glamorgan		...			
Cheshire		...		North Yorkshire		906		Gwent		185			
Greater Manchester		1 053		West Yorkshire		450		Gwynedd		—			
Lancashire		1 264		South Yorkshire		1							
Cumbria		...		Shropshire		1 239							
Derbyshire		212		West Sussex		39		Wales					
Staffordshire		...		Bedfordshire		...							
Devon		533		Surrey		1							
Cornwall		77		Hereford & Worcester		—							
Dorset		2		Northamptonshire		108							
England						7 076							
										Scotland			
										Region		Total	
										South of Scotland		680	
										West Central Scotland		272	
										Tayside and Fife		21	
										North East Scotland		...	
										Highlands		399	
										Orkney		...	
										Shetland		...	
										Scotland		1 613	

Source: Office for National Statistics.

England production of sandstone by end-use 1992–2004

Year	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
1992	205	686	677	2 000	...	...	309	...	4 139	...	...	...	8 198
1993	192	647	...	2 048	...	...	381	...	4 786	...	...	71	9 003
1994	237	666	811	2 191	...	...	305	...	5 738	...	...	...	10 155
1995	282	640	632	1 900	...	...	367	...	5 684	...	...	...	9 719
1996	257	638	653	1 825	...	66	335	...	3 827	...	...	27	7 627
1997	(a) 243	366	876	1 604	...	55	176	...	4 312	...	...	(a) 14	7 646
1998	254	371	949	1 457	...	63	...	...	4 146	...	...	...	7 792
1999	420	333	1 090	...	...	68	548	...	3 502	...	...	...	7 241
2000	214	332	1 201	1 334	...	...	581	...	3 598	...	...	...	7 401
2001	253	...	1 375	987	...	110	1 061	...	2 474	...	...	...	7 201
2002	269	...	1 442	771	...	121	760	...	3 153	...	...	...	7 006
2003	...	511	1 644	854	...	80	891	...	2 713	...	...	...	7 005
2004	398	377	1 490	813	203	70	728	1 032	1 904	25	36	...	7 076

(a) BGS estimate.

Source: Office for National Statistics.

Wales production of sandstone by end-use 1992–2004

Year	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
1992	5	261	271	413	...	—	30	...	748	...	...	—	1 731
1993	10	...	255	294	...	—	...	...	...	...	...	(a) 9	1 381
1994	4	...	...	279	...	...	20	...	...	...	...	8	1 568
1995	6	634	...	462	...	...	...	...	1 268	...	...	...	2 898
1996	3	648	...	...	...	...	...	...	1 111	...	...	2	2 781
1997	(a) 5	...	443	767	...	...	...	...	1 219	...	...	57	3 098
1998	16	...	667	795	...	...	109	...	...	...	...	...	3 214
1999	21	493	706	...	...	—	99	...	(a) 922	...	...	...	2 973
2000	...	...	673	433	...	...	...	...	1 355	...	...	...	2 941
2001	...	...	913	439	...	—	180	...	1 132	...	...	...	3 094
2002	10	...	...	416	...	—	426	...	1 023	...	...	—	3 136
2003	...	433	792	430	...	...	641	...	871	...	...	—	3 179
2004	...	529	...	246	173	1	399	480	817	...	—	...	3 241

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of sandstone by end-use 1992–2004

Year	Building stone	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
		Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
1992	9	462	19	443	...	...	188	...	489	...	...	...	1 658
1993	30	...	...	477	...	...	...	...	...	...	...	—	1 716
1994	22	...	...	353	...	...	109	...	...	...	...	...	1 772
1995	15	457	...	382	...	...	...	...	550	...	...	...	2 400
1996	11	258	...	...	...	...	...	...	646	...	...	(a) 7	2 172
1997	8	...	454	370	...	...	...	...	356	...	...	—	1 712
1998	17	...	606	437	...	...	...	...	...	...	...	—	2 539
1999	14	229	290	460	...	(a) 70	126	...	(a) 466	...	...	2	1 657
2000	...	...	523	434	...	...	...	...	371	...	...	—	1 715
2001	18	...	136	305	...	...	184	...	685	...	...	...	1 603
2002	...	108	...	502	...	69	297	...	489	...	...	—	1 645
2003	63	103	104	457	...	65	245	...	442	...	...	1	1 481
2004	28	141	...	145	116	...	87	272	643	...	1	...	1 613

(a) BGS estimate.

