British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

United Kingdom Minerals Yearbook 2006

British Geological Survey

United Kingdom Minerals Yearbook 2006

Statistical data to 2005

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BRITISH GEOLOGICAL SURVEY

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

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Bibliographical reference

British Geological Survey. 2007. *United Kingdom Minerals Yearbook 2006.* (Keyworth, Nottingham: British Geological Survey.)

Cover photograph

Mountsorrel Quarry, Leicestershire © Lafarge Aggregates Ltd (used with permission).

A new study of aggregate reserves in England, completed by the BGS in 2006, revealed that reserves in some regions are declining quite dramatically, placing increasing demands on a few, large, rail-linked quarries in the East Midlands and South West. In particular, sand and gravel reserves in the South East of England declined by 61 per cent between 1990 and 2004. Given the lack of indigenous hard rock suitable for aggregates in the South East and increased demand expected due to the Olympics in 2012 and Thames Gateway projects, supply constraints such as capacity on the rail network could cause potential problems in meeting future needs.

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Preface

Government, industry and the wider public require access to reliable sources of data on the minerals industry in Britain. Such data are provided in our annual publication, *United Kingdom Minerals Yearbook*, which brings together data on minerals production, consumption and trade, and includes an authoritative commentary on current developments in the minerals industry. It is of value to all those interested in Britain's minerals industry and its contribution to the national economy, and forms part of the long-term mining and quarrying record of the UK. In 2006, UK minerals issues were dominated by concerns related to energy security.

Between 1980 and 2004, a plentiful supply of North Sea petroleum ensured that the UK production of primary fuels exceeded consumption and security of energy supply received relatively little attention. However, the UK has been a net importer of coal since 1984, of gas from December 2004 and of oil in 2005, and reliance on imports is increasing. These changes are accompanied by growing concern about security of supply – a challenge now being addressed by the UK Government.

The Government's report on the Energy Review, *The Energy Challenge*, was published in July 2006 with recommendations aimed at meeting the two major long-term challenges in UK energy policy: addressing climate change by reducing carbon dioxide emissions, and delivering energy at affordable prices as the UK becomes increasingly reliant on imported energy. Following consultation on a package of proposals, *Meeting the Energy Challenge*, a White Paper on Energy setting out Government strategy, was published in May 2007. A consultation document, *The Future of Nuclear Power*, was published at the same time. In March 2006, the EU adopted a green paper, *A European Strategy for Sustainable, Competitive and Secure Energy* as part of the process to formulate a common energy policy for the EU.

In 2006 there were other energy-related issues affecting the UK minerals industry:

- The UK's supply of electricity derived from gas and nuclear fell, while electricity imports rose by 11.8 per cent on 2005.
- Demand for coal was at its highest level for ten years as the high price of gas and low carbon price in the EU Emissions Trading Scheme made it an attractive option for electricity generation.
- Flue gas desulphurisation (FGD) capacity has been fitted, is planned or under construction at several coal-fired power stations.
- Imerys Minerals Ltd., producers of about 85 per cent of UK china clay, announced that the company plans to reorganise its UK kaolin business with the transfer of some production to Brazil citing recent increases in energy costs in the UK as a major contributing factor.
- Cavities in salt created by controlled solution mining can now be used for gas storage in order to ensure that the UK can meet its gas demand during periods of high energy use. A facility under construction at the Holford brinefield in Cheshire will have a capacity of 165 million cubic metres, equivalent to about half of the UK's average daily gas demand, and other projects have been completed or are underway.

The United Kingdom Minerals Yearbook is available to download from the *MineralsUK Centre for Sustainable Minerals Development* website, www.mineralsUK.com, which is hosted on the BGS website www.bgs.ac.uk. Numerous other mineral-related publications from BGS are also available for download.

I 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.

John N Ludden, PhD
Executive Director

British Geological Survey
Keyworth
Nottingham

May 2007

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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:

Troy ounce	*Kilogram*
1	= 0.0311035
32.1507	= 1

Pound	*Kilogram*
1	= 0.453592
2.20462	= 1

Hundredweight	*Kilogram*
1	= 50.8023
0.019684	= 1

Long ton	*Tonne*
1	= 1.01605
0.984206	= 1

Square yard	*Square metre*
1	= 0.836127
1.19599	= 1

Cubic yard	*Cubic metre*
1	= 0.764555
1.30795	= 1

UK gallon	*Litre*
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)
1973–2006 *Digest of United Kingdom Energy Statistics*; Department of Trade and Industry, formerly published by Department of Energy
1973–1993 *Minerals (PA1007)*; Central Statistical Office
1994–2006 *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)
1999–2006 *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 £25 458 million in 2005, or 2.3 per cent of national GVA. The extraction of oil and gas accounted for £23 427 million of the total for the extractive industries, the mining of coal £358 million, and other mining and quarrying £1672 million.

The estimated total value of minerals produced in 2005 in the UK, expressed as sales on an ex-works basis as opposed to gross valued added, was £30 594 million, an increase of 18.5 per cent on 2004, almost entirely due to the high price of oil and gas.

UK: Value of mineral production, 2003–2005 £ million

	2003	2004	2005
Oil and natural gas liquids	14 470	14 743	18 340
Natural gas	7 554	7 443	8 902
Coal	794	800	722
Aggregates	1 698	1 794	1 632
Other construction minerals	268	311	343
Industrial minerals	657	722	655
Metalliferous minerals	<0.2	<0.2	<0.2
Total	**25 441**	**25 813**	**30 594**

Production of crude oil, including natural gas liquids, declined by ten per cent between 2005 and 2006 to 76.58 million tonnes. Cumulative production of oil to the end of 2005 was 3090 million tonnes and estimated total remaining reserves in present discoveries are in the range 516 to 1267 million tonnes. Natural gas production also declined from 87.58 million tonnes (oil equivalent) in 2005 to 79.95 million tonnes in 2006. 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 the end of 2005 was 2007 billion cubic metres and estimated remaining reserves in present discoveries are in the range 481 billion cubic metres and 1006 billion cubic metres.

Coal production declined by 9.3 per cent from 20.50 million tonnes in 2005 to 18.59 million tonnes in 2006. This decrease was due to a fall in opencast production while underground production was only one per cent lower than in 2005. Coal imports also increased by 14.3 per cent to 50.26 million tonnes in 2006.

UK: Primary fuel consumption for total energy and use in electricity generation

Million tonnes of oil equivalent

	Total energy		Electricity generation	
	2004	2005	2004	2005
Coal	39.2	40.0	31.3	32.6
Petroleum	75.5	77.3	1.1	1.3
Natural gas	96.2	93.4	29.3	28.7
Nuclear	18.2	18.4	18.4	18.4
Hydroelectricity and wind, other renewables, waste	4.1	4.6	4.0	4.0
Net electricity imports	0.6	0.7	0.7	0.7
Other fuels	-	-	1.6	2.1
Total	**233.8**	**234.4**	**86.4**	**87.8**

Total UK production of primary aggregates decreased from a total of 225.0 million tonnes in 2004 to 216.53 million tonnes in 2005. Sales of crushed rock aggregate are estimated to have increased by one per cent in 2006, while sand and gravel sales are two per cent lower.

The Omagh gold deposit in Northern Ireland is a mesothermal quartz-sulphide vein deposit with a proven and probable reserve of 367 310 tonnes grading 7.52 grams per tonne gold over a width of 4.43 metres within the designated open pit area. Construction of the 150 tonnes per day facility is now complete and initial mining has commenced. Sulphide concentrates will be sent overseas for processing.

British Geological Survey

The BGS and the Department for Community and Local Government (DCLG) continue to 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. Much of the output of this work programme is made available on the *MineralsUK Centre for Sustainable Minerals Development* website, www.mineralsUK.com (*mineralsUK*). *MineralsUK* was revamped in 2006 in order to accommodate the expansion that had taken place since its first design and to provide better access to the content.

Primary aggregate reserves in England 1990–2004, a report produced by the BGS for DCLG, presents and analyses information on permitted reserve levels, sales and planning permissions of primary, land-won aggregates in England. It provides a strategic overview by English region of the extent that permitted reserves of aggregates are being depleted or replenished.

Fifteen of the 20 commodities in the *Mineral Planning Factsheets* series, available on the *mineralsUK* website, have been revised and updated. 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.

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. With DCLG's support, one new leaflet was added to the series: *Safeguarding our minerals supply*.

Minerals Information Online, an innovative internet geographical information system (GIS) developed by the BGS to provide quick access for all to information about mineral resources in the English regions, is now live on *mineralsUK*. This GIS is a tool for planning authorities, the minerals industry, consultants and environmental bodies and provides definitive and impartial information to assist debate, planning and decision-making for the supply of minerals in England. By providing statistical, geographical and text-based information, it enables users to relate minerals information to other forms of land use, such as urban areas, nature conservation areas and transport infrastructure. It shows areas where mineral extraction is currently taking place and can also be used to identify areas where future mineral extraction may potentially conflict with other land-use and conservation interests. The development of the system was supported by the DCLG.

Planning4Minerals, (www.bgs.ac.uk/Planning4Minerals/Index.htm) is a new web-based training package in key planning issues related to aggregate minerals, aimed principally at councillors and officers in the regional assemblies and mineral planning authorities in England. It incorporates a series of topic overviews covering planning and the planning process, environment, resources and economics.

The BGS, David Jarvis Associates and the Derbyshire Wildlife Trust have developed a unique interactive CD-ROM, *Explore Quarry Restoration*, which allows the viewer to explore the effects of different types of restoration on contrasting 'virtual' quarries. Features include the ability to accelerate time to assess the impact of tree growth, or move around a realistic three-dimensional model to examine a landscaped area from different viewpoints. Further information on quarry restoration issues, from biodiversity to water management, drawing on real-life examples of good restoration practice, is included. This product will be available on *mineralsUK*.

The British Geological Survey's on-going Baseline Survey of the Environment (G-BASE) project has continued the regional geochemical mapping of mainland Britain in the south of England. This project involves the systematic 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 nearly half-a-million 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 some 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. In 2006, the G-BASE team helped to complete the sampling of soils and drainage samples for the Tellus project in Northern Ireland. 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. The province now has complete geochemical baseline coverage for stream sediments, stream waters and soils.

The Aggregate Minerals Survey 2005, undertaken by BGS for DCLG, has been completed and the collated results have been published on the DCLG website (www.communities.gov.uk/index.asp?id=I5I0949).

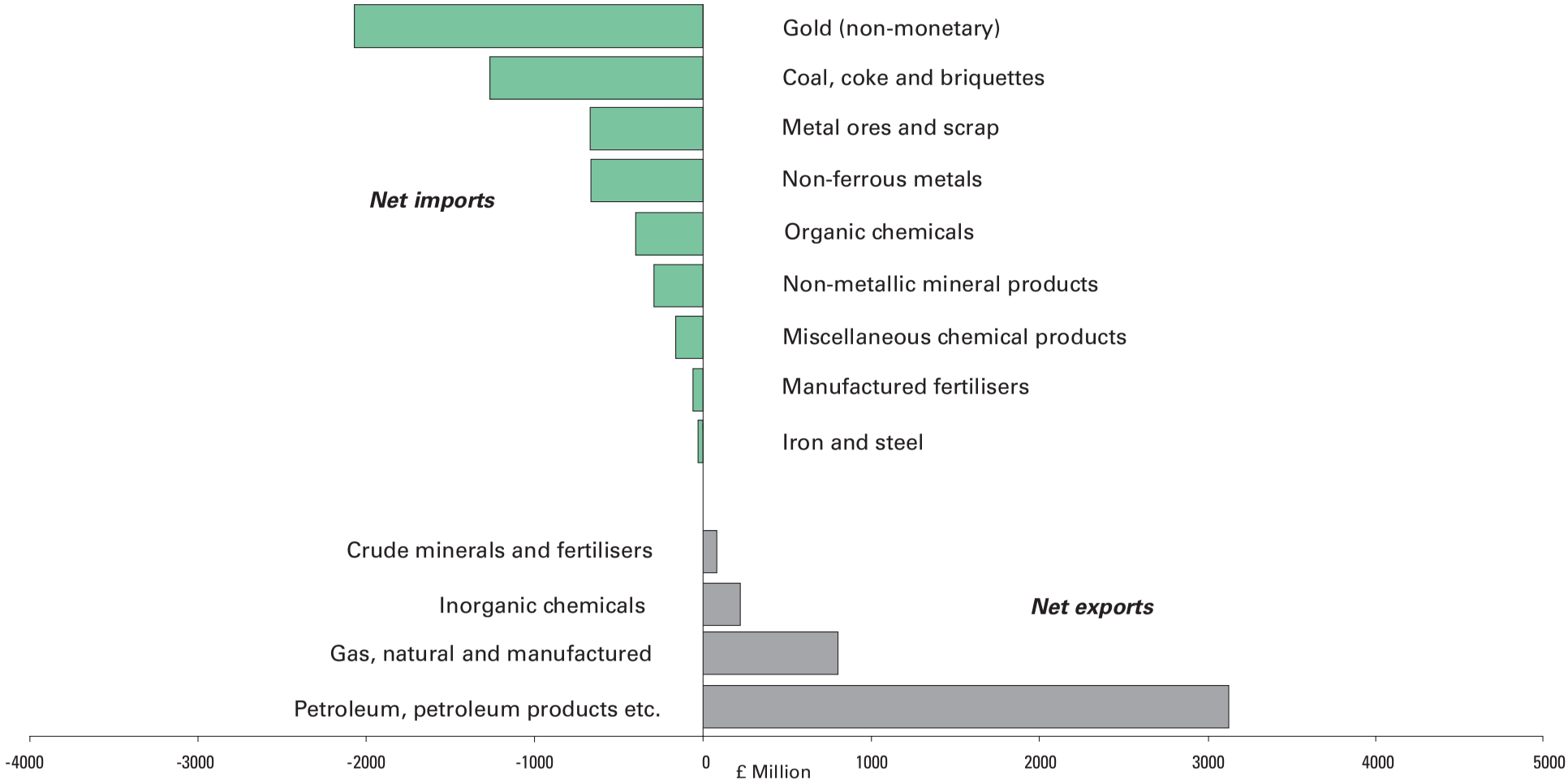
Trade in minerals and mineral-based products compared with total trade 1999–2005

£ million

SITC section		1999	2000	2001	2002	2003	2004	2005
	Imports (c i f)							
0, 1	Food, beverages, tobacco	17 210.3	16 936.7	18 138.7	19 046.8	20 727.8	21 763.3	23 291.4
2, 4	Basic materials	5 967.4	6 899.6	7 037.4	6 513.9	6 733.6	6 968.6	7 366.7
	of which: Minerals	1 805.1	2 378.7	2 595.1	1 995.7	1 980.8	2 233.4	2 619.9
3	Fuels and related materials	5 273.3	9 700.4	10 202.4	9 590.4	11 162.8	16 209.1	23 535.0
	of which: Mineral-based	4 877.8	9 327.8	10 023.2	9 390 3	10 991.9	15 862.9	23 092.9
	Manufactured goods:							
5, 6	Semi-manufactures	47 264.5	51 733.3	54 950.5	54 973.4	57 949.8	62 171.0	64 754.7
	of which: Mineral-based	19 812.3	22 366.8	22 683.5	21 367.1	22 473.7	25 272.4	27 017.6
7, 8	Finished manufactures	120 877.8	135 711.7	136 538.3	136 303.1	138 263.3	144 032.6	151 715.1
9	Other (a)	3 717.9	3 936.6	3 912.1	5 352.3	6 113.7	3 884.1	1 847.1
	of which: Mineral-based	2 068.2	2 248.4	2 791.1	4 060.6	4 750.5	2 334.1	221.3
		200 311.2	**224 918.3**	**230 779.4**	**231 779.9**	**240 951.0**	**255 028.6**	**272 510.0**
	All traded goods							
	of which: Mineral-based	28 563.3	36 321.7	38 093.0	36 813.6	40 196.9	45 702.8	52 951.7
	As % of all traded goods	14.3	16.2	16.5	15.9	16.7	17.9	19.4
	Exports (f o b)							
0, 1	Food, beverages, tobacco	10 023.7	9 916.5	9 695.0	10 035.8	10 879.8	10 615.2	10 690.2
2, 4	Basic materials	2 301.3	2 586.9	2 582.5	2 862.9	3 318.3	3 759.6	3 982.7
	of which: Minerals	964.4	1 207.2	1 267.2	1 374.6	1 673.2	2 064.2	2 186.1
3	Fuels and related materials	9 343.7	15 996.6	15 554.8	15 143.2	15 588.9	16 795.5	20 131.0
	of which: Mineral-based	9 335.3	15 991.5	15 552.1	15 042.4	15 421.9	16 644.7	20 030.0
	Manufactured goods:							
5, 6	Semi-manufactures	43 658.4	47 781.0	50 514.3	50 413.0	54 506.2	56 528.5	60 079.2
	of which: Mineral-based	17 932.7	20 700.9	21 247.6	20 011.6	21 103.8	22 932.3	26 616.7
7, 8	Finished manufactures	100 047.7	109 906.4	110 573.0	107 840.1	103 372.5	102 050.3	115 724.9
9	Other (a)	2 681.3	2 901.6	2 251.0	1 449.2	1 144.7	1 605.3	1 910.6
	of which: Mineral-based	1 252.5	1 301.5	1 301.9	479.2	399.0	826.1	878.6
		168 056.1	**189 089.0**	**191 170.6**	**187 744.2**	**188 810.3**	**191 354.4**	**212 518.6**
	All traded goods							
	of which: Mineral-based	29 484.9	39 201.2	39 368.9	36 907.8	38 597.9	42 467.4	49 711.4
	As % of all traded goods	17.5	20.7	20.6	19.7	20.4	22.2	23.4

(a) Including non-monetary gold.

United Kingdom balance of trade in minerals and mineral-based products (2001–2005 average)



Balance of trade in minerals and mineral-based products 2001–2005

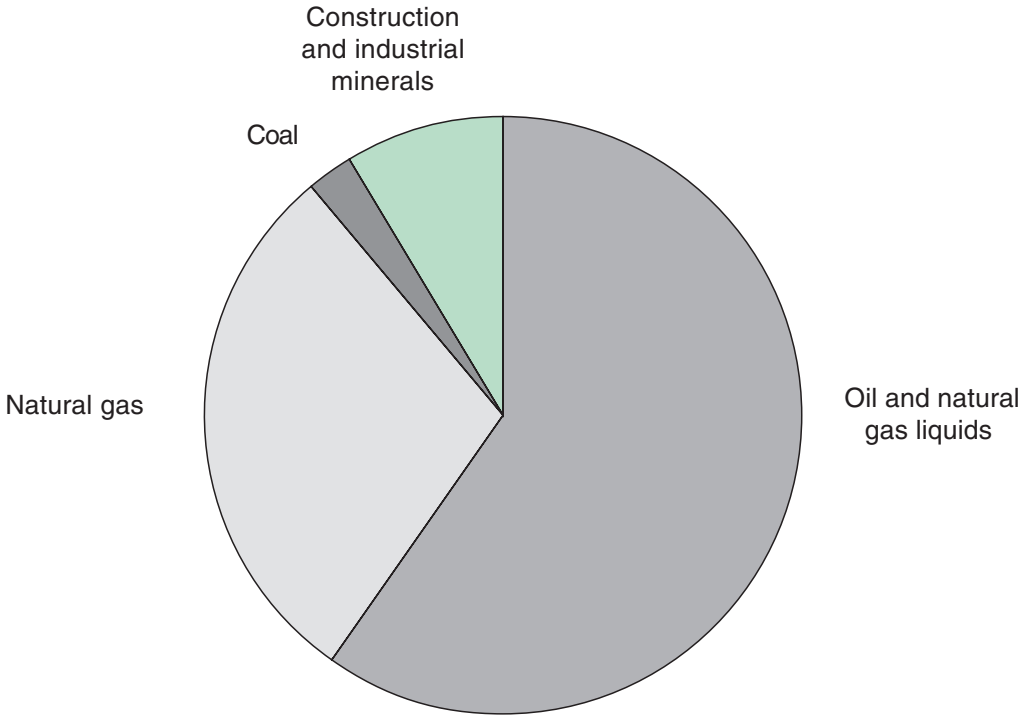
£ million (a)

SITC (R3) divisions		2001	2002	2003	2004	2005
27	Crude minerals and fertilisers:					
	imports	361.9	366.1	372.6	385.5	396.9
	exports	450.8	442.9	478.9	467.7	461.2
		+88.9	+76.8	+106.3	+82.2	+64.4
28	Metal ores and scrap:					
	imports	2 233.2	1 629.6	1 608.2	1 847.9	2 223.0
	exports	816.5	931.7	1 194.3	1 596.5	1 724.8
		–1 416.7	–697.9	–413.9	–251.4	–498.2
32	Coal, coke and briquettes:					
	imports	1 222.3	898.7	1 023.1	1 512.4	1 992.9
	exports	65.0	65.2	57.9	64.1	72.2
		–1 157.3	–833.5	–965.2	–1 448.2	–1 920.7
33	Petroleum, petroleum products and related materials:					
	imports	8 496.6	8 134.4	9 743.7	13 514.4	19 126.4
	exports	13 991.1	13 471.1	13 654.3	15 108.9	18 419.1
		+5 494.5	+5 336.7	+3 910.5	+1 594.4	–707.3
34	Gas, natural and manufactured:					
	imports	304.3	357.1	225.1	836.1	1 973.7
	exports	1 495.9	1 506.1	1 709.8	1 471.7	1 538.7
		+1 191.6	+1 149.0	+1 484.7	+635.6	–434.9
51	Organic chemicals:					
	imports	5 655.8	5 828.2	6 252.0	6 940.3	7 350.6
	exports	5 962.5	5 551.6	5 906.8	5 963.1	6 629.5
		+306.7	–276.6	–345.2	–977.2	–721.2
52	Inorganic chemicals:					
	imports	1 235.6	1 079.2	1 110.2	1 379.2	1 503.4
	exports	1 637.9	1 352.3	1 421.3	1 502.9	1 522.0
		+402.3	+273.1	+311.1	+123.7	+18.6
56	Manufactured fertilisers:					
	imports	138.7	129.5	169.4	164.7	142.5
	exports	85.0	81.0	88.8	81.0	80.6
		–53.7	–48.5	–80.5	–83.7	–61.9
53–59 (part)	Miscellaneous chemical products:					
	imports	2 896.3	2 753.5	2 945.1	3 179.9	3 386.2
	exports	2 615.7	2 647.6	2 560.7	2 726.9	3 761.3
		–280.6	–105.9	–384.3	–453.0	+375.0
66	Non-metallic mineral products:					
	imports	6 408.5	5 687.2	5 890.8	6 335.7	6 954.8
	exports	5 703.3	5 668.5	6 032.9	5 891.3	6 499.3
		–705.2	–18.7	+142.1	–444.3	–455.5
67	Iron and steel:					
	imports	2 280.5	2 411.3	2 538.2	3 405.9	3 456.0
	exports	2 065.0	2 027.0	2 423.5	3 339.8	4 081.6
		–215.5	–384.3	–114.7	–66.1	+625.7
68	Non-ferrous metals:					
	imports	3 931.4	3 368.1	3 467.0	3 752.7	4 086.5
	exports	3 053.5	2 572.8	2 582.2	3 234.7	3 881.3
		–877.9	–795.3	–884.8	–518.0	–205.1
69	Manufactures of metal:					
	imports (b)	136.7	110.1	101.1	114.1	137.6
	exports (b)	124.9	110.8	87.5	102.5	161.2
		–11.8	+0.7	–13.6	–11.5	+23.6
96	Coin other than gold:					
	imports	1.7	3.8	2.0	1.9	2.5
	exports	14.4	16.2	19.5	26.5	36.2
		+12.7	+12.4	+17.5	+24.6	+33.7
97	Gold (non-monetary):					
	imports	2 789.4	4 056.8	4 748.5	2 332.2	218.8
	exports	1 287.6	463.0	379.4	799.6	842.4
		–1 501.8	–3 593.8	–4 369.0	–1 532.5	+623.6
	Total					
	imports	**38 093.0**	**36 813.6**	**40 196.9**	**45 702.8**	**52 951.7**
	exports	**39 368.9**	**36 907.8**	**38 597.9**	**42 377.4**	**49 711.3**
		+1 275.9	**+94.2**	**–1 599.0**	**–3 325.4**	**–3 240.4**
	Gold (monetary):					
	imports	688.5	996.0	2 408.5	2 619.0	2 686.4
	exports	1 164.8	528.2	126.6	389.3	3 497.0
		+476.3	–467.8	–2 281.9	–2 229.6	+810.6
	Grand total					
	imports	**38 781.5**	**37 809.6**	**42 605.4**	**48 321.7**	**55 638.1**
	exports	**40 533.6**	**37 436.0**	**38 724.5**	**42 766.7**	**53 208.3**
		+1 752.1	**–373.6**	**–3 880.8**	**–5 555.0**	**–2 429.8**

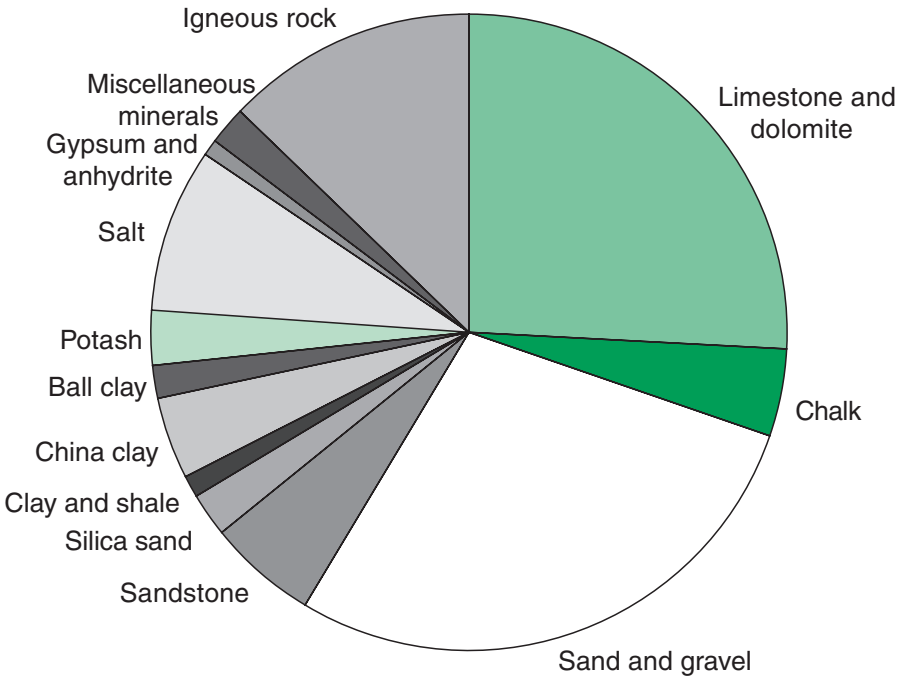
(a) Imports are valued c i f and exports are valued f o b.

(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 2005
(total value £25 204 million)



Value of United Kingdom construction and industrial minerals production 2005
(total value £2828 million)



Approximate value (a) of minerals produced in the United Kingdom 1998–2005

£ million

Mineral	1998	1999	2000	2001	2002	2003	2004	2005
Coal	1 242	1 076	916	1 028	889	794	800	722
Natural gas	5 313	5 031	6 606	8 140	8 199	7 554	7 443	8 902
Natural gas liquids	551	727	1 117	963	894	1 105	1 266	1 684
Crude petroleum	7 487	10 257	16 275	13 646	13 629	13 365	13 477	16 656
Iron ore	0	0	0	0	0	0	0	0
Tin	1	—	—	—	—	—	—	—
Other non-ferrous metals	0	0	0	0	0	0	0	0
Sand and gravel	549	597	619	677	707	719	722	746
Limestone and dolomite	703	670	662	702	670	685	756	687
Igneous rock	276	312	320	328	336	366	396	335
Sandstone	115	95	98	119	108	133	157	146
Chalk	59	56	46	69	72	88	112	112
Slate								
Common clay and shale	20	22	19	19	19	24	25	27
China clay	237	242	234	187	192	168	195	107
Ball clay	45	45	50	47	44	43	46	51
Fuller's earth	9	7	7	5	5	4	3	1
Salt	174	146	153	152	148	192	217	222
Silica sand	62	54	51	54	53	56	67	58
Potash	91	74	76	67	68	83	68	72
Fluorspar	7	5	4	5	5	6	5	5
Gypsum and anhydrite	14	13	13	15	17	17	19	17
Miscellaneous minerals	32	35	36	41	40	39	39	44
Total	**16 987**	**19 464**	**27 302**	**26 264**	**26 095**	**25 441**	**25 813**	**30 594**
At 2003 constant prices								
Coal	1 397	1 184	995	1 092	916	794	780	688
Oil and gas	15 018	17 618	26 056	24 175	23 425	22 024	21 624	25 969
Metals	1	0	0	0	0	0	0	0
Construction and industrial minerals	2 692	2 611	2 593	2 643	2 561	2 623	2 755	2 507
Total	**19 108**	**21 413**	**29 644**	**27 911**	**26 902**	**25 441**	**25 159**	**29 165**

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

Source: British Geological Survey.

Approximate value of minerals produced in each part of the United Kingdom 1998–2005

£ million

	1998	1999	2000	2001	2002	2003	2004	2005
England	3 046	2 876	2 893	2 984	2 847	2 842	2 901	2 675
Wales	255	256	243	239	222	228	254	245
Scotland	492	492	473	533	469	449	543	545
Northern Ireland	59	60	64	75	75	83	89	109
Offshore	13 135	15 780	23 629	22 433	22 482	21 839	21 416	27 019
Total	**16 987**	**19 464**	**27 302**	**26 264**	**26 095**	**25 441**	**25 204**	**30 594**

Source: British Geological Survey.

United Kingdom mining and quarrying: Gross value added (a) 1998–2005

£ million

	1998	1999	2000	2001	2002	2003	2004	2005
Production								
Mining and quarrying								
Mining and quarrying of energy producing materials								
Mining of coal	817	642	611	548	534	468	385	358
Extraction of mineral oil and natural gas	13 054	14 694	22 283	20 940	20 006	19 542	19 845	23 427
Other mining and quarrying	1 645	1 716	1 795	1 760	1 474	1 524	1 646	1 672
Total mining and quarrying	15 515	17 052	24 689	23 252	22 011	21 534	21 876	25 458
All industries	763 680	800 611	840 979	882 753	930 297	985 558	1 044 165	1 086 859
of which: minerals related (%)	2	2	3	3	2	2	2	2

(a) At current basic prices.

Source: Office for National Statistics.

