



**British
Geological Survey**

NATURAL ENVIRONMENT RESEARCH COUNCIL

United Kingdom Minerals Yearbook 2008



United Kingdom Minerals Yearbook 2008

Statistical data to 2007

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

Bibliographical reference

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Cover photograph

Stockpiles of silica sand at Kings Lynn quarry, Norfolk, operated by Silbelco UK.

BGS © NERC. Photographer: Clive Mitchell

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Preface

Policy makers, regulators, industry and the wider public all require access to reliable information 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.

As in 2007, minerals issues in the first half of 2008 were dominated by concerns regarding security of supply (particularly for energy minerals) and by rising prices as growth in China, India and other emerging economies continued to drive unprecedented demand for raw materials. However the situation changed dramatically in the second half of the year as the global economic downturn gathered pace. This had a marked effect on the UK minerals industry causing significant reductions in demand for aggregates and other raw materials, leading to site closures and job losses. Major casualties included the steel producer Corus, where 2500 people were made redundant, and the aggregates producer Ennstone plc went into receivership.

In November 2008 the European Commission adopted the Communication 'The raw materials initiative — meeting our critical needs for growth and jobs in Europe'. This is the first step in the development of a coherent policy for the secure supply of non-energy minerals to the EU. The aim is to develop an integrated strategy based on ensuring access to raw materials from international markets, fostering the sustainable supply of raw materials from European sources and reducing the EU's consumption of primary raw materials. Following the adoption of this communication the Commission has set up two expert working groups on which BGS is represented: one is concerned with defining critical raw materials and the other with best practices in land use planning, permitting and sharing geological knowledge.

Despite the recession, world coal prices remain relatively high. This has led to greater investment in UK operations resulting in increased numbers of new opencast sites commencing production and more planning applications for further opencast sites. UK Coal plc is also investigating the possibility of re-opening the Haworth colliery and has committed funding for infrastructure improvements at both the Thoresby and Kellingley collieries aimed at extending the lives of these mines and increasing their production rates.

The economic downturn has led to generally reduced exploration and development activities for metalliferous minerals in the Britain, although in Northern Ireland a large proportion of the land area remains under licence for gold and base metal exploration. Preparatory work has continued at the Hemerdon tungsten-tin deposit in Devon and a scoping study has been carried out to determine the technical and economic viability of the Cononish gold deposit in central Scotland.

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

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Nottingham

June 2009

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Explanatory notes

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

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

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

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

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

<i>Troy ounce</i>	<i>Kilogram</i>
1	= 0.0311035
32.1507	= 1
<i>Pound</i>	<i>Kilogram</i>
1	= 0.453592
2.20462	= 1
<i>Hundredweight</i>	<i>Kilogram</i>
1	= 50.8023
0.019684	= 1
<i>Long ton</i>	<i>Tonne</i>
1	= 1.01605
0.984206	= 1
<i>Square yard</i>	<i>Square metre</i>
1	= 0.836127
1.19599	= 1

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

Symbols: The following symbols are used throughout:

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

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

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

Values of commodities are c.i.f. (Cost, Insurance and Freight) for imports and f.o.b. (free on board) for exports.

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

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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 for Business and Regulatory Reform (formerly the Department of Trade and Industry, or 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)
1973–2007 *Digest of United Kingdom Energy Statistics*; Department for Business Enterprise and Regulatory Reform, formerly published by Department of Trade and Industry and Department of Energy (As of June 2009 BERR was replaced with Department for Business, Innovation and Skills)
1973–1993 *Minerals (PA1007)*; Central Statistical Office
1994–2007 *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)
1999–2007 *Annual Mineral Statement*; Department of Enterprise, Trade and Investment (Northern Ireland)

Department for Business Enterprise and Regulatory Reform
Digest of United Kingdom Energy Statistics (annual)
Monthly Statistics of Building Materials and Components
BERR 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

Mineral Products Association (MPA), formerly the 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). This is a key economic indicator and refers to an increase in ability to produce goods and services. Value added is defined as the difference between the value of the output (e.g. sales revenue) and the cost of bought-in inputs used to produce it (fuel and other raw materials, but not labour). 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. Unfortunately GVA figures for 2007 were unavailable at the time of publication.

The estimated total value of minerals produced in 2007 in the UK, expressed as sales on an ex-works basis as opposed to GVA, was £33 722 million, a decrease of 3.8 per cent on 2006. This is almost entirely due to decreasing revenues from natural gas sales.

UK: Value of mineral production, 2005–2007			£ million
	2005	2006	2007
Oil and natural gas liquids	18 340	19 845	20 728
Natural gas	8 902	11 741	9 377
Coal	722	705	708
Aggregates	1 632	1 815	1 909
Other construction minerals	343	330	312
Industrial minerals	655	625	686
Metalliferous minerals	<0.2	<0.2	<0.2
Total	30 594	35 060	33 721

Production of crude oil, including natural gas liquids, was 76.81 million tonnes, showing a slight increase in production between 2007 and 2008. Cumulative production of oil to the end of 2007 was 3245 million tonnes and estimated total remaining reserves in present discoveries are in the range 452 to 1179 million tonnes. In 2005, the UK became a net importer of crude petroleum and, in 2006, also a net importer of partly refined and refined petroleum products. Natural gas production declined from 80 million tonnes (oil equivalent) in 2006 to 72.13 million tonnes in 2007 and is estimated at a similar level in 2008. The UK became a net importer of gas in 2004, after many years of self-sufficiency, and will become increasingly dependent on imports in the future as indigenous production continues to decline. Cumulative net natural gas production to end of 2007 was 2157 billion cubic metres and estimated remaining reserves in present discoveries are in the range 343 billion cubic metres to 940 billion cubic metres.

Coal production increased by five per cent from 17 million tonnes in 2007 to 17.9 million tonnes in 2008. This increase was due to both higher production from deep mines (6.2 per cent higher than in 2007) and opencast coal production, which increased by 2.8 per cent. Major power producers are importing an increasing proportion of coal for electricity generation. This increased from 20 per cent in 1999 to 74 per cent in 2006 but has fallen to 66 per cent in 2007.

The high price of coal has contributed to an increase in indigenous production. In 2008 UK coal production rose slightly against the long-term trend of production decreases. The number of people employed by UK coal extraction has also risen by 12.2 per cent during 2008. UK Coal has begun a major investment programme at the Thoresby and Kellingley collieries in order to extend the lives of these mines and has announced plans to re-open Harworth colliery.

UK: Primary fuel consumption for total energy and use in electricity generation				
Million tonnes of oil equivalent				
	Total energy		Electricity generation	
	2006	2007	2006	2007
Coal	43.4	40.8	36.0	32.9
Petroleum	77.1	75.6	1.5	1.22
Natural gas	89.1	90.0	26.6	30.4
Nuclear	17.1	14.0	17.1	14.0
Hydroelectricity, wind, other renewables, waste	5.0	5.3	4.2	4.4
Net electricity imports	0.6	0.4	0.6	0.5
Other fuels	-	-	1.6	1.4
Total	232.3	226.1	87.6	84.8

Total UK production of primary aggregates increased slightly from a total of 219 million tonnes in 2006 to 222.81 million tonnes in 2007. Sales of primary aggregates (sand and gravel, and crushed rock) in Great Britain increased by just 0.5 per cent during 2007 compared to 2006 figures. The global economic decline is now causing a significant fall in the demand for aggregates with a 12 per cent fall in sales during 2008. The outlook for 2009 is not good with demand predicted to be at its lowest level since 1997.

In 2007 there was a negative balance of trade in minerals and mineral-based products. The largest contributions to the deficit of £15 572 million were: monetary gold (-£5512.1 million); petroleum, petroleum products and related materials (-£2660.1 million); coal, coke and briquettes (-£2027.9 million); and gas, natural and manufactured (-£1508.2 million). Mineral-based goods, including manufactured products, comprised 23.7 per cent of all imports and 26.1 per cent of all exports in 2007.

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The BGS and the Department for Communities 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, and other projects, is made available on the MineralsUK Centre for Sustainable Minerals Development website, www.mineralsUK.com.

BGS and other contractors completed work on a suite of projects related to the sustainable supply of aggregates in England. The research carried out by BGS examined the need for indigenous production of non-energy minerals in England, the options for future aggregate minerals supply and the preferred mechanism for assuring that adequate and secure supplies of aggregates will be available to the construction industry over the long term. BGS was the lead contributor to four reports, two funded by the DEFRA Aggregates Levy Sustainability Fund administered by the Mineral Industry Research Organisation (MIRO), and the others by DCLG. An overview report *Aggregates supply in England: Issues for planning* summarises the essential messages of the research on aggregates carried out in 2007.

The commodity report profiles on the MineralsUK website have been updated with a new Nickel commodity profile. New profiles on cobalt and platinum group elements are also in preparation and the coal and uranium commodity profiles are due to be updated by the end of 2009.

In June 2008, BGS held the Quarry or not? environmental decision-making event for schools. This event, supported by DCLG and industry, presented a fictitious scenario on a proposed quarry development to sixth-form students. The students took the roles of the various stakeholders and participated in a planning inquiry on this matter with professionals working on minerals issues. The event was a success and another is being planned for 2009.

On behalf of the Geological Survey of Northern Ireland (GSNI) BGS carried out prospectivity analysis for orogenic gold mineralisation in the Dalradian terrane of north-western Northern Ireland and in the Southern Uplands–Down–Longford terrane of south-eastern Northern Ireland. A knowledge-based analysis using fuzzy logic modelling was used for the integration of several multivariate datasets, including regional geochemical and airborne geophysical data from the Tellus project. This led to the identification of new prospective areas for gold in both terranes.

In 2008 the Welsh Assembly Government (WAG) commissioned the BGS to produce a national minerals map of Wales and an aggregate safeguarding map of Wales. These maps will provide spatial information on mineral resources in Wales at a national level and will enable mineral planning authorities and other stakeholders to adequately consider the extent, distribution and importance of mineral resources and to relate them to other forms of land-use.

BGS is currently undertaking a definitive mineral working survey in the UK, in order to provide a database of all quarries and non-coal mine working sites. This will allow interested parties to view the extent of historic quarrying in the country, and allow specialist users to customise searches for various materials. In England, the survey of sites is part-funded by DCLG, through English Heritage, to provide data for safeguarding areas of building stone source material for conservation or building purposes. Currently the BritPits database hold over 80 000 records of mineral working sites.

BGS's ongoing Geochemical Baseline Survey of the Environment (G BASE) project continues the regional geochemical mapping of mainland Britain in the south of England currently focused on the London urban region and the surrounding rural areas (London Earth Project). G-BASE involves the systematic collection of stream sediments, waters and soils at an average sampling density of one sample every one to two square kilometres. The G BASE results have been presented in the form of regional atlases of which 14 have been published to date; the analytical data are available for use under licence. Geochemical sampling sites can be found in the geochemistry layer of the BGS GeoIndex (<http://www.bgs.ac.uk/geoindex>).

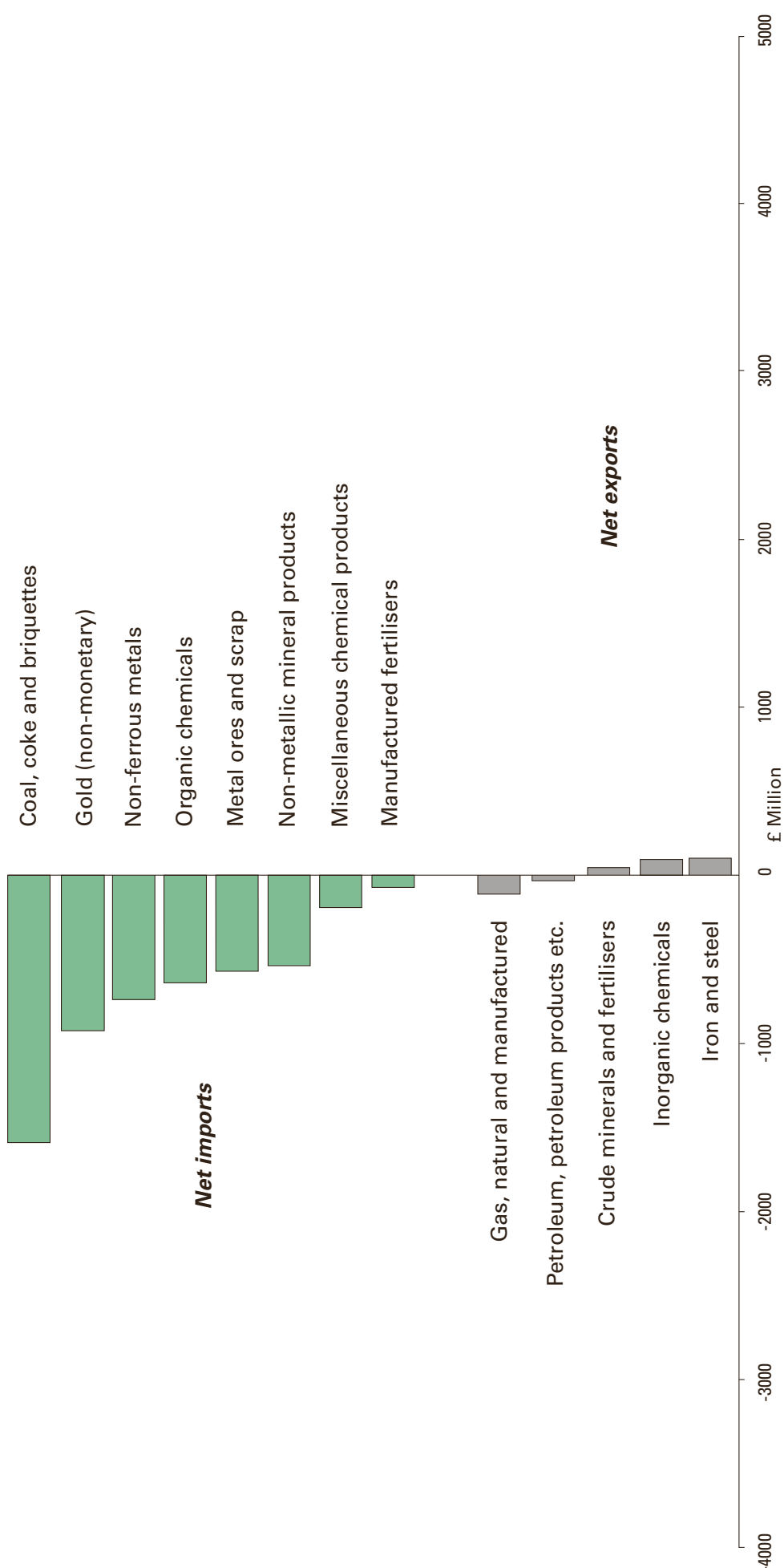
Trade in minerals and mineral-based products compared with total trade 2001–2007

£ million

SITC section	2001	2002	2003	2004	2005	2006	2007
Imports (c.i.f)							
0, 1	Food, beverages, tobacco	18 138.7	19 046.8	20 727.8	21 763.3	23 291.4	24 685.3
2, 4	Basic materials	7 037.4	6 513.9	6 733.6	6 968.6	7 366.7	8 497.5
	of which: Minerals	2 595.1	1 995.7	1 980.8	2 233.4	2 619.9	3 420.9
3	Fuels and related materials	10 202.4	9 590.4	11 162.8	16 209.1	23 535.0	29 531.8
	of which: Mineral-based	10 023.2	9 390.3	10 991.9	15 862.9	23 092.9	29 098.4
	Manufactured goods:						
5, 6	Semi-manufactures	54 950.5	54 973.4	57 949.8	62 171.0	64 754.7	71 723.1
	of which: Mineral-based	22 683.5	21 367.1	22 473.7	25 272.4	27 017.6	31 348.9
7, 8	Finished manufactures	136 538.3	136 303.1	138 263.3	144 032.6	151 715.1	166 367.3
9	Other (a)	3 912.1	5 352.3	6 113.7	3 884.1	1 847.1	24 977.9
	of which: Mineral-based	2 791.1	4 060.6	4 750.5	2 334.1	221.3	230.5
	Total	230 779.4	231 779.9	240 951.0	255 028.6	272 510.0	325 783.0
	312 917.9						
	All traded goods						
	of which: Mineral-based	38 093.0	36 813.6	40 196.9	45 702.8	52 951.7	64 098.7
	As % of all traded goods	16.5	15.9	16.7	17.9	19.4	19.7
	23.7						
Exports (f.o.b)							
0, 1	Food, beverages, tobacco	9 695.0	10 035.8	10 879.8	10 615.2	10 690.2	11 080.1
2, 4	Basic materials	2 582.5	2 862.9	3 318.3	3 759.6	3 982.7	4 906.1
	of which: Minerals	1 267.2	1 374.6	1 673.2	2 064.2	2 186.1	2 893.7
3	Fuels and related materials	15 554.8	15 143.2	15 588.9	16 795.5	20 131.0	23 976.1
	of which: Mineral-based	15 552.1	15 042.4	15 421.9	16 644.7	20 030.0	23 872.3
	Manufactured goods:						
5, 6	Semi-manufactures	50 514.3	50 413.0	54 506.2	56 528.5	60 079.2	65 327.6
	of which: Mineral-based	21 247.6	20 011.6	21 103.8	22 932.3	25 962.2	28 775.7
7, 8	Finished manufactures	110 573.0	107 840.1	103 372.5	102 050.3	115 724.9	137 485.6
9	Other (a)	2 251.0	1 449.2	1 144.7	1 605.3	1 910.6	1 599.6
	of which: Mineral-based	1 301.9	479.2	399.0	826.1	878.6	378.1
	Total	191 170.6	187 744.2	188 810.3	191 354.4	212 518.6	244 375.2
	221 069.6						
	All traded goods						
	of which: Mineral-based	39 368.9	36 907.8	38 597.9	42 467.4	49 056.9	55 919.7
	As % of all traded goods	20.6	19.7	20.4	22.2	23.1	22.9
	26.1						

(a) Including non-monetary gold.