Source: Office for National Statistics.

Selenium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Selenium										
<i>Imports</i>										
Elemental	521	436	434	563	969	1 810	1 760	2 070	4 048	5 317
<i>Exports</i>										
Elemental	279	209	99	139	97	1 369	803	529	1 046	3 006

Sepiolite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Sepiolite										
<i>Imports</i>	(a) 80 538	(a) 65 062	(a) 69 691	(a) 55 483	51 044	...	...	...	...	4 965

(a) Exports from Spain.

Silica sand

Silica (industrial) sands contain a high proportion of silica (SiO₂) in the form of quartz and are used for purposes other than as construction aggregates. They are essential raw materials for the glass and foundry castings industries, but also have a wide range of other industrial applications, including in ceramics and chemical manufacture, for water filtration media, and in sport and horticultural applications. Unlike construction sands, which are used for their physical properties alone, silica sands are valued for a combination of chemical and physical properties.

Silica sand production in the UK has remained around four million tonnes per year for several years. Total sales increased to more than five million tonnes in 2004. The significant increase in silica sand sales in 2004 is believed to principally reflect and improved coverage of mineral workings rather than a marked increase in demand. Of total output in 2004, over 90 per cent was produced in England, with almost all of the remainder from Scotland. However, with significant permitted reserves and identified resources, Scotland may become of increasing importance as a source of silica sand for UK industry in the future. The major producer is WBB Minerals, which accounts for over 50 per cent of total output and an even greater proportion of colourless glass sand production. Foundry sand production has been declining for a number of years, reflecting the general decline in UK manufacturing. However, glass sand production has increased somewhat in recent years due, in part, to the commissioning of two new float (flat) glass plants. St Gobain of France operates one at Eggborough in Yorkshire and a further plant at Goole operated by Guardian came on stream during 2003. Both plants are supplied from WBB Minerals' colourless glass sand operation at King's Lynn in Norfolk, the latter by rail. WBB Minerals also supplies Pilkington's float glass plants at St Helens from its site at Chelford in Cheshire.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Silica sand										
<i>Production (a)</i>	4 095 000	3 848 000	3 833 000	4 073 000	5 011 000					
<i>Imports</i>	33 209	46 500	104 232	78 944	79 808	6 489	6 624	13 020	9 646	9 840
<i>Exports</i>	28 796	54 419	39 816	51 095	166 844	3 779	4 809	5 250	3 577	5 210

(a) Silica sands for glass making, moulding and other non-constructional uses.

Great Britain production of silica sand by end-use and area of origin 2004

Thousand tonnes

Area of origin	Foundry uses	Glass manufacture	Other industrial uses	Agricultural, horticultural & leisure uses	Total
North East (a)	1	—	—	—	1
Yorkshire and the Humber (b)	...	...	16	64	...
East Midlands (c)	...	—	...	19	...
West Midlands (d)	3	...	...	...	...
East of England (e)	...	...	176	...	1 561
South East (f)	...	...	194	308	759
South West (g)	...	...	100	...	162
North West (h)	...	...	...	163	1 376
England	513	2 328	886	798	4 525
Wales (i)	—	—	...	3	...
Scotland (j)	...	335	63	37	...
Great Britain	...	2 663	...	838	5 011

(a) From Durham

(b) From North Yorkshire, South Yorkshire and Humberside

(c) From Nottinghamshire and Lincolnshire

(d) From Staffordshire, West Midlands and Hereford and Worcester

(e) From Norfolk, Suffolk, Essex, and Bedfordshire

(f) From Oxfordshire, Surrey, Kent, West Sussex and Hampshire

(g) From Wiltshire, Dorset, Devon and Cornwall

(h) From Greater Manchester, Cheshire and Merseyside

(i) From Clwyd and West Glamorgan

(j) From West Central Scotland, East Central Scotland, Highlands, Tayside and Fife and Orkney

Source: Office for National Statistics.