United Kingdom employment in the minerals industry, 2005

Number

	Great Britain (a)			Northern Ireland
Mineral	Mines (d)	Quarries	Total	
Ball clay	—	71	71	—
Calcspar	—	—	—	—
Chalk	—	292	292	(b)…
Chert and flint		1	1	—
China clay	—	384	384	—
Clay and shale	—	587	587	(b)…
Coal	4 212	1 842	6 054	—
Dolomite	—	423	423	—
Fireclay	2	27	29	(b)…
Fuller's earth	—	—	—	—
Gypsum and anhydrite	245	9	254	—
Honestone	—	—	—	—
Igneous rock	—	1 683	1 683	292
Limestone	2	3 208	3 210	204
Oil and gas	—	—	(c)	—
Ore minerals	9	13	22	—
Peat	—	256	256	—
Potash	812	0	812	—
Salt	82	244	326	(b)…
Sand and gravel	—	3 450	3 450	581
Sandstone	—	1 354	1 354	291
Silica sand	11	307	318	—
Silica stone	—	2	2	—
Slate	26	517	543	—
Soapstone and talc	—	3	3	—
Others	—	—	—	288
Total	**5 401**	**14 673**	**20 074**	**1 654**

(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 30 000 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 2000–2006

Thousand tonnes

Mineral	2000	2001	2002	2003	2004	2005	2006 (Estimated)
Coal:							
Deep-mined	17 187	17 347	16 391	15 633	12 542	9 563	**9 439**
Opencast	13 412	14 166	13 148	12 126	11 993	10 445	**8 635**
Other (a)	598	417	450	520	561	490	**514**
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	42	63	60	79	70	65	**…**
Onshore	205	193	163	164	116	111	**79 947**
Offshore	108 150	105 614	103 423	102 684	95 821	87 406	
Crude oil							
Onshore	3 247	2 921	2 673	2 198	1 941	1 648	**69 665**
Offshore	114 433	105 465	104 757	95 637	85 575	75 473	
Condensates and other (c)							
Onshore	146	139	115	89	66	49	**6 913**
Offshore	8 217	8 153	8 399	8 149	7 792	7 494	
Iron ore	1	0.5	0.4	(h) 0.5	(h) 0.5	0.4	**0.3**
Non-ferrous ores (metal content):							
Tin	—	—	—	—	—	—	**—**
Lead (h)	1.0	0.8	0.7	0.7	0.5	0.5	**0.5**
Zinc	—	—	—	—	—	—	**—**
Gold (kg)	…	…	…	…	…	…	**…**
Chalk (e)	9 213	8 205	8 587	8 066	7 997	7 105	**7 000**
Clay and shale (e)	10 838	10 426	10 306	10 680	11 164	10 898	**10 000**
Igneous rock (j) (k)	54 113	51 501	51 225	51 356	53 037	53 104	**54 000**
Limestone (excluding dolomite)	84 348	88 238	80 688	78 935	81 641	77 596	**90 000**
Dolomite (excluding limestone)	13 069	14 314	12 946	12 167	12 226	11 514	
Sand and gravel:							
Land	79 950	80 793	75 401	72 984	78 145	75 171	**93 000**
Marine (i)	21 671	20 604	19 023	18 227	19 188	19 495	
Sandstone	14 900	19 967	18 362	18 259	18 844	18 685	**19 000**
Slate (g)	479	551	742	832	901	928	**900**
Ball clay (sales)	1 069	999	921	885	965	1 011	**1 015**
Barytes	54	(h) 66	(h) 59	(h) 57	61	62	**47**
Calcspar	…	12	(h) 10	—	—	—	**—**
Chert and flint	…	2	2	…	2	2	**2**
China clay (sales) (d)	2 376	2 204	2 163	2 097	1 945	1 911	**1 762**
China stone	4	3	2	3	2	2	**1**
Fireclay (e)	595	459	491	528	402	395	**400**
Fluorspar (h)	36	50	53	56	50	61	**60**
Fuller's earth (sales) (d) (f)	66	52	44	34	28	6	**—**
Gypsum (natural)	(h) 1 500	(h) 1 700	(h) 1 700	(h) 1 700	1 686	(h) 1 700	**1 700**
Lignite	…	…	…	…	…	…	**…**
Peat (000 m^3)	1 626	1 814	973	2 008	1 262	1 505	**1 500**
Potash (b)	966	882	900	1 040	912	732	**716**
Rock salt (h)	1 700	1 900	1 500	1 700	2 000	2 000	**2 000**
Salt from brine (h)	1 100	1 100	1 000	1 000	1 000	1 000	**1 000**
Salt in brine (h) (l)	3 000	3 000	3 200	3 200	2 800	2 800	**2 800**
Silica sand	4 095	3 848	3 833	4 073	5 011	4 146	**4 000**
Talc	5	5	6	6	4	6	**4**

(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.88.
(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): 2000: 130; 2001: 134; 2002: 138; 2003: 142, 2004: 149; 2005: 129; and Jersey: 2000: 310; 2001: 365; 2002: 370; 2003: 290; 2004: 310; 2005: 305.
(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 1999–2005

Thousand tonnes

Mineral	1999	2000	2001	2002	2003	2004	2005
Coal:							
Deep-mined	(e) 19 200	(e) 15 800	(e) 15 900	(e) 15 600	15 044	12 081	9 011
Opencast	(e) 6 300	(e) 4 800	(e) 4 800	(e) 5 000	4 068	3 037	1 456
Other (a)	…	…	…	…	…	…	…
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	…	…	…	…	…	…	…
Onshore	…	…	…	…	…	…	…
Offshore	…	…	…	…	…	…	…
Crude oil							
Onshore	…	…	…	…	…	…	…
Offshore	…	…	…	…	…	…	…
Condensates and other (c)	…	…	…	…	…	…	…
Iron ore	(e) 1.0	1	1	1	1	(e) 0.5	(e) 0.5
Non-ferrous ores (metal content):							
Tin	—	—	—	—	—	—	—
Lead	1	(e) 1.0	(e) 0.8	(e) 0.7	(e) 0.7	(e) 0.5	1
Zinc	—	—	—	—	—	—	—
Chalk	9 667	9 213	8 205	8 587	8 066	7 997	7 105
Clay and shale (b)	10 352	9 577	9 221	9 226	10 021	10 357	10 074
Igneous rock	20 803	20 435	22 647	21 889	21 878	20 174	20 576
Limestone (j)	75 820	74 954	79 902	73 528	69 507	72 173	67 325
Dolomite (k)	11 485	11 120	…	…	10 327	…	…
Sand and gravel:							
Land	62 954	63 196	62 177	59 633	58 484	62 735	58 926
Marine (g)	19 412	20 391	19 388	17 878	16 997	17 939	18 383
Sandstone	7 241	7 401	7 201	7 006	7 005	7 076	6 910
Slate (i)	…	…	…	…	…	…	…
Anhydrite	…	…	…	…	…	…	…
Ball clay (sales)	931	1 069	999	921	885	965	1 011
Barytes	…	…	…	…	…	…	…
Calcspar	…	…	12	(e) 10	—	—	—
Chert and flint	6	…	2	2	…	2	2
China clay (sales) (l)	2 304	2 376	2 204	2 163	2 097	1 945	1 911
China stone	2	4	3	2	2	2	2
Fireclay	545	547	419	449	483	338	346
Fluorspar (e)	40	36	50	53	56	50	44
Fuller's earth (sales) (h) (l)	75	66	52	44	34	28	6
Gypsum (natural)	(e) 1 800	(e) 1 500	(e) 1 700	(e) 1 700	(e) 1 700	1 686	(e) 1 700
Lignite	…	…	…	…	…	…	…
Peat (000 m^3)	1 224	1 259	1 460	857	1 228	903	928
Potash (d)	825	966	882	900	1 040	800	800
Potter's clay	…	…	…	…	…	…	…
Rock salt	…	…	…	…	…	…	…
Salt from brine (e)	1 200	1 100	1 100	1 000	1 000	1 000	1 000
Salt in brine (e) (f)	3 000	3 000	3 000	3 200	3 200	2 800	2 800
Silica sand	3 504	3 599	3 343	3 349	3 588	4 525	3 572
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.88.
(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 1999–2005

Thousand tonnes

Mineral	1999	2000	2001	2002	2003	2004	2005
Coal:							
Deep-mined	(e) 600	(e) 700	(e) 700	(e) 800	589	461	552
Opencast	(e) 1 500	(e) 1 500	(e) 1 200	(e) 1 000	1 189	1 405	1 235
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	346	351	365	382	348	445	354
Igneous rock	2 730	2 743	2 372	2 111	2 507	2 295	2 364
Limestone (d)	17 220	15 543	14 238	12 850	13 208	12 926	12 759
Dolomite (f)	…	…	…	…	…	…	…
Sand and gravel:							
Land	1 800	1 658	1 670	1 613	1 503	1 871	1 634
Marine	1 240	1 280	1 216	1 145	1 230	1 249	1 112
Sandstone	2 973	2 941	3 094	3 136	3 179	3 241	3 233
Slate (c)	…	…	…	…	…	…	…
Fireclay	—	—	—	—	—	30	—
Silica sand	…	…	…	…	…	…	51

(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 1999–2005

Thousand tonnes

Mineral	1999	2000	2001	2002	2003	2004	2005
Coal:							
Deep-mined	(e) 1 100	(e) 700	(e) 700	—	—	—	—
Opencast	(e) 7 500	(e) 7 100	(e) 8 200	(e) 7 100	6 869	7 547	7 753
Other (a)	…	…	…	…	…	…	…
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	…	…	…	…	…	…	…
Onshore	…	…	…	—	—	—	—
Offshore	…	…	…	…	…	…	…
Crude oil							
Onshore	—	—	—	—	—	—	—
Offshore	…	…	…	…	…	…	…
Condensates and other (b)	…	…	…	…	…	…	…
Clay and shale	657	910	839	698	311	362	469
Igneous rock	21 761	21 455	20 034	20 543	20 920	23 724	23 052
Limestone (d)	1 507	1 722	1 733	1 635	1 730	1 746	1 746
Dolomite (f)	…	…	…	…	…	…	…
Sand and gravel (land-won)	10 031	10 022	10 753	8 643	8 103	8 455	8 808
Sandstone	1 657	1 715	1 603	1 645	1 481	1 613	1 466
Slate (c)	…	…	…	…	…	…	…
Barytes	…	…	…	…	…	…	…
Fireclay	—	48	40	42	45	35	49
Honestone	…	…	—	…	…	—	…
Peat (000 m^3)	429	367	355	117	779	359	577
Silica sand	…	…	…	…	…	…	522
Talc	6	5	5	6	6	4	6

(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 2005

Thousand tonnes

County	Limestone	Sand & gravel	Basalt & igneous rock (a)	Sandstone	Others (b)	Total
Down	—	241	291	5 368	212	6 112
Antrim	279	1 137	3 870	327	697	6 310
Armagh	379	285	267	1 381	592	2 904
Fermanagh	4 192	47	—	—	4	4 243
Londonderry	103	1 201	1 802	—	355	3 461
Tyrone	635	2 892	882	—	228	4 637
Total	**5 588**	**5 803**	**7 112**	**7 076**	**2 090**	**27 668**

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

Source: Department of Enterprise, Trade and Investment.

Minerals produced in Northern Ireland, the Isle of Man, Guernsey and Jersey 2001–2005

Thousand tonnes

	2001	2002	2003	2004	2005
Northern Ireland					
Limestone	4 746	4 514	4 887	5 634	5 588
Sand and gravel	6 194	5 512	4 894	5 084	5 803
Basalt and igneous rock (a)	6 448	6 681	6 051	6 844	7 112
Sandstone	8 070	6 574	6 594	6 915	7 076
Granite					
Clay and shale					
Others (b)	753	242	1 055	1 266	2 090
Total	**26 211**	**23 523**	**23 481**	**25 743**	**27 669**
Isle of Man (c)					
Limestone	131	127	97	93	89
Sand and gravel	365	326	302	275	197
Igneous rock	115	197	123	120	81
Slate	52	46	58	73	55
Total	**664**	**696**	**581**	**562**	**422**
Guernsey					
Igneous rock	134	138	142	149	129
Jersey					
Igneous rock (d)	365	370	290	310	305
Sand and gravel	89	83	73	71	70

(a) Excluding granite.
(b) Including rock salt, chalk, fireclay, granite, clay and shale, and bauxite.
(c) Year ended 12 November.
(d) BGS estimates.

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

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)

Commodity/region	2003 (b)		2004 (c)		2006 (d)	
	Typical maximum	Typical minimum	Typical maximum	Typical minimum	Typical maximum	Typical minimum
Sand and gravel						
South East	300	120	300	130	260	110
Eastern	250	120	220	120	220	120
South West	185	80	185	70	200	75
East Midlands	140	80	160	80	180	80
West Midlands	180	88	170	110	170	110
Yorks. & the Humber	110	60	120	70	120	70
North East	100	45	100	50	100	50
North West	125	45	125	50	125	50
Merseyside	…	…	…	…	…	…
Gtr. Manchester & Cheshire	…	…	…	…	…	…
Wales	80	50	90	50	95	50
Scotland	80	40	90	40	60	40
Hard rock						
South East	90	60	90	50	90	50
Eastern	100	65	95	60	65	60
South West	65	20	65	25	65	25
East Midlands	65	28	65	28	65	28
West Midlands	40	32	40	25	36	25
Yorks. & the Humber	45	23	45	23	45	23
North East	42	26	45	25	35	26
North West	50	30	50	30	50	35
Merseyside	…	…	…	…	…	…
Gtr. Manchester & Cheshire	…	…	…	…	…	…
Wales	50	19	75	18	80	19
Scotland	35	25	50	30	40	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 2003
(c) At July 2004
(d) At July 2006

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

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

Number

Commodity	Region															
	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	**Total**
Anhydrite	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	1
Ball clay	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	18
Barytes	—	—	—	5	—	—	—	—	—	5	—	1	—	—	—	6
Bauxite	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Calcite	—	—	—	2	—	—	—	—	—	2	—	—	—	—	—	2
Chalk	—	14	—	3	—	15	—	20	4	56	—	—	—	4	—	60
Chert	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
China clay	—	—	—	—	—	—	—	—	15	15	—	—	—	—	—	15
China clay waste	—	—	—	—	—	—	—	—	7	7	—	—	—	—	—	7
China stone	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Clay & shale	6	32	11	13	28	13	—	29	18	150	10	7	—	2	—	169
Coal, underground	—	4	1	3	1	—	—	—	2	11	7	—	—	—	—	18
Coal, opencast	5	—	1	2	1	—	—	—	—	9	6	24	—	—	—	39
Coalbed methane	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Fireclay	—	6	1	—	2	—	—	—	—	9	—	9	—	—	—	18
Flint	—	—	—	—	—	3	—	3	2	8	—	—	—	—	—	8
Fluorspar	1	1	—	12	—	—	—	—	—	14	—	—	—	—	—	14
Gold	—	—	—	—	—	—	—	—	—	—	3	—	—	—	—	3
Gypsum	—	—	1	3	1	—	—	1	—	6	—	—	—	—	—	6
Igneous & metamorphic rock	8	—	3	6	5	—	—	—	19	41	15	110	2	42	3	213
Iron ore - hematite	—	—	1	—	—	—	—	—	—	1	—	—	—	—	—	1
Iron ore - ironstone	—	1	—	—	—	—	—	4	—	5	—	—	—	—	—	5
Lead	—	—	—	3	—	—	—	—	—	3	—	—	—	—	—	3
Limestone/ dolomite	18	37	27	60	10	3	—	11	93	259	45	15	3	18	—	340
Mine drainage gas	—	2	—	2	—	—	—	—	—	4	1	—	—	—	—	5
Natural gas	—	11	—	3	—	—	—	1	1	16	—	—	—	—	—	16
Oil	—	1	—	22	—	—	—	19	3	45	—	—	—	—	—	45
Peat	1	3	8	—	—	4	—	—	43	59	3	26	—	—	—	88
Potash	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Salt	—	1	4	—	—	—	—	—	—	5	—	—	—	1	—	6
Sand	3	2	4	2	—	17	—	17	10	55	—	13	—	—	—	68
Sand & gravel	14	40	28	47	50	113	14	95	43	444	22	121	4	71	1	663
Sandstone	22	64	41	21	22	6	—	7	21	204	34	44	—	35	—	317
Serpentine	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Silica sand	1	2	5	2	4	17	—	6	1	38	1	7	—	—	—	46
Slate	—	—	10	—	—	—	—	—	8	18	17	1	4	—	—	40
Slate waste	—	—	—	—	—	—	—	—	—	—	14	—	—	—	—	14
Soapstone	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Talc	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Tin	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Total	79	222	147	211	124	191	14	213	312	1 513	179	380	13	174	4	**2 263**

(a) As at November 2006.

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

Source: British Geological Survey

Abrasives, natural

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Carats					£ thousand				
Abrasives										
Imports										
Natural abrasives–										
Industrial diamonds	7 344 542	7 804 225	21 518 053	30 993 557	25 367 064	12 334	11 694	33 872	29 956	12 673
	Tonnes									
Dust and powder of precious and semi-precious stones	17	14	18	26	27	14 980	11 057	9 730	10 904	9 247
Pumice	17 165	…	21 406	35 533	71 598	2 377	2 703	2 978	1 898	1 213
Other	3 597	5 243	6 193	6 175	6 877	744	927	1 136	995	1 193
	Carats									
Exports										
Natural abrasives–										
Industrial diamonds	11 861 312	7 837 074	12 177 638	22 821 716	21 647 850	19 047	17 199	40 468	33 851	20 924
	Tonnes									
Dust and powder of precious and semi-precious stones	20	…	14	30	25	13 821	12 102	11 783	11 211	12 180
Pumice	1 397	319	859	242	138	666	654	702	450	275
Other	1 477	1 394	1 045	965	796	853	952	795	608	489

Aggregates

Sales of primary aggregates (sand and gravel, and crushed rock) in Great Britain were reported as 204.2 million tonnes in 2005, according to the official Annual Minerals Raised Inquiry (AMRI) carried out by the Office for National Statistics. This represents a four per cent reduction compared to the 2004 AMRI survey (213.7 million tonnes). Of the total sales in 2005, 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. Recycled and secondary aggregates supplied 25 per cent of the UK's requirement for aggregates. The Quarry Products Association (QPA) estimate that sales of crushed rock aggregates increased by one per cent in 2006, while sand and gravel sales declined by two per cent compared to 2005.

In September 2006 the European Court of First Instance dismissed the legal challenge to the Aggregates Levy made by the British Aggregates Association (BAA). The Court ruled that EU member states have the power to introduce an environmental levy and also to determine which minerals used as aggregates it considered appropriate to tax and which to exempt. The Aggregates Levy continues at a rate of £1.60 per tonne for primary aggregates but will rise to £1.95 per tonne from 1 April 2008.

Aggregate Industries Ltd agreed a takeover of Foster Yeoman during 2006 and this will see their market share increase further. The combined company is expected to overtake Hanson and move into second position in the UK aggregates market behind Tarmac who remained in the lead with 22 per cent. The most recent report from BDS Market Research indicates that Cemex continue in fourth place and Lafarge in fifth. Together these top five companies represent 70 per cent of the total aggregates market.

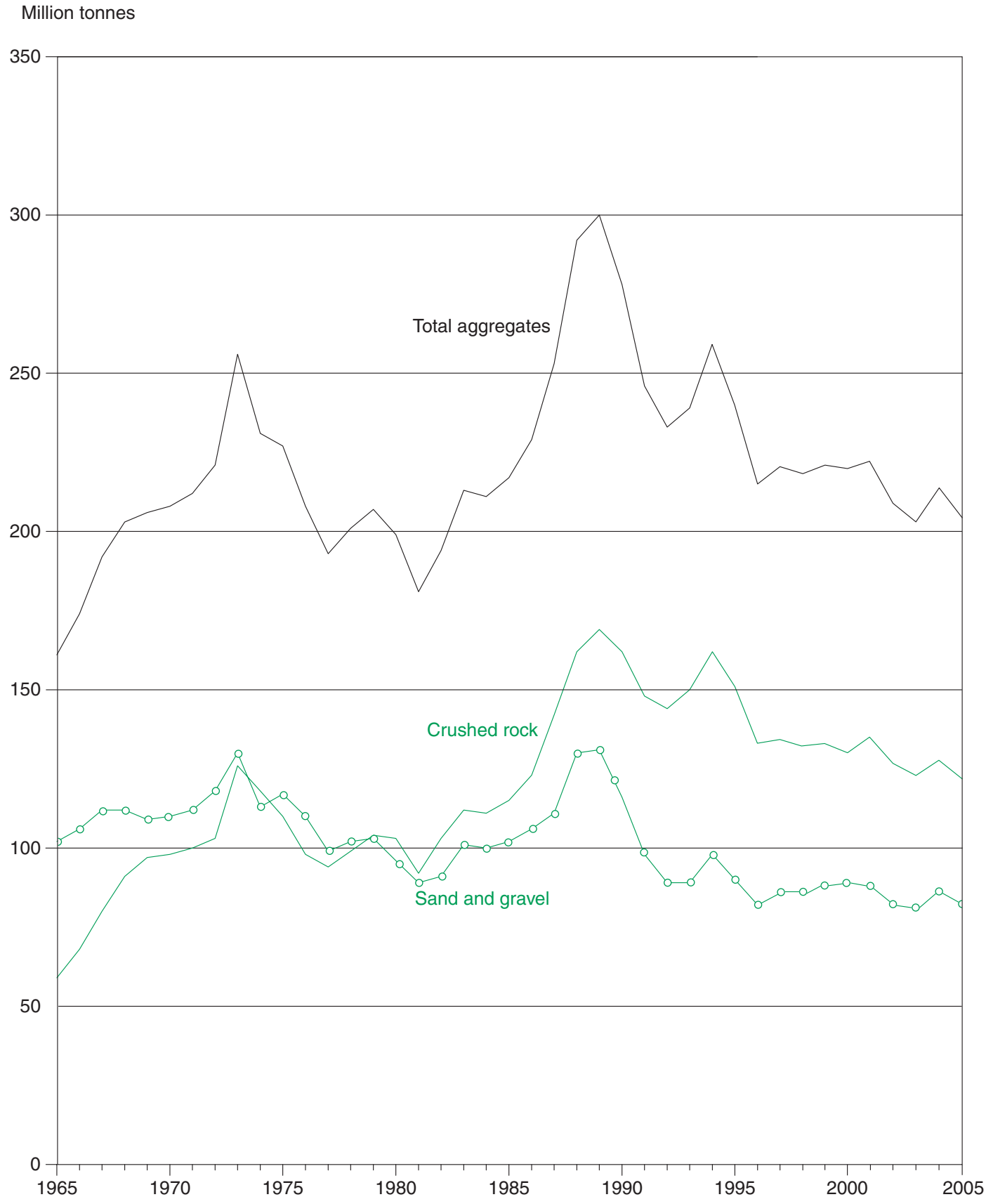
Sales of readymix concrete are estimated by the QPA to have increased by two per cent in 2006, in response to an increase in construction during the year. Demand for asphalt is estimated to have fallen by eight per cent over the same period. Tarmac remains the largest asphalt supplier with an estimated market share of 29 per cent, with Aggregate Industries in second place (even before their takeover of Foster Yeoman). Hanson, Cemex and Lafarge complete the top five companies, which have a total market share of 80 per cent.

The new *Minerals Policy Statement 1: Planning and Minerals* (MPS1) was launched in November 2006 at the CBI conference *Living with Minerals 2*. This document updates previous mineral planning guidance and sets out the Government's key overarching policies and principles which apply to all minerals. Included with the document is an annex specifically relating to aggregates provision in England. Following the conference, planning minister Baroness Andrews launched the CBI-led 'UK National Minerals Forum' which has been established to draw together all the main stakeholders necessary to provide advice to government on the use of the UK mineral resources. The forum will undertake a strategic review of the UK's mineral resources and how they may be sustainably developed to meet the long-term needs of the country. It will also provide a focal point for finding solutions to issues which might affect security of supply.

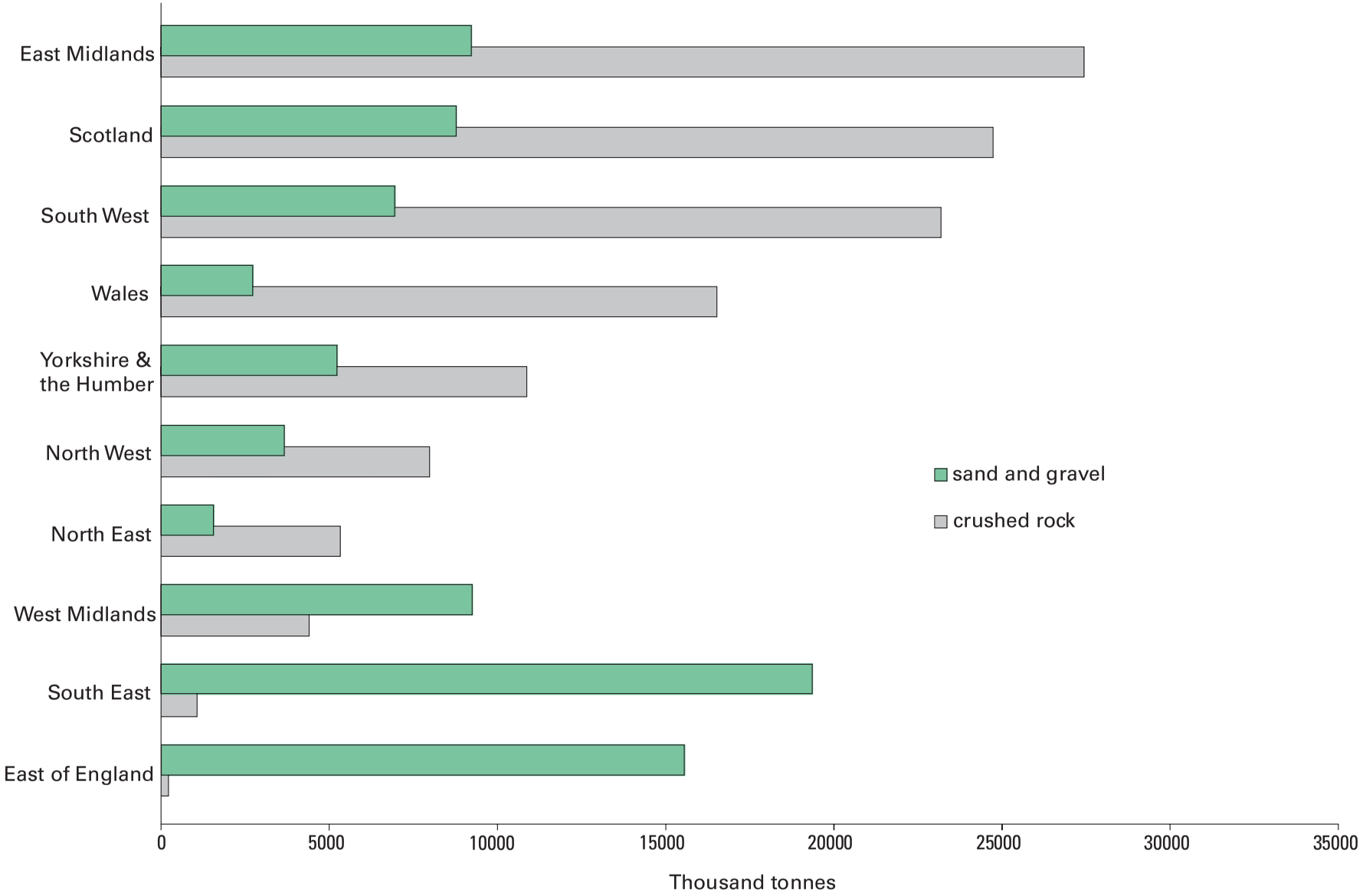
A new report published by the BGS on Primary Aggregate Reserves in England 1990–2004 reveals that reserves of land-won sand and gravel in England have declined by more than 28 per cent between 1995 and 2004, due in part to a shortfall in planning permissions of 27 per cent when compared to sales over the same period. This decline is most severe in the South East region of England where the decline over the same period is 61 per cent. Planning permissions for crushed rock have fallen short of sales by six per cent, although reserves remain over 4000 million tonnes. However, 70 per cent of these reserves exist in just two regions – the East Midlands and South West England. The report highlights a number of issues including the constraints that may prevent the supply of aggregates to the whole country from a small number of locations. These constraints include the production capacity of quarries, capacity on the railways and the retention of sufficient rail depots to receive the material.

The *Collation of the results of the 2005 Aggregate Minerals Survey for England and Wales* was completed in early 2007. This report includes details of reserves, sales, consumption and inter-regional flows of primary aggregates in England and Wales by region. Reserves of sand and gravel at the end of 2005 were calculated to be 622 million tonnes and of crushed rock to be 4260 million tonnes — 85 per cent of which are in England.

Great Britain production of natural aggregates 1965–2005



Great Britain production of crushed rock aggregate and sand and gravel by region 2005



England and Wales summary of consumption of primary aggregates, by region 2005 (a) (b)

Thousand tonnes

Region	Land-won sand and gravel	Marine sand and gravel	Total sand and gravel	Crushed rock	Total primary aggregate
South West	5 236	567	5 803	17 197	22 999
South East	7 551	5 691	13 241	7 935	21 176
London	2 185	4 278	6 463	3 892	10 355
East of England	12 987	167	13 154	5 577	18 732
East Midlands	9 275	—	9 275	13 002	22 277
West Midlands	8 138	12	8 149	9 677	17 827
North West	2 720	820	3 540	16 631	20 171
Yorkshire and the Humber	5 917	322	6 238	11 511	17 749
North East	1 949	758	2 707	5 868	8 575
England	**55 958**	**12 613**	**68 571**	**91 289**	**159 860**
South Wales	390	1 238	1 628	8 537	10 165
North Wales	748	63	811	2 520	3 331
Wales	**1 138**	**1 301**	**2 439**	**11 057**	**13 496**
England and Wales	**57 096**	**13 914**	**71 010**	**102 346**	**173 356**

(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: 1757; crushed rock: 1361.

Source: *Collation of the Results of the 2005 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 2005 (a)

Thousand tonnes

Region	Sand and gravel					Crushed rock					Grand total (excluding dormant)
	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	42 633	5 120	3 484	51 237	1 365	817 517	101 676	901	920 094	285 742	971 331
South East	59 601	11 103	10 225	80 929	980	52 873	1 035	—	53 908	5	134 836
London	2 866	—	—	2 866	—	—	—	—	—	—	2 866
East of England	143 894	16 566	5 790	166 250	1 708	8 255	3	—	8 258	1 780	174 508
East Midlands	60 290	6 871	9 799	76 959	2 600	996 799	372 842	5 200	1 374 841	49 764	1 451 801
West Midlands	112 032	10 857	4 000	126 889	5 700	227 660	76 298	2 174	306 132	250	433 022
North West	30 008	7 325	4 020	41 353	—	294 288	7 549	—	301 837	23 715	343 190
Yorkshire and the Humber	36 571	5 646	—	42 218	—	307 841	39 425	—	347 266	2 430	389 484
North East	10 240	1 938	2 448	14 628	—	176 369	67 187	—	243 556	—	258 184
England	**498 136**	**65 426**	**39 766**	**603 328**	**12 923**	**2 881 603**	**666 014**	**8 275**	**3 555 893**	**364 336**	**4 159 221**
South Wales	3 028	—	120	3 148	—	276 084	223 180	—	499 264	42 287	502 412
North Wales (c)	12 804	2 352	25	15 181	655	190 730	14 526	—	205 256	23 680	220 437
Wales	**15 832**	**2 352**	**145**	**18 329**	**655**	**466 814**	**237 706**	**—**	**704 520**	**65 967**	**722 849**
England & Wales	**513 968**	**67 778**	**39 911**	**621 657**	**13 578**	**3 348 416**	**903 721**	**8 275**	**4 260 412**	**430 303**	**4 882 070**

(a) For aggregate use only.
(b) Reserves in 'dormant' sites are not included in 'inactive sites worked in the past' nor in the totals.
(c) In addition, permitted reserves of slate in North Wales were 42.5 million tonnes.

Source: *Collation of the Results of the 2005 Aggregate Minerals Survey for England and Wales* . British Geological Survey.

England and Wales summary sales of primary aggregates, by region 2005

Thousand tonnes

Region	Land-won sand and gravel		Marine sand and gravel		Total sand and gravel		Crushed rock		Total primary aggregate	
	AMRI 2005	AM 2005	AMRI 2005	AM 2005	AMRI 2005	AM 2005	AMRI 2005	AM 2005	AMRI 2005	AM 2005
North East	1 146	1 360	429	1 140	1 575	2 500	5 333	5 657	6 908	8 157
North West	3 411	2 932	263	838	3 674	3 770	7 993	8 644	11 667	12 413
Yorkshire and the Humber	5 094	4 398	154	298	5 248	4 695	10 875	11 964	16 123	16 659
West Midlands	9 250	9 105	—	—	9 250	9 105	4 416	4 516	13 666	13 621
East Midlands	9 235	10 014	—	—	9 235	10 014	27 468	28 793	36 703	38 807
East of England	13 227	13 720	2 334	154	15 561	13 875	238	486	15 799	14 361
South East	11 253	9 573	8 109	5 952	15 347	15 526	1 090	1 238	16 437	16 763
London	(a)	1 038	(a)	4 035	4 015	5 073			4 015	5 073
South West	6 310	4 603	624	661	6 934	5 264	23 180	22 238	30 114	27 501
England	**58 926**	**56 743**	**11 912**	**13 078**	**70 838**	**69 821**	**80 593**	**83 535**	**151 431**	**153 356**
South Wales	(b)	304	(b)	1 238	(b)	1 542	6 208	10 873	(b)	12 416
North Wales	(b)	1 192	(b)	45	(b)	1 237	10 327	5 663	(b)	6 899
Wales	**1 634**	**1 496**	**1 112**	**1 283**	**2 746**	**2 779**	**16 535**	**16 536**	**19 281**	**19 315**
England and Wales	**60 560**	**58 239**	**13 024**	**14 361**	**73 584**	**72 599**	**97 128**	**100 071**	**170 712**	**172 671**

(a) Included in South East to protect confidentiality.
(b) It is not possible to split the AMRI data between North and South Wales for confidentiality reasons.

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

England and Wales (d) summary of estimated arisings and use of recycled and secondary materials, 2005

Thousand tonnes

	Used as aggregate		Used as non-aggregate		Total arisings (a)	
	England	Wales (c)	England	Wales (c)	England	Wales (c)
Recycled material						
Construction & demolition waste (b)	42 070	…	9 610	…	89 630	…
Spent railway track ballast	1 200	…	—	…	1 400	…
Asphalt planings (e)	4 090	…	170	…	5 600	…
Secondary material						
Blast furnace slag	500	…	1 500	…	2 000	…
Basic oxygen furnace steel slag	250	…	—	…	500	…
Electric arc furnace steel slag	260	…	…	…	260	…
China clay waste	2 600	…	—	…	19 600	…
Colliery spoil	1 000	…	—	…	4 850	…
Power station pulverised fuel ash	900	…	1 800	…	5 000	…
Power station furnace bottom ash	900	…	negligible	…	1 000	…
Slate waste	150	…	80	…	500	…
Waste glass	150	…	900	…	2 000	…
Municipal solid waste incinerator bottom ash	400	…	—	…	725	…
Fired ceramic waste	40	…	—	…	50	…
Spent foundry sand	30	…	—	…	400	…
Total	**54 540**	**…**	**14 060**	**…**	**133 515**	**…**

(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 Wales in 2005 due to be published Spring 2007. Construction and demolition waste in 2003, total arisings 5.22 million tonnes, used as aggregate 1.88 million tonnes
(d) Construction and demolition waste for Scotland in 2003: total arisings 10.8 million tonnes, recycled as aggregate 4.3 million tonnes
(e) Estimate for the UK is 8000 tonnes, England represents 70% of the total. Data on uses of recovered asphalt planings are not comprehensive. The report indicates that from the responses received 73% was used in asphalt or as general fill and 3% for other uses.

Source: *Survey of arisings and use of alternatives to primary aggregates in England, 2005* report by Capita Symonds Ltd for the Department of Communities and Local Government

Great Britain estimated consumption of natural aggregates 1957–2005

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	
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
2005	66	45	11	122	43	39	82	204

(a) Including dolomite.

(b) Total production, excluding marine-dredged material for export; see table on p.91.