United Kingdom balance of trade in minerals and mineral-based products (2003–2007 average)



Balance of trade in minerals and mineral-based products 2003–2007

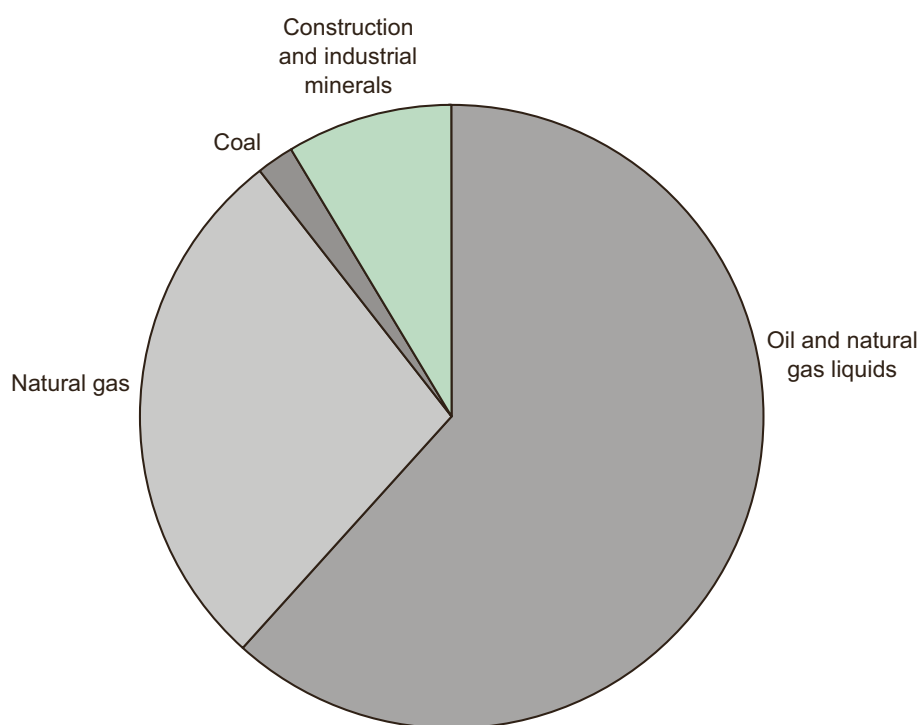
£ million (a)

SITC (R3) divisions	2 003.0	2 004.0	2 005.0	2 006.0	2 007.0
27.0 Crude minerals and fertilisers:					
imports	372.6	385.5	396.9	491.4	479.1
exports	478.9	467.7	461.2	470.5	488.5
	+106.3	+82.2	+64.4	-20.9	+9.4
28.0 Metal ores and scrap:					
imports	1 608.2	1 847.9	2 223.0	2 929.5	4 080.2
exports	1 194.3	1 596.5	1 724.8	2 423.1	2 884.0
	-413.9	-251.4	-498.2	-506.4	-1 196.2
32.0 Coal, coke and briquettes:					
imports	1 023.1	1 512.4	1 992.9	2 225.9	2 105.3
exports	57.9	64.1	72.2	55.3	77.4
	-965.2	-1 448.2	-1 920.7	-2 170.6	-2 027.9
33.0 Petroleum, petroleum products and related materials:					
imports	9 743.7	13 514.4	19 126.4	24 125.0	23 863.9
exports	13 654.3	15 108.9	18 419.1	21 823.7	21 203.8
	+3 910.5	+1 594.4	-707.3	-2 301.2	-2 660.1
34.0 Gas, natural and manufactured:					
imports	225.1	836.1	1 973.7	2 747.6	3 262.7
exports	1 709.8	1 471.7	1 538.7	1 993.2	1 754.5
	+1 484.7	+635.6	-434.9	-754.3	-1 508.2
51.0 Organic chemicals:					
imports	6 252.0	6 940.3	7 350.6	7 883.8	8 858.9
exports	5 906.8	5 963.1	6 629.5	8 018.4	7 562.2
	-345.2	-977.2	-721.2	+134.6	-1 296.7
52.0 Inorganic chemicals:					
imports	1 110.2	1 379.2	1 503.4	2 132.5	2 734.8
exports	1 421.3	1 502.9	1 522.0	2 117.3	2 766.5
	+311.1	+123.7	+18.6	-15.3	+31.8
56.0 Manufactured fertilisers:					
imports	169.4	164.7	142.5	144.9	201.5
exports	88.8	81.0	80.6	87.3	99.3
	-80.5	-83.7	-61.9	-57.7	-102.2
53–59 (part) Miscellaneous chemical products:					
imports	2 945.1	3 179.9	3 386.2	3 588.5	3 823.6
exports	2 560.7	2 726.9	3 761.3	3 359.3	3 522.3
	-384.3	-453.0	+375.0	-229.2	-301.3
66.0 Non-metallic mineral products:					
imports	5 890.8	6 335.7	6 954.8	7 165.0	6 840.3
exports	6 032.9	5 891.3	6 499.3	6 231.7	5 828.7
	+142.1	-444.3	-455.5	-933.3	-1 011.6
67.0 Iron and steel:					
imports	2 538.2	3 405.9	3 456.0	3 873.9	4 638.2
exports	2 423.5	3 339.8	4 081.6	3 918.8	4 676.1
	-114.7	-66.1	+625.7	+44.9	+37.9
68.0 Non-ferrous metals:					
imports	3 467.0	3 752.7	4 086.5	6 369.5	6 395.1
exports	2 582.2	3 234.7	3 881.3	4 840.2	5 792.2
	-884.8	-518.0	-205.1	-1529.3	-602.9
69.0 Manufactures of metal:					
imports (b)	101.1	114.1	137.6	190.9	224.5
exports (b)	87.5	102.5	161.2	202.8	217.4
	-13.6	-11.5	+23.6	+11.9	-7.1
96.0 Coin other than gold:					
imports	2.0	1.9	2.5	3.3	3.7
exports	19.5	26.5	36.2	29.3	38.0
	+17.5	+24.6	+33.7	+26.0	+34.3
97.0 Gold (non-monetary):					
imports	4 748.5	2 332.2	218.8	227.2	344.5
exports	379.4	799.6	842.4	348.8	885.9
	-4 369.0	-1 532.5	+623.6	+116.9	+541.4
Total imports	40 196.9	45 702.8	52 951.7	64 098.7	67 856.3
exports	38 597.9	42 377.4	49 711.3	55 919.7	57 796.8
	-1 599.0	-3 325.4	-3 240.4	-8 179.0	-10 059.5
Gold (monetary):					
imports	2 408.5	2 619.0	2 686.4	8 148.7	6 925.5
exports	126.6	389.3	3 497.0	1 229.3	1 413.4
	-2 281.9	-2 229.6	+810.6	-6 919.4	-5 512.1
Grand total imports	42 605.4	48 321.7	55 638.1	72 247.4	74 781.8
exports	38 724.5	42 766.7	53 208.3	57 149.0	59 210.2
	-3 880.8	-5 555.0	-2 429.8	-15 098.4	-15 571.6

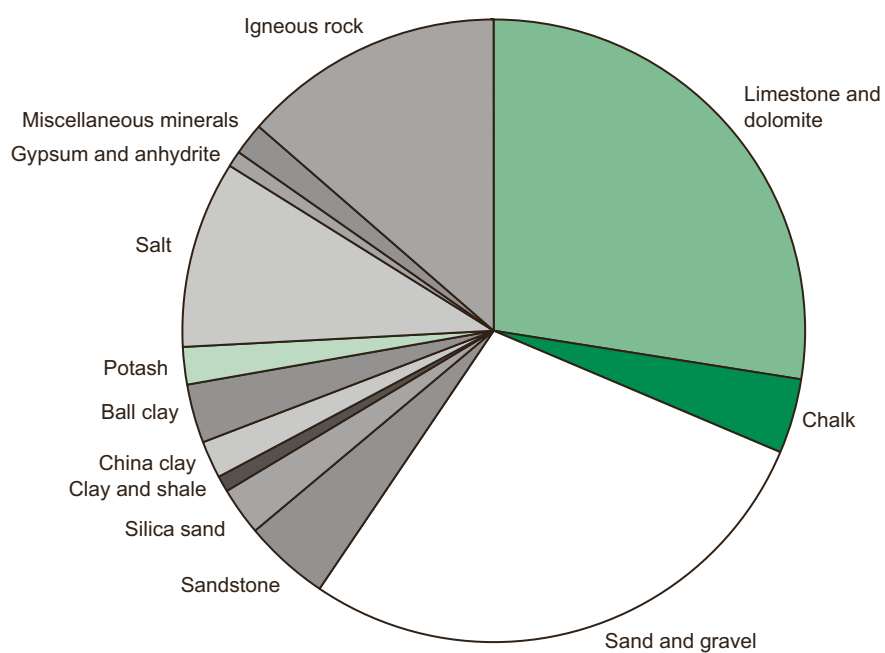
(a) Imports are valued c i f and exports are valued f o b.

(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 2007
(total value £33 722 million)



Value of United Kingdom construction and industrial minerals production 2007
(total value £2909 million)



Approximate value (a) of minerals produced in the United Kingdom 2000–2007

£ million								
Mineral	2000	2001	2002	2003	2004	2005	2006	2007
Coal	916	1 028	889	794	800	722	705	708
Natural gas	6 606	8 140	8 199	7 554	7 115	8 902	11 741	9 377
Natural gas liquids	1 117	963	894	1 105	1 037	1 684	1 910	1 749
Crude petroleum	16 275	13 646	13 629	13 365	13 424	16 656	17 935	18 979
Iron ore	0	0	0	0	0	0	0	0
Tin	—	—	—	—	—	—	—	—
Other non-ferrous metals	0	0	0	0	0	0	0	0
Sand and gravel	619	677	707	719	722	746	818	811
Limestone and dolomite	662	702	670	685	756	687	756	799
Igneous rock	320	328	336	366	396	335	374	392
Sandstone	98	119	108	133	157	146	143	135
Chalk	46	69	72	88	112	112	101	117
Common clay and shale	19	19	19	24	25	27	27	26
China clay	234	187	192	168	195	107	64	58
Ball clay	50	47	44	43	46	51	81	82
Fuller's earth	7	5	5	4	3	1	—	—
Salt	153	152	148	192	217	222	195	285
Silica sand	51	54	53	56	67	58	72	69
Potash	76	67	68	83	68	72	64	64
Fluorspar	4	5	5	6	5	5	7	5
Gypsum and anhydrite	13	15	17	17	19	17	19	19
Miscellaneous minerals	36	41	40	39	39	44	49	49
Total	27 302	26 264	26 095	25 441	25 203	30 594	35 060	33 722
At 2003 constant prices								
Coal	995	1 092	916	794	780	688	656	659
Oil and gas	26 056	24 175	23 425	22 024	21 029	25 969	29 382	28 005
Metals	0	0	0	0	0	0	0	0
Construction and industrial minerals	2 593	2 643	2 561	2 623	2 755	2 507	2 577	2 708
Total	29 644	27 911	26 902	25 441	24 564	29 165	32 615	31 371

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

Source: British Geological Survey.

United Kingdom approximate value of minerals produced onshore and offshore 2000–2007

£ million								
	2000	2001	2002	2003	2004	2005	2006	2007
Onshore	3 609	3 756	3 538	3 519	3 787	3 574	3 673	3 798
Offshore	23 629	22 433	22 482	21 839	21 416	27 019	31 387	29 923
Total	27 302	26 264	26 095	25 441	25 203	30 594	35 060	33 721

Source: British Geological Survey.

United Kingdom mining and quarrying: Gross value added (a) 1999–2006

£ million

	1999	2000	2001	2002	2003	2004	2005	2006
Production								
Mining and quarrying								
Mining and quarrying of energy producing materials								
Mining of coal	642	611	548	534	468	385	369	333
Extraction of mineral oil and natural gas	14 694	22 283	20 940	20 006	19 542	19 845	23 084	26 146
Other mining and quarrying	1 716	1 795	1 760	1 474	1 524	1 646	1 656	1 615
Total mining and quarrying	17 052	24 689	23 252	22 011	21 534	21 876	25 110	28 093
All industries	800 611	840 979	882 753	930 297	985 558	1 044 165	1 096 629	1 154 959
of which: minerals related (%)	2	3	3	2	2	2	2	2

(a) At current basic prices.

Source: Office for National Statistics.

2007 data not available at time of publishing

United Kingdom employment in the minerals industry, 2007

Number

	Great Britain (a)			Northern Ireland
Mineral	Mines (d)	Quarries	Total	
Ball clay	—	...	...	—
Calcspars	—	—	—	—
Chalk	—	283	283	(b)...
Chert and flint	—	...	...	—
China clay	—	...	...	—
Clay and shale	—	480	480	(b)...
Coal	3 749	1 863	5 546	—
Dolomite	—	821	486	—
Fireclay	...	...	52	(b)...
Fuller's earth	—	—	—	—
Gypsum and anhydrite	...	...	...	—
Igneous rock	—	4 770	4 770	214
Limestone	—	6 833	2 933	225
Oil and gas	—	—	(c)	—
Peat	—	181	181	—
Potash	...	...	...	—
Salt	...	...	...	(b)...
Sand and gravel	—	3 517	3 517	247
Sandstone	—	1 434	1 434	312
Silica sand	...	...	325	—
Silica stone	...	...	...	—
Slate	...	...	...	—
Soapstone and talc	...	...	...	—
Others	...	...	2 351	448
Total	...	...	...	1 446

(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 290 000, of which 30 000 are directly employed by exploration and production companies.

(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 for Business Enterprise and Regulatory Reform

United Kingdom production of minerals 2002–2008

Thousand tonnes

Mineral	2002	2003	2004	2005	2006	2007	2008 (Estimated)
Coal:							
Deep-mined	16 391	15 633	12 542	9 563	9 444	7 674	8 034
Opencast	13 148	12 126	11 993	10 445	8 635	8 866	9 429
Other (a)	450	520	561	490	438	467	449
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	60	79	70	65	65	62	62
Onshore	433	422	270	151	91	82	72 063
Offshore	103 154	102 425	96 071	88 003	79 856	71 981	
Crude oil							
Onshore	2 673	2 198	1 941	1 648	1 379	1 271	65 385
Offshore	104 757	95 637	85 575	75 530	68 287	69 086	
Condensates and other (c)							
Onshore	115	89	66	49	41	38	6 804
Offshore	8 399	8 149	7 792	7 493	6 872	6 437	
Iron ore	0.4	(h) 0.5	(h) 0.5	0.4	0.4	0.3	0.1
Non-ferrous ores (metal content):							
Tin	—	—	—	—	—	—	—
Lead (h)	0.7	0.7	0.5	0.4	0.4	0.2	0.1
Zinc	—	—	—	—	—	—	—
Gold (kg)	...	...	...	...	...	...	...
Chalk (e)	8 587	8 066	7 997	7 105	7 376	7 566	7 600
Clay and shale (e)	10 306	10 680	11 164	10 898	10 432	10 104	10 000
Igneous rock (j) (k)	51 225	51 356	53 037	53 104	53 954	58 909	491 000
Limestone (excluding dolomite)	80 688	78 935	81 648	77 596	80 228	83 491	74 000
Dolomite (excluding limestone)	12 946	12 167	12 226	11 514	12 101	7 622	
Sand and gravel:							
Land	75 401	72 984	78 145	75 171	71 418	72 810	62 000
Marine (i)	19 023	18 227	19 188	19 495	20 689	20 426	
Sandstone	18 362	18 259	18 844	18 685	18 038	16 806	14 000
Slate (g)	742	832	901	928	865	1 428	1 400
Ball clay (sales)	921	885	965	1 011	1 015	1 022	1 020
Barytes	(h) 59	(h) 57	61	64	48	53	43
Calcspars	(h) 10	—	—	—	—	—	—
Chert and flint	2	...	2	2	2	1	1
China clay (sales) (d)	2 163	2 097	1 945	1 911	1 762	1 671	1 355
China stone	2	3	2	2	1	1	0.4
Fireclay (e)	491	528	402	395	228	338	300
Fluorspar (h)	53	56	50	56	50	45	37
Fuller's earth (sales) (d) (f)	44	34	28	6	—	—	—
Gypsum (natural)	(h) 1 700	(h) 1 700	1 686	(h) 1 700	(h) 1 700	(h) 1 700	(h) 1 700
Lignite	...	...	...	...	...	...	...
Peat (000 m ³)	973	2 008	1 262	1 505	1 593	885	900
Potash (b)	900	1 040	912	732	716	712	673
Rock salt (h)	1 500	1 700	2 000	2 000	2 000	1 800	2 000
Salt from brine (h)	1 000	1 000	1 000	1 000	1 000	1 000	1 000
Salt in brine (h) (l)	3 200	3 200	2 800	2 800	2 800	2 800	2 800
Silica sand	3 833	4 073	5 011	4 146	5 174	4 909	5 000
Talc	6	6	4	6	4	3	2

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

(b) Marketable product (KCI).

(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.93.

(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): 2002: 138; 2003: 142; 2004: 149;

2005: 129; 2006: 136; 2007: 180 and Jersey: 2002: 370; 2003: 290; 2004: 310;

2005: 305; 2006: 286; 2007: 295

(l) Used for purposes other than salt making.

Sources: Office for National Statistics, Department for Business Enterprise and Regulatory Reform, 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 2001–2007

Thousand tonnes

Mineral	2001	2002	2003	2004	2005	2006	2007
Coal:							
Deep-mined	(e) 15 900	(e) 15 600	15 044	12 081	9 011	8 954	7 452
Opencast	(e) 4 800	(e) 5 000	4 068	3 037	1 456	966	1 619
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	...	...	...	...	...	...	...
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	...	...	...	...	...	...	...
Offshore	...	...	...	...	...	...	...
Condensates and other (c)	...	...	...	...	...	...	...
Iron ore	1	1	1	(e) 0.5	(e) 0.5	—	—
Non-ferrous ores (metal content):							
Tin	—	—	—	—	—	—	—
Lead (e)	0.8	0.7	0.7	0.5	0.4	0.4	0.2
Zinc	—	—	—	—	—	—	—
Chalk	8 205	8 587	8 066	7 997	7 105	7 376	7 566
Clay and shale (b)	9 221	9 226	10 021	10 357	10 074	9 437	9 269
Igneous rock	22 647	21 889	21 878	20 174	20 576	22 076	21 865
Limestone (j)	79 902	73 528	69 507	72 173	67 325	67 356	67 378
Dolomite (k)	...	...	10 327	...	...	10 238	...
Sand and gravel:							
Land	62 177	59 633	58 484	62 735	58 926	56 148	54 512
Marine (g)	19 388	17 878	16 997	17 939	18 383	19 602	19 274
Sandstone	7 201	7 006	7 005	7 076	6 910	7 041	6 918
Slate (l)	...	...	...	...	...	...	...
Anhydrite	...	...	...	...	...	...	...
Ball clay (sales)	999	921	885	965	1 011	1 015	1 022
Barytes	...	...	...	...	...	...	...
Calcspars	12	(e) 10	—	—	—	...	...
Chert and flint	2	2	...	2	2	2	1
China clay (sales) (l)	2 204	2 163	2 097	1 945	1 911	1 762	1 671
China stone	3	2	2	2	2	1	1
Fireclay	419	449	483	338	346	213	305
Fluorspar (e)	50	53	56	50	56	50	43
Fuller's earth (sales) (h) (l)	52	44	34	28	6	—	—
Gypsum (natural)	(e) 1 700	(e) 1 700	(e) 1 700	1 686	(e) 1 700	(e) 1 700	(e) 1 700
Lignite	...	...	...	...	...	...	...
Peat (000 m ³)	1 460	857	1 228	903	928	857	654
Potash (d)	882	900	1 040	912	732	716	712
Potter's clay	...	...	...	...	...	...	...
Rock salt	...	...	...	...	...	...	...
Salt from brine (e)	1 100	1 000	1 000	1 000	1 000	1 000	1 000
Salt in brine (e) (f)	3 000	3 200	3 200	2 800	2 800	2 800	2 800
Silica sand	3 343	3 349	3 588	4 525	3 572	4 540	4 335
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.93.