Silicon

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Silicon										
<i>Consumption in Iron and Steel</i>										
<i>Industry</i>										
Ferro-silicon	41 650	36 410	35 090	36 640	37 320					
Silico-manganese	26 520	23 740	21 030	22 660	23 080					
Calcium silicide	100	90	80	90	90					
Ferro-silico-zirconium	70	60	50	60	60					
<i>Imports</i>										
Elemental silicon—										
Containing not less than 99.99% silicon	758	882	1 396	2 204	2 737	24 910	25 161	31 081	41 302	45 773
Other	77 331	85 144	79 370	98 268	97 751	59 314	68 102	61 808	80 300	78 007
Doped silicon	390	196	158	298	378	74 956	48 351	34 095	33 342	36 493
Ferro-silicon	67 821	72 663	76 046	75 469	71 721	24 019	26 123	26 472	31 179	30 460
Ferro-silico-manganese	66 279	53 747	64 565	53 421	63 235	18 021	15 465	18 264	18 537	34 349
Ferro-silico-magnesium	6 965	5 318	5 820	5 663	4 862	3 790	3 007	2 697	3 010	2 367
Ferro-silico-chrome	7 415	5 136	2 309	63	—	2 365	1 488	555	35	—
<i>Exports</i>										
Elemental silicon—										
Containing not less than 99.99% silicon	108	524	195	314	376	3 472	11 325	7 716	12 874	15 341
Other	1 469	1 390	3 855	2 385	1 179	2 589	4 845	2 477	2 763	2 587
Doped silicon	199	...	379	270	323	74 383	69 723	77 316	105 080	111 515
Ferro-silicon	1 400	2 247	3 155	1 845	2 744	1 089	2 146	3 450	3 362	2 430
Ferro-silico-manganese	1 307	8	116	42	8 246	313	7	42	22	5 062
Ferro-silico-magnesium	1 543	1 453	431	282	316	1 011	1 033	361	330	213
Ferro-silico-chrome	19	52	10	35	25	19	41	8	89	46

Sillimanite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Sillimanite										
<i>Imports</i>										
Sillimanite minerals (a)	28 081	28 470	18 588	22 649	24 348	3 614	2 511	2 071	2 752	2 525
Mullite	5 198	5 174	10 006	8 656	12 060	1 955	3 016	3 341	2 696	3 010
Chamotte earth (b)	23 804	19 300	14 925	11 013	18 010	3 170	3 526	2 551	1 939	1 870
<i>Exports</i>										
Sillimanite minerals (a)	53	54	175	47	56	15	11	74	12	19
Mullite	6 689	6 841	4 379	3 191	1 915	4 534	4 722	3 308	2 197	1 462
Chamotte earth (b)	80	290	103	111	198	61	170	41	65	114

(a) Andalusite, kyanite and sillimanite.

(b) Calcined refractory clay including flint clay.

Silver

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Silver										
<i>Imports</i>										
Scrap (a)	4 887	4 472	4 074	2 952	2 468	226 927	279 096	266 183	191 927	151 213
Unwrought	1 971	2 986	2 457	2 038	1 458	247 622	314 655	298 772	238 727	203 270
Partly worked	570	486	1 324	447	584	70 618	59 019	59 309	47 123	57 745
Silver in unrefined lead bullion (b)	280	390	390	340	260					
<i>Exports</i>										
Scrap (a)	3 455	7 269	3 776	2 444	2 386	10 717	10 880	24 161	21 299	16 120
Unwrought	3 230	2 048	1 388	3 095	1 457	356 454	160 052	143 895	268 641	187 983
Partly worked	231	234	110	334	296	20 781	22 338	10 675	13 049	22 819

(a) Including scrap of platinum group metals.

(b) BGS estimates of silver content of unrefined lead bullion imported from Australia (see p.58).

Slate

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Slate										
<i>Production</i>										
Architectural and cladding uses, roofing and damp proof courses	51 000	45 000	82 000	...	...					
Powder and granules	24 000	27 000	...	...	...					
Crude blocks	33 000	39 000	38 000	33 000	43 000					
Fill and other uses	371 000	440 000	622 000	728 000	681 000					
Total	479 000	551 000	742 000	832 000	901 000					
<i>Imports</i>										
Unworked (a)	26 672	27 351	28 168	29 690	34 314	6 416	6 844	6 823	7 047	7 480
Roofing and wall tiles	99 332	112 325	125 257	139 819	160 877	32 157	35 162	40 572	45 227	51 233
Other worked slate (b)	7 502	8 581	21 162	15 601	60 720	2 404	2 761	4 825	4 486	9 847
<i>Exports</i>										
Unworked (a)	1 272	467	653	774	3 763	329	427	359	690	617
Roofing and wall tiles	10 199	10 814	7 146	11 978	16 917	4 254	4 687	3 990	7 070	9 445
Other worked slate (b)	4 724	2 119	1 658	2 313	1 919	5 504	4 102	2 500	2 675	2 140

(a) Including roughly split or squared.