(c) The following amounts of crushed rock aggregate, believed to be mainly igneous rock, were exported (million tonnes): 2001: 3; 2002: 4; 2003: 3; 2004: 4; 2005: 5. 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) 1957–2005

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		
1957	19 446	1.5	3.1	4.6	32 736	0.9	1.8	2.7
1958	20 786	1.5	3.0	4.5	33 681	0.9	1.9	2.8
1959	22 267	1.5	3.1	4.6	36 738	0.9	1.9	2.8
1960	24 492	1.5	3.1	4.6	39 777	0.9	1.9	2.8
1961	26 851	1.5	3.2	4.7	42 604	0.9	2.0	2.9
1962	27 689	1.5	3.1	4.6	43 798	0.9	1.9	2.9
1963	28 132	1.6	3.2	4.7	44 776	1.0	2.0	3.0
1964	33 036	1.6	3.2	4.8	50 048	1.1	2.1	3.2
1965	35 129	1.7	2.9	4.6	52 580	1.1	1.9	3.1
1966	35 524	1.9	3.0	4.9	53 369	1.3	2.0	3.3
1967	38 554	2.1	2.9	5.0	56 958	1.4	2.0	3.4
1968	39 770	2.3	2.8	5.1	58 254	1.6	1.9	3.5
1969	39 230	2.5	2.8	5.3	57 266	1.7	1.9	3.6
1970	37 905	2.6	2.9	5.5	55 799	1.8	2.0	3.7
1971	38 881	2.6	2.9	5.5	56 915	1.8	2.0	3.7
1972	38 748	2.7	3.0	5.7	58 523	1.8	2.0	3.8
1973	38 658	3.3	3.4	6.6	59 363	2.1	2.2	4.3
1974	32 578	3.6	3.5	7.1	52 749	2.2	2.1	4.4
1975	31 056	3.5	3.8	7.3	49 485	2.2	2.4	4.6
1976	31 526	3.1	3.5	6.6	48 881	2.0	2.2	4.3
1977	30 556	3.1	3.2	6.3	48 502	1.9	2.0	4.0
1978	31 816	3.1	3.2	6.3	52 534	1.9	1.9	3.8
1979	29 572	3.5	3.5	7.0	53 365	1.9	1.9	3.9
1980	25 724	4.0	3.7	7.7	50 728	2.0	1.9	3.9
1981	23 053	4.0	3.9	7.8	45 829	2.0	2.0	3.9
1982	24 483	4.2	3.7	7.9	47 487	2.2	1.9	4.1
1983	26 257	4.3	3.8	8.1	51 576	2.2	2.0	4.1
1984	26 939	4.1	3.7	7.8	53 627	2.1	1.9	3.9
1985	26 706	4.3	3.8	8.1	54 219	2.1	1.9	4.0
1986	27 986	4.4	3.8	8.1	56 178	2.2	1.9	4.1
1987	31 786	4.5	3.5	8.0	62 580	2.3	1.8	4.1
1988	35 415	4.5	3.7	8.2	68 616	2.3	1.9	4.2
1989	36 565	4.6	3.6	8.2	71 857	2.3	1.8	4.2
1990	36 877	4.4	3.2	7.5	72 085	2.2	1.6	3.9
1991	35 392	4.2	2.8	6.9	66 841	2.2	1.5	3.7
1992	34 658	4.2	2.6	6.7	64 033	2.2	1.4	3.6
1993	34 165	4.4	2.6	7.0	62 823	2.4	1.4	3.8
1994	32 711	4.9	3.0	7.9	62 589	2.6	1.6	4.1
1995	32 843	4.6	2.7	7.3	63 381	2.4	1.4	3.8
1996	34 331	3.9	2.4	6.3	65 776	2.0	1.2	3.3
1997	35 412	3.8	2.4	6.2	67 369	2.0	1.3	3.3
1998	36 487	3.6	2.4	6.0	68 411	1.9	1.3	3.2
1999	37 843	3.5	2.3	5.8	69 294	1.9	1.3	3.2
2000	37 660	3.5	2.4	5.8	69 676	1.9	1.3	3.2
2001	37 557	3.6	2.3	5.9	71 087	1.9	1.2	3.1
2002	38 944	3.3	2.1	5.4	74 090	1.7	1.1	2.8
2003	40 372	3.0	2.0	5.0	77 852	1.6	1.0	2.6
2004	42 804	3.0	2.0	5.0	80 245	1.6	1.1	2.7
2005	42 012	2.9	2.0	4.9	79 350	1.5	1.0	2.6

(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 2001–2005

Commodity		2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
		Tonnes					£ thousand				
Aggregates											
Production											
Sand & gravel (a)		101 397 000	94 424 000	91 211 000	97 333 000	94 666 000					
Crushed rock (b)		133 759 000	126 568 000	122 885 000	127 674 000	121 860 000					
	Total	235 156 000	220 992 000	214 096 000	225 007 000	216 526 000					
Imports											
Natural aggregates–											
Crushed rock (c)		409 174	572 971	632 792	619 076	1 516 919	7 253	9 083	10 064	10 661	19 037
Sand and gravel		362 076	413 992	861 439	924 304	643 594	9 417	9 453	11 406	14 481	14 117
	Total	771 250	986 963	1 494 230	1 543 380	2 160 513	16 670	18 536	21 470	25 142	33 154
Exports											
Natural aggregates–											
Crushed rock		3 367 217	3 593 951	3 188 232	4 528 231	4 850 971	15 089	13 989	13 275	22 865	25 141
Sand and gravel (d)		9 871 523	8 881 454	8 419 845	8 174 262	8 453 949	32 389	32 104	36 708	36 414	40 493
	Total	13 238 740	12 475 405	11 608 077	12 702 493	13 304 920	47 478	46 093	49 983	59 279	65 634

(a) Including production from marine dredging.
(b) Great Britain only.
(c) For a number of years, a significant amount of armourstone imports are believed be wrongly classified as 'granite, crude'. In 2005, this figure was 1 331 520 tonnes, much of which is thought to be armourstone for sea defence work.
(d) Principally marine-dredged sand and gravel. Source: HM Revenue and Customs. However, the Crown Estate Commissioners give the following figures for marine-dredged sand and gravel landed at foreign parts (tonnes): 2001: 6 992 731; 2002: 6 190 905; 2003: 6 095 640; 2004: 6 191 867; 2005: 6 471 453.

Aluminium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Aluminium										
Production										
Unwrought–										
Primary	340 778	344 318	342 748	359 631	368 477					
Secondary	248 600	205 400	205 400	205 400	205 301					
Consumption										
Unwrought–										
Primary	433 302	427 607	302 181	438 937	353 249					
Secondary	215 424	198 388	199 749	190 123	186 522					
Ferro-aluminium (a)	2 760	2 500	2 910	2 910	2 890					
Imports										
Scrap	112 240	117 954	103 554	78 309	116 285	74 761	61 730	58 885	53 549	91 004
Ash and residues	408	647	847	756	744	38	166	183	152	456
Unwrought	135 094	212 046	163 573	116 344	114 189	130 562	205 256	149 320	113 855	129 794
Unwrought alloys	211 245	159 310	129 451	118 398	87 063	250 707	168 948	138 144	127 138	104 159
Exports										
Scrap	204 605	243 894	295 642	319 217	474 587	143 137	167 176	190 267	226 044	299 115
Ash and residues	971	1 402	599	739	553	364	849	310	255	266
Unwrought	16 855	9 403	1 559	29 949	48 684	19 196	9 264	3 060	31 149	73 852
Unwrought alloys	243 780	241 799	270 701	306 372	329 691	271 247	235 174	266 846	296 207	381 248

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

Aluminium compounds

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Aluminium compounds										
Production										
Oxide (alumina)	83 900	73 800	—	—	—					
Imports										
Oxide (alumina)	713 808	(b) 798 479	(d) 828 300	417 882	755 443	125 521	(b) 105 813	(d) 180 200	64 626	129 663
Hydroxide	63 687	(d) 79 700	(d) 143 000	59 844	130 321	9 281	(d) 16 600	(d) 34 300	11 224	26 646
Fused oxide (a)	43 271	19 928	24 558	33 956	36 277	19 947	13 026	9 167	11 541	13 164
Fluorides	5 460	5 962	5 864	2 286	5 849	2 461	2 763	2 534	2 348	2 859
Exports										
Oxide (alumina)	11 795	(b) 22 740	(c) 3 400	2 281	4 336	6 347	(b) 10 164	(c) 7 800	1 432	2 145
Hydroxide	42 451	(c) 31 600	(c) 26 300	(c) 35 500	(c) 20 600	15 843	(c) 15 000	(c) 7 800	(c) 9 000	(c) 5 700
Fused oxide (a)	6 683	5 607	5 201	5 671	5 408	9 183	8 467	4 630	3 867	4 137
Fluorides	28	16	69	25	427	62	142	602	115	41

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Antimony										
Consumption (Sb content)										
Metal	587	480	480	480	…					
Scrap (a)	1 480	1 165	993	1 483	…					
Imports										
Metal	345	183	290	410	60	417	301	654	796	180
Oxides	4 103	3 164	2 712	2 976	2 048	5 270	4 217	4 873	5 057	3 959
Exports										
Metal	...	...	65	88	54	543	444	153	248	267
Oxides	1 297	1 879	1 413	663	621	1 751	2 611	2 446	1 186	1 190

(a) Including some antimony in ore.

Arsenic

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Arsenic										
Imports										
Elemental	87	86	155	165	3	838	279	232	248	90
Exports										
Elemental	5	5	0	0	1	56	37	41	8	32

Asbestos

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Asbestos										
Imports										
Fibre	246	2	3	0	…	386	33	40	3	…
Waste	101	116	—	2 149	…	327	311	—	102	…
Fabricated asbestos	136	187	433	356	281	1 257	1 165	1 154	910	732
Friction material with a basis of asbestos etc.	6 623	10 884	7 853	7 596	7 806	29 369	40 009	34 109	31 052	33 207
Articles of asbestos cement etc.	51 314	57 890	63 082	66 314	71 389	16 131	18 142	18 449	20 864	22 491
Exports										
Fibre	1	1	—	—	(a) 1	3	16	—	—	(a) 7
Waste	—	—	—	0	…	—	—	—	2	…
Fabricated asbestos	943	690	1 321	918	1 868	5 445	5 205	4 543	3 571	10 107
Friction material with a basis of asbestos etc.	5 217	4 055	3 644	3 513	2 706	34 915	22 369	22 263	23 253	29 082
Articles of asbestos cement etc.	40 326	26 792	22 972	16 848	1 727	12 322	8 710	8 918	6 639	1 760

(a) Unmanufactured asbestos, including fibre and waste.

Asphalt, natural

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Asphalt, natural										
Imports	268 207	232 887	194 759	94 670	47 510	22 788	24 911	19 322	7 958	6 027
Exports	170 150	116 317	79 604	160 783	166 866	16 394	12 042	7 690	15 689	17 221

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 white ware such as sanitary ware, floor and wall tiles, and tableware, and also in the production of refractories. They 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 three predominant 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. Sales were 1 015 101 tonnes in 2006, a slight increase on 1 011 425 tonnes in 2005. The UK is a leading world producer and exporter of high-quality ball clay. In 2006, 853 177 tonnes (73 per cent) of sales were destined for export, including 623 032 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 that 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Ball clay										
Production (sales) (a)	998 850	921 027	884 809	964 797	1 011 425					
Imports	7 502	2 577	2 593	18 241	12 938	991	730	669	1 142	1 112
Exports (a)	827 214	762 895	734 524	805 359	845 597					

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

Barytes

Barytes (barium sulphate, $BaSO_4$), 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 metallics 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 but are estimated to have fallen to 47 000 tonnes in 2006. Output is dominated by M-I Drilling Fluids UK from its Foss Mine, near Aberfeldy in Scotland, which accounted for approximately 80 per cent of total production in 2006, with 36 990 tonnes. 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 a 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 valued-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 2005 were 54 753 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 were 16 334 tonnes in 2005.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2 003	2004	2005
	Tonnes					£ thousand				
Barium										
Production										
Barium minerals–Barytes (b)	66 000	59 000	57 000	61 000	62 000					
Imports										
Barium minerals (a)	77 273	74 935	56 867	63 934	54 753	3 624	3 208	2 406	2 741	2 720
Exports										
Barium minerals (a) (c)	58 969	37 778	69 094	25 697	16 334	3 886	3 166	3 837	2 952	2 655

(a) Mainly barytes with some witherite.
(b) BGS estimate.
(c) Figure believed to be too high.

Bauxite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Bauxite										
Imports (a)	271 404	...	...	56 825	103 522	12 805	...	...	10 038	9 743
Exports (a)	2 593	(b) 6 900	(b) 4 200	889	4 237	912	...	...	319	1 478

(a) Excluding refractory grade bauxite.
(b) BGS estimates, based on known imports into certain countries.

Bentonite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Bentonite										
Imports	235 517	216 022	198 434	187 750	151 179	14 731	12 189	10 102	12 335	10 462
Exports	72 983	81 707	75 099	71 153	49 514	16 314	17 538	19 179	20 221	14 145

Beryllium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Beryllium										
Imports										
Metal	12	54	22	47	208	523	1 618	1 004	468	710
Oxides and hydroxides	10	4	7	4	7	881	297	509	361	452
Exports										
Metal	58	39	58	5	0	311	259	528	319	660

Bismuth

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Bismuth										
Imports										
Metal	1 515	1 513	2 237	2 205	2 858	7 706	5 891	7 695	8 201	11 596
Exports										
Metal	1 269	1 793	2 239	2 633	2 426	5 799	8 028	8 646	11 956	10 384

Boron

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Boron										
Imports										
Boron minerals (a)	16 880	9 936	4 954	4 243	5 732	2 630	1 726	1 606	1 086	1 342
Exports										
Boron minerals (a)	96	164	395	41	33	31	158	404	48	9

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

Bricks

Total deliveries of clay bricks decreased from 2419 million bricks in 2005 to 2254 million bricks in 2006. Actual production decreased from 2601 million bricks in 2005 to 2359 million bricks in 2006. Clay brick stocks were 887 million in 2006, up slightly on 776 million in 2005. The decline in demand for 'brick clay' from over 16 million tonnes in 1974 to some 7.7 million tonnes in 2005 is broadly in line with the decline in the production of clay bricks There are around 100 brickworks in the country following recent mothballing of operations by Hanson Brick UK at Calder, Wainsgroves and Heather and the closure of Ibstock Brick Ltd's Pinhoe site.

Five companies, that collectively have over 90 per cent of the market, now dominate brick manufacture in the UK. The two largest producers with a combined market share of over 60 per cent are Hanson Brick UK, a subsidiary of Hanson PLC, and Ibstock Brick Ltd (owned by the CRH Group based in the Irish Republic). Wienerberger Ltd (owned by the Austrian-based Wienerberger AG, the world's largest brick producer) is the third largest operator with a market share of about 17 per cent. In 2006 Wienerberger announced a proposed acquisition of Baggeridge Brick plc. The Office of Fair Trading has since referred this takeover to the Competition Commission since the acquisition would bring together the third and fourth largest brick manufacturers in the UK. Great Britain is by far the largest European market for facing bricks.

Great Britain production of bricks, blocks and tiles 1996–2005

Material	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
	Millions									
Bricks:										
Clay	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	(a) 2 601
Sandlime	31	…	…	…	…	…	…	…	…	…
Concrete	166	169	171	180	170	159	150	167	161	147
Total	3 046	2 997	3 000	2 939	2 864	2 754	2 750	2 772	2 868	2 748
Brick Production Region										
North East	150	160	154	133	130	136	138	137	147	137
Yorkshire and the Humber	234	218	194	211	195	186	187	186	195	194
East Midlands	447	473	518	522	508	495	480	487	514	510
East of England	370	325	248	331	334	321	349	362	343	329
South East	523	535	565	409	394	385	371	346	346	326
South West	168	152	146	145	148	132	129	132	143	125
West Midlands	576	558	598	573	572	558	570	586	624	613
North West	295	295	303	320	292	299	290	296	312	301
England	**2 763**	**2 718**	**2 727**	**2 643**	**2 573**	**2 513**	**2 513**	**2 531**	**2 624**	**2 535**
Wales	**106**	**104**	**102**	**123**	**109**	**106**	**106**	**119**	**117**	**107**
Scotland	**177**	**176**	**172**	**174**	**181**	**136**	**131**	**122**	**127**	**107**
Great Britain	**3 046**	**2 997**	**3 000**	**2 939**	**2 864**	**2 754**	**2 750**	**2 772**	**2 868**	**2 748**
	Million square metres									
Concrete building blocks:										
Dense aggregate	35	37	39	38	38	37	36	37	38	36
Lightweight aggregate	16	18	19	21	23	23	24	25	25	26
Aerated concrete	25	28	26	29	30	29	32	34	33	28
Total	76	83	85	88	90	88	92	96	96	90
Roofing tiles:										
Concrete	25	25	25	26	27	25	25	21	21	26

(a) Including sandlime bricks.

Source: Department of Trade and Industry.

Bromine

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Bromine										
Production	27 900	24 500	(a) 25 000	—	—					
Imports	5 387	2 880	1 899	7 146	7 995	2 887	1 153	578	2 115	3 280
Exports	11 304	8 672	5 307	1 126	235	8 385	6 149	2 691	1 169	639

(a) BGS estimate.

Building and dimension stone

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Building and dimension stone										
Production (a)										
Sandstone	...	...	327 000	439 000	…					
Igneous rock	479 000	217 000	212 000	189 000	1 186 000					
Limestone	(b) 220 000	(b) 191 000	...	226 000	589 000					
Dolomite	34 000	9 000	7 000	8 000	…					
Total	...	...	...	862 000	…					
Imports										
Unworked–										
Marble and other calcareous stone	9 985	12 708	18 565	29 893	63 046	7 727	8 855	11 930	14 655	18 901
Granite (c)	1 781 220	1 656 235	1 145 887	1 643 221	1 331 520	28 908	29 447	30 386	39 988	43 026
Sandstone	17 202	50 214	72 589	129 148	193 793	2 577	7 050	10 803	16 168	25 501
Other stone	9 857	259 070	300 324	29 224	28 138	1 498	3 448	4 968	5 463	4 580
Worked–										
Marble and other calcareous stone	64 637	48 237	60 473	69 920	77 698	28 291	32 555	40 413	46 701	52 806
Granite	37 533	57 885	76 177	81 551	88 916	26 334	37 543	45 125	50 079	57 884
Other stone	21 256	27 063	31 600	42 132	42 395	10 947	13 552	14 987	16 989	17 780
Paving stones and flagstones	47 501	75 640	88 509	188 204	168 548	8 161	10 754	12 652	22 402	22 825
Exports										
Unworked–										
Marble and other calcareous stone	4 140	4 853	6 203	2 362	2 126	770	585	447	203	287
Granite	1 558	931	1 369	1 806	1 974	370	252	251	238	292
Sandstone	4 998	5 789	6 424	4 920	5 683	1 038	1 184	1 281	1 169	949
Other stone	281	1 168	932	490	784	134	408	176	362	220
Worked–										
Marble and other calcareous stone	526	946	1 072	1 658	2 905	1 456	1 893	3 320	3 726	4 951
Granite	53	732	290	489	607	99	755	399	546	623
Other stone	3 596	3 820	4 602	3 685	5 688	1 914	2 269	2 850	2 652	5 070
Paving stones and flagstones	5 029	5 057	4 980	4 690	6 709	780	1 217	1 105	1 103	2 035

(a) Great Britain only.
(b) BGS estimate.
(c) Figures believed to be too high. May include aggregate.

Cadmium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Cadmium										
Production										
Cadmium (a)	425	292	22	—	—					
Consumption										
Cadmium	584	589	591	592	598					
Imports										
Metal	942	225	416	479	206	1 273	439	778	647	538
Pigments	26	31	60	62	53	155	154	298	249	145
Exports										
Metal	87	115	187	27	79	495	742	705	131	167
Pigments		640	704	775	707	4 849	4 504	4 850	5 186	6 162

(a) Refined.

Calcspar

United Kingdom summary 2001–2005

Tonnes

Commodity	2001	2002	2003	2004	2005
Calcspar (Calcite)					
Production	12 000	(a) 10 000	—	—	—

(a) BGS estimate.

Cement

Finished cement production in Great Britain was 11 460 million tones in 2006 compared with 11 216 million tonnes in 2005. Increasing competition in overseas markets has led to a decline in cement exports in recent years. The situation improved in 2005 with UK exports of Portland cement clinker rising to 134 992 tonnes compared with 82 936 tonnes in 2004. The UK has become a net importer of cement due to insufficient domestic production capacity, importing more than 406 000 tonnes of Portland cement clinker in 2005. Planning applications submitted by Lafarge Cement (UK) Ltd have been granted to expand rail infrastructure associated with its Hope Cement works. This development will increase the amount of cement distributed by rail, primarily to the south-east of England. In the future Lafarge Cement UK aims to distribute 1 200 000 tonnes of cement by rail.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Cement										
Production										
Cement, clinker	10 573 000	(a) 10 327 000	(a) 10 146 000	(a) 10 402 000	(a) 10 074 000					
Cement, finished	11 854 000	(a) 11 089 000	(a) 11 215 000	(a) 11 405 000	(a) 11 216 000					
	Cubic metres									
Ready-mixed concrete	23 008 000	22 597 000	22 289 000	22 856 000	22 432 000					
	Tonnes									
Consumption (home deliveries)										
Finished cement (b)	11 350 000	(a) 10 762 000	(a) 11 072 000	(a) 11 074 000	(a) 11 004 000					
Imports										
Portland cement clinker	387 306	289 685	506 128	377 341	406 044	14 254	10 511	20 380	21 529	25 125
Aluminous cement	12 675	12 267	10 747	15 478	13 561	3 821	3 403	3 220	3 598	3 645
Portland cement	1 179 521	2 142 589	1 714 946	2 137 035	1 645 088	51 173	75 099	70 633	85 884	77 236
Other cement	39 736	49 060	50 384	48 811	24 144	2 718	1 996	2 037	2 636	2 804
Exports										
Portland cement clinker	169 344	159 252	60 920	82 936	134 992	6 573	6 685	1 965	1 417	1 657
Aluminous cement	50 085	50 501	54 595	66 966	55 934	14 578	14 498	16 768	20 073	17 933
Portland cement	229 572	305 801	216 480	214 420	320 680	14 793	14 062	15 076	16 909	24 987
Other cement	31 356	15 662	6 598	9 551	12 620	9 186	2 575	1 983	1 952	2 328

(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 paper-making, 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, 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 were 1 762 328 dry tonnes in 2006 compared with 1 910 874 tonnes in 2005. The UK is a major exporter of china clay and in 2006 1 566 025 tonnes (89 per cent) of sales were destined for export, including 1 121 395 tonnes to the EU.

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 2.6 million tonnes in 2005. 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.

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. In July 2006 Imerys announced plans to reorganise its UK kaolin business with the transfer of some production to Brazil. The main reason cited by Imerys for stopping the energy-intensive process of producing clay for paper coating in the UK is recent increase in energy costs. Future UK production will largely focus on filler clays used in lower grade applications, which have a much lower value than paper-coating clays. Imerys will continue to produce ceramic clays and clays for speciality markets such as paint, rubber and plastics. The operations at Lee Moor and Marsh Mills will be closed and production transferred to existing operations in Cornwall. 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
China clay										
Production (sales) (a) (b)	2 204 156	2 162 815	2 097 137	1 944 955	1 910 874					
Imports	95 337	56 416	70 125	108 260	72 812	8 140	5 433	7 804	9 439	8 741
Exports (a) (b)	1 928 230	1 899 220	1 862 437	1 728 161	1 698 747					

(a) Dry weight.

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

China stone

United Kingdom summary 2001–2005

Tonnes

Commodity	2001	2002	2003	2004	2005
China stone–see Feldspar					
Production	2 995	1 896	2 865	2 274	1 835

Chromium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Chromium										
Apparent consumption (a)	83 000	90 000	67 800	103 100	56 200					
Consumption in Iron and Steel Industry (b)	47 100	46 040	53 860	53 860	52 070					
Imports										
Ores and concentrates	135 369	139 748	107 161	130 841	122 042	6 186	5 109	3 742	4 652	6 031
Under 4% carbon	12 501	10 196	8 329	12 892	9 712	8 034	6 063	5 413	10 477	9 092
4%–6% carbon	1 744	—	72	102	31	629	—	34	48	14
Over 6% carbon	84 749	102 702	60 004	99 240	53 735	22 868	21 079	17 797	31 029	21 902
Ferro-silico-chrome	5 136	2 309	63	—	728	1 488	555	35	—	217
Oxides and hydroxides	8 201	(c) 4 400	(c) 2 600	(c) 9 600	(c) 9 500	10 511	(c) 4 300	(c) 2 600	(c) 7 500	(c) 10 400
Metal	1 601	1 171	1 612	2 321	1 723	7 316	4 494	6 436	8 862	6 963
Exports										
Ores and concentrates	170	26	212	622	228	55	30	71	403	101
Under 4% carbon	553	181	267	906	507	718	427	660	703	892
4%–6% carbon	86	55	540	111	…	78	37	242	127	…
Over 6% carbon	515	567	879	1 342	5 605	357	710	602	1 249	3 307
Ferro-silico-chrome	52	10	25	25	8	41	8	89	46	6
Oxides and hydroxides (d)	20 000	18 500	20 000	22 000	21 400	40 700	35 600	37 900	44 500	50 700
Metal	4 609	3 837	4 173	4 766	4 547	18 019	15 034	14 987	15 469	17 291

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Clays (not elsewhere specified)										
Production										
Clay and shale (a)	10 426 000	10 306 000	10 680 000	11 164 000	10 898 000					
Imports										
Unspecified clays	38 873	...	101 742	79 261	99 221	13 614	12 793	21 167	13 940	13 430

(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 2005

Thousand tonnes

Area of origin	Bricks, pipes and tiles	Cement	Construc-tional use	Other uses	Total
Durham	…	—	1	—	…
Northumberland	…	—	—	—	…
Tyne and Wear	46	—	—	—	46
North East	**264**	**—**	**1**	**—**	**265**
Humberside	…	…	—	2	…
North Yorkshire	…	—	46	—	…
South Yorkshire	…	—	…	—	183
West Yorkshire	343	—	—	—	343
Yorkshire and the Humber	**606**	**…**	**…**	**2**	**868**

continued

Great Britain production of clay and shale by end-use and area of origin 2005 *continued*

Thousand tonnes

Area of origin	Bricks, pipes and tiles	Cement	Construc-tional use	Other uses	Total
Derbyshire	…	483	—	—	…
Leicestershire	730	216	—	—	946
Northamptonshire	—	—	—	—	—
Nottinghamshire	…	—	…	—	…
East Midlands	**…**	**699**	**…**	—	**2 052**
Cambridgeshire	…	…	…	—	1 133
Norfolk	—	—	—	—	—
Suffolk	1	—	—	—	1
Essex	…	205	…	—	…
Bedfordshire	…	—	—	…	…
Hertfordshire	—	—	—	—	—
East of England	**…**	**…**	**…**	**…**	**1 909**
Buckinghamshire	…	—	—	—	…
Oxfordshire	—	—	—	—	—
Berkshire	—	—	—	—	—
East Sussex	119	—	—	—	119
West Sussex	430	—	—	3	433
Hampshire	…	—	—	16	…
Kent	…	—	…	…	115
Surrey	229	—	—	—	229
Greater London	—	—	—	—	—
South East	**920**	**—**	**…**	**…**	**951**
Avon	…	—	—	—	…
Cornwall	—	—	…	—	…
Devon	158	—	—	—	158
Dorset	12	—	—	—	12
Gloucestershire	53	—	…	…	…
Wiltshire	—	179	—	96	275
South West	**…**	**179**	**…**	**…**	**661**
Hereford and Worcester	…	—	…	—	…
Shropshire	…	—	…	…	…
Staffordshire	926	291	—	—	1 217
Warwickshire	…	…	4	—	…
West Midlands	222	—	—	—	222
West Midlands	**2 318**	**…**	**…**	**…**	**2 819**
Cumbria	32	—	—	72	104
Cheshire	…	—	…	—	…
Greater Manchester	…	—	…	—	…
Lancashire	…	—	…	—	321
Merseyside	35	—	—	—	35
North West	**402**	**—**	**74**	**73**	**549**
England	**7 393**	**1 888**	**389**	**404**	**10 074**
Clwyd	—	10	—	—	10
Gwynedd	…	—	1	—	…
Dyfed	—	39	…	—	…
Powys	63	—	5	18	85
Wales	**…**	**49**	**…**	**18**	**354**
South of Scotland	—	—	50	—	50
West Central Scotland	…	—	2	—	…
East Central Scotland	—	—	213	—	213
Tayside and Fife	—	—	33	—	33
Highlands	32	—	—	—	32
Orkney	—	—	…	—	…
Scotland	**…**	**—**	**…**	**—**	**469**
Great Britain	**7 741**	**1 937**	**798**	**422**	**10 898**

Source: Office for National Statistics.

Great Britain production of clay and shale by end-use 1993–2005

Thousand tonnes

Year	Bricks, pipes and tiles	Cement	Lightweight aggregate	Construc-tional use	Other uses	Total
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
2005	7 741	1 937	…	798	422	10 898

(a) BGS estimate.

Source: Office for National Statistics.

Coal (also see Primary fuels)

Coal production fell to 18.6 million tonnes in 2006, a decrease of 9.3 per cent on the previous year. The decrease was almost entirely due to lower production from opencast sites (17.3 per cent lower than in 2005) while deep-mined coal production decreased by only 1.3 per cent. Of the total production, underground mines contributed 9.4 million tonnes (52 per cent) and opencast mines 8.6 million tonnes (48 per cent) with minor quantities recovered from other sources. In 2005, opencast production exceeded that of deep mines, but in 2006 this situation has been reversed. The value of coal production is estimated to have fallen to £722 million in 2005, compared to £800 million in 2004. The number of people employed in UK collieries at the end of March 2007 was 3477, and in opencast sites, 1614, the total representing a 14 per cent decrease in manpower over the year.

Coal consumption increased to 68.2 million tonnes in 2006, a 10.3 percent increase on 2005 and the highest consumption for ten years. In 2006, generation of electricity used 57.7 million tonnes, or 84.6 per cent of total consumption. Electricity supplied by coal increased by 11.6 per cent while that supplied by gas and nuclear fell by 7.5 per cent and 7.9 per cent, respectively. This is largely due to the high price of gas for the first ten months of the year which, combined with the low carbon price in the EU Emissions Trading Scheme, led to generating companies increasing their use of coal-fired power stations in preference to gas-fired plant. Coal accounted for 38.1 per cent of total electricity generation in 2006, whereas gas accounted for 36.8 per cent. Consumption in coke ovens and blast furnaces accounted for 10.7 per cent and industrial, domestic and other uses for four per cent. Total stocks of coal at the end of 2005 were 16.4 million tonnes, an increase of 0.5 million tonnes compared to the previous year.

In 2005, 99.6 per cent of imports were bituminous coal, with steam coal comprising 84.7 per cent of the total and coking coal 14.9 per cent. Anthracite accounted for the remaining 0.4 per cent of imports. The sources of supply are summarised in the table below. The chief sources of steam coal were Russia (45 per cent) and South Africa (35 per cent) and the chief source of coking coal was Australia (54 per cent). Coal imports increased by 14.3 per cent from 43.9 million tonnes in 2005 to 50.3 million tonnes in 2006. This figure is more than double the imports in 2000. In 2006 net imports were 73.0 per cent of total consumption.

Coal Authority licences for opencast sites in production at 20 April 2007 totalled 29, of which 16 were in Scotland, seven in England and six in Wales. A further five sites are under development. Scottish Coal, the largest opencast coal mining company in the UK, held the largest number of licences with nine producing sites, all in Scotland. Aardvark TMC Ltd, Celtic Energy Ltd and UK Coal plc each held three licences. There were nine operators in total, seven fewer than last year.

Of the 11 licences for underground mines in production, four were held by UK Coal plc operating in the Midlands and Yorkshire. Each of the other seven licensees held one licence. In addition, there are seven sites under development.

UK Coal plc made an operating loss in 2006 through the closures of Harworth and Rossington collieries, both with insurmountable geological problems. In January 2007, UK Coal sold its Maltby mine to Hargreaves Group for £21.5 million. Deep mine production for UK Coal plc, at 8.9 million tonnes, was marginally lower than in 2005. The estimated reserve of deep mine coal is 64 million tonnes, with a further 209 million tonnes in the resources categories. The company made a small profit in surface mining although only one site was in production for most of the year.

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. The table, with figures for 2006, is being updated and will be available on www.mineralsUK.com.

UK supply of coal 2005

Thousand tonnes

	Bituminous		Anthracite	Total
	Steam coal	Coking coal		
Production				
Mine production	…	274	…	20 008
Other sources	…	—	…	490
Stock change	…	-312	…	-2 129
Total production	…	-38	…	**18 369**
Imports				
European Union	1 001	28	37	1 066
Australia	932	3 532	—	4 464
Canada	—	1 084	—	1 084
Colombia	3 289	—	—	3 289
Indonesia	1 616	—	—	1 616
Malaysia	190	—	—	190
China P.R.	110	—	25	135
South Africa	12 980	—	49	13 029
Russia	16 748	697	76	17 521
Saudi Arabia	29	—	—	29
USA	299	1 210	—	1 509
Other countries	32	—	—	32
Total imports	**37 226**	**6 551**	**187**	**43 964**
Total exports	**-364**	**-3**	**-169**	**-536**
Total supply	**…**	**…**	**…**	**62 869**

Source: DTI

Total permitted opencast reserves (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**
Lanchashire	—	—	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			
Wrexham	117 421	38 558	—
Wales	**5 352 360**	**12 014 667**	**17 014 680**

continued

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

Tonnes

Mineral Planning Authority	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 1977–2005

Thousand tonnes

Year	Deep-mined			Opencast			Deep-mined and opencast		
	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total
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	…	…	12 542	…	…	11 993	…	…	24 536
2005	…	…	9 563	…	…	10 445	…	…	20 008

(a) BGS estimate.

Source: Department of Trade and Industry.