(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 for Business Enterprise and Regulatory Reform, Industry, Crown Estate Commissioners (marine sand and gravel produced for export) and company data.

Wales production of minerals 2001–2007

Thousand tonnes

Mineral	2001	2002	2003	2004	2005	2006	2007
Coal:							
Deep-mined	(e) 700	(e) 800	589	461	552	485	253
Opencast	(e) 1 200	(e) 1 000	1 189	1 405	1 235	1 257	1 060
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	365	382	348	445	354	604	405
Igneous rock	2 372	2 111	2 507	2 295	2 364	2 596	2 474
Limestone (d)	14 238	12 850	13 208	12 926	12 759	13 707	14 549
Dolomite (f)	...	...	...	...	...	...	...
Sand and gravel:							
Land	1 670	1 613	1 503	1 871	1 634	1 528	1 187
Marine	1 216	1 145	1 230	1 249	1 112	1 087	1 152
Sandstone	3 094	3 136	3 179	3 241	3 233	3 415	3 558
Slate (c)	...	...	...	...	...	...	...
Fireclay	—	—	—	30	—	—	—
Silica sand	...	...	...	...	51	92	71

(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 for Business Enterprise and Regulatory Reform, Industry and company data.

Scotland production of minerals 2001–2007

Thousand tonnes

Mineral	2001	2002	2003	2004	2005	2006	2007
Coal:							
Deep-mined	(e) 700	—	—	—	—	—	—
Opencast	(e) 8 200	(e) 7 100	6 869	7 547	7 753	6 487	6 188
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	...	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	—	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Condensates and other (b)	...	...	...	...	...	...	...
Clay and shale	839	698	311	362	469	390	429
Igneous rock	20 034	20 543	20 920	23 724	23 052	23 194	26 345
Limestone (d)	1 733	1 635	1 730	1 746	1 746	1 534	1 555
Dolomite (f)	...	...	...	...	...	...	...
Sand and gravel (land-won)	10 753	8 643	8 103	8 455	8 808	8 592	9 025
Sandstone	1 603	1 645	1 481	1 613	1 466	1 372	1 502
Slate (c)	...	...	...	...	...	...	...
Barytes	...	...	...	...	...	...	...
Fireclay	40	42	45	35	49	15	32
Honestone	—	...	...	—	...	...	...
Peat (000 m ³)	355	117	779	359	577	736	231
Silica sand	...	...	...	...	522	542	503
Talc	5	6	6	4	6	4	3

(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 for Business Enterprise and Regulatory Reform, Industry and company data.

Northern Ireland mineral production by county 2007

Thousand tonnes

County	Limestone	Sand & gravel	Basalt & igneous rock (a)	Sandstone	Others (b)	Total
Down	—	1 049	1 469	4 099	1 156	7 773
Antrim	296	1 687	4 492	—	356	6 831
Armagh	356	865	106	611	483	2 421
Fermanagh	3 993	13	89	—	46	4 141
Londonderry	51	1 123	1 807	—	55	3 036
Tyrone	1 208	3 350	262	118	373	5 311
Total	5 904	8 087	8 225	4 828	2 469	29 513

(a) Excluding granite.

Source: Department of Enterprise, Trade and Investment.

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

Minerals produced in Northern Ireland, the Isle of Man, Guernsey and Jersey 2003–2007

Thousand tonnes

	2003	2004	2005	2006	2007
Northern Ireland					
Limestone	4 887	5 634	5 588	6 385	5 904
Sand and gravel	4 894	5 084	5 803	5 150	8 086
Basalt and igneous rock (a)	6 051	6 844	7 112	6 087	8 225
Sandstone	6 594	6 915	7 076	6 211	4 828
Granite					
Clay and shale					
Others (b)	1 055	1 266	2 090	1 698	2 468
Total	23 481	25 743	27 669	25 530	29 511
Isle of Man (c)					
Limestone	97	93	89	110	112
Sand and gravel	302	275	197	358	206
Igneous rock	123	120	81	66	104
Slate	58	73	55	69	58
Total	581	562	422	602	480
Guernsey					
Igneous rock	142	149	129	136	160
Jersey					
Igneous rock (d)	290	310	305	326	295
Sand and gravel	73	71	70	75	65

(a) Excluding granite.

(d) BGS estimates.

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

Sources: Dept. of Enterprise, Trade & Investment (Northern Ireland),
Department of Trade and Industry (Isle of Man),
Company data (Guernsey and Jersey).

(c) Year ended 12 November.

(d) Excluding granite and clay and shale.

United Kingdom mineral production by underground mining 2005–2008 (a)

Thousand tonnes

	2005	2006	2007	2008
Coal	9 563	9 444	7 674	8 034
Brine Salt (b)	3 800	3 800	3 800	3 800
Rock Salt (b)	2 000	2 000	2 000	2 000
Potash	732	716	712	673
Gypsum	1 500	1 500	1 500	1 500
Other minerals (b) (c)	220	162	168	60
Total	17 815	17 622	15 854	16 067

(a) Figures exclude hydrocarbons

(b) BGS estimate

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

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

Hectares

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

(a) Ball clay included as a separate mineral for the first time in 2000, previously under 'clay/shale'.

(b) Coalbed methane added in to this category for the first time in 2000. In 1994, oil/gas were split into 'exploration/appraisal' and 'production' categories, but were combined in 2000.

(c) Slate was only a separate mineral category in 2000.

(d) Based on published 1994 data.

(e) Estimate, taking into account older permissions for which accurate information was not available in 1994.

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

Mineral bearing land royalty values (a)

Pence per tonne

Commodity/region	2006 (b)		2007 (c)		2008 (d)	
	Typical maximum	Typical minimum	Typical maximum	Typical minimum	Typical maximum	Typical minimum
Sand and gravel						
South East	260	110	260	110	260	90
Eastern	220	120	220	120	220	100
South West	200	75	200	75	200	75
East Midlands	180	80	180	80	180	65
West Midlands	170	110	170	110	210	110
Yorks. & the Humber	120	70	120	70	140	40
North East	100	50	100	50	110	50
North West	125	50	125	50	45	185
Merseyside						
Gtr. Manchester & Cheshire						
Wales	95	50	95	50	95	50
Scotland	60	40	60	40	60	40
Hard rock						
South East	90	50	90	50	90	50
Eastern	65	60	65	60	65	60
South West	65	25	65	25	130	50
East Midlands	65	28	65	28	67	28
West Midlands	36	25	36	25	65	27
Yorks. & the Humber	45	23	45	23	45	23
North East	35	26	55	26	75	25
North West	50	35	50	35	72	25
Wales	80	19	80	19	80	19
Scotland	40	30	50	30	50	30

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

(b) At July 2006

(c) At July 2007

(d) At July 2008

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

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

Commodity	Region											Total				
	North East England	Yorkshire & the Humber	North West England	East Midlands	West Midlands	East of England	Greater London	South East England	South West England	England Total	Wales		Scotland	Isle of Man	Northern Ireland	Channel Islands
Anhydrite	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	1
Ball clay	—	—	—	—	—	—	—	—	18	18	—	—	—	—	—	18
Barytes	—	—	—	3	—	—	—	—	—	3	—	1	—	—	—	4
Calcite	—	—	—	1	—	—	—	—	—	1	—	—	—	—	—	1
Chalk	—	15	—	4	—	15	—	19	3	56	—	—	—	3	—	59
Chert	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—	1
China clay	—	—	—	—	—	—	—	—	13	13	—	—	—	—	—	13
China clay waste	—	—	—	—	—	—	—	—	12	12	—	—	—	—	—	12
Clay & shale	5	33	14	17	24	10	—	34	19	156	9	5	—	5	—	175
Coal, underground	—	4	4	3	1	—	—	2	2	10	6	—	—	—	—	16
Coal, opencast	4	2	1	2	1	—	—	—	—	10	12	29	—	—	—	51
Coalbed methane	—	—	—	—	—	—	—	—	—	—	—	5	—	—	—	5
Fireclay	—	5	1	—	1	—	—	—	—	7	—	2	—	—	—	9
Flint	—	—	—	—	—	3	—	3	1	7	—	—	—	—	—	7
Fluorspar	1	1	—	10	—	—	—	—	—	12	—	—	—	—	—	12
Gold	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	1
Gypsum	—	—	1	3	1	—	—	1	—	6	—	—	—	—	—	6
Igneous & metamorphic rock	8	—	3	6	4	—	—	—	20	41	15	112	2	35	3	208
Iron ore - hematite	—	—	—	—	—	—	—	—	—	7	—	—	—	—	—	7
Iron ore - ironstone	—	2	—	—	1	—	—	4	—	—	—	—	—	—	—	2
Lead	—	—	—	2	—	—	—	—	—	2	—	—	—	—	—	2
Limestone/ dolomite	18	35	24	61	9	4	—	13	94	258	47	14	2	17	—	338
Marble	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	1
Mine drainage gas	—	2	—	2	—	—	—	—	—	4	—	—	—	—	—	4
Natural gas	—	11	—	3	—	—	—	1	1	16	—	—	—	—	—	16
Oil	—	—	—	22	—	—	—	22	3	47	—	—	—	—	—	47
Peat	1	3	9	—	—	3	—	—	41	57	2	23	—	—	—	82
Polash	—	1	—	—	—	—	—	—	—	1	—	—	—	—	—	1
Salt	—	1	5	—	—	—	—	—	—	6	—	—	—	1	—	7
Sand	4	6	4	5	4	17	—	34	11	86	1	15	—	—	—	103
Sand & gravel	7	33	27	39	44	102	10	65	39	366	16	113	3	63	—	561
Sandstone	21	57	40	20	23	7	—	8	30	206	30	44	—	32	—	312
Serpentine	—	—	—	—	—	—	—	—	1	1	—	—	—	—	—	1
Silica sand	1	2	7	2	3	18	—	6	9	40	1	6	—	—	—	47
Slate	—	—	10	—	—	—	—	—	—	19	14	—	3	—	—	36
Slate waste	—	—	1	—	—	—	—	—	—	1	4	—	—	—	—	5
Soapstone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0
Talc	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tin	—	—	—	—	—	—	—	—	1	1	—	1	—	—	—	1
Total	70	213	147	205	117	179	11	210	319	1 471	158	371	10	157	4	2 171

Source: British Geological Survey

(a) As at June 2009.

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

Abrasives, natural

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Carats					£ thousand				
Abrasives										
<i>Imports</i>										
Natural abrasives—										
Industrial diamonds	21,518,053	30,993,557	25,367,064	11,884,651	7,524,168	33,872	29,956	12,673	70,193	11,164
	Tonnes									
Dust and powder of precious and semi-precious stones	18	26	27	49	49	9,730	10,904	9,247	11,260	10,749
Pumice	21,406	35,533	71,598	97,832	206,353	2,978	1,898	1,213	1,659	2,546
Other	6,193	6,175	6,877	8,106	11,827	1,136	995	1,193	1,697	2,532
	Carats									
<i>Exports</i>										
Natural abrasives—										
Industrial diamonds	12,177,638	22,821,716	21,647,850	13,652,233	4,754,029	40,468	33,851	20,924	18,891	17,485
	Tonnes									
Dust and powder of precious and semi-precious stones	14	30	25	16	31	11,783	11,211	12,180	11,288	13,310
Pumice	859	242	138	70	40	702	450	275	227	93
Other	1,045	965	796	852	1,180	795	608	489	511	612

Aggregates

Sales of primary aggregates (sand and gravel, and crushed rock) in Great Britain were reported as 208.1 million tonnes in 2007, according to the official Annual Minerals Raised Inquiry (AMRI) carried out by the Office for National Statistics. This is an increase of just 0.5 per cent compared to the 2006 AMRI survey (207.1 million tonnes). Of the total sales in 2007, 62 per cent comprised crushed rock aggregates, 31 per cent was land-won sand and gravel and seven per cent marine-dredged sand and gravel.

Recycled and secondary aggregates continue to supply approximately one quarter of the total requirement for aggregates in the country.

The relatively stable sales of recent years ended abruptly towards the end of 2008 with the global economic decline causing a significant fall in the demand for aggregates. The Quarry Products Association (QPA) (now part of the Mineral Products Association) estimate that sales of crushed rock aggregates fell by 12 per cent in 2008 as a whole, while sand and gravel sales fell by 15 per cent compared to 2007. Most of these declines occurred in the fourth quarter of the year with a 29 per cent drop in crushed rock and a 28 per cent fall in sand and gravel sales compared to the same quarter of the previous year. The outlook for 2009 is not good with demand predicted to be at its lowest level since 1997.

Despite this, the Government decided to continue with the Aggregates Levy increase from £1.95 to £2.00 per tonne from 1 April 2009, which was announced in the budget of 2008. However, the levy will be frozen at this rate for the 2010/11 fiscal year. The British Aggregates Association (BAA) continued with its legal case against the Aggregates Levy, securing a favourable decision from the European Court of Justice in December 2008 that overturned an earlier decision by the Court of First Instance (CFI) and requires the CFI to reconsider whether the levy constitutes illegal state aid.

The economic problems, and the downturn in aggregates sales, have had a significant impact on many operators with sharp falls in profit, plant closures and job losses being announced by most companies. In Northern Ireland alone over 1200 jobs were lost in the industry during 2008 according to the Quarry Products Association Northern Ireland (QPANI) and this equates to over a quarter of the workforce in this industry in the province. The largest of the medium-sized operators in Great Britain, Ennstone plc, went into receivership in March 2009 although the assets were immediately sold to a new company, Breedon Holdings Ltd, and consequently over 1000 jobs were saved. The scale of the downturn has resulted in the postponement, by one year, of the Hillhead Quarry Show which was due to be held near Buxton, Derbyshire in June 2009. Quarry equipment suppliers are also suffering from the effects of the recession with JCB, Powerscreen, and Terex Pegson, amongst others, announcing job losses in the second half of 2008.

Tarmac Ltd continued to be the largest aggregates company in the UK with an estimated market share of 23 per cent. This represents an increase on the previous year due to the purchase of the 50 per cent of United Marine Aggregates that Tarmac did not already own. They are followed by Aggregates Industries, Hanson, Cemex and Lafarge; together these five companies represent 73 per cent of total aggregates production in the UK.

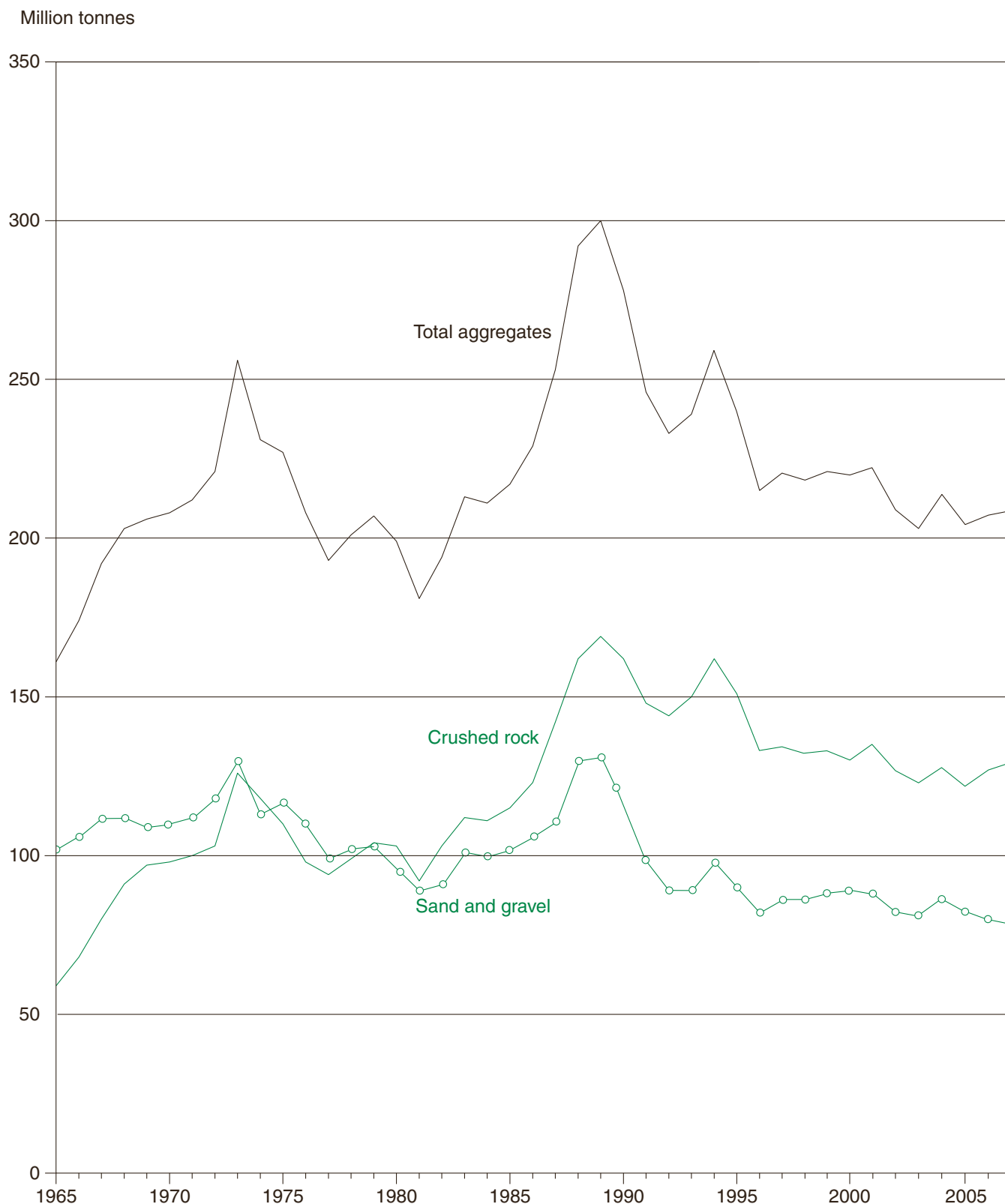
Sales of readymix concrete are estimated by the QPA to have fallen by 14 per cent in 2008 compared to the previous year, another consequence of the economic downturn. For the first time since the 1930s Tarmac have overtaken Cemex (formerly RMC) as the largest producer of concrete in the UK with a 20 per cent market share. This is due in part to Tarmac gaining market share but is also as a result of asset sales by Cemex. Hanson is close behind in third place.