(b) Including articles of slate or agglomerated slate.

Strontium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Strontium										
<i>Imports</i>										
Oxides	124	42	...	...	...	106	107	...	...	...
Carbonate	14 777	18 842	15 300	16 842	12 297	5 361	6 678	5 109	5 268	3 436
<i>Exports</i>										
Oxides	14	11	...	...	...	45	33	...	...	...
Carbonate	17	13	19	66	13	16	13	13	21	76

Sulphur

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Sulphur										
<i>Supply</i>										
Produced (a)	140 000	111 000	125 000	115 000	120 000					
Imported (b)	211 888	170 055	87 260	29 028	48 514					
Sulphur, zinc concentrates (imported) (c)	51 400	62 400	66 400	4 800	—					
<i>Consumption</i>										
For sulphuric acid–										
Sulphur	324 100	276 700	170 400	162 700	...					
Zinc concentrates (c)	45 800	54 900	54 600	...	...					
<i>Imports</i>										
Sulphur–										
Crude	211 888	170 055	87 260	29 028	48 514	10 276	11 185	4 178	2 430	2 654
Sublimed, colloidal etc.	94	390	355	541	675	39	541	411	809	419
<i>Exports</i>										
Sulphur–										
Crude	10 824	376	580	476	699	1 332	674	749	842	992
Sublimed, colloidal etc.	379	386	657	836	1 387	234	372	554	479	460

(a) Produced from oil refineries.

(b) Including waste and residues.

(c) Sulphur content calculated at 29%.

Talc

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Talc										
<i>Production</i>	4 832	4 947	6 194	6 494	3 881					
<i>Imports</i>	61 975	66 737	66 119	59 172	66 722	10 209	10 730	10 303	9 807	11 205
<i>Exports</i>	3 812	4 034	3 833	3 325	3 308	1 328	1 237	1 257	1 048	1 146

Tellurium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Tellurium										
<i>Imports</i>	140	48	23	41	17	555	371	305	504	153
<i>Exports</i>	39	54	43	37	46	288	512	564	679	1 125

Tin

Baseresult Holdings Ltd, owners of the South Crofty tin mine and processing plant in Cornwall, submitted an application to Cornwall County Council providing details of future tin mining and ancilliary operations in respect of a working plan and suggested planning conditions. This application is still in the process of discussion with the planning authority. The company has stated that 'Limited underground development has progressed steadily throughout the year as part of the preliminary mining programme. The tunneling is above the water table within the mine, with its initial aim to provide the mandatory secondary access'

Apart from this, the only remaining tin mining activity is the very small-scale production of cassiterite by tourist operations.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Tin										
<i>Consumption</i>										
Refined	9 963	9 954	6 888	7 125	5 301					
<i>Imports</i>										
Concentrates	0	6	—	—	2	0	2	—	—	12
Scrap	388	179	188	168	215	630	223	191	303	204
Ash and residues	0	0	1	—	—	0	0	1	—	—
Unwrought	9 190	6 857	7 151	7 488	5 861	32 540	22 107	19 094	22 377	27 342
Unwrought alloys	1 760	2 442	1 437	2 378	1 145	4 215	7 789	3 585	6 163	4 821
<i>Exports</i>										
Concentrates	121	59	24	29	0	1 174	661	589	65	1
Scrap	1 322	2 256	2 821	4 499	7 353	1 287	2 023	2 274	2 436	3 539
Ash and residues	473	262	194	61	243	459	177	179	87	412
Unwrought	146	426	381	283	524	652	1 306	1 079	1 080	2 871
Unwrought alloys	2 993	2 485	2 165	2 152	873	8 081	7 314	5 092	4 263	3 672