United Kingdom regional deep-mined coal production 2001–2006 (a)

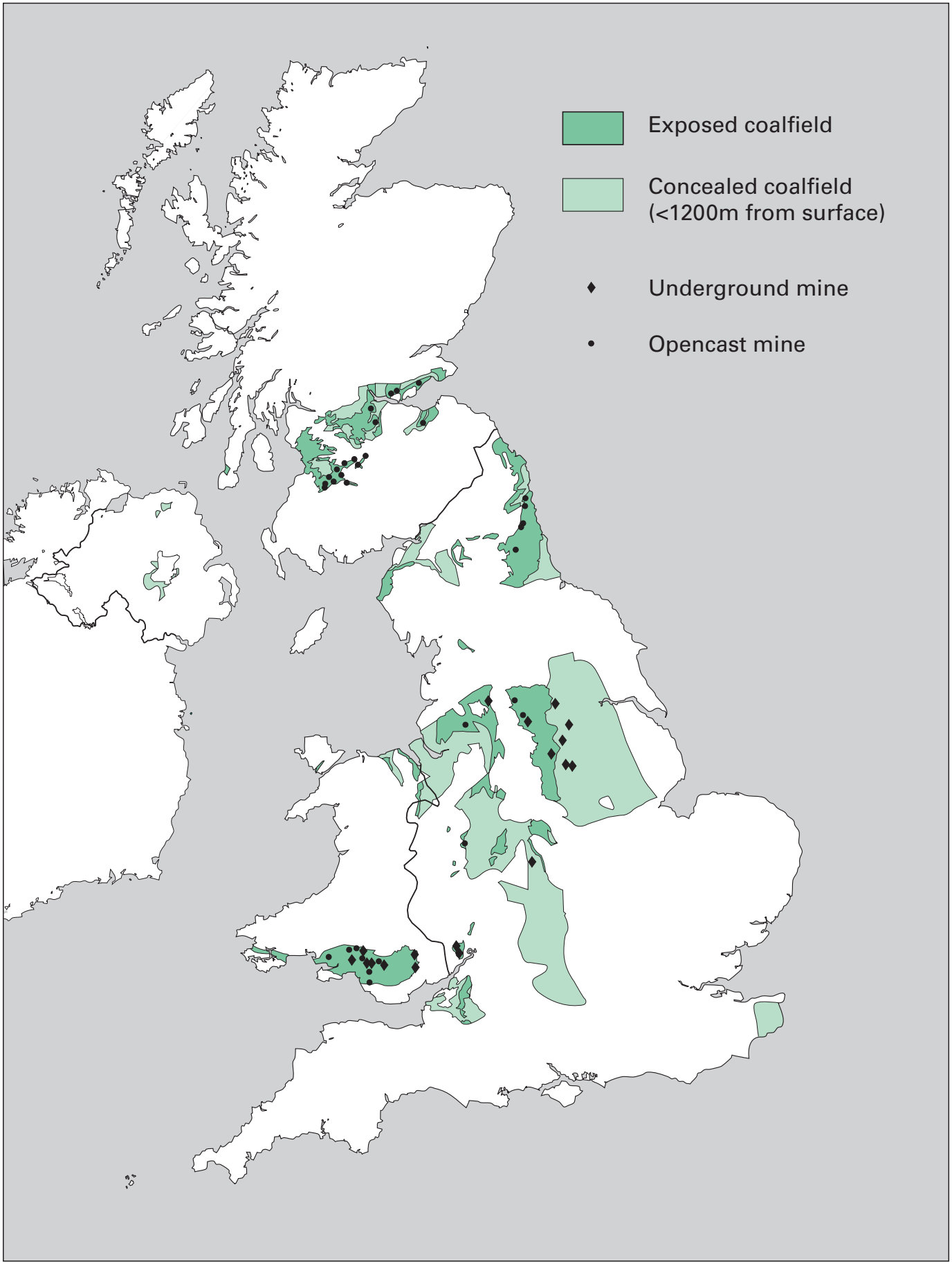
Thousand tonnes

County/Unitary authority	2001/02	2002/03	2003/04	2004/05	2005/06
Doncaster	675	1 070	1 030	378	622
Kirklees	31	31	32	24	18
Sheffield	22	—	—	—	—
Rotherham	1 499	1 587	962	1 635	1 003
Wakefield	1 177	414	—	—	—
Coventry	—				
Leicestershire	—	—	—	—	—
Warwickshire	1 582	663	2 252	2 977	2 346
Derbyshire	—	22	25	21	24
Nottinghamshire	4 650	4 733	4 083	2 617	3 579
Durham	—	—	—	—	—
Northumberland	840	800	598	376	125
North Yorkshire	6 174	5 719	5 111	3 054	2 042
Lancashire	1	0	—	—	—
Cumbria	0	—	—	—	—
Staffordshire	—	—	—	—	
Gloucestershire	370	926	599	94	—
England	**16 652**	**15 039**	**14 094**	**11 082**	**9 759**
Blaenau Gwent	0	—	—	—	—
Rhondda, Cynon Taff	567	632	525	398	544
Carmarthenshire	51	84	20	—	—
Flintshire	—				
Wrexham	—				
Neath Port Talbot	50	43	18	26	11
Torfaen	6	7	9	8	3
Wales	**674**	**765**	**571**	**431**	**558**
Clackmannanshire	756	—	—	—	—
Scotland	**756**	**—**	**—**	**—**	**—**
United Kingdom	**18 082**	**15 805**	**14 664**	**11 513**	**10 317**

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom onshore coalfields and mines as at March 2007



United Kingdom regional opencast coal production 2001–2006 (a)

Thousand tonnes

County/Unitary authority	2001/02	2002/03	2003/04	2004/05	2005/06
Barnsley	261	398	352	201	11
Rotherham	525	428	463	407	280
Wakefield	—	194	289	—	—
Leicestershire	606	608	572	328	69
Derbyshire	706	699	567	255	9
Durham	184	170	231	258	42
Gateshead	73	54	22	—	—
Newcastle upon Tyne	—	—	—	—	92
Northumberland	1 697	1 625	852	906	653
Leeds	728	685	249	311	11
Shropshire	—	—	—	6	25
St Helens	41	76	76	48	11
Cumbria	70	16	—	—	—
England	**4 890**	**4 953**	**3 674**	**2 720**	**1 204**
Blaenau Gwent	10	7	—	—	—
Carmarthenshire	0	0	7	29	7
Wrexham	—	—	—	—	7
Neath Port Talbot	955	423	377	977	870
Powys	214	331	424	354	327
Bridgend	—	309	355	—	—
Wrexham	—	—	14	66	—
Wales	**1 178**	**1 070**	**1 177**	**1 426**	**1 210**
Clackmannanshire	211	150	177	65	—
Falkirk	—	—	—	39	209
Midlothian	341	215	12	128	222
West Lothian	—	—	—	262	520
East Ayrshire	4 528	4 183	3 908	3 719	4 034
Fife	763	739	1 035	1 630	1 477
North Lanarkshire	651	425	188	203	130
South Lanarkshire	1 674	1 368	1 456	1 585	1 147
Scotland	**8 170**	**7 080**	**6 776**	**7 632**	**7 739**
United Kingdom	**14 238**	**13 103**	**11 627**	**11 778**	**10 153**

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Coal										
Production	31 930 000	29 989 000	28 279 000	25 096 000	20 498 000					
Consumption	64 535 000	58 689 000	63 039 000	60 462 000	61 849 000					
Imports										
Anthracite	2 757 188	1 550 849	334 883	197 787	187 388	101 548	52 678	15 897	12 129	13 262
Bituminous	32 772 976	27 110 435	31 538 546	35 958 449	43 890 778	1 078 272	797 166	907 426	1 319 047	1 864 790
Total	35 530 164	28 661 284	31 873 429	36 156 236	44 078 166	1 179 820	849 844	923 323	1 331 176	1 878 052
Briquettes of coal	10 908	17 025	7 440	7 697	6 125	1 274	1 811	899	838	789
Lignite (including agglomerated)	3 362	1 336	2 685	5 255	1 930	204	203	340	684	543
Exports										
Anthracite	272 985	187 372	180 382	172 486	169 252	14 961	11 267	12 774	11 419	12 704
Bituminous	309 560	341 627	352 620	439 930	380 426	19 075	19 098	19 394	25 772	26 996
Total	582 545	528 999	533 002	612 415	549 678	34 036	30 365	32 168	37 191	39 701
Briquettes of coal	76 419	63 126	59 189	40 256	19 885	6 314	5 272	5 375	4 040	2 155
Lignite (including agglomerated)	2 938	3 670	3 567	3 172	3 149	308	688	344	250	311

Cobalt

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Cobalt										
Consumption in Iron and Steel Industry (a)	20	20	20	20	20					
Apparent consumption (a) (b)	1 500	2 300	1 000	1 100	1 100					
Imports										
Scrap	756	362	414	508	593	7 724	1 889	1 627	3 811	4 988
Ash and residues	1	...	—	—	...	4	...	—	—	...
Unwrought	2 646	3 201	2 252	2 467	2 557	34 076	28 560	24 768	48 073	43 929
Wrought	785	473	690	887	738	8 393	6 812	6 935	14 201	12 012
Oxides	641	487	582	525	107	6 858	3 092	4 613	7 456	1 392
Exports										
Scrap	474	212	537	794	391	3 119	1 257	2 352	6 149	3 117
Unwrought	737	522	507	628	648	12 960	8 956	8 031	14 217	13 173
Wrought	644	386	502	460	432	14 474	11 714	11 485	14 884	14 113
Oxides	1 256	1 233	1 380	1 233	994	14 111	11 072	13 538	20 078	10 706

(a) Metal content.

(b) BGS estimates; see p.v.

Coke and breeze

United Kingdom summary 2001–2005

Commodity		2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
		Tonnes					£ thousand				
Coke and breeze											
Production											
Coke oven	–coke	5 306 000	4 335 000	4 286 000	4 038 000	4 105 000					
	–breeze	210 000	224 000	315 000	298 000	259 000					
Consumption											
Coke oven coke		4 394 000	3 658 000	4 005 000	3 704 000	3 646 000					
Breeze		1 120 000	1 075 000	1 332 000	1 421 000	1 369 000					
Imports											
Coke from coal		139 041	200 809	764 525	785 585	554 707	11 407	14 092	61 358	134 706	71 763
Exports											
Coke from coal		314 024	312 724	223 408	189 640	191 854	19 604	19 175	14 666	18 073	24 350
Coke from lignite		5 253	4 660	5 312	1	…	578	522	469	175	…

Copper

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Copper										
Consumption										
Unwrought–										
Refined	285 880	260 663	242 193	243 417	165 406					
Copper in scrap for direct use (a)	127 000	120 000	120 000	120 000	120 000					
Imports										
Ores and concentrates	756	789	459	249	251	1 391	900	685	567	736
Matte and cement	92	19	7	9	5	308	69	33	66	76
Scrap	19 651	19 240	17 378	15 731	42 264	16 349	16 505	17 025	15 621	25 644
Ash and residues	0	87	262	867	1 108	1	286	171	370	579
Unwrought–										
Unrefined	290	89	14	122	1 977	1 467	206	36	77	4 307
Refined	310 894	316 578	245 152	214 067	181 767	368 498	330 378	269 351	342 492	364 395
Alloys	6 088	4 363	4 427	6 478	5 371	8 444	5 813	5 555	8 800	9 428
Master alloys	1 161	1 117	1 733	1 592	820	1 714	1 663	2 211	2 719	1 934
Exports										
Matte and cement	10 931	10 724	2 723	79	41	4 662	3 909	970	445	523
Scrap	156 121	163 579	210 169	244 749	238 557	119 579	120 540	145 046	203 166	247 351
Ash and residues	1 873	1 075	1 722	2 017	675	430	187	3 378	1 136	74
Unwrought–										
Unrefined	69	259	687	759	271	347	1 955	3 259	3 344	2 772
Refined	10 246	32 017	2 237	6 603	15 982	12 002	30 496	2 407	9 643	33 657
Alloys	19 689	22 718	20 803	18 543	12 681	25 656	24 456	22 617	25 426	23 456
Master alloys	4 119	3 948	3 318	3 492	2 332	6 318	5 970	4 588	6 653	6 160

(a) Additional to that used in secondary metal.

Crushed rock (also see Aggregates)

Great Britain production of crushed rock by region 1977–2005

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**
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
2005	5 333	7 993	10 875	4 416	27 468	238	1 090	23 180	80 593	16 535	24 732	121 860

(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 2005

Thousand tonnes

Area of origin	Roadstone									Total
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armourstone & gabion	
North East	642	431	1 247	246	16	475	1 031	1 215	29	5 333
North West	523	…	1 406	…	…	1 625	1 530	2 094	42	7 993
Yorkshire and the Humber	983	904	2 394	146	—	2 512	1 319	2 564	53	10 875
West Midlands	1 024	…	…	44	…	253	…	1 142	…	4 416
East Midlands	1 862	1 844	5 995	328	1 509	3 793	4 210	7 859	69	27 468
East of England	—	—	…	—	—	—	…	…	—	238
South East	—	—	209	…	—	104	66	…	10	1 090
South West	2 582	1 212	4 936	…	…	3 732	3 239	6 729	…	23 180
England	**7 615**	**5 579**	**17 208**	**1 426**	**1 871**	**12 494**	**11 676**	**22 474**	**248**	**80 593**
Wales	**2 679**	**1 058**	**2 007**	**…**	**…**	**2 117**	**2 927**	**4 478**	**83**	**16 535**
Scotland	**2 222**	**982**	**6 687**	**…**	**…**	**2 266**	**6 346**	**4 408**	**208**	**24 732**
Great Britain	**12 516**	**7 620**	**25 902**	**2 693**	**3 403**	**16 876**	**20 949**	**31 360**	**540**	**121 860**

Source: Office for National Statistics.

Great Britain production of crushed rock for aggregate 2005

Thousand tonnes

Mineral	Roadstone									Total
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armourstone & gabion	
Limestone (inc. dolomite)	6 026	2 751	14 195	…	…	12 571	8 544	20 301	…	…
Igneous rock	4 991	2 841	10 255	913	3 072	3 755	10 744	7 939	…	…
Sandstone	1 499	2 027	1 452	…	…	551	1 661	3 119	78	…
Total	**12 516**	**7 620**	**25 902**	**2 693**	**3 403**	**16 876**	**20 949**	**31 360**	**540**	**121 860**

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 1993–2005

Thousand tonnes

Year	Roadstone									Total
	Coated	Uncoated	Surface dressing chippings	Railway ballast	Fill	Concrete aggregate	Other screened & graded	Other constructional uses	Armourstone & gabion	
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	28 553	…	…	…	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	28 522	…	…	…	122 885
2004	18 721	25 260	3 787	3 832	…	21 231	21 016	33 492	333	127 674
2005	20 136	25 902	2 693	3 403	…	16 876	20 949	31 360	540	121 860

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of crushed rock, gravel and sand for use in concrete, 1993–2005

Thousand tonnes

Year	Sandstone	Igneous rock	Limestone and dolomite	Gravel (a)	Concreting sand (a)	Total
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
2005	551	3 755	12 571	26 014	29 848	72 739

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

Source: Office for National Statistics.

Great Britain production of crushed rock for use as roadstone, 1993–2005

Thousand tonnes

Year	Sandstone		Igneous rock		Limestone and dolomite		Total	
	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated
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
2005	3 526	(b) 1 452	7 832	(a) 11 168	8 777	(b) 14 195	20 136	(a) 28 595

(a) Including surface dressing chippings
(b) Excluding surface dressing chippings

Source: Office for National Statistics.

Great Britain production of crushed rock for railway ballast, 1993–2005

Thousand tonnes

Year	Sandstone	Igneous rock	Limestone and dolomite	Total
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	…	3 832
2005	…	3 072	…	3 403

(a) BGS estimate.

Source: Office for National Statistics.

England production of crushed rock by end-use 1993–2005

Thousand tonnes

Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armourstone & gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2005	13 194	17 208	1 426	1 871	…	12 494	11 676	22 474	248	80 593

Source: Office for National Statistics.

Wales production of crushed rock by end-use 1993–2005

Thousand tonnes

Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armourstone & gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2005	3 737	2 007	…	…	…	2 117	2 927	4 478	83	16 535

Source: Office for National Statistics.

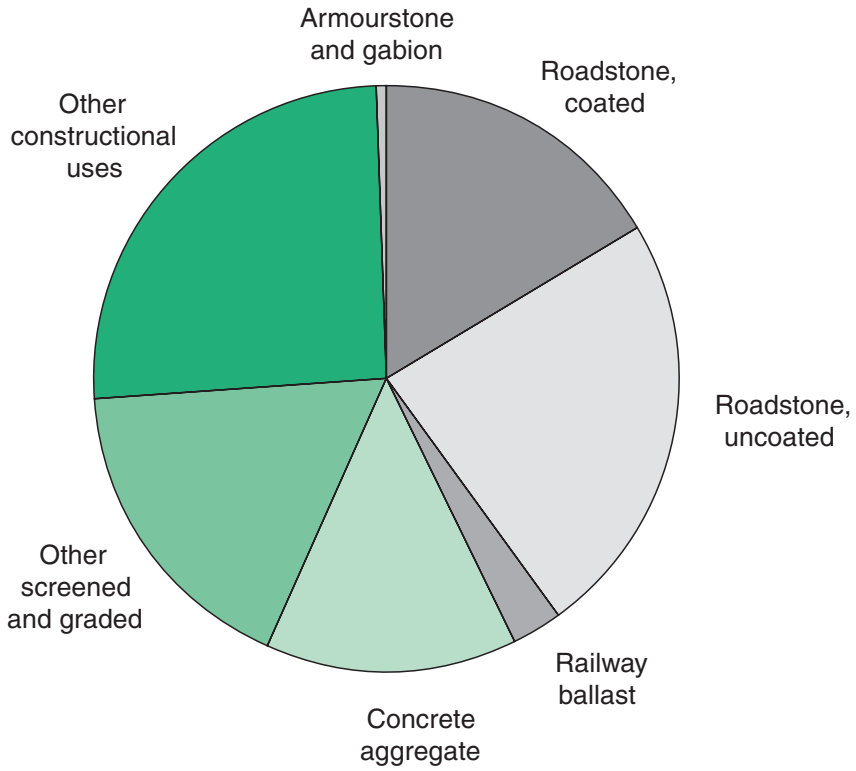
Scotland production of crushed rock by end-use 1993–2005

Thousand tonnes

Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armourstone & gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2005	3 204	6 687	…	…	…	2 266	6 346	4 408	208	24 732

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 2005
(total production 122.9 million tonnes)



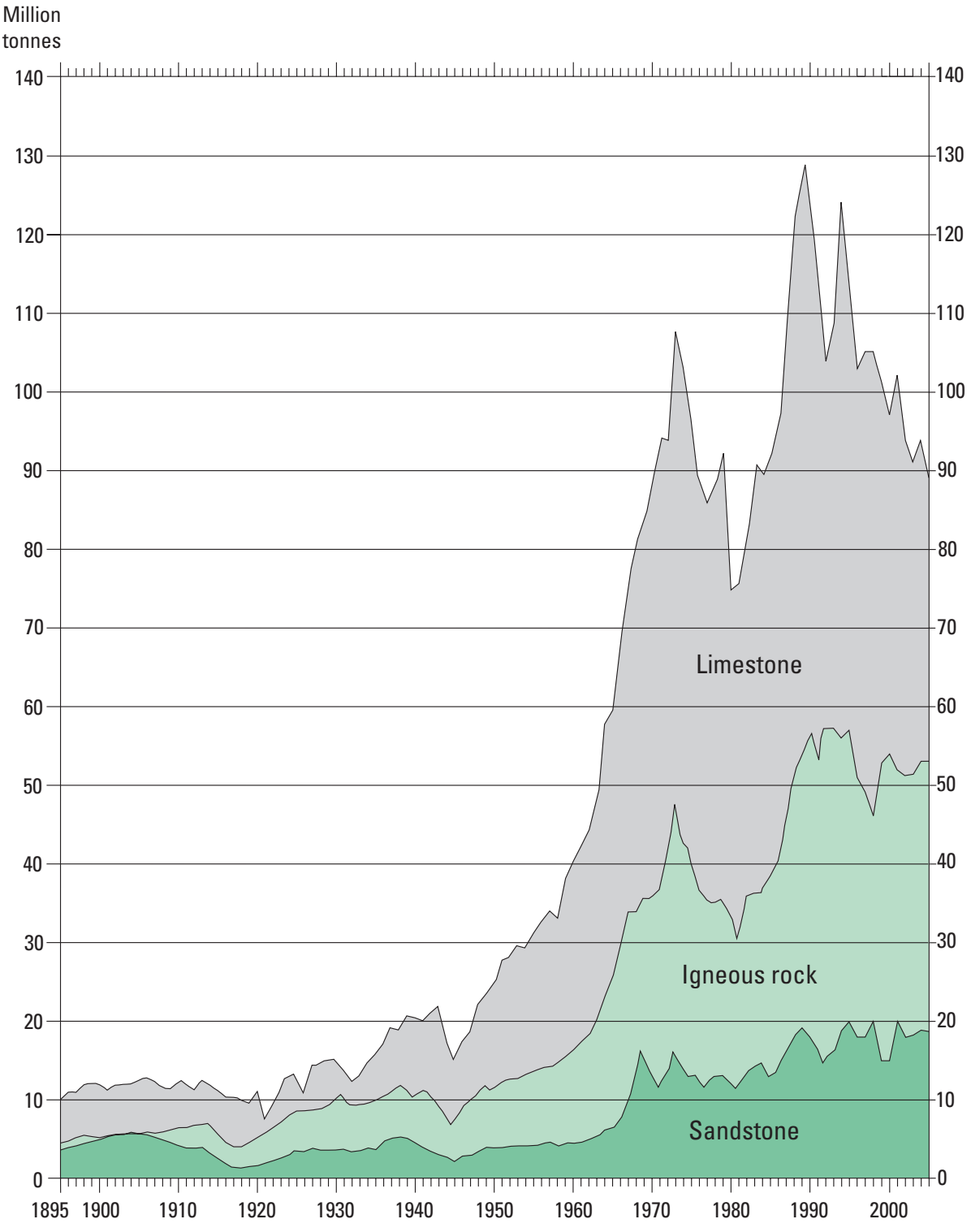
United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Crushed rock										
Production										
Crushed rock (a)	133 759 000	126 568 000	122 885 000	127 674 000	121 860 000					
Imports										
Crushed rock (b)	409 174	572 971	632 792	619 076	1 516 919	7 253	9 083	10 064	10 661	19 037
Exports										
Crushed rock	3 367 217	3 593 951	3 188 232	4 528 231	4 850 971	15 089	13 989	13 275	22 865	25 141

(a) Great Britain only.

(b) For a number of years, a significant amount of armourstone imports are believed be wrongly classified as 'granite, crude'. In 2005, this figure was 1 331 520 tonnes, much of which is thought to be armourstone for sea defence work.

United Kingdom production of sandstone, igneous rock and limestone (including dolomite) 1895–2005



Cryolite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Cryolite										
Imports										
Natural cryolite	123	…	…	…	…	64	…	…	…	…
Exports										
Natural cryolite	137	…	…	…	…	93	…	…	…	…

Diamond

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Carats					£ thousand				
Diamond										
Imports										
Unsorted	586 774	1 794 607	5 210 022	10 557 065	33 441 810	31 661	80 423	181 085	256 208	542 182
Gem–										
Rough	81 302 570	70 336 037	77 712 486	68 227 020	78 735 595	4 211 641	3 094 473	3 210 787	3 479 633	3 731 322
Cut	4 396 223	5 123 898	4 520 872	9 317 145	12 039 040	621 099	794 171	631 502	577 773	632 372
Industrial	7 344 542	7 804 225	21 518 053	30 993 557	25 367 064	12 334	11 694	33 872	29 956	12 673
Dust	74 756 325	68 359 660	92 290 565	126 127 015	125 510 400	14 266	10 902	9 564	10 684	8 677
Exports										
Unsorted	4 030 600	...	9 744 443	6 394 541	16 818 545	285 275	274 317	542 541	492 362	1 087 752
Gem–										
Rough	69 542 709	86 681 020	104 300 972	78 613 304	76 400 064	3 754 316	3 743 858	3 757 671	3 638 553	3 477 092
Cut	899 959	394 881	828 103	1 592 717	5 330 874	410 299	476 463	480 709	493 848	510 487
Industrial	11 861 312	7 837 074	12 177 638	22 821 716	21 647 850	19 047	17 199	40 468	33 851	20 924
Dust	88 612 930	...	75 401 775	149 415 960	124 529 495	13 667	12 027	11 742	11 106	11 791

Diatomite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Diatomite										
Production	…	…	…	…	…					
Imports										
Diatomite (a)	33 474	34 490	37 217	34 988	29 208	6 044	5 917	5 792	5 242	4 658
Exports										
Diatomite (a)	1 342	816	1 003	2 123	708	1 125	515	560	745	598

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

Dolomite (see Limestone)

Feldspar

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Feldspar										
Production										
China stone	2 995	1 896	2 865	2 274	1 835					
Imports										
Feldspar	18 361	33 196	25 764	31 601	23 139	1 194	905	1 708	2 075	1 428
Nepheline-syenite	57 268	53 692	52 453	49 731	47 672	4 142	4 627	4 465	4 204	4 052
Exports										
Feldspar	93	209	801	261	48	20	36	204	117	18
Nepheline-syenite	54	82	52	45	38	16	31	28	21	14

Fireclay

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Fireclay										
Production										
Fireclay (a)	459 000	491 000	528 000	402 000	395 000					
Imports										
Fireclay	260	111	67	199	497	459	197	405	108	156
Fireclay bricks etc	3 315	3 262	6 212	5 563	8 261	1 385	1 163	2 352	2 639	3 958
Refractory hollow-ware	1 860	996	880	1 347	1 676	2 725	2 234	2 016	2 023	2 956
Exports										
Fireclay	611	439	83	96	91	250	175	29	49	90
Fireclay bricks etc	1 956	2 312	2 170	1 985	3 135	1 751	2 157	2 765	2 937	4 336
Refractory hollow-ware	2 944	3 055	4 335	4 432	3 009	13 537	9 754	12 801	13 164	14 715

(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 2005

Thousand tonnes

Area of origin	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
Northumberland	…	…	…	80
Tyne and Wear	…	…	…	8
Durham	…	…	…	—
North East	…	…	…	**89**
West Yorkshire	…	…	…	5
South Yorkshire	…	…	…	…
Yorkshire and the Humber	…	…	…	**…**
Leicestershire	…	…	…	108
East Midlands	…	…	…	**108**
Shropshire	…	…	…	130
West Midlands	…	…	…	**130**
Cornwall	…	…	…	…
South West	…	…	…	**…**
England	…	…	…	**346**
Wales	…	…	…	**—**
Scotland	…	…	…	**49**
Great Britain	…	…	…	**395**

Source: Office for National Statistics.

Great Britain production of fireclay by end-use 1993–2005

Thousand tonnes

Year	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
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
2005	…	…	…	395

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 makes a distinction between fluorspar containing more than and less than 97 per cent CaF_2. The former corresponds to acid-grade fluorspar, while the latter is a subacid grade used in steel making and ceramics manufacture.

According to official figures total fluorspar imports decreased considerably from 25 092 in 2004 to 4051 tonnes in 2005. The most marked decrease was for acid-grade fluorspar imports which reduced from 19 295 in 2004 to 57 tonnes in 2005, mostly derived from Germany.

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 its 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 (PbS lead sulphide). Production of lead concentrate (65 per cent 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 2006. 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 tributers also make a significant contribution to the 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, is used in the manufacture of high-octane petrol for example. However, it is also the key intermediate for the manufacture of all speciality 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004
	Tonnes					£ thousand			
Fluorine									
Production									
Fluorspar	50 000	53 000	56 000	50 080	60 980				
Imports									
Fluorspar	34 999	26 690	21 360	25 092	4 051	3 236	2 483	2 032	2 458
Natural cryolite	123	...	...	…	…	64	...	...	….
Exports									
Fluorspar	2 373	636	519	4 592	5 803	376	127	176	954
Natural cryolite	137	...	...	…		93	...	...	…

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 from 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 151 178 tonnes valued at £10.5 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 produced 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 paper making 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. It 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. This marked 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 paper making.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Fuller's earth										
Crude production	…	33 000	19 000	115 000	—					
Sales (a)	52 000	(b) 44 200	(b) 34 000	(b) 28 000	(b) 6 000					
Imports	5 896	9 115	7 085	2 574	3 122	611	849	697	316	504
Exports	121	74	254	124	778	80	61	53	59	417

(a) BGS estimates based on data from producing companies. Dry weight. (b) Including sales from stockpiles.

Gas, natural (see Petroleum)

Germanium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Germanium										
Imports										
Metal	7	10	4	2	5	921	478	595	1 993	2 094
Exports										
Metal	10	0	3	1	1	668	82	18	86	75

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 11 to 12, due to four new licences being recently granted in Scotland. However three licenses were relinquished in Northern Ireland and two in Wales. Leases remained constant at six (see map). There are no licences pending. The gold price continued to rise during the year, reaching $640 per ounce in December 2006. There has been little activity in Great Britain, apart from small-scale exploration in the Dolgellau area. However, following the granting of the licences in Scotland activity may increase. In Northern Ireland investigations have continued in the Omagh and Armagh areas. Mines Royal Licence and Lease activity is distributed throughout the United Kingdom as follows:

	Licences		**Leases**	
	Granted	Pending	Granted	Pending
England	—	—	—	—
Northern Ireland	8	—	1	—
Scotland	4	—	1	—
Wales	—	—	4	—
Total	**12**	—	**6**	—

Source: Crown Mineral Agent

The twelve 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)
Scotland	Aurum Mineral Resources Ltd (subsidiary of Alba Mineral Resources plc)

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

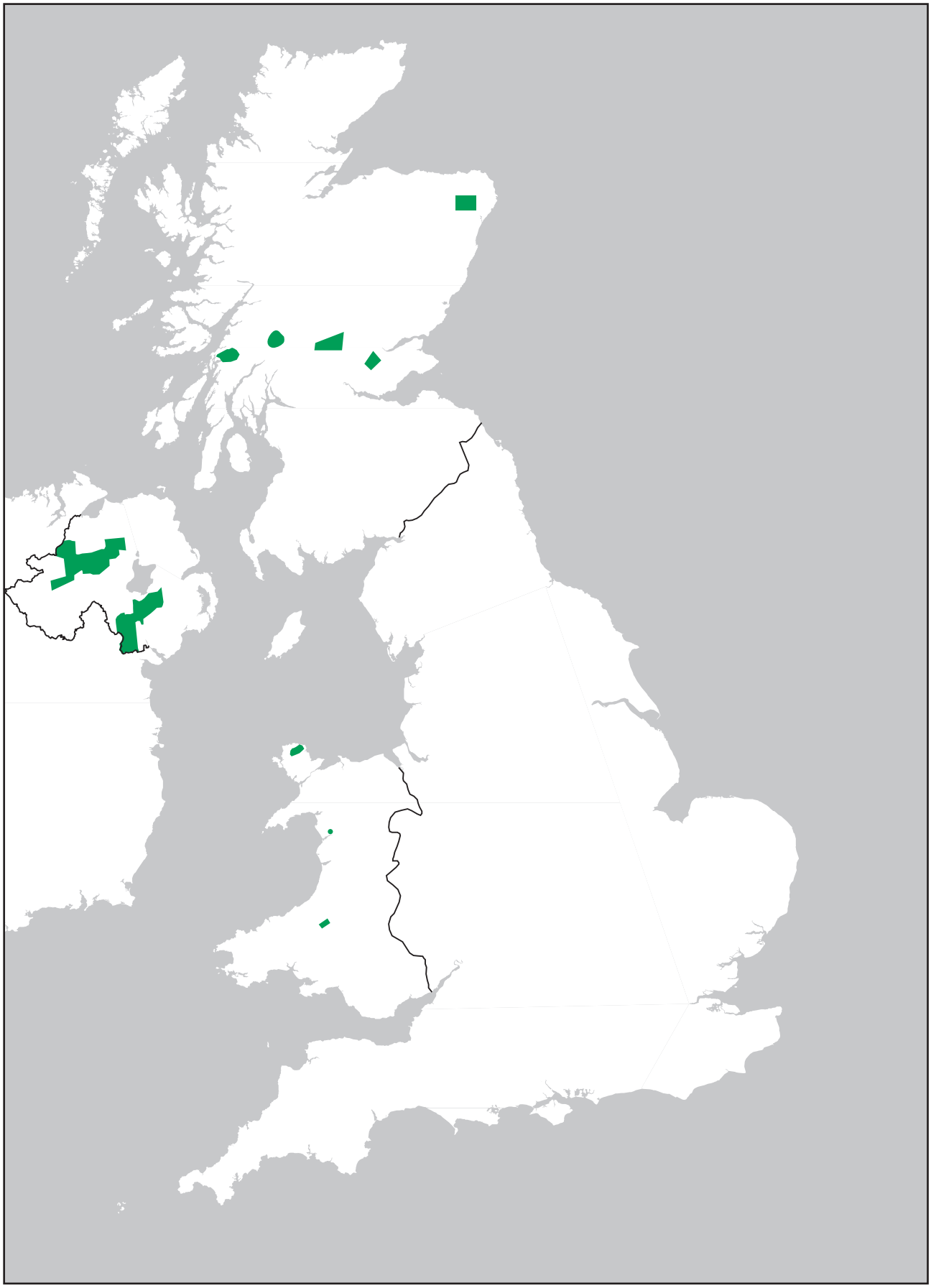
Tournigan Gold Corporation have continued their exploration effort at the Curraghainalt deposit 15 km north-east of Omagh in Co. Tyrone. This is a mesothermal quartz-sulphide vein deposit with an inferred resource of 527 700 tonnes at 15.45 gram/tonne gold for a total of 262 018 ounces of gold.

Infill diamond drilling of the East Curraghinalt vein extension commenced during the year to tighten the grid spacing to an average of about 50 m by 50 m in order to estimate an inferred resource. Thirty-six diamond drill holes totaling 6300 metres were planned but no results have been announced to date.

The Omagh (formerly Cavanacaw) deposit, 10 km south-west of Omagh, is owned by Omagh Minerals, a wholly owned subsidiary of Galantas Gold Corporation. This mesothermal quartz-sulphide vein deposit has a proven and probable reserve of 367 310 tonnes grading 7.52 grams per tonne gold over a width of 4.43 m within the designated open pit area (using a cut-off grade of 1.0 gram per tonne gold and a cut off width of 0.5 m). Construction of the 150 tonnes per day facility is now complete and initial mining has commenced to commission the mill. Sulphide concentrates will be sent overseas for processing.

Conroy Diamonds and Gold have announced inferred and indicated ‘resource estimates’ from the Clontibret area within the ‘Armagh-Monaghan Gold Belt’ in the Longford-Down Massif which extends between Northern Ireland and the Republic of Ireland.