Despite starting the year positively, overall sales of asphalt in 2008 declined by three per cent compared to 2007 following a rapid decline towards the year end. Whilst this decline appears to be less than that for aggregates or concrete, it should be remembered that the 2007 asphalt sales

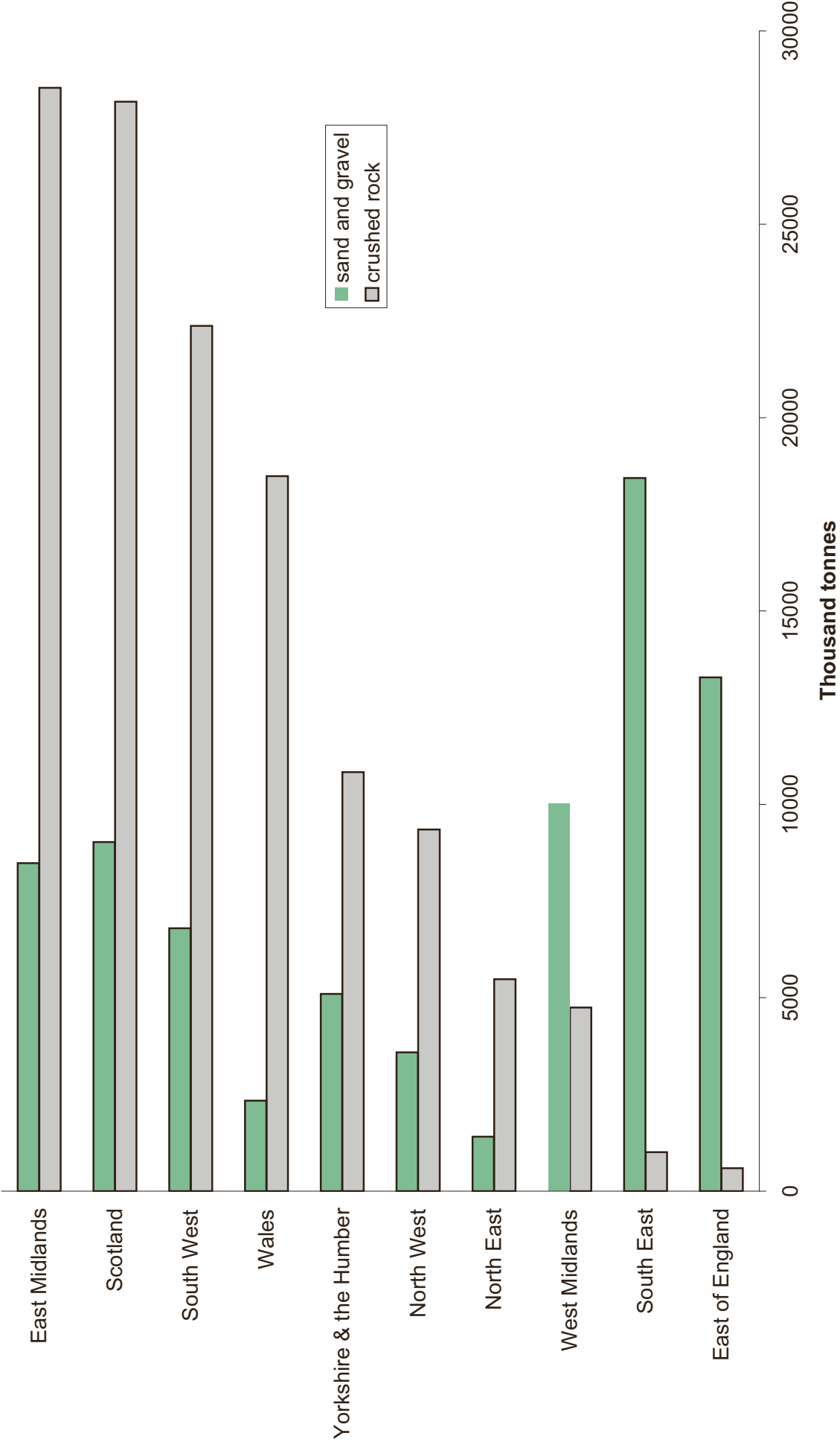
were already at the lowest annual level since 1986. Tarmac continue to be the largest asphalt company with a market share of more than 27 per cent, followed by Aggregates Industries, Hanson, Cemex and Lafarge. Together these five companies represent more than 80 per cent of the asphalt market.

The quantity of new aggregates reserves granted planning permission in 2008 was 10 million tonnes below the quantity extracted and sold despite the sharp downturn in sales, according to the latest BDS Marketing report. However, this situation is actually better than in 2007 when half the material extracted was not replaced by new permissions.

Great Britain production of natural aggregates 1965–2007



Great Britain production of crushed rock aggregate and sand and gravel by region 2007



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: 1 757; crushed rock: 1 361.

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 (c) 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	England	Wales	England	Wales
Recycled material						
Construction & demolition waste (b)	42 070	4 460	9 610	4 830	89 630	9 890
Spent railway track ballast	1 200	...	—	...	1 400	...
Asphalt planings (d)	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	4 460	14 060	4 830	133 515	9 890

(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) Construction and demolition waste for Scotland in 2003: total arisings 10.8 million tonnes, recycled as aggregate 4.3 million tonnes

(d) 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.

Sources: *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
Survey of the arisings and use of aggregates from construction and demolition waste, excavation waste, quarry waste and dredging waste in Wales in 2005 report by Fabour Maunsell for Welsh Assembly Government

Great Britain estimated consumption of natural aggregates 1959–2007

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	
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	46	11	123	43	39	82	205
2006	70	(d) 46	11	127	42	38	80	207
2007	67	(d) 51	12	130	42	36	79	208

(a) Including dolomite.

(d) BGS estimate.

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

Source: Office for National Statistics.

(c) The following amounts of crushed rock aggregate, believed to be mainly igneous rock, were exported (million tonnes): 2003: 3; 2004: 4; 2005: 5; 2006: 5; 2007: 6. Crushed rock aggregate is also imported in comparable amounts. These figures have not been taken into account when calculating consumption.

**Great Britain consumption of natural aggregates related to construction work
(intensity of use of aggregates) 1959–2007**

Year	Value of new con- struction work (a)	Estimated consumption of aggregate			Total value of all construc- tion 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	
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	42 201	2.9	2.0	4.8	79 539	1.5	1.0	2.6
2006	44 167	2.9	1.8	4.7	80 426	1.6	1.0	2.6
2007	46 065	2.8	1.7	4.5	82 425	1.6	1.0	2.5

(a) Valued at constant 2000 prices.

Source: British Geological Survey.

Source: Department for Business, Enterprise & Regulatory Reform (previously Department of Trade and Industry)

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

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Aggregates										
<i>Production</i>										
Sand & gravel (a)	91 211 000	97 333 000	94 666 000	92 107 000	93 236 000					
Crushed rock (b)	122 885 000	127 674 000	121 860 000	126 895 000	129 577 000					
Total	214 096 000	225 007 000	216 526 000	219 002 000	222 813 000					
<i>Imports</i>										
Natural aggregates–										
Crushed rock (c)	632 792	619 076	1 516 919	2 270 355	1 909 733	10 064	10 661	19 037	27 202	27 501
Sand and gravel (d)	861 439	924 304	643 594	634 844	896 715	11 406	14 481	14 117	17 583	18 260
Total	1 494 230	1 543 380	2 160 513	2 905 198	2 806 448	21 470	25 142	33 154	44 785	45 761
<i>Exports</i>										
Natural aggregates–										
Crushed rock	3 188 232	4 528 231	4 850 971	5 322 099	5 959 212	13 275	22 865	25 141	25 773	33 637
Sand and gravel (d)	8 419 845	8 174 262	8 453 949	9 308 961	8 089 175	36 708	36 414	40 493	45 498	46 624
Total	11 608 077	12 702 493	13 304 920	14 631 060	14 048 387	49 983	59 279	65 634	71 271	80 261

(a) Including production from marine dredging.

(b) Great Britain only.

(c) For a number of years, a significant amount of armourstone imports are believed to be wrongly classified as 'granite, crude'. In 2007, this figure was 326 446 tonnes, and this has reduced from 1 331 520 tonnes in 2005, suggesting this issue is being addressed.

(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 ports (tonnes): 2003: 6 095 640; 2004: 6 191 867; 2005: 6 471 453; 2006: 6 714 659; 2007: 6 649 041.

Aluminium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Aluminium										
<i>Production</i>										
Unwrought–										
Primary	342 748	359 631	368 477	360 325	364 595					
Secondary	205 400	205 400	204 200	204 200	193 900					
<i>Consumption</i>										
Unwrought–										
Primary	302 181	438 937	353 249	362 267	363 480					
Secondary	199 749	190 123	186 522	169 983	174 073					
Ferro-aluminium (a)	2 860	2 910	2 890	3 030	3 140					
<i>Imports</i>										
Scrap	103 554	78 309	116 285	137 626	158 827	58 885	53 549	91 004	120 370	145 358
Ash and residues	847	756	744	1 766	2 273	183	152	456	910	1 516
Unwrought	163 573	116 344	114 189	169 259	201 262	149 320	113 855	129 794	238 404	284 302
Unwrought alloys	129 451	118 398	87 063	122 748	93 145	138 144	127 138	104 159	147 969	150 316
<i>Exports</i>										
Scrap	295 642	319 217	474 587	385 211	906 831	190 267	226 044	299 115	351 964	491 914
Ash and residues	599	739	553	90	5	310	255	266	35	374
Unwrought	1 559	29 949	48 684	17 530	30 631	3 060	31 149	73 852	27 142	44 194
Unwrought alloys	270 701	306 372	329 691	331 598	269 523	266 846	296 207	381 248	514 295	420 852

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

Aluminium compounds

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Aluminium compounds										
Imports										
Oxide (alumina)	(b) 828 300	417 882	755 443	823 115	787 218	(b) 180 200	64 626	129 663	169 916	166 674
Hydroxide	(b) 143 000	59 844	130 321	101 126	112 287	(b) 34 300	11 224	26 646	22 582	22 834
Fused oxide (a)	24 558	33 956	36 277	36 099	30 960	9 167	11 541	13 164	13 527	11 779
Fluorides	5 864	2 286	5 849	7 983	4 897	2 534	2 348	2 859	2 938	2 790
Exports										
Oxide (alumina)	(c) 3 400	2 281	4 336	9 979	9 016	(c) 7 800	1 432	2 145	5 094	3 699
Hydroxide	(c) 26 300	(c) 35 500	(c) 20 600	486	327	(c) 7 800	(c) 9 000	(c) 5 700	686	254
Fused oxide (a)	5 201	5 671	5 408	6 252	8 801	4 630	3 867	4 137	5 335	5 600
Fluorides	69	25	427	0	213	602	115	41	2	92

(a) Artificial corundum.

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

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

Antimony

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Antimony										
<i>Consumption (Sb content)</i>										
Metal	480	480	...	...	...		
Scrap (a)	993	1 483	...	...	...		
<i>Imports</i>										
Metal	290	410	60	81	110	654	796	180	380	428
Oxides	2 712	2 976	2 048	2 291	1 917	4 873	5 057	3 959	5 316	5 399
<i>Exports</i>										
Ash and residues	...	...	...	...	...	...	...	...	...	...
Metal	65	88	54	27	21	153	248	267	200	169
Oxides	1 413	663	621	397	379	2 446	1 186	1 190	928	936

(a) Including some antimony in ore.

Arsenic

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Arsenic										
<i>Imports</i>										
Elemental	155	165	3	49	70	232	248	90	415	212
<i>Exports</i>										
Elemental	0	0	1	1	0	41	8	32	34	3

Asbestos

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Asbestos										
<i>Imports</i>										
Fibre	3	0	...	0	187	40	3	...	1	1
Waste	—	2 149	...	...	...	—	102	...	...	...
Fabricated asbestos	433	356	281	86	50	1 154	910	732	786	1 486
Friction material with a basis of asbestos etc.	7 853	7 596	7 806	13 199	6 794	34 109	31 052	33 207	41 779	37 129
Articles of asbestos cement etc.	63 082	66 314	71 389	69 731	86 963	18 449	20 864	22 491	24 150	30 496
<i>Exports</i>										
Fibre	—	—	(a) 1	0	...	—	—	(a) 7	1	...
Waste	—	0	...	...	...	—	2	...	...	...
Fabricated asbestos	1 321	918	1 868	915	132	4 543	3 571	10 107	2 376	1 429
Friction material with a basis of asbestos etc.	3 644	3 513	2 706	2 877	3 152	22 263	23 253	29 082	31 927	33 282
Articles of asbestos cement etc.	22 972	16 848	16 917	16 902	18 285	8 918	6 639	7 222	6 803	6 618

(a) Unmanufactured asbestos, including fibre and waste.

Asphalt, natural

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Asphalt, natural										
<i>Imports</i>	194 759	94 670	47 510	138 249	183 969	19 322	7 958	6 027	18 069	30 046
<i>Exports</i>	79 604	160 783	166 866	160 972	287 977	7 690	15 689	17 221	20 040	36 092

Ball clay

Ball clays are fine-grained, highly plastic sedimentary clays, which fire to a light or near white colour. They are used mainly in the manufacture of ceramic whiteware such as sanitaryware, 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 1 020 496 tonnes in 2008, a slight decrease on 1 022 472 tonnes in 2007. The UK is a leading world producer and exporter of high-quality ball clay. In 2008, 858 575 tonnes (84 per cent) of sales were destined for export, including 559 775 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. Devon is the most important, both in terms of total sales (78 per cent in 2008) and, more importantly, the diversity and quality of the clays that are produced.

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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Ball clay										
<i>Production</i> (sales) (a)	884 809	964 797	1 011 425	1 015 101	1 022 472					
<i>Imports</i>	2 593	18 241	12 938	19 304	18 126	669	1 142	1 112	1 781	1 754
<i>Exports</i> (a)	734 524	805 359	845 597	853 177	864 133					

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

Barytes

Barytes (barium sulphate, BaSO₄), also referred to as barite or baryte, is the most abundant and economically important barium mineral produced worldwide. When pure, barytes contains 58.8 per cent barium and 41.2 per cent sulphate and with a specific gravity (SG) of 4.5 it is often referred to as 'heavy spar.' Inclusions of other minerals may reduce (or in the case of 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.

United Kingdom sales of barytes have been relatively constant in recent years and were 42 626 tonnes in 2008. Output is dominated by M-I Drilling Fluids UK from its Foss Mine, near Aberfeldy in Scotland, which accounted for more than 84 per cent of total production in 2008, with 35 917 tonnes. The decrease in production from 42 317 tonnes in 2007 is the result of having to mine additional waste during 2008. 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 6709 tonnes in 2008. 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 2007 were 84 617 tonnes valued at £4.3 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 9 242 tonnes in 2007.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2 003	2004	2005	2006	2007
	Tonnes					£ thousand				
Barium										
<i>Production</i>										
Barium minerals– Barytes	(b) 57 000	61 000	64 000	48 000	53 000					
<i>Imports</i>										
Barium minerals (a)	56 867	63 934	54 753	78 225	84 617	2 406	2 741	2 720	4 009	4 286
<i>Exports</i>										
Barium minerals (a) (c)	69 094	25 697	16 334	4 250	9 242	3 837	2 952	2 655	1 577	2 024

(a) Mainly barytes with some witherite.

(c) Figure believed to be too high.

(b) BGS estimate.

Bauxite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Bauxite										
<i>Imports</i> (a)	...	56 825	103 522	86 882	48 741	...	10 038	9 743	6 500	5 421
<i>Exports</i> (a)	(b) 4 200	889	4 237	28 636	4 276	...	319	1 478	1 887	1 683

(a) Excluding refractory grade bauxite.

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

Bentonite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Bentonite										
<i>Imports</i>	198 434	187 750	151 179	173 483	157 388	10 102	12 335	10 462	13 970	11 693
<i>Exports</i>	75 099	71 153	49 514	42 548	47 122	19 179	20 221	14 145	12 549	14 773

Beryllium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Beryllium										
<i>Imports</i>										
Metal	22	47	208	306	13	1 004	468	710	1 752	3 803
Oxides and hydroxides	7	4	7	7	6	509	361	452	502	410
<i>Exports</i>										
Metal	58	5	11	8	10	528	319	586	673	2 989

Bismuth

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Bismuth										
<i>Imports</i>										
Metal	2 237	2 205	2 858	2 347	1 908	7 695	8 201	11 596	12 234	23 190
<i>Exports</i>										
Metal	2 239	2 633	2 426	2 703	2 588	8 646	11 956	10 384	16 043	28 291

Boron

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Boron										
<i>Imports</i>										
Boron minerals (a)	4 954	4 243	5 732	3 470	4 360	1 606	1 086	1 342	1 162	1 324
<i>Exports</i>										
Boron minerals (a)	395	41	33	186	545	404	48	9	127	135

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

Bricks

Total deliveries of clay bricks decreased from 2249 million bricks in 2007 to 1676 million bricks in 2008. Actual production decreased from 2312 million bricks in 2007 to 1814 million bricks in 2008. Clay brick stocks were 1093 million in 2008 compared with 947 million in 2007. House building is the principal consumer of bricks. The significant decrease in brick deliveries in 2008 reflects the global economic climate with construction output falling substantially. The decline in demand for brick clay from over 16 million tonnes in 1974 to some 6.9 million tonnes in 2007 is broadly in line with the decline in the production of clay bricks.