Titanium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Titanium										
<i>Production</i>										
Titanium dioxide pigment (c)	200 000	200 000	200 000	200 000	200 000					
<i>Apparent consumption (a)</i>	96 200	96 800	89 500	36 200	18 200					
<i>Consumption in Iron and Steel Industry</i>										
Ferro-titanium	1 020	910	780	940	960					
<i>Imports</i>										
Ores and concentrates										
Ilmenite	134 861	112 447	106 177	113 852	110 596	11 563	9 082	7 928	7 145	6 068
Other (rutile)	70 348	110 526	82 303	111 754	113 852	19 720	30 909	24 697	27 719	25 336
Scrap	14 953	15 258	13 586	11 097	13 264	20 680	23 597	19 536	21 183	42 126
Unwrought	9 403	11 851	8 971	10 932	10 573	36 954	53 303	37 360	34 162	40 985
Wrought	2 975	3 643	2 761	3 097	3 340	71 591	80 770	60 353	52 231	57 038
Ferro-titanium (b)	2 672	2 465	2 729	2 042	2 457	4 029	4 124	4 313	3 516	8 071
Oxides	6 717	6 048	5 310	5 827	9 739	9 909	9 955	8 011	8 417	11 771
Pigments based on titanium dioxide	73 370	76 804	90 273	68 311	64 211	87 859	94 873	97 680	87 649	82 637
Titanium slag	160 738	110 697	157 020	44 890	...	43 704	32 353	44 468	34 972	...
<i>Exports</i>										
Ores and concentrates										
Ilmenite	3	—	—	—	1	1	—	—	—	11
Other (rutile)	(c) 400	(c) 30	24	48	42	(c) 245	(c) 80	179	49	226
Scrap	2 888	3 188	2 503	1 423	1 797	7 389	8 557	5 775	2 989	5 762
Unwrought	7 364	4 090	4 010	5 252	5 423	15 468	16 639	14 589	16 485	25 214
Wrought	3 900	6 318	4 998	3 409	4 665	72 993	93 662	79 792	58 664	73 573
Ferro-titanium (b)	18 839	16 422	16 334	14 676	20 573	31 926	28 922	28 094	29 417	65 856
Oxides	2 135	1 788	1 490	2 940	1 139	3 494	3 026	2 811	2 724	2 322
Pigments based on titanium dioxide	207 448	205 695	237 394	239 601	229 883	234 642	243 631	265 434	283 891	259 785

(a) BGS estimates; see p.v.

(c) BGS estimates.

(b) Including ferro-silico-titanium.

Tungsten

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Tungsten										
<i>Consumption in Iron and Steel Industry (a)</i>	40	40	30	40	40					
<i>Imports</i>										
Ores and concentrates	...	...	...	190	0	20	66	28	30	8
W content	...	...	...	139	0					
Scrap	1 380	1 828	1 206	1 443	1 090	4 548	8 335	3 720	4 019	4 410
Unwrought	379	405	519	359	412	6 878	4 484	4 664	2 898	3 541
Wrought	417	305	396	130	382	6 552	5 990	5 647	4 644	6 523
Ferro-tungsten (b)	63	96	32	60	10	171	340	90	241	45
Carbide	829	1 381	759	1 232	743	8 256	19 297	8 020	10 524	8 200
Ash and residues	0	0	...	—	—	4	1	...	—	—
Tungstates	107	85	83	121	125	526	414	323	574	422
Oxides and hydroxides	1 207	1 490	877	1 321	295	4 329	9 151	4 394	6 386	1 341
<i>Exports</i>										
Ores and concentrates	2	11	—	...	20	4	34	—	48	72
W content	1	5	—	...	10					
Scrap	1 225	1 471	1 264	1 431	793	2 704	4 218	3 533	3 421	3 232
Unwrought	835	253	189	198	175	6 743	3 517	1 644	1 689	1 497
Wrought	2 586	149	214	424	294	4 047	1 310	1 558	1 935	2 356
Ferro-tungsten (b)	93	6	16	10	39	261	27	55	44	106
Carbide	8	20	5	70	92	168	303	92	1 003	1 697
Tungstates	3	23	130	182	41	39	180	592	1 118	130
Oxides and hydroxides	62	8	8	5	315	364	441	314	90	1 134

(a) Metal content.

(b) Including ferro-silico-tungsten.

Vanadium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Vanadium										
<i>Consumption in Iron and Steel Industry (a)</i>	700	630	540	70	70					
<i>Imports</i>										
Scrap	23	7	14	6	—	115	61	71	29	—
Unwrought	69	95	98	67	196	624	1 139	796	410	1 629
Wrought	181	278	59	183	141	1 615	1 924	482	1 501	1 032
Ferro-vanadium	1 443	727	748	1 071	1 262	3 380	3 393	2 209	3 764	6 073
Oxides	277	319	962	363	306	613	989	1 874	936	806
<i>Exports</i>										
Ash and residues	—	0	...	...	—	—	81	...	...	—
Scrap	85	59	46	22	—	580	451	331	188	—
Unwrought	0	0	99	6	14	2	2	79	35	194
Wrought	1 705	1 346	1 280	1 109	1 061	964	723	1 587	2 226	4 148
Ferro-vanadium	49	118	55	39	17	265	484	272	228	125
Oxides	1 933	14	20	—	2	642	64	93	3	14

(a) Vanadium content of ferro-vanadium.