Mines Royal Licences and Leases in 2005



Resource estimates range from 64 000 ounces to 1 million ounces, depending on the tonnage, grade and cut-off employed. 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Gold										
Imports										
Waste and scrap	168	123	231	275	66	122 319	78 676	134 567	167 932	33 304
Unwrought (a)	951	1 257	1 402	1 028	339	3 231 446	4 882 625	6 972 447	4 701 983	2 825 803
Semi-manufactured	21	24	12	25	12	119 642	86 369	40 611	76 005	38 060
Exports										
Waste and scrap	494	549	1 075	472	541	5 471	4 503	3 451	4 004	52 473
Unwrought (a)	353	131	65	343	585	2 136 962	781 054	402 840	1 083 671	4 217 538
Semi-manufactured	52	68	18	64	53	301 266	191 856	76 034	88 082	70 236

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

Granite (see Igneous rock)

Graphite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Graphite										
Imports										
Natural graphite	22 482	22 435	19 270	19 075	17 766	9 933	8 772	8 670	8 814	9 453
Artificial graphite	16 704	14 162	13 176	12 508	13 761	19 076	15 739	13 356	14 275	15 165
Graphite crucibles etc	2 027	1 055	1 146	1 175	811	3 004	2 343	2 888	3 477	2 788
Exports										
Natural graphite	2 635	2 816	4 158	4 348	2 685	2 825	3 064	3 416	4 104	3 204
Artificial graphite	4 014	4 365	4 058	5 771	11 450	7 126	5 712	7 491	11 010	10 431
Graphite crucibles etc	10 089	11 606	11 240	9 007	9 111	20 139	21 982	20 583	18 452	17 647

Gypsum

Gypsum ($CaSO_4.2H_2O$) 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, 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 has not been disclosed in official statistics for some years but is thought to be about 1.7 million tonnes per year. Official figures for imports of gypsum are difficult to interpret. It seems likely that between 2003 and 2004 some imports of crude gypsum were being wrongly classified as plaster. The 2005 figures appear more realistic, with reported imports of crude gypsum of 627 595 tonnes valued at £9.7 million, with imports of calcined gypsum, i.e. plasters at 133 522 tonnes valued at around £11 million.

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

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Drax	510	549	323	483	565	506	485	699	653	565	610
Ratcliffe-on-Soar	300	296	278	220	260	291	358	384	350	235	206
West Burton	—	—	—	—	—	—	—	—	274	335	289
Eggborough	—	—	—	—	—	—	—	—	—	...	...
Cottam	—	—	—	—	—	—	—	—	—	...	...
Total	**810**	**845**	**510**	**703**	**825**	**797**	**843**	**1 083**	**1 228**	**1 135**	**1 105**

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 is currently being commissioned. EDF Energy is installing FGD units at the 2000 MW Cottam station in Nottinghamshire, scheduled for completion in 2007. Additional FGD plants are planned or under construction for several other coal-fired power stations in the UK including Ferrybridge, Fiddlers Ferry, Rugeley and Longannet. As a result of the Ferrybridge scheme Lafarge Plasterboard intends to open a new plasterboard manufacturing and distribution facility at the site.

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 approximately 100 000 tonnes per year) due to a reduction in plant capacity.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Gypsum and plaster										
Production										
Gypsum, natural	(a) 1 700 000	(a) 1 700 000	(a) 1 700 000	1 686 000	(a) 1 700 000					
Imports										
Gypsum–										
Gypsum	755 112	(b) 234 397	(b) 47 751	(b) 64 043	(b) 627 595	10 390	6 944	8 603	8 160	9 738
Calcined gypsum (plasters)	31 481	(b) 412 492	(b) 855 317	(b) 163 025	(b) 133 522	6 029	7 576	8 441	8 780	11 003
Exports										
Gypsum–										
Gypsum	3 049	14 460	2 601	3 903	2 299	459	692	463	593	599
Calcined gypsum (plasters)	29 474	44 827	39 515	49 945	54 356	7 505	10 283	8 689	11 677	11 836

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Hafnium										
Imports	2	2	7	3	23	327	320	217	285	934
Exports	2	...	11	57	1	169	248	66	244	137

Igneous rock (for graph, see Crushed rock)

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Igneous rock – see also Building and dimension stone										
Production (a)	51 501 000	51 225 000	51 356 000	53 037 000	53 104 000					
Imports										
Granite–										
Unworked	1 781 220	1 656 235	1 145 887	1 643 221	1 331 520	28 908	29 447	30 386	39 988	43 026
Worked	37 533	57 885	66 177	81 551	88 916	26 334	37 543	45 125	50 079	57 884
Exports										
Granite–										
Unworked	1 558	931	1 369	1 806	1 974	370	252	251	238	292
Worked	53	732	290	489	607	99	755	399	546	623

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

Great Britain production of igneous rock by end-use and area of origin 2005

Thousand tonnes

Area of origin	Roadstone											Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	
North East	1	…	…	…	9	13	32	363	176	…	—	1 441
East Midlands	1 048	1 314	…	…	…	1 509	…	…	…	56	…	13 899
South West	4	…	142	…	…	…	958	…	802	11	—	3 245
West Midlands	…	578	122	340	—	…	…	161	255	…	—	…
North West	…	…	…	…	—	…	…	6	…	—	—	…
England	**1 054**	**2 571**	**1 699**	**3 619**	**449**	**…**	**1 457**	**4 105**	**3 727**	**86**	**…**	**20 576**
Wales	**2**	**427**	**…**	**314**	**…**	**…**	**117**	**492**	**347**	**…**	—	**2 364**
Scotland	**130**	**1 993**	**…**	**6 322**	**…**	**1 036**	**2 181**	**6 147**	**3 866**	**175**	—	**23 052**
Great Britain	**1 186**	**4 991**	**2 841**	**10 255**	**913**	**3 072**	**3 755**	**10 744**	**7 939**	**…**	**…**	**45 992**

England		**Wales**		**Scotland**	
County	Total	County	Total	Region	Total
Northumberland	…	Powys	…	South of Scotland	1 007
Durham	…	Dyfed	…	West Central Scotland	9 338
Lancashire	5	Gwynedd	…	East Central Scotland	2 445
Cumbria	…			Tayside and Fife	2 463
West Midlands	…	**Wales**	**2 364**	North East Scotland	1 418
Shropshire	…			Highlands	6 054
Warwickshire	…			Western Isles	203
Leicestershire	13 899			Shetland	124
Avon	…				
Somerset	…			**Scotland**	**23 052**
Devon	…				
Cornwall	2 214				
England	**20 576**				

Source: Office for National Statistics.

England production of igneous rock by end-use 1993–2005

Thousand tonnes

Year	Roadstone												Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	
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
2005	1 054	2 571	1 699	3 619	449	…	1 457	4 105	3 727	86	…	…	20 576

Source: Office for National Statistics.

Wales production of igneous rock by end-use 1992–2005

Thousand tonnes

Year	Roadstone												Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	
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
2005	2	427	…	314	…	…	117	492	347	…	—	…	2 364

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of igneous rock by end-use 1993–2005

Thousand tonnes

Year	Roadstone												Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	
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
2005	130	1 993	…	6 322	…	1 036	2 181	6 147	3 866	175	—	…	23 052

(a) BGS estimate.

Source: Office for National Statistics.

Insulating materials

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Insulating materials										
Imports										
Mineral wools (a)	25 008	25 520	27 034	34 567	33 438	17 266	21 003	24 780	27 848	35 145
Expanded minerals (b)	60 811	68 475	77 906	110 410	101 740	5 291	5 899	5 857	6 995	8 127
Other (c)	32 951	33 764	33 690	40 996	46 278	26 346	29 538	30 987	35 298	37 553
Exports										
Mineral wools (a)	12 830	12 709	18 482	21 782	25 329	22 435	21 088	29 829	38 331	41 965
Expanded minerals (b)	27 752	25 782	11 847	18 846	18 214	15 340	14 580	7 087	17 530	15 259
Other (c)	17 685	25 341	38 272	45 815	59 040	33 206	29 491	41 940	42 980	58 321

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Iodine										
Imports	1 015	744	826	803	1 093	9 592	5 966	6 366	5 302	8 606
Exports	507	207	169	107	197	1 844	1 887	1 267	819	2 038

Iron compounds and earth colours

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Iron compounds and earth colours										
Imports										
Natural micaceous oxides	2 244	...	...	...	...	684	...	...	...	...
Earth colours containing 70% or more ferric oxide	94	65	111	105	152	43	93	48	50	40
Other iron compounds– Oxides and hydroxides	50 299	52 314	52 205	43 552	44 125	22 996	24 208	26 567	22 361	23 158
Exports										
Natural micaceous oxides	3 037	...	...	...	...	1 242	...	...	...	...
Earth colours containing 70% or more ferric oxide	42	144	93	97	58	50	204	170	216	147
Other iron compounds– Oxides and hydroxides	17 077	20 218	17 572	9 274	7 784	15 233	16 873	14 105	10 111	9 532

Iron ore

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Iron ore										
Production (a)	510	464	(b) 500	(b) 500	354					
Fe content	281	255	275	275	195					
Consumption										
Home-produced (b)	500	500	500	500	350					
Imported	15 108 300	13 181 000	15 766 200	16 013 200	15 991 100					
Imports										
Iron ore	15 351 877	13 316 026	16 121 350	15 298 713	16 204 615	248 246	184 578	243 973	321 118	458 754
Fe content (b)	9 500 000	8 200 000	9 900 000	9 200 000	9 700 000					
Exports										
Iron ore	5 257	350	343	212	2 107	417	138	145	213	534

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Iron and steel										
Production										
Pig iron	9 870 400	8 560 600	10 277 800	10 179 600	10 188 800					
Crude steel–										
Alloy qualities	984 700	932 800	897 800	957 100	862 400					
Other	12 418 400	10 594 800	12 230 700	12 808 600	12 371 900					
Total	13 403 100	11 527 600	13 128 500	13 765 700	13 234 300					
Consumption										
Scrap (a)	4 864 000	4 138 000	4 397 000	5 037 000	4 451 000					
Pig iron (a)	9 713 000	8 312 000	9 955 000	10 010 000	9 983 000					
Finished steel (b)	13 473 000	12 591 000	12 314 000	13 176 000	10 762 000					
Imports										
Scrap	178 923	113 107	139 089	225 483	180 261	50 275	46 034	37 225	70 492	81 783
Pig iron	159 725	124 682	116 724	105 007	102 531	16 087	12 229	12 669	18 925	19 955
Shot, powder, sponge etc.	37 128	43 111	38 454	43 956	40 574	19 154	20 966	22 240	26 958	32 971
Ferro-alloys	327 666	369 966	305 212	369 797	285 640	126 781	130 211	140 783	222 837	194 233
Iron and steel–										
Ingots and other primary forms	388 350	1 453 884	540 537	758 615	722 452	121 148	257 803	130 116	226 009	258 168
Exports										
Scrap	4 821 840	5 538 569	7 174 934	6 772 111	6 105 955	369 196	467 968	716 223	1 005 863	938 844
Pig iron	6 749	3 376	94 788	957	1 387	3 441	2 139	147 558	531	905
Shot, powder, sponge etc.	66 637	63 346	53 669	53 644	46 947	27 903	28 181	29 988	32 186	35 060
Ferro-alloys	36 495	44 191	39 659	57 230	50 368	68 042	90 403	116 686	236 866	457 720
Iron and steel–										
Ingots and other primary forms	746 730	560 796	1 305 976	1 712 102	2 246 377	219 641	289 055	472 338	775 032	965 422

(a) Consumption in steel making only.

(b) Net home disposals.

Consumption in the United Kingdom iron and steel industry 1996–2005

Thousand tonnes

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Iron ore –										
Home produced (a)	1	1	1	1	1	1	1	1	1	1
Imported (b)	19 720	20 371	19 510	18 739	16 955	15 108	13 181	15 766	16 013	15 991
Manganese ore	48	36	22	14	36	4	4	0	6	3
Iron and steel scrap (f)	6 822	7 206	6 409	5 884	5 675	4 864	4 138	4 397	5 037	4 451
Pig iron (f)	12 753	13 018	12 619	11 859	10 970	9 713	8 312	9 955	10 010	9 983
Alloy metals (c) –										
Nickel	22	18	14	14	14	14	15	16	17	14
Molybdenum	3	3	3	2	2	2	2	2	2	2
Tungsten	0	0	0	0	0	0	0	0	0	0
Vanadium	1	1	1	1	1	1	1	0	0	0
Cobalt	0	0	0	0	0	0	0	0	0	0
Chromium	67	66	62	56	53	47	46	54	54	52
Niobium	1	1	1	1	0	0	0	0	0	0
Ferro-alloys –										
Ferro-manganese	128	134	125	112	106	91	77	94	95	92
Ferro-silico-manganese	32	34	32	29	27	24	21	23	23	22
Ferro-aluminium	3	3	3	3	3	3	3	3	3	3
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	54	51	44	42	36	35	37	37	36
Ferro-silico-zirconium	0	0	0	0	0	0	0	0	0	0
Calcium silicide	1	1	1	1	0	0	0	0	0	0
Ferro-phosphorus	1	2	1	1	1	1	1	1	1	1
Ferro-niobium	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)	(d)
Ferro-titanium	1	1	1	1	1	1	1	1	1	1
Dolomite (raw and burnt) (e)	456	504	495	370	338	264	227	258	263	230
Limestone (e)	2 225	2 445	2 411	2 408	2 166	1 891	1 684	2 019	2 068	1 951
Lime (e)	744	751	739	698	660	564	504	532	584	601
Zinc for galvanising	90	104	97	89	87	64	66	62	53	57
Tin for tinplating	3	3	4	3	3	3	3	2	3	3

Average Fe content: (a) 2005: 55%, (b) 2005: 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Lead										
Production										
Concentrate (a)										
Pb content (c)	800	700	700	500	500					
Unwrought–										
Bullion	36 000	36 000	9 000	36 000	36 000					
Refined–										
Primary (b)	202 915	207 719	195 000	125 938	161 350					
Secondary	163 390	166 927	169 574	120 000	143 000					
Consumption										
Refined	298 276	305 664	314 700	330 367	281 686					
Scrap	40 661	41 446	40 045	40 808	—					
Imports										
Ores and concentrates	(c) 33 000	(c) 30 000	(c) 5 000	343	84	…	…	…	226	89
Ash and residues	2 503	406	423	51	358	212	18	278	19	136
Scrap	15 633	4 946	6 043	6 278	3 898	4 271	1 654	2 163	2 628	1 948
Unwrought										
Unrefined–										
Bullion (d)	184 518	184 060	168 228	127 970	173 910	94 002	92 054	83 515	93 506	143 042
Other	1 538	697	7 042	16 354	4 170	1 071	519	2 215	6 811	2 092
Refined	28 623	23 993	18 165	31 531	23 366	10 738	8 188	5 417	13 725	13 623
Alloys	3 041	7 778	2 925	3 497	3 811	1 146	2 547	1 240	2 178	2 424

continued

United Kingdom summary 2001–2005 *continued*

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Lead *continued*										
Exports										
Ores and concentrates	39	16	5	26	507	44	22	50	47	337
Ash and residues	4	0	85	0	99	1	7	79	1	22
Scrap	10 700	17 116	28 569	45 646	27 248	3 737	3 950	7 259	15 909	11 791
Unwrought										
Unrefined–										
Bullion	—	24	70	5	474	—	14	39	14	329
Other	7 640	4 670	3 688	754	3 046	3 586	2 290	1 775	282	1 302
Refined	85 912	97 138	57 924	34 100	49 073	32 200	34 907	22 214	19 659	32 048
Alloys	42 308	57 249	44 091	31 148	38 806	17 495	22 813	17 818	17 798	25 241

(a) Byproduct of Pennine fluorspar operations.
(b) Refined from imported bullion including lead content of alloys.
(c) BGS estimate.
(d) Containing substantial quantities of silver; see p.98.

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

Great Britain production of limestone, dolomite and chalk by broad end-uses 2005

Thousand tonnes

Mineral	Constructional uses (b)	Cement	Agricultural uses (a)	Industrial uses (a)	Total
Limestone	56 721	…	757	…	72 008
Dolomite	9 825	—	…	…	11 514
Chalk	795	…	…	…	7 105
Total	**67 340**	**13 235**	**1 595**	**8 456**	**90 627**

(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) 2005

Thousand tonnes

Use	Limestone	Dolomite	Chalk	Total	Of which for conversion by calcination
Agricultural	757	…	…	1 595	…
Iron and steel	1 745	…	…	…	1 460
Glass making	115	…	—	…	—
Asphalt filler	124	2	—	126	—
Other fillers	…	—	…	1 131	—
Chemical use	1 428	—	…	…	…
Building materials	…	—	…	577	…
Other uses	…	—	…	…	…
Total	**6 466**	**1 690**	**1 896**	**10 052**	**2 721**

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone and chalk for cement, 1992–2005

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
2005	…	…	13 235

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for agricultural uses, 1992–2005

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	…
2005	757	…	…	1 595	…

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

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for industrial uses, 1992–2005

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
2005	…	…	…	8 456	(b) 2 721

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

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for industrial uses by end-use, 1992–2005

Thousand tonnes

Year	Iron and steel making (a)	Chemicals (a)	Glass making	Special fillers	Asphalt fillers	Building materials (a)	Others (a)	Total (a)
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
2005	…	…	…	1 131	126	577	…	10 052

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for calcination by end-use, 1992–2005

Thousand tonnes

Year	Agriculture	Iron and Steel	Chemicals	Building materials	Others	Total
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
2005	…	1 460	…	…	…	2 721

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for iron and steel making, 1992–2005

Thousand tonnes

Year	Limestone	Dolomite and chalk	Total	Calcination (a)
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
2005	1 745	…	…	1 460

(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 2005

Area of origin	For constructional uses (a)									For other uses	
		Roadstone									
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened and graded	Other con-structional uses	Armour-stone & gabion	Agricul-tural use
North East	1	…	…	…	237	3	443	668	987	…	9
Yorkshire and the Humber	3	…	…	2 331	…	—	…	1 089	2 221	…	28
East Midlands	179	548	…	3 411	…	—	3 285	…	5 443	…	168
East of England	…	—	—	…	—	—	—	…	…	—	—
South East	2	—	—	209	…	—	104	66	…	10	…
South West	304	2 159	975	4 423	…	…	…	2 956	5 384	25	265
West Midlands	…	…	…	485	…	—	…	…	759	—	…
North West	3	…	103	760	19	—	…	846	1 208	16	34
England	**…**	**4 486**	**2 536**	**12 618**	**794**	**…**	**10 732**	**6 604**	**16 720**	**126**	**544**
Wales	**9**	**…**	**…**	**1 474**	**…**	**…**	**1 829**	**1 912**	**3 471**	**…**	**100**
Scotland	**…**	**…**	**…**	**103**	**…**	—	**9**	**29**	**111**	**12**	**113**
Great Britain	**589**	**6 026**	**2 751**	**14 195**	**…**	**…**	**12 571**	**8 544**	**20 301**	**…**	**757**

England

County	Total	County	Total
Avon	4 067	Humberside	39
Cambridgeshire	…	Nottinghamshire, Lincolnshire	707
Cumbria	3 020		
Derbyshire	18 456	Cleveland	42
Devon, Cornwall, Dorset	2 314	Northamptonshire	321
		Northumberland	487
		Tyne and Wear	182
Durham	3 135	North Yorkshire	6 961
Gloucestershire	2 087	West Yorkshire, South Yorkshire	2 736
Hereford and Worcester, Shropshire	845	Oxfordshire	513
Warwickshire		Somerset	11 546
Staffordshire	1 854	Wiltshire	21
Kent	567	Buckinghamshire	…
Lancashire	4 054	Berkshire	—
Leicestershire	3 169		
		England	**67 325**

continued

(a) Including dolomite.
(b) For filler in asphalt and as mine dust.
(c) For other fillers, powders and whitings (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

Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Total
—	—	—	—	—	—	…	—	3 846
…	—	—	—	—	—	—	—	9 736
286	3 942	1 356	436	983	115	56	…	22 654
—	—	—	—	—	—	…	—	…
—	—	—	—	—	—	—	—	…
…	—	—	…	…	—	…	…	20 035
—	979	—	—	—	—	1	—	2 700
…	1 564	72	—	—	—	11	—	7 074
1 180	**6 485**	**1 428**	**…**	**…**	**115**	**88**	**848**	**67 325**
565	**…**	—	—	—	—	**…**	—	**12 759**
—	**1 216**	—	—	—	—	**…**	**…**	**1 746**
1 745	**…**	**1 428**	**…**	**…**	**115**	**124**	**…**	**81 830**

Wales

County	Total
Clwyd	5 598
Dyfed	1 518
Gwynedd	…
Powys	112
Gwent	…
Mid Glamorgan	4 059
South Glamorgan	…
Wales	**12 759**

Scotland

Region	Total
West Central Scotland	…
East Central Scotland	1 216
Tayside and Fife	…
North East Scotland	136
Highlands	145
Scotland	**1 746**

England production of limestone by end-use 1994–2005

Year	For constructional uses (a)										For other uses
		Roadstone									
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armourstone & gabion	Agricultural use
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
2005	…	4 486	2 536	12 618	794	…	10 732	6 604	16 720	126	544

continued

(a) Including dolomite.
(b) For filler in asphalt and as mine dust.
(c) For other fillers, powders and whitings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).
(d) For water & effluent treatment and pollution control

Source: Office for National Statistics.

Wales production of limestone by end-use 1994–2005

Year	For constructional uses (a)										For other uses
		Roadstone									
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armourstone & gabion	Agricultural use
1994	…	…	182	5 687	…	—	3 154	…	7 975	…	…
1995	46	…	183	5 029	…	…	…	…	7 100	…	…
1996	10	…	177	4 164	…	(e) 65	…	…	7 192	…	…
1997	(e) 6	1 123	329	3 588	…	(e) 71	3 322	…	6 952	…	228
1998	37	1 107	341	2 849	…	(e) 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
2005	9	…	…	1 474	…	…	1 829	1 912	3 471	…	100

continued

(a) Including dolomite.
(b) For filler in asphalt and as mine dust.
(c) For other fillers, powders and whitings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).
(d) For water & effluent treatment and pollution control
(e) BGS estimate.

Source: Office for National Statistics.

Scotland production of limestone by end-use 1994–2005

Year	For constructional uses (a)										For other uses
		Roadstone									
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armourstone & gabion	Agricultural use
1994	—	…	—	249	…	—	—	…	178	…	…
1995	…	…	—	114	…	—	…	…	79	…	…
1996	—	…	—	97	…	—	…	…	108	…	…
1997	—	41	—	86	…	—	20	…	107	…	…
1998	…	38	—	53	…	—	10	…	123	…	(e) 125
1999	(e) 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
2005	…	…	…	103	…	—	9	29	111	12	113

continued

(a) Including dolomite.
(b) For filler in asphalt and as mine dust.
(c) For other fillers, powders and whitings (e.g. in animal feed, polymers, paint, paper and pharmaceuticals).
(d) For water & effluent treatment and pollution control
(e) BGS estimate.

Source: Office for National Statistics.

Thousand tonnes

Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	Total
…	…	…	…	…	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
1 180	6 485	1 428	…	…	115	88	848	…	67 325

Thousand tonnes

Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	Total
…	…	…	…	…	—	—	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
565	…	—	—	—	—	…	—	…	12 759

Thousand tonnes

Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	Total
—	…	…	…	…	—	…	…	—	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
—	1 216	—	—	—	—	…	…	…	1 746

Great Britain consumption of dolomite, limestone and lime in iron and steel production, 1972–2005

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
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	—
2005	0	230	—	1 951	—	—	601	—

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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Limestone–see Building and dimension stone										
Production										
Limestone	88 238 000	80 688 000	78 935 000	81 648 000	77 596 000					
Dolomite	14 314 000	12 946 000	12 167 000	12 226 000	11 514 000					
Imports										
Dolomite	188 312	184 947	179 003	170 916	218 932	3 671	3 694	4 129	3 690	4 032
Limestone flux (a)	7 613	...	4 976	9 155	132 061	1 025	1 056	469	646	4 492
Lime	3 877	13 742	15 487	12 651	13 995	364	1 616	2 140	2 536	2 035
Exports										
Dolomite (c)	131 073	104 126	…	…	144 707	4 653	4 393	…	…	5 106
Limestone flux (a)	81 519	95 364	247 665	234 101	265 228	2 094	2 513	3 631	3 430	3 991
Lime	113 753	88 783	360 584	110 087	94 648	9 404	8 628	12 745	10 978	10 989
Chalk										
Production (b)	8 205 000	8 587 000	8 066 000	7 997 000	7 105 000					
Imports	3 465	3 935	5 847	6 128	3 675	310	338	528	537	384
Exports	23 952	24 974	26 858	40 942	43 846	1 898	2 079	2 036	2 121	1 994

(a) Including calcareous stone commonly used for the manufacture of lime or cement.
(b) Great Britain only. There is a small, undisclosed production in Northern Ireland.
(c) Crude

Great Britain production of dolomite by end-use and area of origin 2005

Thousand tonnes

Area of origin	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
North East	—	2 512	…	…	3 296
Yorkshire and the Humber	…	…	…	…	2 743
East Midlands	—	…	63	…	2 622
South West	—	…	…	1	…
West Midlands	—	…	…	…	…
England	**…**	**8 177**	**568**	**…**	**…**
Wales	—	**…**	**…**	—	**…**
Scotland	—	**…**	**…**	—	**…**
Great Britain	**…**	**…**	**…**	**…**	**11 514**

(a) Data also included in table for 'Limestone'.
(b) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of dolomite by end-use 1993–2005

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
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
2005	…	…	…	…	11 514

(a) Data also included in table for 'Limestone'.
(b) Including material for calcination.
(c) BGS estimate.

Source: Office for National Statistics.

England (d) production of dolomite by end-use 1993–2005

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
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	…	…	…	…
2005	…	8 177	568	…	…

(a) Data also included in table for 'Limestone'.
(b) Including material for calcination.
(c) BGS estimate.
(d) Small amounts of dolomite are also produced in Wales and very minor amounts in Scotland.

Source: Office for National Statistics.

Great Britain production of chalk by end-use and area of origin 2005

Thousand tonnes

Area of origin	Cement	Construc-tional use	Agricultural use	Industrial uses	Total
Humberside	…	575	…	…	3 016
North Yorkshire	—	15	8	—	23
Yorkshire and the Humber	**…**	**590**	**…**	**…**	**3 038**
Derbyshire	—	…	—	—	…
Lincolnshire	—	…	…	—	…
East Midlands	—	**…**	**…**	—	**84**
Cambridgeshire	…	…	…	…	…
Norfolk	—	—	…	—	…
Suffolk	—	—	…	…	…
Essex	—	—	…	—	…
Hertfordshire	—	—	50	—	50
Bedfordshire	…	—	—	—	…
East of England	**…**	**…**	**132**	**…**	**…**
Oxfordshire	…	—	—	—	…
Berkshire	—	—	5	—	5
Kent	1 203	95	37	—	1 335
East Sussex	—	—	—	…	…
West Sussex	—	—	23	—	23
Hampshire	—	…	…	—	…
Isle of Wight	—	…	…	—	…
South East	**…**	**112**	**95**	**…**	**…**
Devon	—	14	8	—	22
Wiltshire	540	—	—	10	550
South West	**540**	**14**	**8**	**10**	**572**
Great Britain (England)	**…**	**795**	**…**	**…**	**7 105**

Source: Office for National Statistics.

England production of chalk by end-use 1993–2005

Thousand tonnes

Year	Cement	Construc-tional use	Agricultural use	Industrial uses	Total
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
2005	…	795	…	…	7 105

(a) BGS estimate.

Source: Office for National Statistics.

Lithium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Lithium										
Imports										
Oxide and hydroxide	374	409	554	498	446	1 222	1 129	1 435	950	1 299
Carbonate	499	626	687	490	657	851	889	1 037	808	1 158
Exports										
Oxide and hydroxide	95	186	169	285	125	663	440	397	288	289
Carbonate	214	147	193	160	203	296	197	323	238	396

Magnesia

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Magnesia										
Imports										
Dolomite	188 312	184 947	179 003	170 916	218 932	3 671	3 694	4 129	3 690	4 032
Magnesite	7 122	9 252	20 287	11 187	13 896	693	617	1 877	1 396	1 843
Magnesia–										
Dead burned	32 207	38 815	32 681	29 362	14 934	7 128	8 047	6 291	6 315	3 987
Caustic-calcined	73 952	46 708	35 217	38 708	49 037	7 065	5 924	6 322	5 549	8 004
Other	2 830	12 553	14 202	15 469	14 872	2 510	4 554	4 842	5 503	4 135
Kieserite	6 512	6 275	13 598	11 463	52 658	765	637	1 369	1 336	1 722
Magnesite or chrome-magnesite refractory bricks and shapes (a) (b)	83 447	85 491	77 411	50 259	35 280	6 632	15 347	18 986	19 703	16 519
Exports										
Dolomite (c)	131 073	104 126	…	…	144 707	4 653	4 393	…	…	5 106
Magnesite	78	337	34	49	87	41	94	19	59	42
Magnesia–										
Dead burned	1 044	3 300	4 304	3 514	2 273	310	1 574	1 988	1 831	1 488
Caustic-calcined	4 097	2 356	2 886	2 283	2 712	1 449	1 104	833	2 124	2 457
Other	34 882	20 804	19 058	18 999	15 092	16 322	13 752	14 302	14 169	11 935
Magnesite or chrome-magnesite refractory bricks and shapes (a) (b)	88 896	64 850	58 713	13 132	5 333	31 365	23 266	17 774	5 346	5 045

(a) Fired bricks and shapes only: unfired (chemically bonded) products excluded.
(b) Including dolomite bricks.
(c) Crude.

Magnesium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Magnesium										
Consumption										
Magnesium and alloys (a)	15 800	10 400	...	...	...					
Imports										
Ferro-silico-magnesium	5 318	5 820	5 663	4 969	5 448	3 007	2 697	3 010	2 418	2 754
Scrap	11 385	8 470	4 309	2 352	2 389	11 299	8 071	4 170	1 465	966
Unwrought	6 679	4 380	5 788	3 732	5 322	8 416	5 303	6 197	4 184	5 567
Unwrought alloys	2 247	1 979	2 229	5 737	7 954	2 800	2 361	2 702	6 429	8 628
Wrought	2 326	2 007	3 265	3 216	3 187	5 193	6 963	12 100	10 679	7 724
Exports										
Ferro-silico-magnesium	1 453	431	282	316	542	1 033	361	330	213	409
Scrap	169	146	23	181	1 933	229	133	25	173	1 702
Unwrought	341	77	862	380	650	478	146	1 656	605	808
Unwrought alloys	11 879	7 789	6 184	5 599	5 537	25 702	18 965	14 976	13 195	13 258
Wrought	339	552	1 054	273	282	2 444	2 934	3 821	2 738	2 873

(a) BGS estimates.

Manganese

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Manganese										
Consumption in Iron and Steel Industry										
Ore	3 800	4 300	—	6 400	2 900					
Ferro-manganese	90 910	77 480	93 750	95 490	92 120					
Ferro-silico-manganese	23 740	21 030	22 660	23 080	22 170					
Apparent consumption (a)	102 000	117 000	101 000	116 000	107 000					
Imports										
Ores and concentrates	2 701	1 218	2 102	2 585	698	534	598	740	1 140	244
Ferro-manganese	73 507	86 681	76 686	91 832	79 045	22 499	24 712	26 699	55 380	38 427
Ferro-silico-manganese	53 747	64 565	53 421	63 935	57 136	15 465	18 264	18 537	34 837	24 041
Scrap	220	23	—	0	0	205	13	—	0	1
Unwrought	8 926	7 229	7 949	8 898	7 858	7 437	5 669	5 671	8 309	8 199
Wrought	490	348	301	291	365	640	364	333	363	533
Oxides	5 344	6 053	7 759	5 808	7 232	1 868	1 282	1 800	1 628	1 995
Exports										
Ores and concentrates	714	208	220	137	64	382	402	485	347	40
Ferro-manganese	792	1 874	434	1 554	660	1 342	2 029	1 792	1 734	1 297
Ferro-silico-manganese	8	116	42	8 247	5 003	7	42	22	5 075	1 513
Scrap	1	—	—	62	…	1	—	—	24	…
Metal (b)	6 000	4 300	5 500	3 100	3 000	5 000	3 000	3 000	7 000	7 500
Oxides	1 146	279	4 820	3 286	3 440	492	348	793	1 106	957

(a) BGS estimates; see p.v.

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

Marble

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Marble										
Imports										
Dimension stone–										
Unworked	9 985	12 708	18 565	29 893	63 046	7 727	8 855	11 930	14 655	18 901
Worked	64 637	48 237	60 473	69 920	77 698	28 291	32 555	40 413	46 701	52 806
Crushed and powdered	239 563	259 012	135 862	112 938	169 551	4 002	4 971	4 772	3 476	4 344
Exports										
Dimension stone–										
Unworked	4 140	4 853	6 203	2 362	2 126	770	585	447	203	287
Worked	526	946	1 072	1 658	2 905	1 456	1 893	3 320	3 726	4 951
Crushed and powdered	4 995	4 579	3 133	2 786	2 834	148	107	88	247	173

Mercury

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Mercury										
Imports										
Elemental	5	23	30	28	32	140	111	139	169	314
Oxide	0	0	0	0	0	20	10	3	4	3
Exports										
Elemental	17	6	1	3	191	65	68	50	59	996
Oxide	0	0	0	0	0	2	5	—	4	1

Mica

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Mica										
Imports										
Crude (a)	344	240	424	1 769	296	186	161	183	362	125
Ground	7 258	9 349	8 327	6 286	6 684	1 699	1 874	1 968	1 700	1 710
Waste	4 016	4 224	5 050	4 374	4 485	478	489	518	475	563
Worked	732	590	323	598	1 809	4 514	3 910	2 349	3 314	4 141
Exports										
Crude (a)	22	20	34	—	22	23	52	48	—	43
Ground	3 758	4 023	4 740	9 354	4 030	2 199	2 683	3 035	3 998	2 782
Waste	17	46	0	23	0	50	89	1	9	14
Worked	266	394	383	375	361	2 481	2 415	3 338	3 526	4 517

(a) Including sheets or splittings.