Three companies dominate brick manufacture in the UK, collectively sharing around 90 per cent of the market. The two largest producers with a combined market share of over 60 per cent are Hanson UK, and Ibstock Brick Ltd (owned by the CRH Group). Ibstock Ltd has 24 brick and paver plants in the UK. In 2007 Hanson was taken over by HeidelbergCement, Germany's largest cement producer. Wienerberger Ltd (owned by the Austrian-based Wienerberger AG, the world's largest brick producer) is the third largest operator. Wienerberger have 14 UK manufacturing facilities and a 20-30 per cent share of the brick market.

2008 was an extremely tough year for the brick industry with significant rises in energy prices, a number of brick plant closures, production cut backs and job losses at some sites. Notably Hanson announced closure of its Accrington brick plant in Lancashire, blaming the current state of the housing market. Hanson also closed some of its other older, less efficient production sites including Swillington in Leeds, Steerforth, near Barnsley, and it brought forward the planned closure of Measham in Leicestershire. However, Hanson is to open a new £49 million brick factory on the Measham site. Wienerberger has mothballed factories in Devon and Surrey as a result of the weak UK housing market and has announced job losses at other manufacturing sites. During 2008 Ibstock announced closure of its Tannochside plant near Glasgow, blaming the slowdown in the construction sector.

Great Britain production of bricks, blocks and tiles 1998–2007

Material	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Millions										
Bricks:										
Clay (a)	2 830	2 759	2 694	2 595	2 600	2 606	2 707	2 601	2 359	2 312
Concrete	171	180	170	159	150	167	161	147	150	159
Total	3 000	2 939	2 864	2 754	2 750	2 772	2 868	2 748	2 510	2 471
Brick Production Region										
North East	154	133	130	136	138	137	147	137	110	132
Yorkshire and the Humber	194	211	195	186	187	186	195	194	169	158
East Midlands	518	522	508	495	480	487	514	510	454	431
East of England	248	331	334	321	349	362	343	329	301	281
South East	565	409	394	385	371	346	346	326	313	323
South West	146	145	148	132	129	132	143	125	117	98
West Midlands	598	573	572	558	570	586	624	613	578	592
North West	303	320	292	299	290	296	312	301	269	265
England	2 727	2 643	2 573	2 513	2 513	2 531	2 624	2 535	2 311	2 280
Wales	102	123	109	106	106	119	117	107	107	106
Scotland	172	174	181	136	131	122	127	107	91	84
Great Britain	3 000	2 939	2 864	2 754	2 750	2 772	2 868	2 748	2 510	2 471
Million square metres										
Concrete building blocks:										
Dense aggregate	39	38	38	37	36	37	38	36	35	37
Lightweight aggregate	19	21	23	23	24	25	25	26	25	26
Aerated concrete	26	29	30	29	32	34	33	28	27	27
Total	85	88	90	88	92	96	96	90	88	90
Roofing tiles:										
Concrete	25	26	27	25	25	21	21	26	24	24

(a) Including sandlime bricks.

Source: Department for Business Enterprise and Regulatory Reform.

Bromine

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Bromine										
<i>Production</i>	(a) 25 000	—	—	—	—					
<i>Imports</i>	1 899	7 146	7 995	7 592	5 266	578	2 115	3 280	4 584	4 625
<i>Exports</i>	5 307	1 126	235	1 138	1 470	2 691	1 169	639	1 935	2 236

(a) BGS estimate.

Building and dimension stone

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Building and dimension stone										
<i>Production (a)</i>										
Sandstone	327 000	439 000	(b) 470 000	434 000	419 000					
Igneous rock	212 000	189 000	150 000	(b) 150 000	(b) 50 000					
Limestone	(b) 200 000	226 000	589 000	379 000	(b) 320 000					
Dolomite	7 000	8 000	(b) 8 000	(b) 3 000	(b) 1 000					
Total	(b) 746 000	862 000	(b) 1 217 000	(b) 966 000	(b) 790 000					
<i>Imports</i>										
Unworked—										
Marble and other calcareous stone	18 565	29 893	63 046	32 609	37 404	11 930	14 655	18 901	17 463	20 144
Granite (c)	1 145 887	1 643 221	1 331 520	491 438	442 911	30 386	39 988	43 026	33 622	43 987
Sandstone	72 589	129 148	193 793	255 732	322 530	10 803	16 168	25 501	31 694	41 949
Other stone	300 324	29 224	28 138	116 986	68 726	4 968	5 463	4 580	12 024	10 393
Worked—										
Marble and other calcareous stone	60 473	69 920	77 698	100 555	111 039	40 413	46 701	52 806	65 977	63 620
Granite	76 177	81 551	88 916	114 802	114 967	45 125	50 079	57 884	66 403	74 519
Other stone	31 600	42 132	42 395	41 470	64 610	14 987	16 989	17 780	17 632	26 035
Paving stones and flagstones	88 509	188 204	168 548	220 005	297 099	12 652	22 402	22 825	30 337	43 258
<i>Exports</i>										
Unworked—										
Marble and other calcareous stone	6 203	2 362	2 126	1 549	2 227	447	203	287	184	553
Granite	1 369	1 806	1 974	2 394	7 634	251	238	292	983	2 125
Sandstone	6 424	4 920	5 683	5 426	1 081	1 281	1 169	949	764	269
Other stone	932	490	784	638	8 928	176	362	220	167	419
Worked—										
Marble and other calcareous stone	1 072	1 658	2 905	4 068	4 740	3 320	3 726	4 951	6 441	7 319
Granite	290	489	607	517	429	399	546	623	1 233	627
Other stone	4 602	3 685	5 688	5 958	7 022	2 850	2 652	5 070	4 475	5 860
Paving stones and flagstones	4 980	4 690	6 709	6 669	3 716	1 105	1 103	2 035	1 847	1 125

(a) Great Britain only.

(b) BGS estimate.

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

Cadmium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Cadmium										
<i>Production</i>										
Cadmium (a)	22	—	—	—	—					
<i>Consumption</i>										
Cadmium	591	592	598	598	598					
<i>Imports</i>										
Metal	416	479	206	129	276	778	647	538	642	1 218
Pigments	60	62	53	220	102	298	249	145	299	386
<i>Exports</i>										
Metal	187	27	79	7	76	705	131	167	46	334
Pigments	704	775	707	672	962	4 850	5 186	6 162	6 571	6 546

(a) Refined.

Cement

Finished cement production in Great Britain was 10 071 million tonnes in 2008 compared with 11 887 million tonnes in 2007. This is a notable drop as cement production has remained above 11 000 million tonnes for the last five years. Increasing competition in overseas markets has led to a decline in cement exports in recent years, with UK exports of Portland cement clinker falling to 28 000 tonnes in 2007, compared with 91 000 tonnes in 2006. The UK has become a net importer of cement due to insufficient domestic production capacity, importing more than 836 000 tonnes of Portland cement clinker in 2007. The four largest cement manufacturers in the UK are Castle Cement, CEMEX UK, Lafarge Cement UK and Tarmac Buxton Lime & Cement, operating 14 cement plants.

Lafarge has suspended operations at its Westbury cement production facility, in Wiltshire, citing high energy prices and deteriorating market conditions. CEMEX has closed Barrington cement work in Cambridgeshire as part of cost saving measures. A number of concrete production plants closed during 2008 including CEMEX's precast concrete plant in County Durham, and Marshall's plants in Staffordshire and Nottinghamshire. Tarmac has announced the closure of its concrete plant in Kirkby-in-Ashfield and its concrete products factory in Derbyshire with production being transferred to Norfolk. Lafarge has completed its rail expansion project and introduced a new fleet of railway cement wagons primarily to transport cement from its Hope works in Derbyshire to depots in the south-east. Lafarge has commenced the final design and costing feasibility studies for its proposed new cement works at Snodland in Kent. Planning permission for the 'Medway Works' was granted in 2001 and the company has since been preparing the site and adding new infrastructure.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Cement										
<i>Production</i>										
Cement, clinker (a)	10 146 000	10 402 000	10 074 000	10 069 000	10 227 000					
Cement, finished (a)	11 215 000	11 405 000	11 216 000	11 469 000	11 887 000					
	Cubic metres									
Ready-mixed concrete	22 289 000	22 856 000	22 432 000	23 029 000	23 548 000					
	Tonnes									
<i>Consumption</i> (home deliveries)										
Finished cement (a) (b)	11 072 000	11 074 000	11 004 000	11 221 000	11 638 000					
<i>Imports</i>										
Portland cement clinker	506 128	377 341	406 044	516 583	836 788	20 380	21 529	25 125	38 834	59 190
Aluminous cement	10 747	15 478	13 561	13 967	14 770	3 220	3 598	3 645	3 960	3 876
Portland cement	1 714 946	2 137 035	1 645 088	1 397 025	1 534 683	70 633	85 884	77 236	69 931	81 685
Other cement	50 384	48 811	24 144	12 824	11 445	2 037	2 636	2 804	3 244	2 862
<i>Exports</i>										
Portland cement clinker	60 920	82 936	134 992	91 357	28 432	1 965	1 417	1 657	2 510	1 856
Aluminous cement	54 595	66 966	55 934	69 458	63 756	16 768	20 073	17 933	24 515	22 386
Portland cement	216 480	214 420	320 680	521 784	459 629	15 076	16 909	24 987	31 713	30 877
Other cement	6 598	9 551	12 620	17 400	24 695	1 983	1 952	2 328	3 184	4 354

(a) Great Britain only.

(b) Excluding imports.

Chalk (see Limestone)

China clay

China clay, or kaolin, is 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 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 1 355 365 dry tonnes in 2008 compared with 1 671 426 tonnes in 2007. The UK is a major exporter of china clay and in 2008 1 188 267 tonnes (88 per cent) of sales were destined for export, including 755 710 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 by far the largest china clay producer accounting for over 77 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 largest 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 solely focus on filler grade 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, on Dartmoor and Marsh Mills have closed and production transferred to existing operations in Cornwall. In October 2008 WBB Minerals adopted the name of its parent company becoming Sibelco UK Ltd. Sibelco are now the only producer extracting kaolin at Lee Moor. A joint working venture has been agreed by Sibelco and Imerys to restart operations on the nearby Crownhill Down Granite. Goonvean Ltd, a privately-owned company, operates five quarries in the St Austell Granite.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
China clay										
<i>Production</i> (sales) (a) (b)	2 097 137	1 944 955	1 910 874	1 762 328	1 671 426					
<i>Imports</i>	70 125	108 260	72 812	79 958	54 888	7 804	9 439	8 741	10 007	8 064
<i>Exports</i> (a) (b)	1 862 437	1 728 161	1 698 747	1 566 025	1 490 416					

(a) Dry weight.

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

China stone

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007
	Tonnes				
China stone—see Feldspar					
<i>Production</i>	2 865	2 274	1 835	1 441	1 112

Chromium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Chromium										
<i>Apparent consumption (a)</i>	67 800	103 100	56 200	45 600	59 700					
<i>Consumption in Iron and Steel Industry (b)</i>	52 880	53 860	52 070	54 670	60 980					
<i>Imports</i>										
Ores and concentrates	107 161	130 841	122 042	74 907	103 551	3 742	4 652	6 031	4 344	6 698
Under 4% carbon	8 329	12 892	9 712	7 049	11 396	5 413	10 477	9 092	6 607	11 820
4%–6% carbon	72	102	31	399	1 383	34	48	14	351	1 094
Over 6% carbon	60 004	99 240	53 735	45 046	34 197	17 797	31 029	21 902	18 869	17 514
Ferro-silico-chrome	63	—	728	350	1 242	35	—	217	128	635
Oxides and hydroxides (c)	2 700	9 600	9 500	7 100	13 000	1 600	4 100	5 700	5 000	9 200
Metal	1 612	2 321	1 723	4 022	2 134	6 436	8 862	6 963	12 883	9 820
<i>Exports</i>										
Ores and concentrates	212	622	228	47	178	71	403	101	15	37
Under 4% carbon	267	906	507	436	376	660	703	892	582	564
4%–6% carbon	540	111	...	938	622	242	127	...	243	371
Over 6% carbon	879	1 342	5 605	2 684	1 940	602	1 249	3 307	2 234	2 686
Ferro-silico-chrome	25	25	8	8	35	89	46	6	12	80
Oxides and hydroxides (d)	20 300	22 400	21 500	15 100	12 700	23 200	24 400	28 000	21 100	18 400
Metal	4 173	4 766	4 547	5 123	6 777	14 987	15 469	17 291	20 563	27 595

(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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Clays (not elsewhere specified)										
<i>Production</i>										
Clay and shale (a)	10 680 000	11 164 000	10 898 000	10 432 000	10 104 000					
<i>Imports</i>										
Unspecified clays	101 742	79 261	99 221	75 154	79 697	21 167	13 940	13 430	13 511	15 407

(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 2007

Thousand tonnes

Area of origin	Bricks, pipes and tiles	Cement	Constructional use	Other uses	Total
Durham	179	—	—	—	179
Northumberland	15	—	—	—	15
Tyne and Wear	58	—	—	—	58
North East	252	—	—	—	252
Humberside	...	...	—	15	...
North Yorkshire	...	—	...	...	...
South Yorkshire	...	—	...	—	162
West Yorkshire	321	—	—	—	321
Yorkshire and the Humber	606	...	...	...	884
Derbyshire	...	...	—	—	606
Leicestershire	585	...	—	—	...
Nottinghamshire	...	—	...	—	...
East Midlands	1 126	...	...	—	1 875
Cambridgeshire	...	...	—	—	...
Suffolk	3	—	—	—	3
Essex	2	203	...	—	...
Norfolk	...	—	—	—	...
Bedfordshire	...	—	24	—	...
East of England	...	...	...	—	1 465
Buckinghamshire	...	—	—	—	...
Surrey	211	—	—	—	211
Kent	85	—	1	...	...
East Sussex	127	—	—	—	127
West Sussex	451	—	—	—	451
Hampshire	...	—	—	—	...
Greater London	—	—	—	2	2
South East	...	—	1	...	920
Avon	...	—	—	—	...
Cornwall	—	—	—	...	...
Devon	...	—	—	—	...
Dorset	13	—	—	—	13
Gloucestershire	...	—	8	4	...
Wiltshire	—	63	19	3	85
South West	...	63	27	...	783
Hereford and Worcester	...	—	—	...	...
Shropshire	...	—	—	—	...
Staffordshire	573	308	—	—	882
Warwickshire	...	...	17	—	...
West Midlands	280	—	—	—	280
West Midlands	1 618	...	17	...	2 461
Cumbria	31	—	—	...	...
Cheshire	...	—	1	—	...
Greater Manchester	48	—	—	...	...
Lancashire	...	—	...	—	438
Merseyside	...	—	—	—	...
North West	451	—	...	...	629
England	6 636	2 288	261	85	9 269
Clwyd	—	—	—	—	—
Gwynedd	...	—	—	—	...
Dyfed	—	—	...	...	...
Powys	24	—	...	...	...
Wales	...	—	...	18	405
South of Scotland	—	—	84	—	84
West Central Scotland	...	—	...	—	125
East Central Scotland	—	60	...	—	...
Tayside and Fife	—	—	...	—	...
Highlands	...	—	—	—	...
Orkney	—	—	—	—	—
Scotland	...	60	...	—	429
Great Britain	6 869	2 348	785	102	10 104

Source: Office for National Statistics.

Great Britain production of clay and shale by end-use 1995–2007

Thousand tonnes

Year	Bricks, pipes and tiles	Cement	Lightweight aggregate	Construc-tional use	Other uses	Total
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
2006	6 772	...	...	...	...	10 432
2007	6 869	2 348	...	785	102	10 104

(a) BGS estimate.

Source: Office for National Statistics.

Coal (also see Primary fuels)

Coal production in the UK rose slightly during 2008, against the long-term trend of production decreases. In 2008, production was 17.9 million tonnes, an increase of five per cent on the previous year. This increase was due to both higher production from deep mines (6.2 per cent higher than in 2007) and opencast coal production, which increased by 2.8 per cent. Of the total production, underground mines contributed 7.9 million tonnes (45.4 per cent) and opencast mines 9.5 million tonnes (54.6 per cent) with minor quantities recovered from other sources. The value of coal production is estimated to have risen to £708 million in 2007, compared to £705 million in 2006. The number of people employed in UK collieries at the end of 2008 was 3860, and in opencast sites, 2201, an overall increase of 12.2 per cent over the year.

Coal consumption fell by 7.2 per cent from 62.7 million tonnes in 2007 to 58.2 million tonnes in 2008. The generation of electricity used 47.8 million tonnes, or 82.1 per cent of total consumption. Of the total amount of electricity generated, 32 per cent was supplied by coal in 2008 a fall of two per cent on 2007 figures. Total stocks of coal at the end of 2008 were 17.1 million tonnes, an increase of 19.6 per cent compared to the previous year.

An increasing proportion of coal for electricity generation is being sourced from imports by major power producers. This has increased from 20 per cent in 1999 to 74 per cent in 2006 but has fallen to 66 per cent in 2007 (BERR, *Digest of United Kingdom Energy Statistics 2008*).

In 2007, 99.7 per cent of imports were bituminous coal, of this steam coal comprised 82.4 per cent of the total and coking coal 17.3 per cent. Anthracite accounted for the remaining 0.3 per cent of imports. The sources of supply are summarised in the table below. The chief sources of steam coal were Russia (57.1 per cent) and South Africa (21.5) and the chief source of coking coal was Australia (49.9 per cent). Coal imports in 2007 were 43.3 million tonnes which represents a decrease of 14.2 per cent compared to 2006. This figure is similar to that of 2005. The 2006 level was unusually high due to increased demand. In 2007 net imports comprised 68.0 per cent of total consumption.

Coal Authority licences for opencast sites in production at 31 December 2008 totalled 34, of which 20 were in Scotland, eight in England and six in Wales. A further two sites were under development. There were 13 opencast operators in total. Scottish Coal, the largest opencast coal mining company in the UK and the second largest coal producer, held the greatest number of licences with ten producing sites, all in Scotland. UK Coal plc held five opencast licences for producing sites in England and ATH Resources plc had five producing sites in Scotland.

In December 2008, there were 16 licences for underground coal mines in production. Of these, four were held by UK Coal plc operating in the Midlands and Yorkshire. The remaining 12 licences were held by 12 different licensees.