Vermiculite

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Vermiculite										
<i>Imports</i>	36 341	31 602	36 275	30 102	32 778	3 548	3 472	4 002	3 499	3 780
<i>Exports</i>	83	109	213	230	75	119	107	101	147	227

Zinc

Anglesey Mining Company raised additional funds and drilled three deep holes (AMC15 – AMC17), totalling 1875 m, during the second half of 2005 at the Parys Mountain polymetallic Cu-Pb-Zn-Ag-Au deposit on Anglesey in North Wales. The holes were about 700 m north-east of the Morris Shaft and along the northern margin of the Parys Mountain volcanic complex. They intersected extensions of three known mineralised horizons and provided information on their continuity, thickness and grade. A new ore resource zone, the 'Garth Daniel' area, was identified. High grade intersections along the extension of the Engine Zone horizon, within the Garth Daniel area, of 2.5 m @ 6.34% Cu, 11.94% Pb, 22.26% Zn in AMC15 and 5.5 m @ 3.73% Cu, 6.06% Pb, 12.51% Zn in AMC17 were announced. A further drilling programme has been announced for 2006.

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Zinc										
<i>Production (a)</i>										
Slab	99 600	99 600	99 600	16 600	—					
<i>Consumption</i>										
Slab	206 486	197 140	202 407	176 200	150 100					
Scrap (Zn content)	36 058	34 043	32 250	57 374	88 782					
Total	242 544	231 183	234 657	233 574	238 882					
<i>Imports</i>										
Ores and concentrates (b)	177 332	215 342	229 042	16 611	260	31 332	33 120	28 010	2 413	435
Ash and residues	11 108	4 401	3 414	10 941	26 221	...	...	4 099	13 800	64 065
Scrap	4 983	3 219	261	172	228	2 778	1 645	134	39	69
Unwrought	119 052	110 157	108 357	171 219	138 780	105 955	75 822	62 546	91 816	85 792
Unwrought alloys	7 133	6 363	5 738	13 796	15 960	6 140	4 990	3 832	8 075	9 668
<i>Exports</i>										
Ores and concentrates	1 353	72	15 744	113	326	266	85	2 883	673	200
Ash and residues	10 420	9 534	7 417	11 403	20 699	2 279	2 926	2 001	3 479	4 847
Scrap	45 202	19 157	15 248	15 436	9 851	24 000	11 384	7 511	4 715	4 974
Unwrought	12 231	15 455	15 686	3 106	1 580	8 749	10 595	9 098	1 756	1 051
Unwrought alloys	19 940	21 971	22 366	21 770	26 187	17 373	18 296	15 141	13 817	17 561

(a) Anglesey Mining Co continued small-scale geological and scientific studies at the Parys Mountain polymetallic Cu-Pb-Zn-Ag-Au deposit on Anglesey in North Wales.

(b) Zinc and mixed zinc-lead concentrates.

Zirconium

United Kingdom summary 2000–2004

Commodity	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
	Tonnes					£ thousand				
Zirconium										
<i>Consumption in Iron and Steel Industry</i>										
Ferro-silico-zirconium	70	60	50	60	60					
<i>Apparent consumption (a)</i>	15 800	20 800	12 700	19 400	18 200					
<i>Imports</i>										
Ores and concentrates (b)	34 053	46 548	30 656	39 285	32 917	13 115	16 798	9 811	11 383	11 482
Scrap	437	335	221	173	156	1 171	860	719	763	408
Unwrought	76	91	35	22	79	838	481	787	383	882
Wrought	220	268	137	151	209	3 039	3 622	2 911	4 848	3 757
<i>Exports</i>										
Ores and concentrates	567	1 776	5 033	418	433	496	1 022	2 303	395	324
Scrap	192	222	184	107	22	944	1 101	931	702	105
Unwrought	67	85	42	65	75	101	49	107	195	161
Wrought	57	73	37	72	86	1 491	1 348	851	934	1 354

(a) BGS estimates; see p.v.

(b) Mainly zircon.



£25.00 net