Molybdenum

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Molybdenum										
Consumption in Iron and Steel Industry (a)	2 010	1 800	2 120	2 120	2 040					
Apparent consumption (a) (b)	4 600	6 100	3 500	4 000	7 100					
Imports										
Roasted molybdenite concentrates	14 327	19 654	17 463	16 779	16 916	28 056	48 060	51 607	94 531	188 684
Other ores and concentrates	2 045	1 783	1 421	1 592	1 684	5 003	5 906	6 666	12 384	37 649
Ferro-molybdenum	351	338	434	836	861	1 041	1 545	2 395	6 862	14 352
Scrap	449	472	579	668	1 036	2 093	2 257	2 672	8 298	31 807
Powders	86	56	102	65	143	585	216	770	634	695
Unwrought	175	139	104	101	135	2 281	1 728	1 249	1 559	5 955
Wrought	455	553	384	1 020	1 563	10 655	8 533	5 916	6 733	9 077
Oxides and hydroxides	60	106	7	2	630	180	621	52	46	26 908
Exports										
Roasted molybdenite concentrates	213	351	32	106	119	451	907	160	1 246	2 981
Other ores and concentrates	83	67	52	74	60	285	244	189	318	518
Ferro-molybdenum	9 278	11 965	14 081	14 213	11 501	27 156	48 756	70 647	150 295	318 935
Scrap	167	64	82	116	450	778	416	654	1 672	10 788
Powders	55	46	1	17	52	598	395	6	269	857
Unwrought	26	10	23	26	47	186	106	181	375	413
Wrought	798	206	124	153	129	2 306	1 890	1 665	2 158	4 151
Oxides and hydroxides	7	11	7	86	2	58	65	63	1 106	941

(a) Metal content.

(b) BGS estimates; see p.v.

Nepheline syenite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Nepheline-syenite										
Imports	57 268	53 692	52 453	49 731	47 672	4 142	4 627	4 465	4 204	4 052
Exports	54	82	52	45	38	16	31	28	21	14

Nickel

Alba Mineral Resources announced further results from their exploratory drilling over the Arthrath copper-nickel prospect in Aberdeenshire. Drill hole 05-AH/03 intersected 301.2 m of variable, disseminated and net-texture magmatic nickel-copper sulphide mineralisation. The main mineralised interval has returned 78.6 m @ 0.20 per cent Ni, 0.18 per cent Cu, 0.016 per cent Co from 184.4 m depth. This intersection was 120 m down dip of the previously reported intersection of 109.7 m at 0.26 per cent Ni, 0.29 per cent Cu and 0.019 per cent Co from 17.3 m depth. Elevated levels of platinum group metals (PGM) and gold were also reported. Alba also announced an option and joint venture agreement with Inco Europe Ltd over the Arthrath project. However, this agreement was terminated later in the year following the takeover of Inco Europe's parent company by Companhia Vale do Rio Dolce (CVRD) of Brazil.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Nickel										
Production (a) (e)	33 820	33 790	26 788	38 606	37 600					
Consumption (b)										
Iron and steel industry	13 900	14 670	15 820	16 800	14 380					
Other (c)	41 900	24 200	16 500	15 700	18 000					
Total (d)	55 802	38 935	32 308	32 470	32 400					
Imports										
Matte, oxide sinter etc	51 963	52 514	43 968	64 192	57 492	131 751	122 987	133 282	237 464	253 895
Ash and residues	4	246	12	24	…	13	195	16	157	…
Scrap	14 963	25 270	20 038	8 697	10 927	19 571	28 359	22 109	22 876	31 417
Ferro-nickel	7 166	11 010	16 437	14 628	11 325	6 614	12 508	19 932	28 544	22 137
Unwrought	47 030	46 610	34 162	45 264	24 019	117 134	129 301	169 206	240 872	195 283
Unwrought alloys	2 788	1 868	31 491	2 238	1 629	23 788	14 129	151 620	16 763	12 304
Oxides	145	130	61	103	277	830	690	367	704	1 780
Exports										
Matte, oxide sinter etc	136	128	200	964	196	805	515	754	2 641	1 520
Ash and residues	7 843	8 110	787	18	1 246	13 409	14 954	1 392	74	12 019
Scrap	7 736	7 912	7 861	10 465	14 119	17 893	15 495	19 082	29 820	46 495
Ferro-nickel	104	368	424	125	55	138	538	1 124	756	873
Unwrought	21 670	19 775	19 200	38 249	38 524	104 050	86 918	95 233	236 559	267 251
Unwrought alloys	5 955	4 257	4 899	4 710	6 141	64 131	33 750	33 016	38 881	62 045
Oxides	1	17	13	10	3	29	97	40	115	38

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Niobium and tantalum										
Consumption in Iron and Steel Industry										
Niobium (a)	380	350	420	420	410					
Imports										
Ores and concentrates	2	8	1	0	2	67	5	23	15	75
Ferro-niobium	1 261	1 029	1 148	1 236	1 175	8 853	6 502	6 246	6 132	6 884
Tantalum	1 610	3 480	842	243	97	133 549	106 350	76 281	60 170	9 895
Niobium (b)	192	132	116	103	123	4 431	2 553	2 331	2 917	2 250
Exports										
Ferro-niobium	280	46	59	47	79	660	224	499	373	607
Tantalum	395	280	278	77	131	78 838	79 636	55 155	19 840	21 641
Niobium (b)	31	...	55	23	26	812	674	631	788	357

(a) Metal content.
(b) Including rhenium.

Peat

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Thousand cubic metres					£ thousand				
Peat										
Production	1 814	973	2 008	1 262	1 505					
	Tonnes									
Imports										
Peat and agglomerated peat	414 833	441 213	520 464	539 854	426 908	25 620	26 787	28 572	30 001	28 463
Exports										
Peat and agglomerated peat	35 551	33 331	38 860	32 776	32 219	2 993	2 842	3 760	3 637	3 631

Perlite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Perlite										
Imports	46 250	95 912	59 046	91 914	34 450	2 343	4 201	2 986	2 294	2 624
Exports	720	695	1 025	7 256	938	103	174	252	437	163

Petroleum and natural gas (also see Primary fuels)

In 2006 a new record was set for the price of a barrel of oil. Although there were price peaks in late January, late April and mid July the highest price for Brent crude was reached in early August at $78 per barrel. The usual global and regional factors contributed to the high cost including conflicts, such as in the Middle East, the growing demand from China and India, and questions about the reliability of Russia as a hydrocarbon supplier. For the UK, as production from the UK Continental Shelf (UKCS) declines, there was growing concern about continuity of supply.

Work continued throughout 2006 on Strategic Environmental Assessment Area 7 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. Further sea-bed data were acquired, to complement those collected in 2005, and various downloadable reports were subsequently posted on the SEA's website (www.offshore-sea.org.uk). A stakeholder meeting was called in March 2007.

Early in August the United Kingdom Offshore Operators Association (UKOOA) published its Sustainable Development 2006 Report entitled *Striking a Balance*. This acknowledged that oil and gas will remain essential to the UK, its people and economy for the foreseeable future and that over the short to medium term (15 to 20 years) the UK may become slightly more dependent on oil and gas than at present. Hence there is a requirement to maximise UK exploration and production. UKOOA suggested that a dedicated energy department should be established, with its own Secretary of State, to take over the roles (some conflicting) of the various departments, which currently administer oil and gas activities. This would provide leadership, maximise UK production, identify problems and ensure continuity of supply for the UK.

Throughout 2006 work continued on expanding the capacity of the Zeebrugge to Bacton (UK) gas interconnector. In 1998 this could flow at 8.5 billion cubic metres per year. By November 2006 this had been increased to 23.5 billion cubic metres per year (phase 2) and further enhancements (phase 3), to increase capacity to billion cubic metres per year, were in progress.

The high cost of decommissioning oil and gas fields was emphasised by figures produced by Shell for its Indefatigable Field which ceased production in 2005. Removal of the platforms and all associated abandoned pipelines was estimated to cost £92.3 m. DTI approval is required and work is likely to commence in 2008.

The Digital Atlas Registry and Library (DEAL) Data Registry contract with Common Data Access Ltd (CDA) was renewed for a further three-year period until 1 January 2009. In 2006, developments continued with enhancing the completeness and quality of

data with emphasis on well and seismic header metadata. The oil industry was also asked to provide details of seismic surveys acquired in the period 1990–2005 in order to complete DEAL's seismic survey atlas. DEAL's well display was also enhanced to show the hydrocarbon class.

ICE Brent Crude — daily closing in 12 previous months

Figure 1. The price of a barrel of Brent crude through 2006. The price peaked at approximately $78 per barrel during the early part of August (a new record).

In September the DTI published updated figures (to the end of 2005) for UK ranges of hydrocarbon reserves. These were based on data provided by companies between January and March 2006 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 930–1764–3271 million tonnes of oil (a slight decrease on the previous year) and 775–1290–2323 billion cubic metres of gas (also a slight decrease). Cumulative production to date is 3090 million tonnes of oil and 2007 billion cubic metres of gas.

In November the joint government/industry West of Shetland Task Force was established in order to determine a collective solution for the development of hydrocarbons, particularly gas, in this area. The West of Shetland area may contain up to 17 per cent of the UK's remaining oil and gas reserves. The task force, comprising the DTI and five companies, identified various collecting 'hub' and pipeline options for commercial costing early in 2007. The aim is to collect the most hydrocarbons, most efficiently at the lowest cost.

Also in November the DTI published a consultation document *Offshore natural gas storage and liquefied natural gas import facilities*. This was intended to stimulate discussion about the provision of, and regulatory framework for, the extra facilities required for the future increased import of gas to the UK; its possible underground storage beneath the UKCS, including the North Sea; and its eventual distribution. Responses to the document were invited for early in 2007. Onshore, technical studies commissioned by Portland Gas confirmed the viability of an underground gas storage facility in Dorset whereby gas would be stored in 14 caverns contained within the Triassic Saliferous Beds. These would hold up to 35 billion cubic feet and gas could be injected or withdrawn at 0.7 billion cubic feet per day. If planning permission was forthcoming early in 2007, then the facility would come on stream in 2010 with full capacity available by 2013. Similar UK schemes already exist in Cheshire and Yorkshire.

Development and production

Eighteen development wells were spudded onshore in 2006 (including six sidetracks) compared with 35 (14 sidetracks) in 2005.

Offshore a total of 293 development wells was started (82 sidetracks). This is slightly lower than in 2005. The most active areas were the Central and Northern North Sea where 79 per cent of all development wells were drilled in 2006.

A single onshore oilfield was approved for development in 2006 (April). This was the Lidney Field, operated by Midmar Energy and is located at Aldingbourne, east of Chichester in West Sussex. Offshore there were 13 new approvals:

Name of field	Field type	Block number	Operator at time of approval	When approved
Goosander	Oil	21/12	Venture	January
Donan	Oil	15/20a	Maersk	February
Nicol	Oil	15/25a	Oilexco	May
Affleck	Oil	30/19	Maersk	July
Ettrick	Oil	20/2	Nexen	July
Merganser	Condensate	22/30a	Shell	April
Mimas	Gas	48/9a	ConocoPhillips	April
Tethys	Gas	49/11b	ConocoPhillips	April
Grove	Gas	49/10a	ConocoPhillips	May
Chiswick	Gas	49/4	CH4	July
Davy East	Gas	53/5b	Perenco	August
Wenlock	Gas	49/12a	ATP	August
Thurne	Gas	49/28	Tullow	December

Fifteen incremental projects associated with existing offshore fields were approved in 2006.

In the period from the beginning of January 1976 to the end of December 2006 there have been 162 oilfield, 129 gasfield and 30 condensate field approvals.

The Elgin Field in the Central North Sea was the biggest oil-producing field on the UKCS in 2006 averaging over 60 000 barrels per day. The reservoir here is Upper Jurassic sandstone. The Schiehallion, Forties, Foinaven and Alba fields were the next four biggest producers. These are the same as in 2005. Notably, these four 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 which produced nearly twice as much as the second highest producer, Nuggets. Saturn, Leman (Shell), Sean, Morecambe North and Hamilton fields were the next biggest producers.

The Forvie condensate field produced more than twice as much as Annabel, the next biggest condensate producer.

Several new oil and gas fields came on stream in 2006:

Field name	Field type	Discovery well	Date on stream	Operator
Goosander	Oil	21/12-3	August	Venture
Atlantic	Condensate	14/26a-6	June	BG
Glenelg	Gas/Condensate	29/4d-4	March	Total
Merganser	Gas/Condensate	22/30a-14Z	December	Shell
Cromarty	Gas	13/30-3	June	Hess
Cutter	Gas	49/9a-3	March	Shell
Hunter	Gas	44/23a-10	January	E.ON Ruhrgas
Kilmar	Gas	43/22-1	April	ATP

The highlight was Venture's Goosander oilfield, which was discovered in 1998 and came on stream in August. It was developed by a 12-km subsea tieback to the Kittiwake platform. Peak production is expected to average 9500 barrels per day which, over a field life of between seven and ten years, will yield an estimated 15.2 million barrels of oil and 2.6 billion cubic feet of gas.

Throughout 2006 work continued on construction of the Langeled pipeline which will eventually deliver gas from Norway's largest gas field (Ormen Lange, discovered in 1997), via a gas processing plant at Nyhamna (Norway), and the Sleipner and Troll fields in the North Sea, to the Easington terminal in East Yorkshire. When completed, the pipeline, at over 1160 km in length, will be the world's longest offshore pipeline and will have an annual capacity of 20 billion cubic metres and supply up to 20 per cent of the UK's requirement. The Sleipner to Easington section became operational in October. First gas from Ormen Lange is expected to reach the UK in 2007.

Exploration

Nine onshore exploration wells were started in 2006, a slight increase on 2005 and the highest since 2002. Eleven appraisal wells were also drilled (up from two in 2005), the highest number since 1998. A single gas discovery was made onshore. Well Kirkleatham 4 was drilled by Egdon in North Yorkshire. It was the first onshore discovery since the Avington 2 (Hampshire) well in 2003.

Offshore, 30 exploration wells were spudded (including a sidetrack drilled for geological purposes). More than half of these were located in the Central North Sea. Success rate was relatively high (i.e. hydrocarbons encountered) although only the following eight wells were classified by the DTI as significant discoveries:

Well	Hydrocarbon type	Operator at time of discovery	Date of discovery
3/15-10	Oil	Total	October
20/1-6	Oil	Nexen	September
20/5a-10Y	Oil	Talisman	December
21/23a-8Z	Oil	Oilexco	May
30/6-6	Gas/Condensate	ConocoPhillips	May
44/16-3	Gas	Gaz de France	March
44/23b-13	Gas	ConocoPhillips	June
49/16-15	Gas	ConocoPhillips	April

BG, ConocoPhillips, Nexen, Oilexco and Shell drilled more exploration wells than other companies.

Highlights included the 3/15-10 well, which proved a 983-foot gas column in the Middle Jurassic Brent Group. Production from this prospect is likely to start in 2008 via a 3- km tieback to the Forvie North subsea manifold. Well 20/1-6 proved a 123-foot oil column which tested at 4000 barrels per day. Talisman well 20/5a-10Y produced 11 000 barrels per dayon test of 39º API[1] oil from two intervals within the Upper Jurassic. Oilexco well 21/23a-8Z discovered a 90-foot (74-foot net) oil column in the Eocene Tay Formation. The 30/6-6 well encountered a gross hydrocarbon column over 2000 feet thick in the Triassic. With possible recoverable reserves in the range 100–275 m barrels of oil equivalent this was the largest find since Buzzard in 2001.

Other exploration wells of note included 23/16f-11, drilled by Endeavour in the Central North Sea, and tested at 17.5 million cubic feet per day of gas and 1060 barrels per day of condensate from an 85-foot interval in the Paleocene Forties Formation. Serica Energy well 54/1b-6 produced 10 million cubic feet per day from a 113-foot gross gas column in the Permian Leman Sandstone.

Fifty-six appraisal wells (including 16 sidetracks) were spudded, 37 of which were in the Central North Sea. This is the highest number for more than ten years. The highlight was the Oilexco's appraisal drilling on Shelly South in block 22/2 which eventually comprised one vertical well and seven sidetracks designed to test the Paleocene Forties Sandstone discovery made by well 22/2-2 in 1984. The drilling programme proved a broad, low-relief oil-bearing structure approximately 7 km across. Sidetrack well 22/2b-13T tested 31º API oil at 3082 barrels per day from a 42-foot perforated interval. Also of note was well 14/18b–15A drilled by Ithaca Energy, a newcomer to the North Sea, to appraise the Athena prospect (Lower Cretaceous, Upper Leek Formation). The well encountered 329-foot gross vertical oil-bearing interval of 25º API oil, which flowed at a restricted 1330 barrels per day. Reservoir porosities were in the range 12 to 20 per cent. A flow rate of 5000 barrels per day is anticipated under full production conditions.

Licensing

In January the DTI published a new listing of fallow blocks and discoveries. This seventh release added 40 new fallow blocks and 23 new fallow discoveries to the list. The idea of this ongoing process is to force companies to further explore, develop or relinquish acreage which they hold but on which they have not undertaken significant recent work.

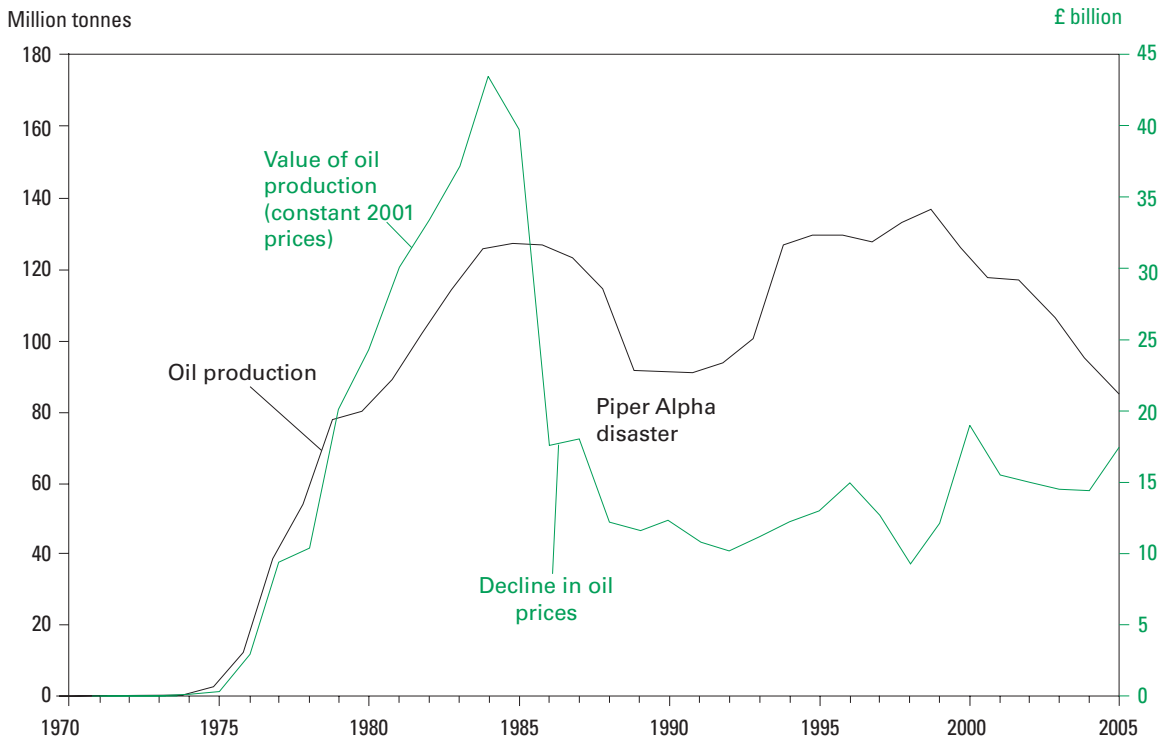
In March the DTI announced that a total of 1411 blocks or part blocks would be open for companies to apply for licences in the 24th Offshore Oil and Gas Licensing Round. The round would include the whole of the North Sea, the west of Shetland area and the Irish Sea. However the area west of the Hebrides, the English Channel and the South-west Approaches would be excluded. Traditional, frontier and promote licences would be available depending on the area. Applications should be lodged by 15th or 16th June depending on the type of licence applied for.

A total of 147 applications was received (5 frontier, 62 promote and 80 traditional) for 255 blocks. This involved 121 companies of which 25 were new applicants to the UK continental shelf. Following interviews with the companies, and some rationalisation of the applications, the announcement of the results of the round was planned for autumn. However, due to the drawn out nature of the negotiations, especially those involving environmental issues, the results were not announced until early in 2007.

The year also saw 75 offshore licences, affecting 122 blocks or part blocks, surrendered either on a voluntary or mandatory basis.

There was no onshore licence round in 2006 as the DTI continued its Strategic Environmental Assessment of the possible onshore hydrocarbon prospective areas of the UK (see http://www.og.dti.gov.uk/upstream/licensing/onshore_SEA.pdf for map of area being assessed). An announcement concerning the start of the next (13th) onshore round was planned for the early part of 2007.

United Kingdom production and value of oil, including condensate 1970–2005



United Kingdom production of onshore crude petroleum and natural gas by fields 1994–2005

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Oil fields												Thousand tonnes
Beckingham W	1	1	1	1	1	1	1	1	1	1	1	1
Brockham		—	—	—	—	—	0	—	1	1	3	5
Cold Hanworth	—	—	—	—	2	2	1	4	13	20	15	7
Crosby Warren	4	2	3	4	4	1	0	3	3	3	2	2
Ewt Onshore		—	—	—	—	—	1	0	1	1	0	0
Farleys Wood	2	2	0	0	1	0	0	0	0	0	0	0
Fiskerton Airfield	—	—	—	—	1	19	18	5	1	0	0	0
Glentworth E	1	1	1	1	2	2	1	1	1	1	2	4
Goodworth	—	—	—	1	3	2	2	2	2	2	2	1
Herriard	2	4	3	2	1	1	1	—	1	2	1	1
Horndean	16	19	17	15	14	13	10	9	8	11	9	7
Humbly Grove	48	51	36	37	29	24	14	16	11	13	15	13
Keddington	—	—	—	—	2	5	3	1	1	2	2	1
Kirklington	—	0	0	0	0	—	—	—	—	1	0	0
Long Clawson	7	7	8	8	9	10	9	8	9	9	9	9
Nettleham	3	1	1	6	9	7	5	3	3	4	3	2
Newton-on-Trent	—	—	—	—	—	2	1	0	0	0	0	0
Palmers Wood	38	37	24	23	19	10	10	12	15	11	7	6
Rempstone	2	5	3	3	2	2	1	1	1	1	1	0
Scampton	—	—	1	2	0	0	0	0	0	0	0	1
Scampton N	8	8	13	17	12	11	11	11	10	9	9	8
Singleton	34	35	36	36	27	21	21	23	22	20	22	16
Stainton	1	1	1	1	1	0	1	1	1	1	1	0
Stockbridge	78	92	86	79	110	87	42	42	37	36	38	34
Storrington	—	—	—	—	14	15	8	4	20	21	20	9
Wareham	66	56	42	32	20	21	15	19	9	6	9	7
Welton	138	127	153	150	123	90	87	77	64	58	54	54
West Firsby	12	14	26	27	17	10	8	5	6	4	5	6
Whisby	4	4	1	0	0	0	0	0	0	5	9	7
Wytch Farm	4 123	4 543	4 730	4 481	4 690	3 867	2 919	2 656	2 381	1 915	1 649	1 394
Other	61	58	53	23	51	44	42	39	34	31	38	34
Total	**4 649**	**5 067**	**5 240**	**4 949**	**5 161**	**4 269**	**3 234**	**2 944**	**2 654**	**2 187**	**1 924**	**1 629**
Gas fields												Million cubic metres
Wytch Farm	161	182	245	242	156	149	111	115	108	82	73	61
Others	80	140	137	146	179	140	106	91	65	90	49	56
Total (a) (b)	**241**	**322**	**382**	**388**	**335**	**289**	**217**	**205**	**173**	**172**	**122**	**117**

(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 1994–2005

Thousand tonnes

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
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	3 147
Alwyn N	1 943	1 391	1 066	966	1 078	1 093	891	808	704	551	449	433
Andrew	—	—	856	2 798	3 244	3 298	2 540	1 856	1 542	1 250	865	847
Angus	—	—	—	—	—	—	—	168	323	112	85	62
Arbroath	1 503	1 662	1 452	1 109	1 115	1 100	931	778	675	533	589	497
Ardmore	—	—	—	—	—	—	—	—	—	181	404	106
Arkwright	—	—	65	462	300	185	261	253	227	255	202	107
Auk	528	607	458	647	784	621	558	392	421	366	308	219
Balmoral	805	637	410	467	392	354	275	292	219	185	94	129
Banff	—	—	380	278	—	1 102	711	834	546	665	432	330
Beatrice	537	473	438	151	365	194	137	97	357	270	212	185
Beauly	—	—	—	—	—	—	—	480	394	213	94	99
Beinn	212	391	389	286	214	116	30	47	93	75	61	32
Beryl	4 159	4 426	4 234	3 748	2 961	2 296	1 621	1 541	1 559	1 356	1 198	1 092
Birch	—	286	1 025	768	500	226	94	101	0	9	173	196
Bittern	—	—	—	—	—	—	1 150	2 404	2 346	2 330	2 103	1 785
Bladon	—	—	—	108	283	145	32	—	—	—	—	—
Blair	—	—	—	—	—	—	—	—	—	—	—	—
Blake	—	—	—	—	—	—	—	1 024	2 024	1 733	1 565	1 245
Blenheim	—	1 044	846	399	219	141	38	—	—	—	—	—
Brae Central	518	487	406	385	475	288	242	169	183	227	206	379
Brae E	2 637	3 323	2 739	2 074	1 459	1 192	837	593	374	269	209	166
Brae N	876	542	468	363	412	335	280	262	228	250	166	89
Brae S	521	533	522	443	412	268	250	275	208	143	183	215
Brae W/Sedgwick	—	—	—	159	1 627	1 505	1 633	1 435	1 159	883	744	911
Braemar	—	—	—	—	—	—	—	—	—	46	245	239
Brechin	—	—	—	—	—	—	—	—	—	—	141	141
Brent	9 495	9 205	9 468	6 264	6 054	4 536	3 538	2 843	1 925	1 122	766	474
Brimmond	—	—	18	60	80	48	48	31	34	16	8	0
Britannia	—	—	—	—	555	1 848	1 618	1 319	1 032	998	899	762
Broom	—	—	—	—	—	—	—	—	—	—	480	1 248
Bruce	2 090	1 713	1 705	1 289	898	1 845	1 647	1 448	1 328	1 212	744	638
Buchan	602	492	536	445	402	344	351	385	348	340	366	337
Buckland	—	—	—	—	—	474	1 601	1 141	643	566	373	269
Caledonia	—	—	—	—	—	—	—	—	—	406	244	116
Captain	—	—	—	1 461	2 836	2 525	2 458	3 107	3 109	2 974	3 580	2 644
Carnoustie	—	—	—	—	—	—	—	—	—	—	—	20
Chanter	67	92	103	48	15	7	8	6	4	2	4	2
Clair	—	—	—	—	—	—	—	—	—	—	0	691
Clapham	—	—	—	—	—	—	—	—	—	0	416	367
Claymore	2 235	2 258	2 154	2 096	1 818	1 658	1 564	1 411	1 425	1 268	1 394	1 237
Clyde	761	797	666	698	638	586	450	400	348	297	287	276
Columba B & D	102	288	579	511	319	243	538	931	543	481	558	393
Columba D	102	334	667	332	169	88	—	—	—	—	—	—
Columba E	—	—	—	—	217	170	153	136	112	73	296	198
Cook	—	—	—	—	—	—	406	876	796	544	531	456
Cormorant N	2 128	2 074	1 470	1 477	1 638	1 541	1 513	1 469	1 110	923	659	669
Cormorant S	909	810	968	1 012	820	1 023	915	626	597	395	171	179
Crawford	—	—	—	—	—	—	—	—	—	—	—	—
Curlew	—	—	—	86	1 438	1 508	817	386	218	212	179	219
Cyrus	—	—	203	603	541	402	253	181	190	141	119	115
Dauntless	—	—	—	197	308	38	—	—	—	—	—	—
Deveron	46	55	58	26	52	40	10	11	19	19	24	25
Don	207	234	169	108	100	89	69	45	19	2	0	0
Donan	421	357	283	193	—	—	—	—	—	—	—	—
Douglas	—	—	768	1 604	1 324	937	779	1 118	918	645	526	406
Douglas W	—	—	—	—	—	—	—	—	—	205	100	93
Drake	—	—	—	80	282	317	261	226	193	75	47	23
Dunbar	41	1 822	2 408	2 491	2 101	1 886	1 627	1 440	1 540	1 093	859	618
Dunlin	1 040	961	755	807	643	627	525	574	468	308	181	221
Dunlin SW	—	—	259	197	236	232	109	88	84	54	33	50
Durward	—	—	—	273	589	45	—	—	—	—	—	—
Egret	—	—	—	—	—	383	214	95	115	65	282	84
Eider	1 224	908	815	654	616	601	356	242	216	170	133	120
Elgin	—	—	—	—	—	—	—	1 974	4 146	4 502	3 622	3 061
Ellon	6	98	140	377	283	129	152	77	46	57	23	36
Emerald	633	423	41	—	—	—	—	—	—	—	—	—
Erskine	—	—	—	4	791	883	82	837	973	816	665	514
Everest	232	262	277	313	286	235	203	230	238	245	207	164
Farragon	—	—	—	—	—	—	—	—	—	—	—	90
Fergus	—	—	249	562	276	161	81	57	48	60	75	48
Fife	—	745	1 624	1 077	820	362	585	449	539	490	294	253
Fleming	—	—	—	93	507	477	424	367	300	237	216	160
Flora	—	—	—	—	152	506	495	278	168	139	124	89
Foinaven	—	—	—	252	3 691	4 262	4 588	4 419	5 358	4 085	3 521	2 967
Forties	6 044	5 252	5 140	4 109	3 998	3 227	2 720	2 828	2 624	2 038	2 679	3 261
Franklin	—	—	—	—	—	—	—	199	1 006	1 175	1 621	2 019
Fulmar	1 955	1 242	1 040	547	468	373	228	172	165	134	100	179
Gadwall	—	—	—	—	—	—	—	—	—	—	—	212
Galley	—	—	—	—	946	1 333	1 602	1 099	795	573	456	352
Gannet A	587	956	1 315	1 192	1 015	866	711	553	562	380	359	373
Gannet B	87	148	97	58	35	29	29	51	72	110	82	95
Gannet C	1 423	1 573	1 640	1 151	919	688	390	417	310	208	175	146
Gannet D	310	303	389	437	467	359	478	538	320	339	231	186
Gannet E	—	—	—	—	644	366	369	383	446	657	488	443
Gannet F	—	—	—	327	464	327	208	148	114	75	50	33
Gannet G	—	—	—	—	—	261	697	317	232	188	134	120
Glamis	346	152	72	50	47	36	21	16	14	14	9	1
Goldeneye	—	—	—	—	—	—	—	—	—	—	120	660
Grant	—	—	—	—	138	257	217	171	143	133	100	125
Gryphon	1 702	2 204	1 879	1 542	1 348	1 094	904	962	566	456	574	945