UK Coal plc, the largest UK coal producer, made an operating profit in 2007 and 2008, a contrast to losses made in 2005 and 2006. The company benefited from the general rise in the world coal price, despite large price fluctuations due to the concerns over the world economy. This enabled it to continue its investment in accessing more reserves in both deep and opencast mines. Deep mine production for UK Coal plc, at 6.2 million tonnes, was six per cent lower than in 2007. UK Coal sold its Maltby mine to Hargreaves Group for £21.5 million in January 2007. UK coal's output was reduced in the first half of 2007 as there was a period of no production from Daw Mill its largest mine. However, in the latter part of the year Daw Mill made a European record for maximum production for the year for a single face mine leading to the mine exceeding its production targets. UK Coal has committed £55 million of new investment to the Thoresby and Kellingley collieries over the next three years in order to extend the lives of these mines by 10 years and increase the planned production rates. In addition, new investments are being made at Daw Mill Colliery.

UK Coal has also announced it is considering re-opening Harworth colliery in Nottinghamshire with coal production anticipated in 2011. This move, triggered by rising coal prices, could create 400 jobs and lead to the development of the biggest coal mine in Europe. The colliery closed in 2006 but may contain up to 40 million tonnes of workable coal.

ScottishPower announced in July 2008 that it has agreed with Scottish Coal the largest ever coal supply contract in Scotland for Scottish Coal to supply fuel to ScottishPower owned power stations. The deal is worth up to £700 million and will create over 100 new jobs in the Scottish coal industry. Current plans are to extract the coal from new sites, as well as the existing ten Scottish Coal sites in Fife, the Lothians, Lanarkshire and Ayrshire. The coal will go to fuel power stations at Longannet in Fife and Cockenzie in East Lothian which each consume between four and six million tonnes of coal a year.

A controversial new coal-fired power station in Kent made progress in January 2008 when Medway County Council gave their approval for the construction at the Kingsnorth site, near Rochester. The application by E.ON UK involves building two new cleaner coal units at Kingsnorth and the demolition of the existing power plant. The plans now wait a final decision from central government and, if successful, could lead to the construction of the first coal-fired power station to be built in the UK for 24 years. E.ON claims that the new power station would be 20 per cent cleaner than the old one and could become the UK's first clean carbon demonstration plant, with its carbon emissions captured and stored in depleted oil fields under the North Sea.

Permitted reserves of opencast coal in operational sites and those with planning permission but not yet worked at the end of 2007 are shown in the table below. This table includes information from Mineral Planning Authorities and Scottish Planning Authorities.

UK supply of coal 2007

				Thousand tonnes
		Bituminous	Anthracite	Total
		Steam coal	Coking coal	
Production				
Mine production	...	266	...	18 079
Other sources	...	—	...	449
Stock change	...	7	...	-1 274
Total production	...	273	...	17 254
Imports				
European Union	1 584	—	13	1 597
Australia	172	3 846	—	4 018
Canada	—	1 282	—	1 282
Colombia	3 798	—	—	3 798
Indonesia	1 895	—	—	1 895
China P.R.	34	—	21	55
South Africa	12 901	—	52	12 953
Russia	22 404	298	37	22 739
USA	692	1 301	—	1 993
Other countries	57	47	22	126
Total imports	43 537	6 774	145	50 456
Total exports	-349	-1	-94	-443
Total supply	...	7 046	...	67 267

Source: Department for Business, Enterprise and Regulatory Reform

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

			Tonnes
Mineral Planning Authority	2006	2007	2008
Derbyshire	0	994340	1747130
Leicestershire	725 000	725 000	287 501
East Midlands	725 000	1 719 340	2 034 631
Durham	174 565	—	—
Northumberland	1 876 022	5149871	8295129
Newcastle	66 742	—	—
North East	2 117 329	5 149 871	8 295 129
Bolton	964 000	816096	5686000
St Helens	—	—	—
North West	964 000	816 096	5 686 000
Barnsley	—	—	—
Calderdale	8 700	7965	7965
Kirklees	55 000	42531	38676
Leeds	—	—	—
Rotherham	19 411	—	—
Wakefield	—	187327	47469
Yorkshire and the Humber	83 111	237 823	94 110
Shropshire	320 760	320297	320297
West Midlands	320 760	320 297	320 297
England	4 210 200	8 243 427	16 430 167
Carmarthenshire	24 386	—	75 407
Neath Port Talbot	3 617 406	3393590	2779131
Merthyr Tydfil	10 800 000	10791317	10420951
Powys	2 032 787	2646020	2260455
Wrexham	—	—	—
Wales	16 474 579	16 830 927	15 535 944
Clackmannanshire	—	—	—
Dumfries and Galloway	3 287 949	2428956	1876482
East Ayrshire	11 577 017	9251681	19324956
Falkirk	214 000	190767	190767
Fife	828 786	3235659	3452833
Midlothian	37 155	400270	182036
North Lanarkshire	no data	—	—
South Lanarkshire	13 351 218	13769166	16296340
West Lothian	241 486	—	—
Scottish Borders	—	450000	450000
Scotland	29 537 611	29 726 499	41 773 414
Great Britain	50 222 390	54 800 853	73 739 525

Source: The Coal Authority and planning authorities in
England , Scotland and Wales

Great Britain production of deep-mined and opencast coal 1979–2007

Thousand tonnes

Year	Deep-mined			Opencast			Deep-mined and opencast		
	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total
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
2006	...	...	9 444	...	...	8 635	...	...	18 079
2007	...	...	7 674	...	...	8 866	...	...	16 540

(a) BGS estimate.

Source: Department for Business, Enterprise and Regulatory Reform

United Kingdom regional deep-mined coal production 2004–2009 (a)

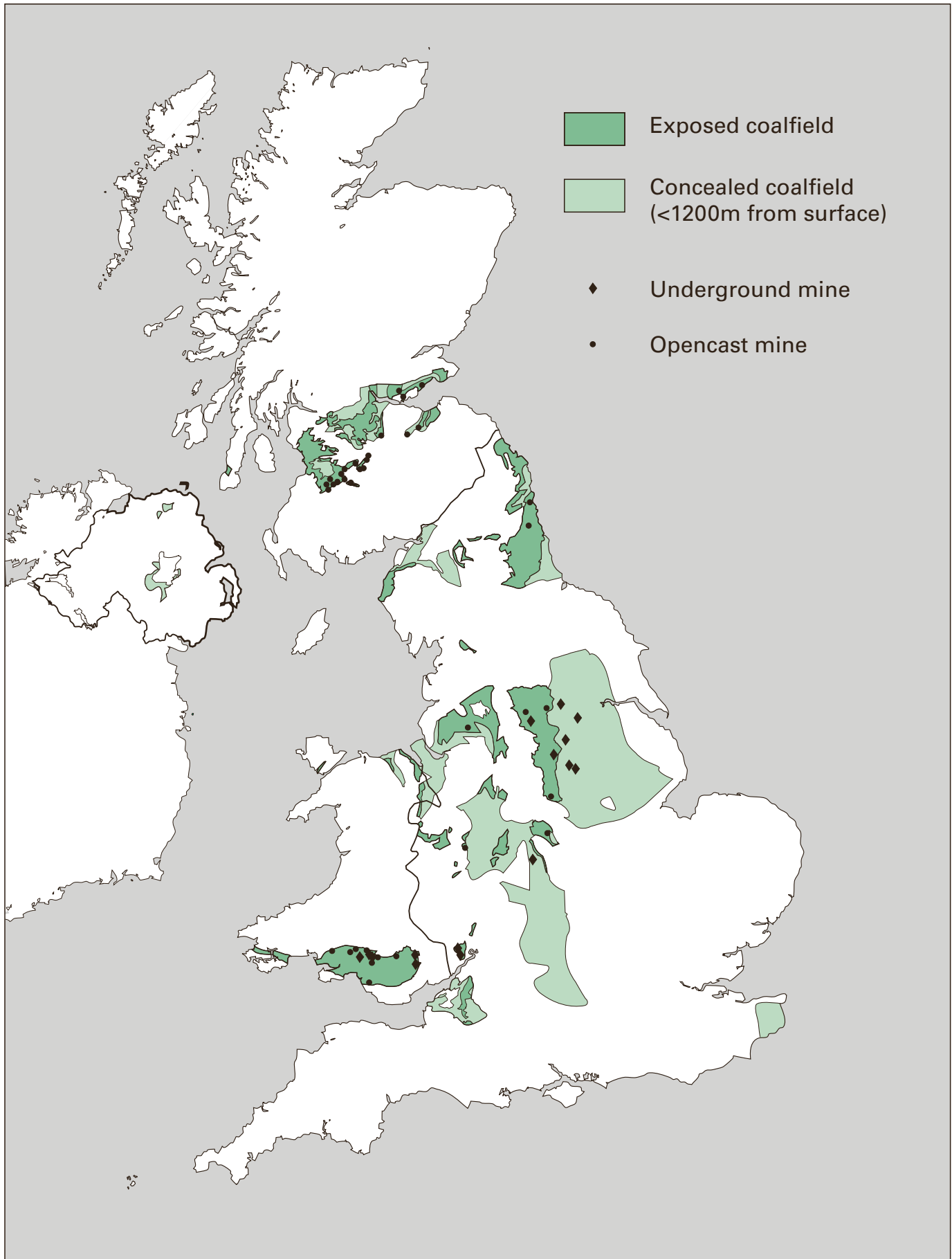
Thousand tonnes

County/Unitary authority	2004/05	2005/06	2006/07	2007/08	2008/09
Doncaster	378	622	58	118	489
Kirklees	24	18	19	14	16
Rotherham	1 635	1 003	811	917	1 124
Warwickshire	2 977	2 346	2 247	2 560	3 116
Derbyshire	21	24	26	24	21
Nottinghamshire	2 617	3 579	2 642	2 125	1 938
Northumberland	376	125	—	—	—
North Yorkshire	3 054	2 042	1 908	1 569	1 183
Gloucestershire	94	—	0	0	0
England	11 082	9 759	7 711	7 327	7 887
Rhondda, Cynon Taff	398	544	423	145	—
Neath Port Talbot	26	11	11	19	121
Torfaen	8	3	5	5	4
Wales	431	558	440	168	125
Scotland	—	—	—	—	—
United Kingdom	11 513	10 317	8 150	7 495	8 012

(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 2004–2009 (a)

Thousand tonnes

County/Unitary authority	2004/05	2005/06	2006/07	2007/08	2008/09
Barnsley	201	11	—	—	—
Bolton	—	—	—	186	257
Calderdale	—	—	1	—	—
Kirklees	—	—	—	12	6
Rotherham	407	280	18	—	—
Wakefield	—	—	—	82	187
Lancashire	—	—	—	—	1
Leicestershire	328	69	8	110	441
Derbyshire	255	9	—	17	127
Durham	258	42	134	91	—
Newcastle upon Tyne	—	92	89	7	—
Northumberland	906	653	768	1 306	1 142
Leeds	311	11	—	—	—
Shropshire	6	25	0	—	—
St Helens	48	11	—	—	—
England	2 720	1 204	1 018	1 811	2 161
Merthyr Tydfil	—	—	—	38	447
Carmarthenshire	29	7	32	18	8
Wrexham	—	7	—	—	—
Neath Port Talbot	977	870	807	665	832
Powys	354	327	412	361	408
Bridgend	—	—	—	—	—
Wrexham	66	—	—	—	—
Wales	1 426	1 210	1 252	1 082	1 695
Clackmannanshire	65	—	—	—	—
Dumfries & Galloway	—	—	233	751	562
Falkirk	39	209	5	—	—
Midlothian	128	222	246	85	258
West Lothian	262	520	495	260	—
East Ayrshire	3 719	4 034	3 257	3 380	3 330
Fife	1 630	1 477	1 046	735	748
North Lanarkshire	203	130	—	—	—
South Lanarkshire	1 585	1 147	860	710	1 063
Scotland	7 632	7 739	6 143	5 921	5 961
United Kingdom	11 778	10 153	8 413	8 815	9 817

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Coal										
<i>Production</i>	28 279 000	25 096 000	20 498 000	18 517 000	17 007 000					
<i>Consumption</i>	63 039 000	60 451 000	61 842 000	67 450 000	62 886 000					
<i>Imports</i>										
Anthracite	334 883	197 787	187 388	125 011	135 941	15 897	12 129	13 262	9 444	7 769
Bituminous	31 538 546	35 958 449	43 890 778	49 544 012	43 024 560	907 426	1 319 047	1 864 790	2 095 699	1 951 342
Total	31 873 429	36 156 236	44 078 166	49 669 023	43 160 501	923 323	1 331 176	1 878 052	2 105 143	1 959 111
Briquettes of coal	7 440	7 697	6 125	9 604	6 127	899	838	789	1 211	1 068
Lignite (including agglomerated)	2 685	5 255	1 930	1 215	384	340	684	543	395	329
<i>Exports</i>										
Anthracite	180 382	172 486	169 252	137 353	123 549	12 774	11 419	12 704	10 739	10 474
Bituminous	352 620	439 930	380 426	354 281	419 193	19 394	25 772	26 996	24 795	30 528
Total	533 002	612 415	549 678	491 634	542 742	32 168	37 191	39 701	35 534	41 002
Briquettes of coal	59 189	40 256	19 885	18 982	26 590	5 375	4 040	2 155	2 073	2 976
Lignite (including agglomerated)	3 567	3 172	3 149	3 804	2 966	344	250	311	481	410

Cobalt

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Cobalt										
<i>Consumption in Iron and Steel Industry (a)</i>	20	20	20	20	20					
<i>Apparent consumption (a) (b)</i>	1 000	1 100	1 100	2 000	2 900					
<i>Imports</i>										
Scrap	414	508	593	744	866	1 627	3 811	4 988	4 527	10 316
Ash and residues	—	—	...	...	...	—	—	...	...	...
Unwrought	2 252	2 467	2 557	2 855	3 670	24 768	48 073	43 929	39 515	73 809
Wrought	690	887	738	828	885	6 935	14 201	12 012	16 942	11 182
Oxides	582	525	107	195	180	4 613	7 456	1 392	2 291	3 394
<i>Exports</i>										
Scrap	537	794	391	467	766	2 352	6 149	3 117	3 203	6 984
Unwrought	507	628	648	630	679	8 031	14 217	13 173	12 932	17 036
Wrought	502	460	432	597	855	11 485	14 884	14 113	19 281	20 921
Oxides	1 380	1 233	994	750	689	13 538	20 078	10 706	9 167	13 909

(a) Metal content.

(b) BGS estimates; see p.v.

Coke and breeze

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Coke and breeze										
<i>Production</i>										
Coke oven										
—coke	4 286 000	4 038 000	4 105 000	4 384 000	4 451 000					
—breeze	315 000	298 000	259 000	245 000	25 000					
<i>Consumption</i>										
Coke oven coke	4 005 000	3 718 000	3 639 000	3 868 000	4 024 000					
Breeze	1 332 000	1 364 000	1 337 000	1 411 000	1 228 000					
<i>Imports</i>										
Coke from coal	764 525	785 585	554 707	804 872	691 402	61 358	134 706	71 763	80 803	98 135
<i>Exports</i>										
Coke from coal	223 408	189 640	191 854	93 505	97 608	14 666	18 073	24 350	10 740	10 459
Coke from lignite	5 312	1	...	...	20 813	469	175	...	...	1 365

Copper

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Copper										
<i>Consumption</i>										
Unwrought–										
Refined	242 193	243 417	165 406	172 092	41 454					
Copper in scrap for direct use (a)	120 000	120 000	120 000	120 000	...					
<i>Imports</i>										
Ores and concentrates	459	249	251	2 571	1 676	685	567	736	1 537	1 218
Matte and cement	7	9	5	15	2	33	66	76	63	51
Scrap	17 378	15 731	42 264	19 744	21 852	17 025	15 621	25 644	43 789	53 297
Ash and residues	262	867	1 108	610	1 089	171	370	579	758	1 395
Unwrought–										
Unrefined	14	122	1 977	264	7 401	36	77	4 307	600	23 350
Refined	245 152	214 067	181 767	183 727	46 820	269 351	342 492	364 395	668 026	170 610
Alloys	4 427	6 478	5 371	5 813	5 488	5 555	8 800	9 428	18 155	18 339
Master alloys	1 733	1 592	820	930	714	2 211	2 719	1 934	3 113	2 827
<i>Exports</i>										
Matte and cement	2 723	79	41	515	16	970	445	523	1 864	181
Scrap	210 169	244 749	238 557	311 058	346 361	145 046	203 166	247 351	587 992	646 751
Ash and residues	1 722	2 017	675	1 168	465	3 378	1 136	74	522	196
Unwrought–										
Unrefined	687	759	271	153	786	3 259	3 344	2 772	1 922	4 844
Refined	2 237	6 603	15 982	5 969	8 489	2 407	9 643	33 657	18 721	29 618
Alloys	20 803	18 543	12 681	13 661	12 533	22 617	25 426	23 456	41 189	46 032
Master alloys	3 318	3 492	2 332	3 590	5 609	4 588	6 653	6 160	14 471	21 354

(a) Additional to that used in secondary metal.

Crushed rock (also see Aggregates)

Great Britain production of crushed rock by region 1979–2007

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
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
2006	5 352	8 996	10 811	4 824	29 658	496	1 059	22 526	83 722	18 429	24 744	126 895
2007	5 482	9 351	10 834	4 750	28 530	591	1 011	22 374	82 922	18 487	28 168	129 577

(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 2007

Thousand tonnes										
Area of origin	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other con-structional uses	Armour-stone & gabion	Total
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
North East	539	...	...	...	...	572	835	1 249	56	5 482
North West	517	...	1 830	...	...	2 614	1 109	2 340	...	9 351
Yorkshire and the Humber	293	1 255	2 644	145	—	2 960	1 492	2 010	34	10 834
West Midlands	1 053	401	1 601	...	...	300	191	...	...	4 750
East Midlands	2 107	1 420	7 007	287	1 783	4 291	5 399	6 120	117	28 530
East of England	—	—	—	—	—	—	—	591	—	591
South East	—	—	...	...	—	61	91	...	...	1 011
South West	2 413	1 704	4 727	...	...	5 413	2 987	4 805	56	22 374
England	6 920	5 945	19 370	889	2 322	16 211	12 103	18 717	443	82 922
Wales	1 647	1 704	2 121	...	...	3 335	2 678	5 662	74	18 487
Scotland	2 049	2 237	6 492	...	...	5 111	4 586	5 865	264	28 168
Great Britain	10 616	9 887	27 983	2 136	3 904	24 658	19 367	30 244	781	129 577

Source: Office for National Statistics.