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1994–2005 *continued*

Thousand tonnes

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Oil fields *continued*												
Guillemot A	—	—	249	1 026	688	420	283	213	326	344	334	294
Guillemot NW	—	—	—	—	—	—	20	13	216	194	150	75
Guillemot W	—	—	—	—	—	—	329	467	482	509	407	130
Halley	—	—	—	—	—	—	—	—	175	141	130	0
Hamish	23	5	3	17	10	8	6	3	0	0	3	0
Hannay	—	—	—	—	—	—	—	—	149	194	209	205
Harding	—	—	1 930	3 860	4 655	4 281	4 328	3 178	3 192	2 536	2 024	1 626
Hawkins	—	—	—	—	—	—	—	—	17	91	57	27
Heather	341	295	285	251	225	204	191	222	203	183	117	129
Heron	—	—	—	—	—	2 369	2 466	1 604	939	678	326	349
Highlander	415	307	272	149	188	102	160	166	144	105	96	120
Howe	—	—	—	—	—	—	—	—	—	—	65	456
Hudson	1 461	1 504	1 516	1 595	400	1 245	1 227	981	803	709	613	474
Hutton	1 227	1 186	901	787	581	558	414	147	0	—	—	—
Hutton NW	347	340	296	308	262	295	83	113	30	0	—	—
Innes	—	—	—	—	—	—	—	—	—	—	—	—
Iona	—	—	—	28	13	77	53	24	9	2	0	0
Ivanhoe	882	619	520	401	282	239	327	309	349	186	100	64
Jade	—	—	—	—	—	—	—	—	507	845	760	701
James	—	—	—	—	—	—	—	—	—	—	53	154
Janice	—	—	—	—	—	1 713	1 351	1 019	720	574	495	246
Joanne	—	40	258	1 200	1 249	924	537	401	385	243	152	131
Judy	—	27	99	651	755	532	428	525	594	810	627	702
Keith	—	—	—	—	—	—	59	293	152	132	106	106
Kestrel	—	—	—	—	—	—	—	51	221	326	161	166
Kingfisher	—	—	—	211	1 315	988	804	874	608	403	257	270
Kittiwake	1 507	1 365	1 056	629	444	228	157	33	54	113	88	61
Kyle	—	—	—	—	—	—	—	515	439	328	193	236
Larch	—	—	—	—	169	14	73	170	411	106	64	41
Leadon	—	—	—	—	—	—	—	158	971	578	425	329
Lennox	—	—	105	454	894	857	1 376	1 798	1 697	1 573	1 236	905
Leven	76	83	59	83	42	37	125	90	57	52	156	81
Linnhe	—	—	—	—	—	—	—	—	—	—	—	—
Lomond	194	152	181	198	207	182	186	166	160	147	150	117
Loyal	—	—	—	—	98	931	1 190	925	990	893	680	491
Lyell	775	449	433	278	215	146	116	117	88	36	118	111
MacCulloch	—	—	—	583	2 001	1 755	1 354	1 087	1 442	1 409	1 318	1 092
Machar	625	839	444	—	396	1 733	1 496	1 310	756	433	686	632
Maclure	—	—	—	—	—	—	—	—	264	475	514	570
Madoes	—	—	—	—	—	—	—	—	36	1 018	1 140	829
Magnus	6 812	5 362	4 546	3 091	3 148	3 046	2 924	2 214	1 902	1 852	1 745	1 585
Magnus S	—	—	235	383	435	482	311	256	150	249	209	154
Mallard	—	—	—	—	148	701	459	244	219	157	69	70
Marnock	—	—	—	—	12	747	982	656	503	308	190	101
Maureen	762	516	447	495	474	173	—	—	—	—	—	—
Medwin	84	53	7	0	0	0	0	0	0	0	0	7
Merlin	—	—	—	75	677	1 001	619	429	302	276	96	115
Miller	6 360	6 422	6 467	5 195	3 441	2 732	2 057	1 383	947	409	514	412
Mirren	—	—	—	—	—	—	—	—	79	431	270	285
Moira	55	39	29	17	12	3	—	—	—	—	—	—
Monan	—	—	—	—	75	560	163	87	34	26	31	8
Montrose	171	128	90	62	64	55	37	34	16	19	38	61
Mungo	—	—	—	—	706	1 876	2 440	2 534	2 343	1 930	1 694	1 596
Murchison UK	644	535	681	806	792	744	495	411	309	338	267	256
Nelson	5 123	6 869	7 082	5 603	4 695	4 515	4 089	2 913	3 907	3 279	2 255	1 882
Ness	175	92	80	171	104	123	41	134	117	94	9	4
Nethan	—	—	—	—	—	—	—	—	—	—	14	1
Nevis	—	—	184	744	1 084	1 595	1 447	1 146	942	971	947	840
Ninian	3 236	2 764	2 423	2 367	2 197	2 054	1 723	1 764	1 510	1 448	1 238	1 192
Orion	—	—	—	—	—	137	322	263	211	172	150	201
Osprey	1 251	1 420	1 299	1 204	764	618	295	450	292	116	148	171
Otter	—	—	—	—	—	—	—	—	96	1 081	1 278	888
Pelican	—	—	1 403	1 269	1 282	1 075	717	462	551	345	221	248
Penguin E	—	—	—	—	—	—	—	—	—	660	738	372
Penguin W	—	—	—	—	—	—	—	—	—	91	140	210
Petronella	428	297	137	119	123	52	61	79	106	81	73	45
Pict	—	—	—	—	—	—	—	—	—	—	—	377
Pierce	—	—	—	—	—	1 416	2 508	1 793	1 418	1 105	773	1 044
Piper	3 811	4 027	3 148	2 416	1 951	1 490	1 156	957	813	670	567	552
Playfair	—	—	—	—	—	—	—	—	—	—	42	281
Renee	—	—	—	—	—	715	240	44	62	45	41	26
Rhum	—	—	—	—	—	—	—	—	—	—	—	2
Rob Roy	1 889	1 413	1 076	570	289	272	180	185	152	104	105	91
Ross	—	—	—	—	—	761	1 208	459	483	330	267	176
Rubie	—	—	—	—	—	185	346	215	191	162	141	102
Saltire	1 821	1 763	1 831	1 908	1 335	757	479	360	311	166	109	127
Scapa	1 171	847	947	915	770	638	444	370	329	377	300	239
Schiehallion	—	—	—	—	1 100	4 183	5 073	4 780	5 061	5 161	4 795	3 419
Scoter	—	—	—	—	—	—	—	—	—	0	180	243
Scott	8 048	8 769	7 037	5 569	4 531	4 017	2 771	2 162	1 889	1 264	1 127	815
Seymour	—	—	—	—	—	—	—	—	—	100	114	56
Shearwater	—	—	—	—	—	—	82	650	2 299	2 353	2 568	1 280
Skene	—	—	—	—	—	—	—	7	329	259	192	113
Skua	—	—	—	—	—	—	—	195	634	290	217	2
Staffa	93	—	—	—	—	—	—	—	—	—	—	—
Statfjord UK	4 528	3 931	3 424	3 581	2 346	1 768	1 187	797	702	613	897	783
Stirling	—	61	42	37	9	16	17	28	25	25	15	27
Strathspey	1 408	1 686	1 499	1 331	1 006	643	414	352	530	419	464	243
Sycamore	—	—	—	—	—	—	—	—	—	358	134	21
Tartan	580	453	475	333	332	272	240	177	155	133	170	138
Teal	—	—	—	1 091	1 123	1 216	1 511	1 040	543	289	222	150

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1994–2005 *continued*

Million cubic metres

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Oil fields *continued*												
Teal S	—	—	44	268	122	136	79	86	42	77	32	0
Telford	—	—	104	1 519	1 521	1 014	1 092	1 141	1 128	853	628	434
Tern	3 668	3 326	2 781	2 593	2 287	2 125	1 803	1 681	1 370	1 043	780	600
Thelma	—	—	165	1 309	1 051	905	773	669	324	272	283	283
Thistle	724	665	536	430	363	305	288	191	252	219	172	141
Tiffany	1 751	1 802	1 764	1 205	762	425	275	190	143	129	109	121
Toni	602	1 331	1 057	684	794	655	467	383	378	519	258	218
Tullich	—	—	—	—	—	—	—	—	254	646	452	354
Other	83	—	—	94	—	—	202	—	—	—	—	—
Total	**114 383**	**115 096**	**116 500**	**115 395**	**119 049**	**124 886**	**114 830**	**106 547**	**105 369**	**96 868**	**86 906**	**77 211**
Gas fields												
Alison	—	31	128	91	97	18	53	55	39	81	51	41
Alwyn N (h)	2 508	1 876	1 829	2 039	1 730	1 608	1 288	832	1 272	1 254	961	1 400
Amethyst E	1 048	991	1 416	848	870	724	612	527	297	392	191	351
Amethyst W	451	312	421	515	423	262	471	643	509	469	257	223
Anglia	532	615	439	284	391	296	383	294	209	225	163	136
Ann	488	399	428	270	140	166	160	85	33	98	74	58
Annabel	—	—	—	—	—	—	—	—	—	—	—	567
Apollo	—	—	—	—	—	—	—	—	—	319	392	299
Arthur	—	—	—	—	—	—	—	—	—	—	—	858
Audrey	1 458	1 179	1 197	1 171	729	531	624	523	172	250	235	192
Bains	—	—	—	—	—	—	—	—	109	505	330	201
Baird	193	219	459	435	374	311	138	228	214	274	274	220
Barque	788	577	1 829	2 244	1 503	1 327	2 190	1 823	910	1 003	654	659
Barque S	—	6	—	8	2	0	0	0	0	0	0	0
Beaufort	—	—	—	—	—	—	—	1	—	—	—	—
Bell	—	—	—	—	—	344	941	662	673	389	124	0
Bessemer	—	139	777	812	735	692	1 204	391	208	128	101	38
Boulton	—	—	—	—	925	459	587	299	607	713	607	511
Boulton H	—	—	—	—	—	—	—	—	—	—	140	28
Boyle	—	—	—	—	—	—	—	—	143	456	349	240
Brigantine A	—	—	—	—	—	—	—	637	597	639	415	252
Brigantine B	—	—	—	—	—	—	—	573	428	166	157	138
Brigantine C	—	—	—	—	—	—	—	—	344	655	347	173
Brigantine D	—	—	—	—	—	—	—	—	0	5	28	0
Brown	—	—	—	—	(d)	(d)	(d)	(d) 118	39	0	0	3
Bruce (h)	4 481	5 175	6 577	5 613	4 959	5 164	5 678	6 264	6 277	6 195	4 748	4 390
Bure	103	58	55	42	64	12	35	21	18	15	2	0
Bure W	—	—	—	—	22	124	157	128	105	71	53	25
Caister Bunter	269	388	295	343	235	315	306	375	232	98	56	56
Caister Carboniferous	646	745	649	642	364	390	257	130	112	176	118	107
Calder	—	—	—	—	—	—	—	—	—	—	3	0
Callisto	—	102	254	254	199	104	24	86	95	69	53	31
Callisto N	—	—	—	—	—	—	16	119	69	40	7	9
Camelot C & S	420	526	403	846	563	187	206	150	114	52	30	29
Camelot N	88	246	84	49	30	1	—	11	0	3	0	0
Camelot NE	117	10	204	58	2	—	—	—	—	—	—	—
Captain (h)	—	—	—	—	—	—	—	71	72	56	76	61
Carrack	—	—	—	—	—	—	—	—	—	75	1 220	1 098
CATS (g)	1 985	1 941	2 334	4 429	10 126	13 605	13 618	13 038	14 253	14 972	13 812	11 660
Cleeton	897	997	1 587	1 466	472	5	—	—	—	—	—	—
Clipper	954	621	1 190	1 152	669	598	1 101	903	459	409	247	357
Corvette	—	—	—	—	—	1 782	1 048	517	154	129	471	403
Dalton	—	—	—	—	—	267	471	32	2	110	121	112
Davy	—	197	930	806	(d) 719	(d) 908	(d) 881	(d) 381	109	66	157	111
Davy N	—	—	—	—	—	—	—	75	437	225	141	71
Dawn	—	1	170	92	94	102	29	0	0	0	0	0
Deben	—	—	—	—	66	240	93	28	13	11	6	0
Delilah	—	—	—	—	42	103	100	87	68	34	0	0
Dunbar (h)	23	954	1 371	1 359	1 121	1 133	1 216	1 229	1 476	1 243	1 089	816
Ellon (h)	26	337	521	791	448	162	129	188	116	179	43	33
Europa	—	—	—	—	—	—	322	451	271	220	148	115
Esmond	233	36	—	—	—	—	—	—	—	—	—	—
Excalibur	232	811	876	599	681	552	453	427	365	269	224	181
FLAGS (e)	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	(k) 8482
Forbes	—	—	—	—	—	—	—	—	—	—	—	—
Frigg (UK) (h)	863	474	466	191	511	253	367	463	415	457	495	—
Fulmar (f)	1 456	1 854	1 716	1 505	1 890	2 104	(k)	(k)	(k)	(k)	(k)	(k)
Galahad	—	106	456	707	509	431	344	337	259	211	175	387
Galleon	270	518	1 398	1 501	1 493	1 168	1 677	1 635	1 311	1 336	1 539	1 227
Galley (h)	—	—	—	—	257	410	460	230	122	-6	-14	22
Ganymede	—	532	1 708	1 655	947	669	197	384	326	285	229	217
Gawain	—	92	929	820	798	666	694	690	579	345	141	114
Gordon	203	22	—	—	—	—	—	—	—	—	—	—
Grant (h)	—	—	—	—	322	672	675	557	563	549	355	459
Guinevere	311	358	243	271	227	232	222	138	154	96	79	69
Hamilton	—	—	—	1 176	1 752	1 416	1 685	1 933	1 536	1 833	1 370	1 174
Hamilton E	—	—	—	—	—	—	—	167	503	354	216	145
Hamilton N	—	—	625	667	546	454	543	553	368	566	428	327
Hawksley	—	—	—	—	—	—	—	—	489	610	290	73
Helvellyn	—	—	—	—	—	—	—	—	—	—	255	73
Hewett & Della	1 671	1 290	2 188	1 301	1 324	1 133	1 484	1 211	818	593	475	399
Horne	—	—	—	—	—	—	—	—	—	—	—	246
Hoton	—	—	—	—	—	—	—	7	420	370	271	212
Hyde	415	346	357	284	291	259	219	195	163	152	127	112
Indefatigable	1 245	1 133	2 139	1 507	2 055	1 345	1 197	1 310	1 110	769	801	562
Indefatigable SW	—	63	242	210	179	198	126	188	145	74	62	47
Ivanhoe & Rob Roy (h)	237	159	152	79	38	48	15	22	12	-2	10	0
Johnston	136	543	585	469	327	540	667	414	273	387	461	327

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1994–2005 *continued*

Million cubic metres

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Gas fields *continued*												
Keith (h)	—	—	—	—	—	—	12	79	50	45	47	59
Ketch	—	—	—	—	—	297	1 233	819	549	478	317	233
KX	—	27	81	60	62	52	46	58	55	50	48	40
Lancelot	888	868	685	621	557	761	696	495	504	414	339	289
Leman	3 584	4 049	3 468	3 013	4 740	3 060	3 957	3 835	3 061	3 009	3 178	2 664
Malory	—	—	—	—	126	668	571	449	361	305	259	219
Markham (UK)	865	933	807	663	514	485	463	350	304	207	192	342
McAdam	—	—	—	—	—	—	—	—	—	—	514	578
Mercury	—	—	—	—	—	5	402	627	547	333	365	243
Miller (i)	2 388	2 467	2 534	2 028	1 254	1 109	624	328	302	163	174	144
Millom	—	—	—	—	—	29	144	1 023	1 048	927	801	606
Minerva	—	—	—	—	—	—	—	—	—	577	576	406
Mordred	—	—	26	82	17	39	43	31	37	26	28	22
Morecambe N	555	2 399	2 626	2 930	1 294	848	3 872	3 017	3 128	2 594	2 118	1 396
Morecambe S	7 444	7 675	7 099	6 170	7 993	9 971	8 436	8 328	7 513	7 526	8 055	5 935
Munro	—	—	—	—	—	—	—	—	—	—	—	147
Murdoch	1 063	1 110	1 127	1 150	1 376	836	1 197	948	641	627	447	414
Murdochk	—	—	—	—	—	—	—	—	—	1 378	1 209	864
Neptune	—	—	—	—	—	17	1 466	2 007	1 685	1 301	1 168	922
Newsham	—	—	68	127	94	71	60	44	35	34	39	37
Nuggets (h)	—	—	—	—	—	—	—	134	1 333	1 746	1 681	1 811
Orwell	1 028	1 470	789	720	832	667	716	507	373	389	278	214
Pickerill	1 933	1 790	1 345	1 288	879	626	366	351	284	208	142	199
Piper & Tartan Area (h)	924	1 037	950	633	452	421	396	353	297	44	69	17
Ravenspurn N	2 494	1 716	2 942	2 968	1 580	1 319	1 294	761	497	317	362	540
Ravenspurn S	1 164	852	1 253	1 433	1 186	1 006	871	725	636	465	370	409
Renee/Rubie (h)	—	—	—	—	—	1	…	18	11	2	15	0
Rhum	—	—	—	—	—	—	—	—	—	—	—	44
Rose	—	—	—	—	—	—	—	—	—	—	206	227
Ross (h)	—	—	—	—	—	28	89	60	144	126	95	60
Rough (b)	—	—	—	—	—	—	428	17	0	0	0	0
SAGE (j)	3 941	6 829	7 321	8 035	10 398	15 459	16 802	15 449	15 138	15 707	14 827	13 227
Saturn (m)	—	—	—	—	—	—	—	—	—	—	—	433
Schooner	—	—	243	1 245	1 088	1 237	882	917	380	485	475	230
Sean E	65	501	512	301	227	253	148	124	32	36	7	16
Sean N & S	493	428	942	639	50	312	581	1 120	493	601	306	1 794
SEAL (l)	—	—	—	—	—	—	93	2 207	7 026	7 391	8 464	7 567
Sinope	—	—	—	—	—	75	274	20	0	0	3	0
Skiff	—	—	—	—	—	—	146	843	1 254	1 339	924	714
Thames	228	61	157	119	60	92	90	89	67	53	43	27
Trent	—	—	80	279	347	521	341	228	213	195	150	149
Tristan	312	206	27	18	7	90	35	38	17	3	0	0
Tyne N	—	—	—	76	130	255	222	77	28	22	21	16
Tyne S	—	—	109	539	435	479	360	321	184	153	98	108
Valiant N	180	144	277	295	334	172	274	210	163	167	137	134
Valiant S	507	177	349	391	397	298	538	424	343	238	211	199
Valkyrie	—	—	—	—	—	—	—	—	—	—	210	596
Vampire	—	—	—	—	—	367	727	317	122	81	35	0
Vanguard	134	30	109	120	132	78	166	184	158	107	113	80
Victor	1 545	1 399	1 657	1 724	1 064	949	970	775	525	563	503	378
Viking B	636	466	628	687	629	2 465	1 542	1 329	992	872	912	708
Viscount	—	—	—	—	—	—	—	—	—	12	3	0
Vixen	—	—	—	—	—	—	499	1 035	771	558	242	234
Vulcan	915	415	656	827	816	584	952	797	642	497	423	358
Watt	—	—	—	—	—	—	—	—	—	—	16	0
Waveney	—	—	—	—	137	741	594	305	194	117	95	70
Welland NW	534	411	358	386	629	326	212	119	17	0	0	0
Welland S	229	208	117	173	210	155	76	44	17	0	0	0
Wensum	2	4	3	3	—	2	0	0	0	0	1	0
West Sole	1 037	1 214	857	1 224	1 218	1 170	1 050	940	844	765	473	574
Whittle	—	—	—	—	—	—	—	—	—	397	481	422
Windermere	—	—	—	279	438	320	273	196	166	125	87	45
Wren	—	—	—	—	—	—	—	—	—	—	—	138
Yare	89	63	51	14	72	21	11	45	31	39	9	0
Others (c)	2 989	3 016	3 175	3 361	3 719	3 937	3 763	4 658	4 718	4 503	4 513	4 274
Total (a)	**69 343**	**75 158**	**89 514**	**91 170**	**95 171**	**104 760**	**114 663**	**112 563**	**109 694**	**107 919**	**100 847**	**92 503**

(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.
(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, Goldeneye, 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, Pict, Teal and Teal South.
(g) Gas delivered to land via the Central Area Transmission System (CATS) from Andrew, Banff, Drake, Egret, Erskine, Everest, Faragon, 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/ Vesterled 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, Glenelg, Halley, Scoter and Shearwater
(m) Saturn includes Atlas, Hyperio and Rhea

Source: Department of Trade and Industry.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Petroleum										
Production										
Crude petroleum	108 386 000	107 430 000	97 835 000	87 516 000	77 179 000					
Condensates and other (a)	8 292 000	8 514 000	8 238 000	7 858 000	7 543 000					
Refined petroleum products	82 109 000	83 996 000	84 529 000	89 828 000	86 003 000					
Consumption (inland deliveries) of refined products										
Used as fuels–										
Refineries	5 059 000	5 677 000	5 458 000	5 419 000	5 602 000					
Elsewhere	61 058 000	60 145 000	61 107 000	63 181 000	63 717 000					
Not used as fuels	8 887 000	9 673 000	10 411 000	10 584 000	10 678 000					
Total	75 004 000	75 495 000	77 046 000	79 220 000	79 997 000					
Imports										
Crude petroleum	38 542 685	40 838 161	44 511 352	56 128 686	54 067 943	4 956 773	4 985 613	5 954 247	8 496 322	11 519 286
Partly refined petroleum and refined products	21 565 818	21 596 063	23 792 249	26 953 070	28 967 912	3 539 830	3 148 748	3 782 547	4 999 298	7 573 519
Exports										
Crude petroleum	82 057 946	79 943 787	69 617 507	60 743 679	50 619 044	10 497 748	9 834 692	9 254 832	9 373 420	10 979 393
Partly refined petroleum and refined products	23 050 414	25 901 034	27 852 607	32 103 465	31 553 984	3 454 196	3 636 438	4 376 653	5 706 574	7 402 777
Natural gas										
Production										
Methane (c)										
Colliery	63 000	60 000	74 000	70 000	65 000					
Offshore and onshore	105 807 000	103 586 000	102 848 000	95 937 000	87 517 000					
Consumption										
Natural gas (b)	95 376 000	94 166 000	94 494 000	96 163 000	93 433 000					
Imports										
Liquefied natural gas	1 156 724	582 878	509 848	661 898	1 220 190	138 255	87 293	132 619	140 779	342 552
Other natural gas	1 365 402	2 105 453	…	5 343 071	6 945 853	166 063	269 849	…	693 076	1 620 566
Exports										
Liquefied natural gas	4 173 082	4 201 100	3 734 960	3 670 296	3 384 448	719 608	610 297	673 538	768 850	821 226
Other natural gas	7 552 590	8 718 186	1 519 493	186 614	1 491 320	776 178	895 802	1 036 236	702 893	703 453

(a) Including ethane, propane and butane, in addition to condensates.
(b) Tonnes oil equivalent: excluding minor consumption for non-energy use.
(c) Oil equivalent: converted from original data at 397 therms = 1 tonne.

Phosphorus

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Phosphorus										
Consumption in Iron and Steel Industry										
Ferro-phosphorus	1 160	990	1 150	1 150	1 130					
Imports										
Phosphate rock	9 223	10 275	1 242	11 586	30 177	1 418	1 140	259	1 545	1 925
Ammonium phosphates–										
Fertiliser	145 952	196 776	192 537	162 292	121 703	19 820	25 437	22 984	23 207	18 127
Superphosphates	230 374	204 073	212 297	178 902	164 196	21 866	19 883	20 327	20 127	18 410
Basic slag	11 216	5 150	6 215	5 931	3 878	462	215	244	278	198
Other phosphatic fertilisers	21 548	17 336	14 425	14 118	11 911	2 187	1 303	1 073	1 517	1 063
Elemental phosphorus	14 143	14 437	12 270	15 739	9 468	15 164	13 828	12 488	17 369	12 846
Phosphoric acids	315 593	197 558	220 427	175 986	161 905	48 085	37 068	44 408	34 991	36 875
Calcium phosphates	112 485	120 414	120 167	115 172	111 811	22 229	23 878	23 470	19 506	19 754
Sodium phosphates and orthophosphates (b)	38 307	51 623	45 019	34 188	37 701	19 472	22 560	18 131	13 478	15 228
Exports										
Phosphate rock	317	386	111	34	1 548	80	79	85	27	208
Ammonium phosphates–										
Fertiliser	1 619	630	493	519	221	558	433	444	452	327
Other (a)	...	...	...	...	...	...	...	...	...	...
Superphosphates	4	5 229	2 484	6	0	16	670	320	6	0
Basic slag	2	—	1	—	—	1	—	5	—	—
Other phosphatic fertilisers	110	292	333	426	457	86	158	123	136	186
Elemental phosphorus	194	28	422	125	1 227	900	117	1 138	237	2 166
Phosphoric acids	21 109	18 755	16 322	12 876	8 320	8 299	6 911	6 789	5 414	4 835
Calcium phosphates	17 567	15 123	15 046	15 160	14 750	8 488	8 204	8 752	8 527	9 359

(a) Including polyphosphates.
(b) Excluding polyphosphates.

Platinum group metals

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Platinum group metals										
Imports										
Scrap	729	776	367	617	1 271	329 986	115 886	170 533	158 949	213 125
Unwrought or partly worked–										
Platinum	18	10	14	48	52	188 045	106 075	169 110	358 887	383 876
Palladium	20	16	48	25	31	257 947	80 100	245 258	98 921	95 291
Other platinum group	6	4	9	8	7	90 525	38 840	30 306	67 054	96 755
Exports										
Scrap	1 124	914	1 863	2 681	2 881	37 493	15 535	13 676	18 989	24 592
Unwrought or partly worked–										
Platinum	32	44	37	45	71	436 159	448 364	447 735	614 350	619 359
Palladium	23	18	28	61	63	339 248	148 069	117 277	287 094	221 800
Other platinum group	6	5	10	13	25	115 558	47 105	51 748	127 823	243 111

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, meeting around 55 per cent of the UK potash demand. Production of potash declined slightly in 2006, to 716 000 tonnes KCl compared with 732 000 tonnes in 2005. A large proportion of this was exported through the company's deepwater terminal on the River Tees. Rock salt production was 0.60 million tonnes in 2004 but has since not been disclosed for commercial reasons. Salt is mined from the arterial roadways in the underlying Boulby Halite to maintain access to potash mining areas and to explore and develop new reserves.

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 leaves 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Potassium compounds										
Indigenous production										
KCl product	882 000	900 000	1 040 000	912 000	732 000					
Apparent consumption (a)										
Potassic fertilisers										
(K_2O content)	393 800	339 100	388 400	363 700	337 200					
Imports										
Crude natural salts	16 154	19 366	12 751	9 204	9 517	1 053	1 141	661	400	459
Chloride	335 398	372 031	246 164	207 056	198 893	26 679	19 462	22 023	20 808	22 001
Sulphate	14 243	8 159	3 765	11 742	12 206	2 145	1 676	1 152	1 933	2 149
Other potassic fertilisers	263	645	1 674	641	945	215	223	343	413	553
Exports										
Crude natural salts	91	26	48	11	14	36	9	71	59	15
Chloride (b)	530 000	440 000	630 000	510 000	350 000	...	...	...	...	...
Sulphate	264	283	153	21	6	73	102	82	12	20
Other potassic fertilisers	877	457	456	641	699	360	497	395	396	463

(a) Home deliveries plus imports.

(b) BGS estimate.

Precious and semi-precious stones

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Precious and semi-precious stones (excluding diamond) (a)										
Imports										
Natural stones	713	492	427	88	98	60 792	70 129	52 655	52 027	65 870
Synthetic stones	10	8	12	23	28	6 994	3 851	3 653	5 931	5 390
Dust and powder	2	0	0	1	2	715	154	166	220	569
Exports										
Natural stones	21	27	6	17	3	49 158	56 112	43 278	43 605	62 092
Synthetic stones	41	0	12	9	1	1 330	505	4 510	3 714	1 393
Dust and powder	2	...	19	1	0	153	76	40	105	389

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

Primary fuels

United Kingdom production of primary fuels 1980–2005 (energy supplied basis)

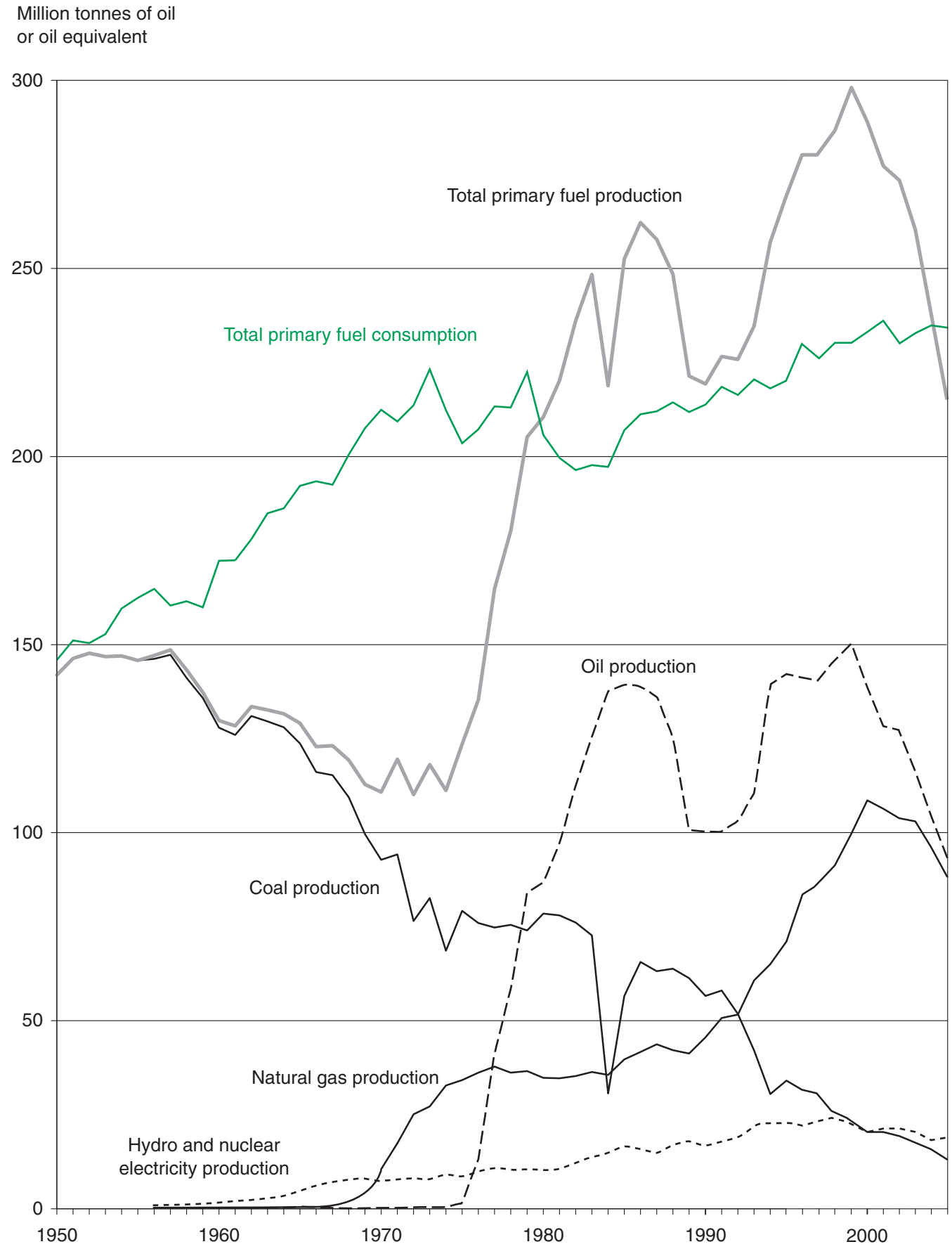
Million tonnes of oil equivalent (a)

Year	Coal	Petroleum	Natural gas (b)	Nuclear electricity	Hydro-electricity (c)	Total (d)
1980	79	87	35	10	0	211
1981	78	97	35	10	0	220
1982	76	113	35	12	0	236
1983	73	126	36	14	0	248
1984	31	138	36	15	0	219
1985	57	139	40	17	0	253
1986	66	139	42	15	0	262
1987	63	135	44	14	0	257
1988	63	126	42	17	0	249
1989	61	100	41	18	0	221
1990	56	100	46	16	0	219
1991	58	100	51	17	0	227
1992	52	104	52	19	1	227
1993	42	110	61	22	1	235
1994	30	139	65	21	0	257
1995	33	143	71	21	1	270
1996	31	142	84	22	0	282
1997	30	140	86	23	0	282
1998	26	145	90	23	1	287
1999	23	150	99	22	1	298
2000	20	138	108	20	1	289
2001	20	128	106	21	0	277
2002	19	127	104	20	1	273
2003	18	116	103	20	0	260
2004	16	105	96	18	1	238
2005	13	93	88	18	1	215

(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 1950–2005



United Kingdom consumption of energy (primary fuel input) 1980–2005 (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)
1980	73	76	45	10	0	—	205
1981	73	70	45	10	0	—	198
1982	68	71	45	12	0	—	196
1983	69	67	47	14	0	—	197
1984	49	85	48	15	0	—	196
1985	65	72	52	17	0	—	206
1986	70	71	53	15	0	0	210
1987	72	69	54	14	0	1	211
1988	70	74	51	17	0	1	213
1989	67	75	49	18	0	1	211
1990	67	77	51	16	0	1	214
1991	67	77	55	17	0	1	220
1992	63	78	55	19	1	1	217
1993	55	78	63	22	1	1	221
1994	51	77	65	21	0	2	218
1995	49	75	69	21	1	1	218
1996	46	78	81	22	0	1	230
1997	41	76	84	23	0	1	227
1998	41	76	87	23	1	1	231
1999	37	76	91	22	1	1	230
2000	38	76	96	20	1	1	234
2001	41	75	95	21	0	1	236
2002	38	74	94	20	1	1	230
2003	41	74	95	20	0	0	232
2004	39	76	96	18	1	1	233
2005	40	77	93	18	1	1	234

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Pumice										
Imports	17 165	...	21 406	35 533	71 598	2 377	2 703	2 978	1 898	1 213
Exports	1 397	319	1 389	242	138	666	654	702	450	275

Pyrite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Pyrite										
Imports										
Iron pyrites (incl. cupreous) –										
Unroasted	220	85	11	29	26	157	25	13	28	30
Roasted	17 130	…	19 230	2 436	1 911	351	627	406	364	251
Exports										
Iron pyrites (incl. cupreous) –										
Unroasted	132	…	32	4	4	55	76	14	3	20
Roasted	0	—	0	1	4	10	—	3	1	2

Quartz and quartzite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Quartz and quartzite										
Imports										
Quartz	2 360	3 645	541	317	1 259	2 321	1 315	173	142	466
Quartzite	1 052	851	472	413	193	865	490	368	596	400
Exports										
Quartz	146	163	94	190	529	65	176	399	400	364
Quartzite	129	125	120	1 769	2 652	233	270	388	321	360

Radioactive and associated materials

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Radioactive and associated materials										
Imports										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	...	...	...	...	…	322 264	284 737	303 640	569 122	591 337
Exports										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	...	...	...	...	…	512 972	497 413	610 490	647 633	657 761

Rare earths

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Rare earths										
Imports										
Rare earth metals (a)	172	64	115	136	166	2 404	529	978	692	656
Cerium compounds	2 227	3 070	2 519	1 914	2 324	8 367	8 598	7 278	3 915	4 017
Other rare earth compounds (b)	403	491	471	775	775	3 021	3 384	2 552	4 716	5 082
Ferro-cerium and other pyrophoric alloys	1	34	1	9	19	38	102	99	32	2 819
Exports										
Rare earth metals (a)	51	148	16	10	26	1 077	982	312	281	283
Cerium compounds	415	88	118	47	121	3 976	1 748	2 953	1 776	3 153
Other rare earth compounds (b)	329	1 128	1 105	1 157	1 189	3 764	6 772	6 055	5 415	6 076
Ferro-cerium and other pyrophoric alloys	9	...	768	197	2	85	335	323	190	17

(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 per cent 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 2006. Rock salt is produced at three locations in the UK. The Winsford Mmine 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 2006. 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 m^3 cubic metres of space, has a constant temperature and humidity is dry and gas-free. Part of the mine is currently being used for secure document storage. 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 given in March 2006 meant that Minosus can now accept the full range of 42 different waste types it was designed for. 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. Statoil, along with Scottish and Southern Energy (SSE) are to jointly seek consent to extend the new Aldbrough Gas Storage Facility, near Hornsea in East Yorkshire, by constructing a further nine gas storage caverns. This will double the capacity of the facility from 420 million cubic metres to around 840 million cubic metres. The facility is due to come on stream in stages from early 2007. E.ON UK started construction of a gas storage facility in August 2005 at the Holford brinefield in Cheshire. The facility consisting of eight separate underground storage caverns will have a capacity of 165 million cubic metres, equivalent to around half of the UK's average daily gas demand. E.ON UK is also planning to develop a major underground gas storage facility close to Aldbrough in East Yorkshire.

A similar proposal has been made by Canatxx Gas Storage Limited to construct and operate a natural gas storage facility in underground salt caverns at the Preesall saltfield in Lancashire. An environmental impact assessment (EIA) of the scheme has been carried out and an environmental statement (ES) prepared. Twenty cavities are being proposed for 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. The company has submitted planning applications for this project.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Salt										
Production										
Salt, rock (a)	1 900 000	1 500 000	1 700 000	2 000 000	2 000 000					
Salt from brine (a)	1 100 000	1 000 000	1 000 000	1 000 000	1 000 000					
Salt in brine (a) (b)	3 000 000	3 200 000	3 200 000	2 800 000	2 800 000					
Imports	(c) 234 900	306 488	217 009	219 581	287 623	...	12 870	10 928	13 728	17 121
Exports	299 607	326 760	537 497	691 895	538 796	17 466	20 135	23 202	26 763	26 517

(a) BGS estimate.
(b) Used for purposes other than salt making.
(c) BGS estimates, based on known exports from certain countries.

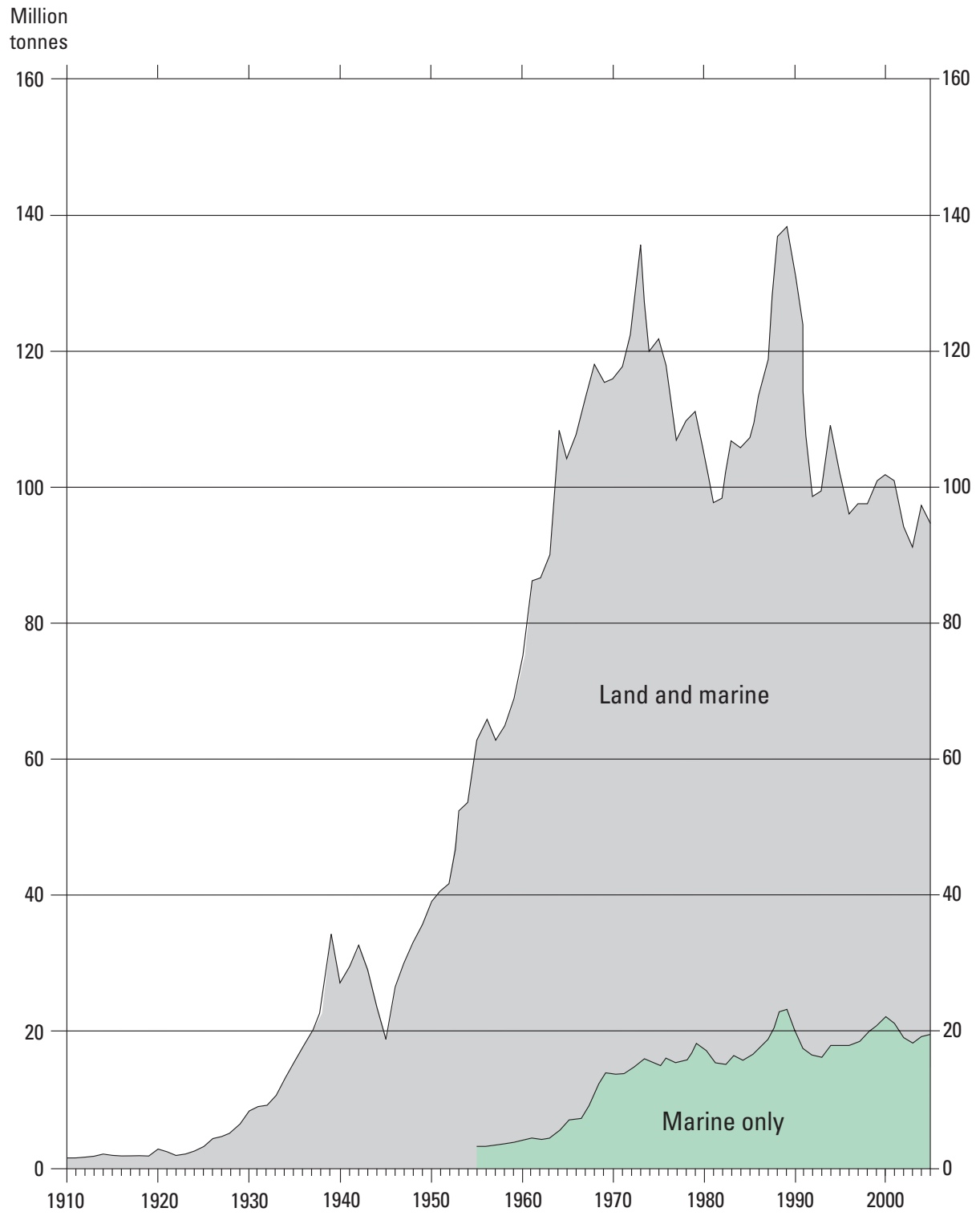
Sand and gravel (see also Aggregates)

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Sand and gravel										
Production										
Sand & gravel (a)	101 397 000	94 424 000	91 211 000	97 333 000	94 666 000					
Consumption (b)										
Building sand	13 511 000	12 947 000	13 395 000	12 761 000	13 233 000					
Concreting sand	31 656 000	31 224 000	31 411 000	32 529 000	29 848 000					
Gravel and hoggin	43 043 000	38 550 000	35 415 000	40 768 000	39 311 000					
Total	88 210 000	82 721 000	80 211 000	86 057 000	82 392 000					
Imports										
Sand and gravel	362 076	413 992	861 439	924 304	643 594	9 417	9 453	11 406	14 481	14 117
Exports										
Sand and gravel (c)	9 871 523	8 881 454	8 419 845	8 174 262	8 453 949	32 389	32 104	36 708	36 414	40 493

(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 Revenue and Customs However, the Crown Estate Commissioners give the following figures for marine-dredged sand and gravel landed at foreign ports (tonnes): 2001: 6 992 731; 2002: 6 190 905; 2003: 6 095 640: 2004: 6 191 867; 2005: 6 471 453

United Kingdom production of sand and gravel 1910–2005



United Kingdom production of sand and gravel 1985–2005

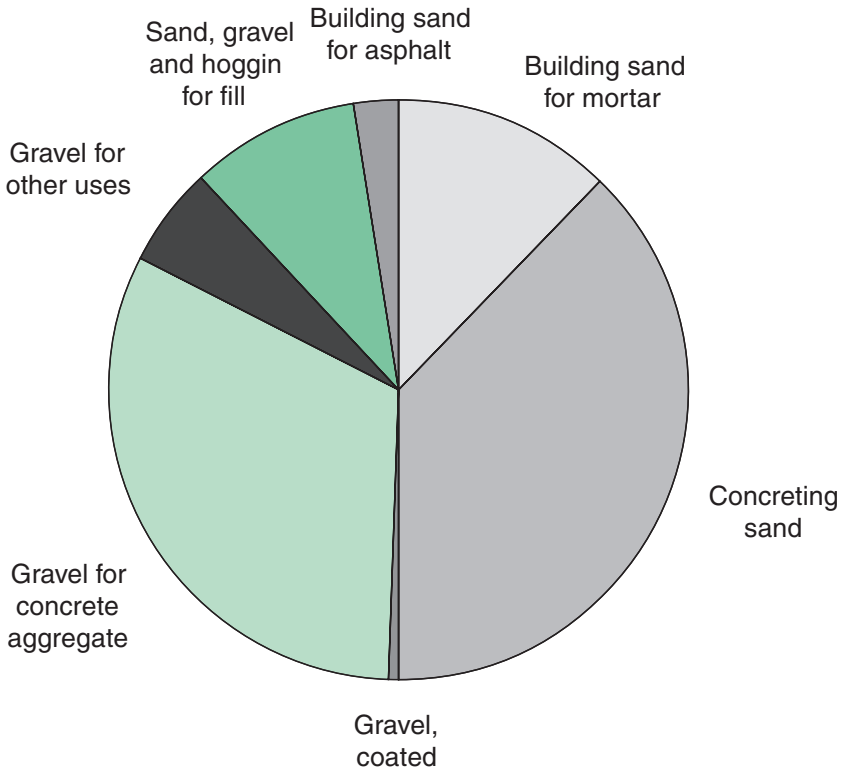
Million tonnes

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		
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
2005	69.4	5.8	75.2	13.0	6.5	19.5	94.7	1.5

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 2005 (total production 82.4 million tonnes)



Great Britain production of sand and gravel by end-use and area of origin 2005

Thousand tonnes

Area of origin	Sand		Gravel					Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (c)	Sand, gravel and hoggin for fill	
	For asphalt	For use in mortar						
North East	104	242	(a) 539	—	…	145	…	(a) 1 575
Yorkshire and the Humber	18	654	(a) 2 065	3	(a) 1 481	594	433	(a) 5 248
East Midlands	…	885	4 097	…	2 624	891	569	9 235
East of England	391	(a) 1 374	(a) 5 261	69	(a) 5 357	(a) 875	(a) 2 236	(a) 15 561
South East	…	(a) 2 285	(a) 6 789	…	(a) 8 218	853	(a) 1 054	(a) 19 362
South West	333	(a) 1 270	(a) 2 489	…	(a) 1 401	923	…	(a) 6 934
West Midlands	105	1 206	3 225	…	3 792	479	…	9 250
North West	96	(a) 1 598	(a) 1 418	…	…	277	144	(a) 3 674
England								
Land-won	1 303	…	…	261	…	4 970	…	58 926
Marine (b)	—	…	…	—	…	66	…	11 912
Total	**1 303**	**(a) 9 514**	**(a) 25 882**	**261**	**(a) 23 382**	**(a) 5 036**	**(a) 5 459**	**(a) 70 838**
Wales								
Land-won	…	…	…	…	…	262	…	1 634
Marine	…	…	…	…	…	—	…	1 112
Total	**…**	**(a) 974**	**(a) 824**	**…**	**(a) 450**	**262**	**(a) 206**	**(a) 2 746**
Scotland								
Total	**…**	**1 070**	**3 142**	**…**	**2 182**	**851**	**986**	**8 808**
Great Britain								
Land-won	…	10 667	24 437	…	19 498	6 083	…	69 368
Marine (b)	…	891	5 411	…	6 516	66	…	13 024
Total	**(a) 1 675**	**(a) 11 558**	**(a) 29 848**	**(a) 497**	**(a) 26 014**	**(a) 6 149**	**(a) 6 651**	**(a) 82 392**

(a) Including marine-dredged material.
(b) Excluding marine-dredged landings at foreign ports (exports), see p.88.
(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 1977–2005

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**
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
2005	1 575	3 674	5 248	9 250	9 235	15 561	19 362	6 934	70 838	2 746	8 808	82 392

(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 1993–2005

Thousand tonnes

Year	Sand		Gravel					Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (b)	Sand, gravel and hoggin for fill	
	For asphalt	For use in mortar						
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**
2005								
Land-won	1 303	…	…	261	…	4 970	…	58 926
Marine (a)	—	…	…	—	…	66	…	11 912
Total	**1 303**	**9 514**	**25 882**	**261**	**23 382**	**5 036**	**5 459**	**70 838**

(a) Excluding marine-dredged landings at foreign ports (exports), see p.88.

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

Source: Office for National Statistics.

Wales production of sand and gravel by end-use 1994–2005

Thousand tonnes

Year	Sand			Gravel				Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (a)	Sand, gravel and hoggin for fill	
	For asphalt	For use in mortar						
1994								
Land-won	88	**…**	**…**	**–**	**…**	**…**	**…**	1 757
Marine	**…**	**…**	**…**	**–**	**…**	**–**	**…**	1 555
Total	**…**	**1 062**	**1 210**	**–**	**484**	**…**	**381**	**3 312**
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**
2005								
Land-won	…	…	…	…	…	262	…	1 634
Marine	…	…	…	…	…	—	…	1 112
Total	**…**	**974**	**824**	**…**	**450**	**262**	**206**	**2 746**

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

Source: Office for National Statistics.

Scotland (land-won) production of sand and gravel by end-use 1994–2005

Thousand tonnes

Year	Sand			Gravel				Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (a)	Sand, gravel and hoggin for fill	
	For asphalt	For use in mortar						
1994	….	1 512	3 517	….	2 239	….	2 981	11 423
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
2005	…	1 070	3 142	…	2 182	851	986	8 808

(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 2001–2005

Tonnes

Commodity	2001	2002	2003	2004	2005
Sandstone–see Building and dimension stone					
Production	19 967 000	18 362 000	18 259 000	18 844 000	18 685 000

Great Britain production of sandstone by end-use and area of origin 2005

Thousand tonnes

Area of origin	Roadstone											Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	
North East	45	—	—	6	—	—	—	—	52	—	—	103
Yorkshire and the Humber	100	…	…	62	…	—	…	230	343	…	—	1 489
North West	61	…	…	…	…	—	…	678	…	26	—	2 518
West Midlands	125	…	350	…	…	—	155	…	128	—	38	…
East Midlands	76	—	—	…	—	—	…	—	…	…	—	385
East of England	…	—	—	—	—	—	—	—	122	—	—	…
South East	2	—	—	—	—	—	—	—	33	—	—	35
South West	…	…	96	…	…	55	…	…	542	…	1	857
England	**424**	**558**	**1 345**	**971**	**184**	**55**	**304**	**967**	**2 028**	**36**	**39**	**6 910**
Wales	…	…	**646**	**218**	**206**	**—**	**171**	**524**	**660**	**22**	**—**	**3 233**
Scotland	**33**	…	**37**	**263**	…	…	**76**	**170**	**431**	**21**	**1**	**1 466**
Great Britain	…	**1 499**	**2 027**	**1 452**	…	…	**551**	**1 661**	**3 119**	**78**	**40**	**11 609**

England

County	Total	County	Total
Gloucestershire	5	Oxfordshire	—
Wiltshire, Somerset, Dorset	3	Durham	7
Cheshire	63	Norfolk	123
Greater Manchester	626	Northumberland	95
Lancashire	1 025	North Yorkshire	1 051
Cumbria	804	West Yorkshire	437
Derbyshire	314	South Yorkshire	2
Staffordshire	40	Shropshire	1 358
Cornwall	64	West Sussex	34
Devon	786	Bedfordshire	…
Northamptonshire	71	Surrey	—
		Hereford & Worcester	…
		England	**6 910**

Wales

County	Total
Powys	1 582
Dyfed, West Glamorgan, Mid Glamorgan, Gwent, Gwynedd	1 651
Wales	**3 233**

Scotland

Region	Total
South of Scotland	751
West Central Scotland	348
Tayside and Fife	1
North East Scotland	…
Highlands	166
Orkney	…
Shetland	…
Scotland	**1 466**

Source: Office for National Statistics.

England production of sandstone by end-use 1993–2005

Thousand tonnes

Year	Roadstone												Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	
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
2005	424	558	1 345	971	184	55	304	967	2 028	36	39	…	6 910

(a) BGS estimate. Source: Office for National Statistics.

Wales production of sandstone by end-use 1993–2005

Thousand tonnes

Year	Roadstone												Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	
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
2005	…	…	646	218	206	—	171	524	660	22	—	…	3 233

(a) BGS estimate. Source: Office for National Statistics.

Scotland production of sandstone by end-use 1993–2005

Thousand tonnes

Year	Roadstone												Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	
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
2005	33	…	37	263	…	…	76	170	431	21	1	…	1 466

(a) BGS estimate. Source: Office for National Statistics.

Selenium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Selenium										
Imports										
Elemental	436	434	563	969	488	1 760	2 070	4 048	5 317	7 629
Exports										
Elemental	209	99	139	97	106	803	529	1 046	3 019	5 670

Sepiolite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Sepiolite										
Imports	(a) 65 062	(a) 69 691	(a) 55 483	51 044	65 565	...	...	...	4 965	7 955

(a) Exports from Spain.

Silica sand

Silica (industrial) sands contain a high proportion of silica (SiO_2) 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 about 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 improved coverage of mineral workings rather than a marked increase in demand. As a percentage of total output in 2005, 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. In 2006 WBB Minerals submitted a planning application for an extension of silica sand extraction operations at its Moneystone Quarry in Staffordshire. WBB indicate an extension containing at least ten years of reserves is required to provide certainty for the planned capital investment at the site. 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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Silica sand										
Production (a)	3 848 000	3 833 000	4 073 000	5 011 000	4 146 000					
Imports	46 500	104 232	78 944	79 829	127 992	6 624	13 020	9 646	9 844	8 453
Exports	54 419	39 816	51 095	166 899	174 236	4 809	5 250	3 577	5 244	4 586

(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 2005

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)	…	…	9	43	…
East Midlands (c)	…	—	…	—	…
West Midlands (d)	3	…	…	…	…
East of England (e)	…	…	…	…	992
South East (f)	21	192	121	167	501
South West (g)	…	…	…	…	126
North West (h)	…	…	…	209	1 371
England	**396**	**1 790**	**833**	**553**	**3 572**
Wales (i)	—	—	**…**	**…**	**51**
Scotland (j)	**…**	**331**	**…**	**110**	**522**
Great Britain	**…**	**2 120**	**954**	**…**	**4 146**

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Silicon										
Consumption in Iron and Steel Industry										
Ferro-silicon	36 140	35 090	37 320	37 320	35 850					
Silico-manganese	23 740	21 030	22 660	23 080	22 170					
Calcium silicide	90	80	90	90	80					
Ferro-silico-zirconium	60	50	60	60	60					
Imports										
Elemental silicon–										
Containing not less than 99.99% silicon	882	1 396	2 204	2 737	2 744	25 161	31 081	41 302	45 773	54 393
Other	85 144	79 370	98 268	97 751	74 359	68 102	61 808	80 300	78 007	61 024
Doped silicon	196	158	298	378	319	48 351	34 095	33 342	36 494	33 309
Ferro-silicon	72 663	76 046	75 469	72 436	58 225	26 123	26 472	31 179	30 803	26 065
Ferro-silico-manganese	53 747	64 565	53 421	63 935	57 136	15 465	18 264	18 537	34 837	24 041
Ferro-silico-magnesium	5 318	5 820	5 663	4 969	5 448	3 007	2 697	3 010	2 418	2 754
Ferro-silico-chrome	5 136	2 309	63	—	728	1 488	555	35	—	217
Exports										
Elemental silicon–										
Containing not less than 99.99% silicon	524	195	314	376	597	11 325	7 716	12 874	15 341	23 535
Other	1 390	3 855	2 385	1 179	1 869	4 845	2 477	2 763	2 589	2 148
Doped silicon	...	379	270	325	359	69 723	77 316	105 080	112 031	64 963
Ferro-silicon	2 247	3 155	1 845	2 744	2 652	2 146	3 450	3 362	2 430	3 173
Ferro-silico-manganese	8	116	42	8 247	5 003	7	42	22	5 075	1 513
Ferro-silico-magnesium	1 453	431	282	316	542	1 033	361	330	213	409
Ferro-silico-chrome	52	10	35	25	8	41	8	89	46	7

Sillimanite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Sillimanite										
Imports										
Sillimanite minerals (a)	28 470	18 588	22 649	24 348	39 650	2 511	2 071	2 752	2 525	2 441
Mullite	5 174	10 006	8 656	12 392	10 430	3 016	3 341	2 696	3 198	3 828
Chamotte earth (b)	19 300	14 925	11 013	18 033	23 462	3 526	2 551	1 939	1 874	2 582
Exports										
Sillimanite minerals (a)	54	175	47	87	14	11	74	12	26	14
Mullite	6 841	4 379	3 191	1 929	2 403	4 722	3 308	2 197	1 485	1 833
Chamotte earth (b)	290	103	111	198	59	170	41	65	114	65

(a) Andalusite, kyanite and sillimanite.

(b) Calcined refractory clay including flint clay.

Silver

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Silver										
Imports										
Scrap (a)	4 472	4 074	2 952	2 489	2 283	279 096	266 183	191 927	155 978	157 000
Unwrought	2 986	2 457	2 038	1 521	1 144	314 655	298 772	238 727	211 043	181 193
Partly worked	486	1 324	447	584	342	59 019	59 309	47 123	57 760	54 351
Silver in unrefined lead bullion (b)	390	390	340	270	370					
Exports										
Scrap (a)	7 269	3 776	2 444	2 386	3 325	10 880	24 161	21 299	16 120	27 905
Unwrought	2 048	1 388	3 095	1 458	2 050	160 052	143 895	268 641	188 053	360 137
Partly worked	234	110	334	297	240	22 338	10 675	13 049	22 914	16 469

(a) Including scrap of platinum group metals.

(b) BGS estimates of silver content of unrefined lead bullion imported

Slate

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Slate										
Production										
Architectural and cladding uses, roofing and damp proof courses	45 000	82 000	...	...	…					
Powder and granules	27 000	...	...	...	…					
Crude blocks	39 000	38 000	33 000	43 000	92 000					
Fill and other uses	440 000	622 000	728 000	681 000	690 000					
Total	551 000	742 000	832 000	901 000	928 000					
Imports										
Unworked (a)	27 351	28 168	29 690	34 314	27 693	6 844	6 823	7 047	7 480	7 769
Roofing and wall tiles	112 325	125 257	139 819	160 921	165 790	35 162	40 572	45 227	51 248	53 385
Other worked slate (b)	8 581	21 162	15 601	60 720	55 854	2 761	4 825	4 486	9 847	10 237
Exports										
Unworked (a)	467	653	774	3 764	4 441	427	359	690	627	565
Roofing and wall tiles	10 814	7 146	11 978	16 917	24 963	4 687	3 990	7 070	9 445	12 331
Other worked slate (b)	2 119	1 658	2 313	1 919	2 868	4 102	2 500	2 675	2 140	2 515

(a) Including roughly split or squared.

(b) Including articles of slate or agglomerated slate.

Strontium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Strontium										
Imports										
Oxides	42	...	...	...	...	107	...	...	...	...
Carbonate	18 842	15 300	16 842	12 297	4 672	6 678	5 109	5 268	3 436	1 287
Exports										
Oxides	11	...	...	...	...	33	...	...	...	...
Carbonate	13	19	66	13	11	13	13	21	76	41

Sulphur

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Sulphur										
Supply										
Produced (a)	111 000	125 000	115 000	120 000	124 000					
Imported (b)	170 055	87 260	29 028	48 948	31 485					
Sulphur, zinc concentrates (imported) (c)	62 400	66 400	4 800	80	260					
Consumption										
For sulphuric acid–										
Sulphur	276 700	170 400	162 700	...	...					
Zinc concentrates (c)	54 900	54 600	...	...	...					
Imports										
Sulphur–										
Crude	170 055	87 260	29 028	48 948	31 485	11 185	4 178	2 430	2 705	2 017
Sublimed, colloidal etc.	390	355	541	675	577	541	411	809	419	408
Exports										
Sulphur–										
Crude	376	580	476	700	431	674	749	842	995	622
Sublimed, colloidal etc.	386	657	836	1 387	1 458	372	554	479	460	533

(a) Produced from oil refineries.
(b) Including waste and residues.
(c) Sulphur content calculated at 29%.

Talc

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Talc										
Production	4 947	6 194	6 494	3 881	6 000					
Imports	66 737	66 119	59 172	66 722	65 496	10 730	10 303	9 807	11 205	10 816
Exports	4 034	3 833	3 325	3 317	5 244	1 237	1 257	1 048	1 154	1 415

Tellurium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Tellurium										
Imports	48	23	41	17	104	371	305	504	153	1 780
Exports	54	43	37	46	36	512	564	679	1 125	1 607

Tin

Baseresult Holdings Ltd, owners of the South Crofty tin mine and processing plant in Cornwall, continued attempts to progress the development of the mine. The company is still in discussions with Cornwall County Council regarding its application for mineral planning permission. There are also on-going issues with the South West of England Regional Development Agency regarding a Compulsory Purchase Order to acquire land at South Crofty Mine and with English Partnerships regarding development at the site.

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

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Tin										
Consumption										
Refined	9 954	6 888	7 125	5 301	3 203					
Imports										
Concentrates	6	—	—	2	…	2	—	—	12	…
Scrap	179	188	168	215	468	223	191	303	204	206
Ash and residues	0	1	—	—	…	0	1	—	—	…
Unwrought	6 857	7 151	7 488	5 861	4 812	22 107	19 094	22 377	27 342	21 677
Unwrought alloys	2 442	1 437	2 378	1 145	2 067	7 789	3 585	6 163	4 821	5 605
Exports										
Concentrates	59	24	29	0	2	661	589	65	1	10
Scrap	2 256	2 821	4 499	7 353	20 603	2 023	2 274	2 436	3 539	16 374
Ash and residues	262	194	61	243	97	177	179	87	412	210
Unwrought	426	381	283	524	1 608	1 306	1 079	1 080	2 872	7 899
Unwrought alloys	2 485	2 165	2 152	885	442	7 314	5 092	4 263	3 685	2 336

Titanium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Titanium										
Production										
Titanium dioxide pigment (c)	200 000	200 000	200 000	200 000	200 000					
Apparent consumption (a)	96 800	89 500	36 200	18 200	43 200					
Consumption in Iron and Steel Industry										
Ferro-titanium	910	780	960	960	970					
Imports										
Ores and concentrates										
Ilmenite	112 447	106 177	113 852	110 596	80 435	9 082	7 928	7 145	6 068	4 631
Other (rutile)	110 526	82 303	111 754	113 852	109 238	30 909	24 697	27 719	25 336	24 777
Scrap	15 258	13 586	11 097	13 324	12 685	23 597	19 536	21 183	43 071	81 768
Unwrought	11 851	8 971	10 932	10 633	10 490	53 303	37 360	34 162	41 027	78 936
Wrought	3 643	2 761	3 097	3 444	4 763	80 770	60 353	52 231	58 318	94 902
Ferro-titanium (b)	2 465	2 729	2 042	2 457	1 883	4 124	4 313	3 516	8 071	11 011
Oxides	6 048	5 310	5 827	10 276	8 316	9 955	8 011	8 417	12 360	11 095
Pigments based on titanium dioxide	76 804	90 273	68 311	64 511	58 786	94 873	97 680	87 649	82 979	79 997
Titanium slag	110 697	157 020	44 890	...	64 848	32 353	44 468	34 972	31 242	28 718
Exports										
Ores and concentrates										
Ilmenite	—	—	—	1	87	—	—	—	11	586
Other (rutile)	(c) 30	24	48	42	27	(c) 80	179	49	226	256
Scrap	3 188	2 503	1 423	1 797	3 057	8 557	5 775	2 989	5 762	19 696
Unwrought	4 090	4 010	5 252	5 438	5 443	16 639	14 589	16 485	25 261	49 550
Wrought	6 318	4 998	3 409	4 678	8 712	93 662	79 792	58 664	73 773	133 007
Ferro-titanium (b)	16 422	16 334	14 676	20 703	17 361	28 922	28 094	29 417	66 151	118 690
Oxides	1 788	1 490	2 940	1 221	1 549	3 026	2 811	2 724	2 493	3 506
Pigments based on titanium dioxide	205 695	237 394	239 601	233 370	214 192	243 631	265 434	283 891	264 630	257 482

(a) BGS estimates; see p.v.
(b) Including ferro-silico-titanium.
(c) BGS estimates.

Tungsten

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Tungsten										
Consumption in Iron and Steel Industry (a)	40	30	40	40	40					
Imports										
Ores and concentrates	...	...	190	0	4 914	66	28	30	8	813
W content	...	...	140	0	2 530					
Scrap	1 828	1 206	1 443	1 106	1 978	8 335	3 720	4 019	4 453	12 339
Unwrought	405	519	359	413	705	4 484	4 664	2 898	3 550	9 615
Wrought	305	396	130	384	521	5 990	5 647	4 644	6 609	6 240
Ferro-tungsten (b)	96	32	60	10	36	340	90	241	45	344
Carbide	1 381	759	1 232	838	974	19 297	8 020	10 524	9 071	14 301
Ash and residues	0	...	—	—	…	1	...	—	—	…
Tungstates	85	83	121	125	43	414	323	574	422	287
Oxides and hydroxides	1 490	877	1 321	295	318	9 151	4 394	6 386	1 341	3 987
Exports										
Ores and concentrates	11	—	...	20	5	34	—	48	72	51
W content	5	—	...	10	3					
Scrap	1 471	1 264	1 431	793	1 130	4 218	3 533	3 421	3 232	5 815
Unwrought	253	189	198	177	242	3 517	1 644	1 689	1 519	3 285
Wrought	149	214	424	297	360	1 310	1 558	1 935	2 741	2 200
Ferro-tungsten (b)	6	16	10	39	37	27	55	44	106	315
Carbide	20	5	70	92	83	303	92	1 003	1 697	1 637
Tungstates	23	130	182	41	33	180	592	1 118	130	77
Oxides and hydroxides	8	8	5	333	46	441	314	90	1 198	794

(a) Metal content.

(b) Including ferro-silico-tungsten.

Vanadium

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Vanadium										
Consumption in Iron and Steel Industry (a)	630	540	70	70	70					
Imports										
Scrap	7	14	6	—	…	61	71	29	…	…
Unwrought	95	98	67	196	458	1 139	796	410	1 629	5 598
Wrought	278	59	183	141	354	1 924	482	1 501	1 032	3 893
Ferro-vanadium	727	748	1 071	1 262	609	3 393	2 209	3 764	6 073	14 660
Oxides	319	962	363	306	339	989	1 874	936	806	3 804
Exports										
Ash and residues	0	...	...	…	…	81	...	...	...	…
Scrap	59	46	22	…	…	451	331	188	…	…
Unwrought	0	99	6	(b) 14	(b) 18	2	79	35	(b) 194	(b) 468
Wrought	1 346	1 280	1 109	1 061	415	723	1 587	2 226	4 148	8 253
Ferro-vanadium	118	55	39	17	…	484	272	228	125	…
Oxides	14	20	—	2	20	64	93	3	14	241

(a) Vanadium content of ferro-vanadium.

(b) Including scrap.

Vermiculite

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Vermiculite										
Imports	31 602	36 275	30 102	32 778	32 063	3 472	4 002	3 499	3 780	4 073
Exports	109	213	230	148	31	107	101	147	249	112

Zinc

Anglesey Mining Company continued their exploration of the Parys Mountain polymetallic Cu-Pb-Zn-Ag-Au deposit on Anglesey in North Wales. An additional hole (AMC19) was drilled into the newly identified Garth Daniel zone to a total depth of 632 m. It intersected the Carreg-y-Doll and North Central zones of mineralisation with up to 11 per cent combined Cu-Zn-Pb over 5.7 m. Seven short holes were completed on the White Rock Zone, adjacent to the Morris Shaft. These confirmed the continuity of the zone, and also that it extends to surface. An indicated resource of 1.75 million tonnes at a grade of 6.7 per cent zinc equivalent (including other metals) has been established. The company have announced that it is planning to commence a decline to access and mine the White Rock Zone as soon as the necessary funds are available. Initial mining will be a rate of 500 tonnes per day but may increase when the larger and higher grade Engine Zone resources are reached.

Minor amounts of lead and zinc are produced as by-products in the southern Pennine fluorspar operations.

United Kingdom summary 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Zinc										
Production (a)										
Slab	99 600	99 600	16 600	—	—					
Consumption										
Slab	197 140	202 407	176 200	150 100	161 676					
Scrap (Zn content)	34 043	32 250	57 374	88 782	…					
Total	231 183	234 657	233 574	238 882	…					
Imports										
Ores and concentrates (b)	215 342	229 042	16 611	260	903	33 120	28 010	2 413	435	866
Ash and residues	4 401	3 414	10 941	26 221	6 838	...	4 099	13 800	64 298	2 106
Scrap	3 219	261	172	228	188	1 645	134	39	69	57
Unwrought	110 157	108 357	171 219	139 477	135 840	75 822	62 546	91 816	86 214	103 949
Unwrought alloys	6 363	5 738	13 796	15 960	16 128	4 990	3 832	8 075	9 668	10 207
Exports										
Ores and concentrates	72	15 744	113	326	141	85	2 883	673	200	90
Ash and residues	9 534	7 417	11 403	20 699	28 472	2 926	2 001	3 479	4 847	24 231
Scrap	19 157	15 248	15 436	9 851	9 881	11 384	7 511	4 715	4 974	6 673
Unwrought	15 455	15 686	3 106	1 581	1 661	10 595	9 098	1 756	1 055	1 406
Unwrought alloys	21 971	22 366	21 770	26 260	38 267	18 296	15 141	13 817	17 629	32 540

(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 2001–2005

Commodity	2001	2002	2003	2004	2005	2001	2002	2003	2004	2005
	Tonnes					£ thousand				
Zirconium										
Consumption in Iron and Steel Industry										
Ferro-silico-zirconium	60	50	60	60	60					
Apparent consumption (a)	20 800	12 700	19 400	18 200	11 000					
Imports										
Ores and concentrates (b)	46 548	30 656	39 285	32 917	19 519	16 798	9 811	11 383	11 482	9 012
Scrap	335	221	173	156	129	860	719	763	408	695
Unwrought	91	35	22	79	65	481	787	383	882	1 252
Wrought	268	137	151	209	144	3 622	2 911	4 848	3 757	1 758
Exports										
Ores and concentrates	1 776	5 033	418	505	699	1 022	2 303	395	357	534
Scrap	222	184	107	22	20	1 101	931	702	105	153
Unwrought	85	42	65	75	46	49	107	195	161	73
Wrought	73	37	72	86	61	1 348	851	934	1 358	411

(a) BGS estimates; see p.v.

(b) Mainly zircon.

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