Great Britain production of crushed rock for aggregate 2007

Thousand tonnes										
Mineral	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other con-structional uses	Armour-stone & gabion	Total
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
Limestone (inc. dolomite)	4 976	2 992	15 524	1 006	...	15 981	8 411	18 081	304	...
Igneous rock	4 763	4 586	11 110	728	3 372	7 147	9 504	9 019	402	50 631
Sandstone	877	2 308	1 349	402	...	1 529	1 453	3 144	75	...
Total	10 616	9 887	27 983	2 136	3 904	24 658	19 367	30 244	781	129 577

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 1995–2007

Thousand tonnes										
Year	Roadstone			Railway ballast	Fill	Concrete aggregate	Other screened & graded	Other con-structional uses	Armour-stone & gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2006	21 367	27 234	2 331	3 543	...	19 863	21 140	30 721	696	126 895
2007	20 503	27 983	2 136	3 904	...	24 658	19 367	30 244	781	129 577

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of crushed rock, gravel and sand for use in concrete, 1995–2007

Thousand tonnes

Year	Sandstone	Igneous rock	Limestone and dolomite	Gravel (a)	Concreting sand (a)	Total
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
2006	496	5 548	13 819	25 354	29 815	75 032
2007	1 529	7 147	15 981	23 621	30 202	78 480

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

Source: Office for National Statistics.

Great Britain production of crushed rock for use as roadstone, 1995–2007

Thousand tonnes

Year	Sandstone		Igneous rock		Limestone and dolomite		Total	
	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated
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	(b) 14 558	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
2006	2 858	(a) 1 850	9 571	(a) 11 478	8 937	(a) 16 237	21 367	(a) 29 565
2007	3 185	(a) 1 751	9 349	(a) 11 838	7 968	(a) 16 530	20 503	(a) 30 119

(a) Including surface dressing chippings

Source: Office for National Statistics.

(b) Excluding surface dressing chippings

Great Britain production of crushed rock for railway ballast, 1995–2007

Thousand tonnes

Year	Sandstone	Igneous rock	Limestone and dolomite	Total
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
2006	...	3 102	...	3 543
2007	...	3 372	...	3 904

(a) BGS estimate.

Source: Office for National Statistics.

England production of crushed rock by end-use 1995–2007

Thousand tonnes										
Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2006	14 504	18 551	1 104	1 933	...	14 818	11 268	21 133	411	83 722
2007	12 865	19 370	889	2 322	...	16 211	12 103	18 717	443	82 922

Source: Office for National Statistics.

Wales production of crushed rock by end-use 1995–2007

Thousand tonnes										
Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2006	3 853	1 972	...	...	...	2 514	2 954	5 813	85	18 429
2007	3 351	2 121	...	...	...	3 335	2 678	5 662	74	18 487

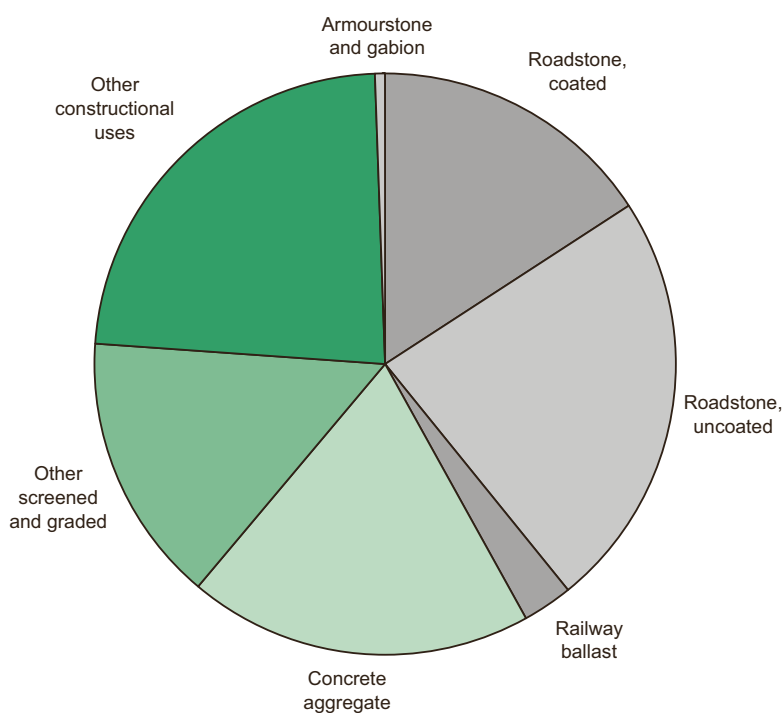
Source: Office for National Statistics.

Scotland production of crushed rock by end-use 1995–2007

										Thousand tonnes
Year	Roadstone			Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	Total
	Coated	Uncoated	Surface dressing chippings							
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
2006	3 008	6 711	...	...	...	2 531	6 918	3 776	200	24 744
2007	4 286	6 492	...	...	...	5 111	4 586	5 865	264	28 168

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 2007
(total production £129.6 million tonnes)



United Kingdom summary 2003–2007

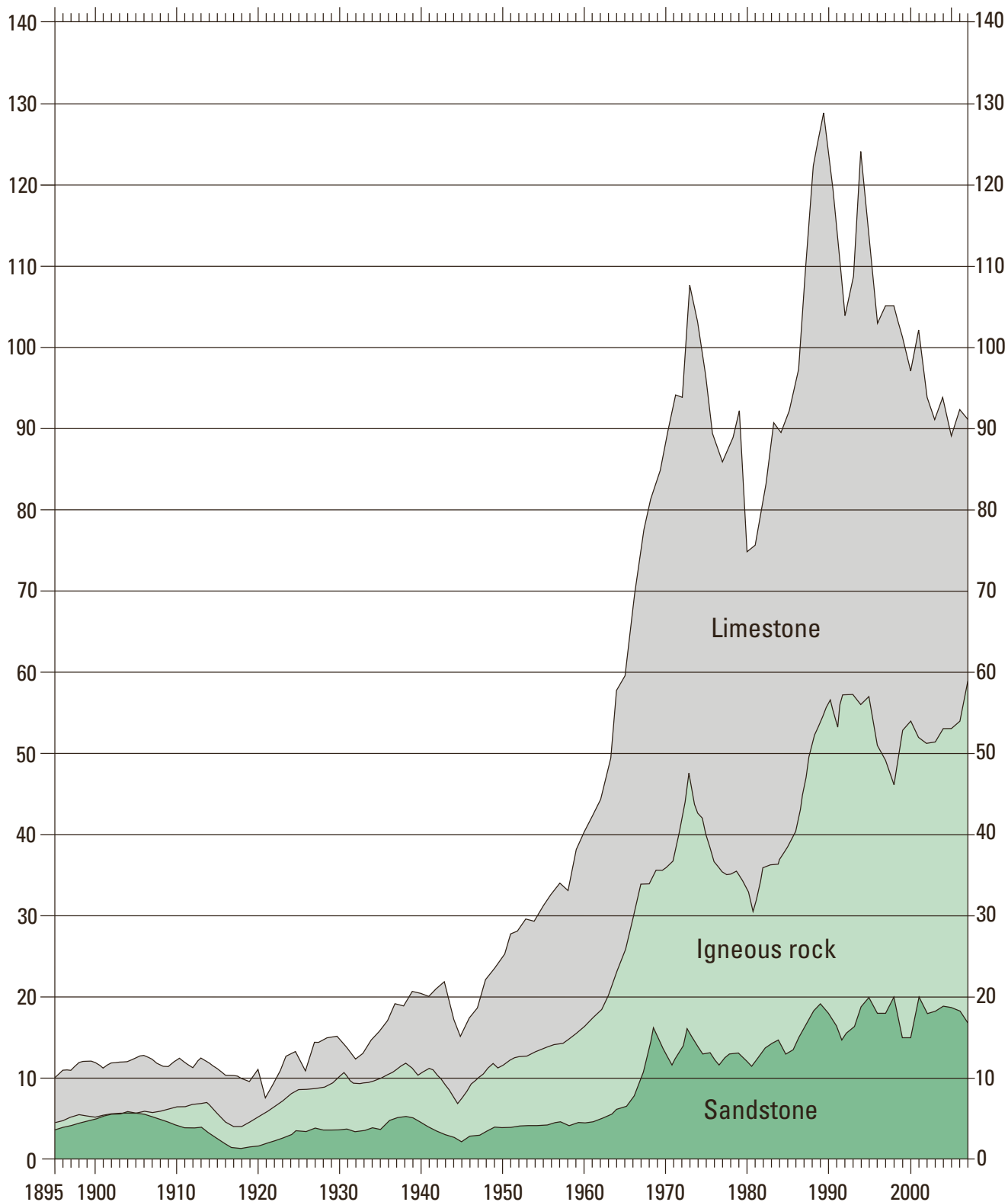
Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Crushed rock										
<i>Production</i>										
Crushed rock (a)	122 885 000	127 674 000	121 860 000	126 895 000	129 577 000					
<i>Imports</i>										
Crushed rock (b)	632 792	619 076	1 516 919	2 270 355	1 909 733	10 064	10 661	19 037	27 202	27 501
<i>Exports</i>										
Crushed rock	3 188 232	4 528 231	4 850 971	5 322 099	5 959 212	13 275	22 865	25 141	25 773	33 637

(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 2007, this figure was 326 446 tonnes, and this has reduced from 1 331 520 tonnes in 2005, suggesting this issue is being addressed.

United Kingdom production of sandstone, igneous rock and limestone (including dolomite) 1895–2007

Million
tonnes



Diamond

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Carats					£ thousand				
Diamond										
<i>Imports</i>										
Unsorted	5 210 022	10 557 065	33 441 810	14 408 621	13 661 786	181 085	256 208	542 182	556 447	573 786
Gem–										
Rough	77 712 486	68 227 020	78 735 595	78 790 692	81 195 314	3 210 787	3 479 633	3 731 322	3 575 369	2 999 781
Cut	4 520 872	9 317 145	12 039 040	7 370 573	973 433	631 502	577 773	632 372	798 474	752 728
Industrial	21 518 053	30 993 557	25 367 064	11 884 651	7 524 168	33 872	29 956	12 673	70 193	11 164
Dust	92 290 565	126 127 015	125 510 400	199 882 920	198 484 150	9 564	10 684	8 677	10 325	10 046
<i>Exports</i>										
Unsorted	9 744 443	6 394 541	16 818 545	3 544 216	5 307 857	542 541	492 362	1 087 752	301 075	363 578
Gem–										
Rough	104 300 972	78 613 304	76 400 064	88 991 279	84 573 134	3 757 671	3 638 553	3 477 092	3 944 529	3 337 596
Cut	828 103	1 592 717	5 330 874	2 341 635	477 463	480 709	493 848	510 487	447 503	538 638
Industrial	12 177 638	22 821 716	21 647 850	13 652 233	4 754 029	40 468	33 851	20 924	18 891	17 485
Dust	75 401 775	149 415 960	124 529 495	111 788 350	149 898 415	11 742	11 106	11 791	11 200	13 014

Diatomite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Diatomite										
<i>Production</i>	...	...	...	...	...
<i>Imports</i>										
Diatomite (a)	37 217	34 988	29 208	28 290	24 224	5 792	5 242	4 658	4 710	4 437
<i>Exports</i>										
Diatomite (a)	1 003	2 123	708	687	1 238	560	745	598	1 085	1 025

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

Dolomite (see Limestone)

Feldspar

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Feldspar										
<i>Production</i>										
China stone	2 865	2 274	1 835	1 441	1 112					
<i>Imports</i>										
Feldspar	25 764	31 601	23 139	17 098	26 751	1 708	2 075	1 428	1 096	1 687
Nepheline-syenite	52 453	49 731	47 672	81 960	40 484	4 465	4 204	4 052	4 201	3 617
<i>Exports</i>										
Feldspar	801	261	48	38	40	204	117	18	121	20
Nepheline-syenite	52	45	38	557	2 430	28	21	14	271	635

Fireclay

Fireclays are sedimentary mudstones that occur as the seatearths that underlie almost all coal seams. Seatearths represent the fossil soils on which coal-forming vegetation once grew. Fireclays are therefore mainly confined to coal-bearing strata and are commonly named after the overlying coal seam. The term fireclay was derived from the ability to resist heat and their original use in the manufacture of refractories for lining furnaces. Today the term fireclay is used to describe seatearths that are of economic interest, irrespective of their refractory properties. They are mainly used in the manufacture of structural clay products, principally high-quality facing bricks.

There has been a significant decline in fireclay production since the 1950s, due mainly to the fall in demand for fireclay as a refractory raw material. Fireclay output has historically been dominated by England, which accounted for 90 per cent of sales of 338 000 tonnes in 2007. The balance (32 000 tonnes) was from central Scotland. In the 1970s to early 1980s large quantities of fireclay were selectively extracted with the coal but stockpiled separately according to clay quality (mainly by seam). The principal source of these fireclays was the Donington Island site, near Swadlincote, which is where the current stockpiles are located.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Fireclay										
<i>Production</i>										
Fireclay (a)	528 000	402 000	395 000	228 000	338 000					
<i>Imports</i>										
Fireclay	67	199	497	1 279	1 467	405	108	156	377	244
Fireclay bricks etc	6 212	5 563	8 261	7 651	8 166	2 352	2 639	3 958	2 800	3 478
Refractory hollow-ware	880	1 347	1 676	1 969	1 357	2 016	2 023	2 956	2 688	2 670
<i>Exports</i>										
Fireclay	83	96	91	179	94	29	49	90	117	79
Fireclay bricks etc	2 170	1 985	3 135	2 676	3 283	2 765	2 937	4 336	4 800	3 957
Refractory hollow-ware	4 335	4 432	3 009	2 989	2 386	12 801	13 164	14 715	15 361	16 218

(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 2007

Thousand tonnes

Area of origin	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
Northumberland	53
Tyne and Wear
North East
West Yorkshire	7
South Yorkshire
Yorkshire and the Humber
Lancashire	—
North West	—
Leicestershire
East Midlands
Shropshire	124
West Midlands	124
England	305
Wales
West Central Scotland	32
Scotland	32
Great Britain	338

Source: Office for National Statistics.

Great Britain production of fireclay by end-use 1995–2007

Thousand tonnes

Year	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
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
2006	...	...	...	228
2007	...	...	...	338

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 36 801 tonnes in 2008, a decline from 44 936 tonnes in 2007. 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 have decreased considerably during recent years from 25 092 in 2004 to 3875 tonnes in 2007. This decline can be attributed to the closure of Rhodia's hydrofluoric acid plant at Avonmouth.

Glebe Mines Ltd is the only producer of marketable fluorspar in the UK. In 2007, in a strategic move INEOS Fluor acquired Glebe Mines Ltd, securing supply to the UK's only viable source of acid-grade fluorspar. Glebe Mines operates the Cavendish Mill, near Stoney Middleton for the supply of acid-grade fluorspar, together with its by-products barytes, lead concentrate and limestone aggregate. The Cavendish Mill is the second-most important source of barytes in the UK and the only source of galena (lead sulphide). Production of lead concentrate (65 per cent lead) was 100 tonnes in 2008 a significant decrease from around 600 tonnes during 2005 and 2006. Fluorspar ore, with associated barytes and galena, is obtained mainly from the company's own open pit operations on Longstone Edge and elsewhere. Milldam Mine is on a care and maintenance basis and Glebe is now implementing plans to re-develop the mine with production planned for 2009. Reprocessing of historic tailings and supplies from local tributaries (some 10 per cent of crude ore requirements) also make a significant contribution to the company's ore requirement, which is about 420 000 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.

Glebe Mines proposed extension to the existing Tearsall open pit, on the northern facing edge of Bonsall Moor has been approved by the Peak District National Park Authority. The extension will provide Glebe with access to an additional 660 000 tonnes of fluorspar ore over a six-year period.

The sole UK consumer of acid-grade fluorspar is the HF and fluorochemicals producer INEOS Fluor. INEOS Fluor (acquired from ICI in 2001) is a worldwide manufacturer of fluorochemicals with its headquarters and main manufacturing facility in Runcorn in Cheshire. The international chemical company Rhodia formerly produced anhydrous HF at its plant at Avonmouth but this closed in October 2004. Following closure of the plant it has had to source HF from other suppliers. In 2007 Rhodia announced the closure of their Avonmouth manufacturing site due to increasingly difficult market conditions.

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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Fluorine										
<i>Production</i>										
Fluorspar	56 000	50 080	56 417	49 676	44 936					
<i>Imports</i>										
Fluorspar	21 360	25 092	4 048	6 620	3 875	2 032	2 458	94	976	1 040
Natural cryolite	...	...	...			...	...	...
<i>Exports</i>										
Fluorspar	519	4 592	4 315	2 451	589	176	954	1 070	476	304
Natural cryolite	...	...	...	...	...	...	...	...	...	...

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 28 000 dry tonnes in 2004 and 6200 dry tonnes in 2005 when production finally ceased, bringing to an end this long-established minerals industry.

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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Fuller's earth										
<i>Crude production</i>	19 000	115 000	—	—	—					
<i>Sales (a)</i>	(b) 34 000	(b) 28 000	(b) 6 200	—	—					
<i>Imports</i>	7 085	2 574	3 122	14 700	...	697	316	504	1 408	...
<i>Exports</i>	254	124	778	1 102	...	53	59	417	279	...

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

(b) Including sales from stockpiles.

Gas, natural (see Petroleum)

Germanium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Germanium										
<i>Imports</i>										
Metal	4	2	5	2	3	595	1 993	2 094	1 205	872
<i>Exports</i>										
Metal	3	1	1	1	0	18	86	75	157	135

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 2008 from 22 to 32, with one new licence granted in Wales and a further 13 in Northern Ireland. Leases remained constant at four. The gold price fluctuated greatly due to a weak US dollar, rising oil prices and the global economic crises but year-on-year it has continued to rise, reaching over \$880 per ounce in December 2008. This contributed to a revival of interest in gold in Great Britain in 2008 with continued exploration at Cononish in Perthshire and in several parts of Northern Ireland. In Northern Ireland investigations have continued in the Omagh and Armagh areas and several new licences awarded elsewhere. Mines Royal Licence and Lease activity is distributed throughout the United Kingdom as follows:

	Licences		Leases	
	Granted	Pending	Granted	Pending
England	—	—	—	—
Northern Ireland	28	—	1	—
Scotland	3	—	—	—
Wales	1	—	3	—
Total	32	—	4	—

Source: Crown Mineral Agent

The 32 licences are held by the following companies:

Northern Ireland	Conroy Diamonds and Gold plc Omagh Minerals Ltd (wholly owned subsidiary of Galantas Gold Corporation) Dalradian Gold Ltd (wholly owned subsidiary of Tournigan Gold Corporation) Metallum Exploration Limited (wholly owned subsidiary of Metallum Resources plc) Lonmin Plc
Scotland	Scotgold Resources Ltd
Wales	Gold Mines of Wales Limited

The four Mines Royal leases and current status are as follows:

Company	Country	Activity
Anglesey Mining plc	Wales	Potential underground mine at Parys Mountain
Anglo Canadian Exploration	Wales	Dormant, part of Anglesey Mining plc
National Trust	Wales	Visitor and educational centre at Dolaucothi
Omagh Minerals Ltd	Northern Ireland	Open pit mining at Cavanacaw

Source: Crown Mineral Agent

One year after its release geochemical and geophysical data from the Tellus project for Northern Ireland continued to underpin a marked increase in gold exploration in the province. However there are no new licences currently pending.

Dalradian Gold Ltd has continued exploration at the Curraghinalt deposit, a mesothermal quartz-sulphide vein deposit, 15 km north-east of Omagh in County Tyrone. The resource at Curraghinalt comprises an indicated resource of 250 000 ounces of gold, contained in 570 000 tonnes of material, with an average grade of 13.95 g/t of gold. The deposit may also have economically recoverable copper in associated copper sulphides. In 2008 the Curraghinalt property and Dalradian Gold Ltd were sold by Tournigan Energy Ltd (previously Tournigan Gold Ltd) to C3 Resources Inc, a US-based gold exploration and development company for \$13 million. C3 plans to undertake further geological investigations at Curraghinalt.

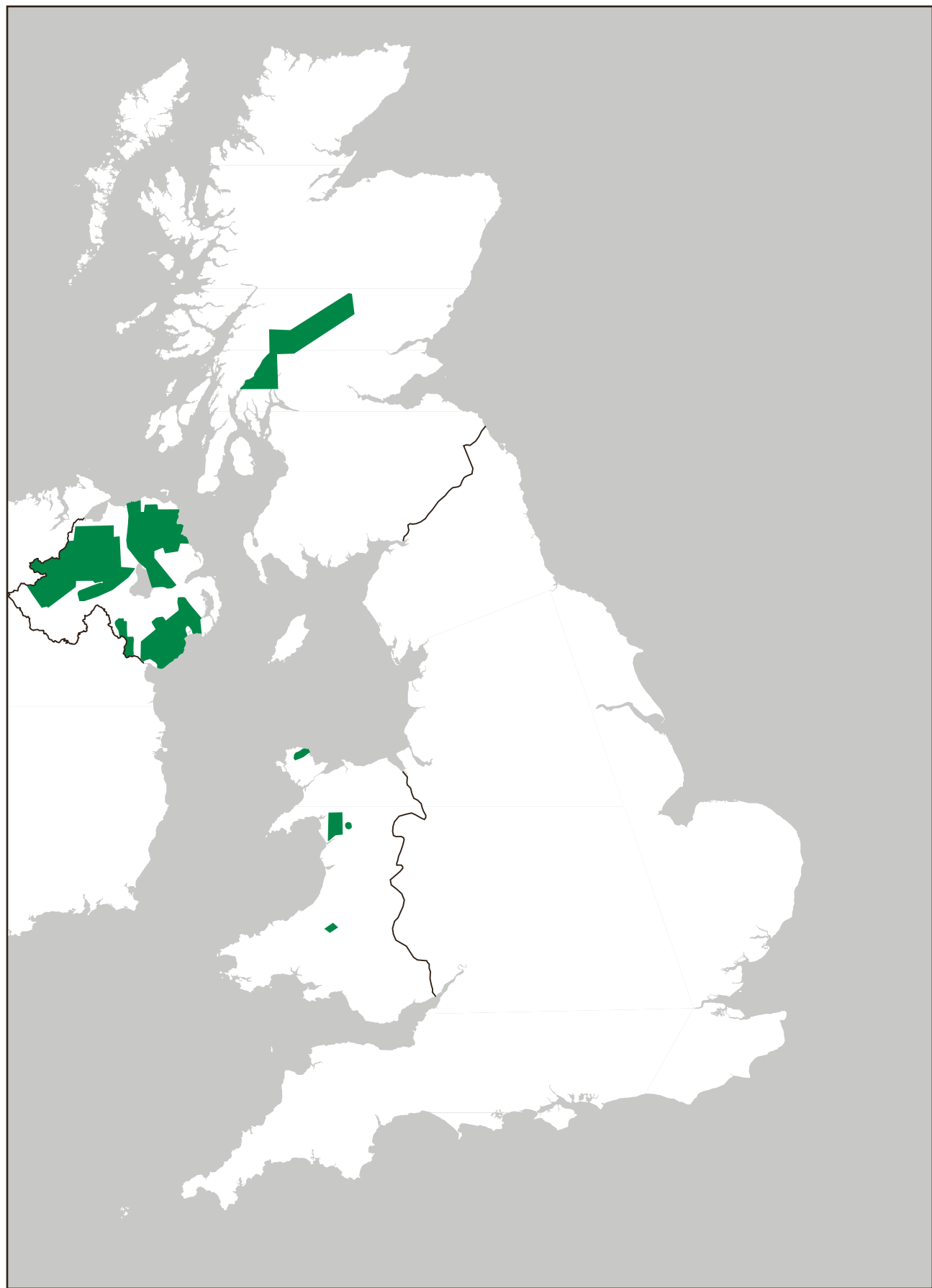
The Omagh (formerly Cavanacaw) deposit, 10 km south-west of Omagh, is owned by Omagh Minerals Ltd, a wholly owned subsidiary of Galantas Gold Corporation. The mesothermal quartz-sulphide vein deposit has a proven and probable reserve of 367 310 tonnes grading 7.52 grams per tonne gold over a width of 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). A resource review on the Kearney Vein of the deposit, completed in 2008, showed that the vein contains 16 000 ounces of gold at a grade of 6.35 grams per tonne. The processing facility is now fully operational, producing 434 tonnes of wet concentrate in the last quarter of 2008. Gold, silver and lead are recovered from sulphide concentrates which are processed in Canada. Galantas has been granted exploration licences to the west and north of its existing licence and now holds licences for an area totalling 460 km².

Conroy Diamonds and Gold plc is exploring over the Clontibret district, located on the border of Northern Ireland and The Republic of Ireland near Monahan. In July 2008 the company announced a substantial resource increase, to over one million ounces of gold. The JORC-compliant indicated resource comprises 11 million tonnes grading 1.24 grams per tonne for 440 000 ounces gold, using a cut of 0.75 grams per tonne. An additional 590 000 ounces of gold was reported in the inferred category.

Metallum Resources plc holds 14 licences for exploration largely based on the results of the Tellus project. The company has been compiling data and is planning to explore for gold mineralisation in the Dalradian in the north-west of the province, in the Tyrone Volcanic Complex located between Cookstown and Omagh, and in the South Armagh – South Down area.

In Scotland Scotgold Resources Ltd has licences from Mines Royal for the areas around Inverliever, Glen Orchy and Glen Lyon and owns the gold and silver assets of the Cononish deposit, near Tyndrum. In June 2007 Scotgold Resources released the first JORC-compliant resource for the Cononish gold-silver deposit. The resource statement gives a measured, indicated and inferred resource containing 154 000 ounces of gold and 589 000 ounces of silver (using a 3.5 grams per tonne cut-off). The report also notes that there is potential to prove further reserves within

Mines Royal Licences and Leases in 2007



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a few kilometres of the existing mine. In February 2009 AMC Consultants announced the results of a scoping study at the Cononish project; this confirmed that the project has economic potential. Scotgold plans to drill around 2500 m to target additional areas of mineralisation at Cononish and estimates that the mine could potentially produce 20 000 to 30 000 ounces of gold a year.

Alba Mineral Resources has relinquished its four exploration licences in Scotland, covering the Aberfeldy area, part of the Ochil Hills, Kilmelford and Arthra.

As Crown Estate licences for gold and silver 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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Gold										
<i>Imports</i>										
Waste and scrap	231	275	66	8	17	134 567	167 932	33 304	8 185	13 157
Unwrought (a)	1 402	1 028	339	1 152	725	6 972 447	4 701 983	2 825 803	8 263 982	7 017 522
Semi-manufactured	12	25	12	547	287	40 611	76 005	38 060	90 711	226 489
<i>Exports</i>										
Waste and scrap	1 075	472	541	314	282	3 451	4 004	52 473	36 296	37 334
Unwrought (a)	65	343	585	149	211	402 840	1 083 671	4 217 538	1 407 212	2 169 760
Semi-manufactured	18	64	53	24	44	76 034	88 082	70 236	52 874	76 554

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

Granite (see Igneous rock)

Graphite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Graphite										
<i>Imports</i>										
Natural graphite	19 270	19 075	17 766	16 978	17 225	8 670	8 814	9 453	9 243	8 642
Artificial graphite	13 176	12 508	13 761	15 334	16 112	13 356	14 275	15 165	15 435	15 136
Graphite crucibles etc	1 146	1 175	811	1 100	1 333	2 888	3 477	2 788	3 506	3 531
<i>Exports</i>										
Natural graphite	4 158	4 348	2 685	2 979	3 065	3 416	4 104	3 204	3 183	3 760
Artificial graphite	4 058	5 771	11 450	9 300	8 765	7 491	11 010	10 431	10 537	11 275
Graphite crucibles etc	11 240	9 007	9 111	11 699	10 900	20 583	18 452	17 647	21 255	22 612

Gypsum

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

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

UK consumption of gypsum is derived from three sources: the production of natural gypsum, mainly by underground mining, but with some surface extraction in Nottinghamshire; recovery of synthetic gypsum; and imports of both natural and synthetic gypsum. Natural gypsum, of which British Gypsum Ltd is the sole producer, is extracted in Leicestershire, Nottinghamshire, Staffordshire, Cumbria and East Sussex. Extraction is mainly by underground mining. BPB, 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 2002 and 2004 some imports of crude gypsum were being wrongly

classified as plaster. The figures from 2005 onwards 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. Reported imports of crude gypsum in 2007 were 196 613 tonnes valued at £8.5 million, a substantial decrease from the 369 714 tonnes imported in 2006 with a reportedly similar value. Imports of calcined gypsum were 52 678 tonnes valued at around £13.7 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

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Drax	323	483	565	506	485	699	653	565	610	645	744
Ratcliffe-on-Soar	278	220	260	291	358	384	350	235	204	254	338
West Burton	—	—	—	—	—	—	274	335	289	255	217
Eggborough	—	—	—	—	—	—	—	31	46	36	66
Cottam	—	—	—	—	—	—	—	19	196	257	225
Total	510	703	825	797	843	1083	1228	1185	1303	1447	1590

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, with desulphogypsum production commencing in 2005. During 2007 EDF Energy opened a new FGD plant at its 2000 MW Cottam station in Nottinghamshire. New FGD systems are due to be commissioned at the Fiddler's Ferry and Ferrybridge power stations. As a result of the installation of FGD plant at Ferrybridge Lafarge are developing a new plasterboard manufacturing facility to utilise the synthetic gypsum produced. An FGD plant is currently being installed at Rugeley power station in Staffordshire and FGD systems are planned for other power stations in the UK.

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

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

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Gypsum and plaster										
<i>Production</i>										
Gypsum, natural	(a) 1 700 000	1 686 000	(a) 1 700 000	(a) 1 700 000	(a) 1 700 000					
<i>Imports</i>										
Gypsum—										
Gypsum	(b) 47 751	(b) 64 043	627 595	369 714	196 613	8 603	8 160	9 738	8 415	8 511
Calcined gypsum (plasters)	(b) 855 317	(b) 163 025	133 522	92 069	52 678	8 441	8 780	11 003	10 976	10 674
<i>Exports</i>										
Gypsum—										
Gypsum	2 601	3 903	2 299	2 679	1 248	463	593	599	559	584
Calcined gypsum (plasters)	39 515	49 945	54 356	63 533	57 988	8 689	11 677	11 836	13 680	13 668

(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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Hafnium										
<i>Imports</i>	7	3	23	14	16	217	285	934	919	708
<i>Exports</i>	11	57	1	8	1	66	244	137	336	56

Igneous rock (for graph, see Crushed rock)

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Igneous rock – see also Building and dimension stone										
<i>Production</i> (a)	51 356 000	53 037 000	53 104 000	53 954 000	58 909 000					
<i>Imports</i>										
Granite–										
Unworked	1 145 887	1 643 221	1 331 520	491 438	442 911	30 386	39 988	43 026	33 622	43 987
Worked	66 177	81 551	88 916	114 802	114 967	45 125	50 079	57 884	66 403	74 519
<i>Exports</i>										
Granite–										
Unworked	1 369	1 806	1 974	2 394	7 634	251	238	292	983	2 125
Worked	290	489	607	517	429	399	546	623	1 233	627

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

Great Britain production of igneous rock by end-use and area of origin 2007

Thousand tonnes												
Area of origin	Roadstone					Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings							
North East	...	...	477	...	...	...	...	154	227	...	...	...
Yorkshire & Humber	—	—	—	—	—	—	—	—	...	—	—	...
East Midlands	...	1 448	1 036	...	...	1 783	709	4 270	2 213	99	...	14 686
South West	...	...	...	...	...	...	...	159	468	...	...	3 055
West Midlands	...	503	...	799	—	...	...	32	230	...	...	1 797
North West	—	—	...	...	...	...	...	6	...	—	—	...
England	28	2 539	...	4 692	323	...	...	4 621	...	...	...	21 865
Wales	15	377	...	256	...	...	...	483	...	...	—	2 474
Scotland	...	1 847	2 153	6 163	...	1 077	4 982	4 399	5 214	251	...	26 345
Great Britain	...	4 763	4 586	11 110	728	3 372	7 147	9 504	9 019	402	...	50 684
England												
Wales												
Scotland												
County	Total		County		Total		Region		Total			
Northumberland	1 258		Clwydd		3		South of Scotland		1 188			
Durham	...		Powys		...		West Central Scotland		9 778			
North Yorkshire	...		Dyfed		...		East Central Scotland		2 904			
Cumbria	...		Gwynedd		972		Tayside and Fife		2 714			
West Midlands	...						North East Scotland		1 702			
Shropshire	...				Wales		Highlands		7 679			
Warwickshire	...				2 474		Western Isles		217			
Leicestershire	14 686						Shetland		155			
Lincolnshire	...											
Somerset	...											
Devon	276											
Cornwall	...											
England	21 865											

Source: Office for National Statistics.

England production of igneous rock by end-use 1995–2007

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 con- structional uses	Armour- stone & gabion	Industrial uses	Other uses	
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
2006	20	...	3 418	4 071	...	...	2 961	3 277	3 492	...	...	...	22 076
2007	28	2 539	...	4 692	323	...	...	4 621	...	...	...	...	21 865

Source: Office for National Statistics.

Wales production of igneous rock by end-use 1995–2007

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 con-structional uses	Armour-stone & gabion	Industrial uses		Other uses
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
2006	...	...	...	243	...	...	156	452	412	...	—	...	2 596
2007	15	377	...	256	...	...	...	483	...	...	—	...	2 474

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of igneous rock by end-use 1995–2007

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 con- structural uses	Armour- stone & gabion	Industrial uses		Other uses
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
2006	...	1 685	...	6 332	230	1 107	2 431	6 754	3 291	173	—	...	23 194
2007	...	1 847	2 153	6 163	...	1 077	4 982	4 399	5 214	251	...	...	26 345

(a) BGS estimate.

Source: Office for National Statistics.

Insulating materials

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Insulating materials										
<i>Imports</i>										
Mineral wools (a)	27 034	34 567	33 438	44 986	36 100	24 780	27 848	35 145	34 486	34 748
Expanded minerals (b)	77 906	110 410	101 740	98 909	170 284	5 857	6 995	8 127	9 123	9 663
Other (c)	33 690	40 996	46 278	42 734	45 972	30 987	35 298	37 553	40 520	38 309
<i>Exports</i>										
Mineral wools (a)	18 482	21 782	25 329	29 911	33 825	29 829	38 331	41 965	51 274	58 525
Expanded minerals (b)	11 847	18 846	18 214	18 844	20 009	7 087	17 530	15 259	17 693	18 668
Other (c)	38 272	45 815	59 040	65 952	57 570	41 940	42 980	58 321	66 845	61 163

(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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Iodine										
<i>Imports</i>	826	803	1 093	1 020	1 225	6 366	5 302	8 606	10 728	11 828
<i>Exports</i>	169	107	197	315	369	1 267	819	2 038	3 891	4 557

Iron compounds and earth colours

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Iron compounds and earth colours										
<i>Imports</i>										
Natural micaceous oxides	...	...	...	...	...	...	...	...	...	...
Earth colours containing 70% or more ferric oxide	111	105	152	122	136	48	50	40	34	48
Other iron compounds—Oxides and hydroxides	52 205	43 552	44 125	37 755	37 993	26 567	22 361	23 158	23 389	22 333
<i>Exports</i>										
Natural micaceous oxides	...	...	...	...	...	...	...	...	...	...
Earth colours containing 70% or more ferric oxide	93	97	58	20	79	170	216	147	34	150
Other iron compounds—Oxides and hydroxides	17 572	9 274	7 784	7 894	7 265	14 105	10 111	9 532	9 193	8 593

Iron ore

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Iron ore										
<i>Production</i> (a)	(b) 500	(b) 500	354	341	(b) 300					
Fe content	275	275	195	190	170					
<i>Consumption</i>										
Home-produced (b)	500	500	350	340	300					
Imported	15 766 200	16 013 200	15 991 100	16 538 800	16 607 000					
<i>Imports</i>										
Iron ore	16 121 350	15 298 713	16 204 615	16 370 705	17 435 472	243 973	321 118	458 754	539 498	644 177
Fe content (b)	9 900 000	9 200 000	9 700 000	9 000 000						
<i>Exports</i>										
Iron ore	343	212	2 107	5 229	5 396	145	213	534	1 256	1 734

(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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Iron and steel										
<i>Production</i>										
Pig iron	10 277 800	10 179 600	10 188 800	10 695 700	10 959 800					
Crude steel–										
Alloy qualities	897 800	957 100	862 400	760 100	779 400					
Other	12 230 700	12 808 600	12 376 500	13 144 500	13 532 800					
Total	13 128 500	13 765 700	13 238 900	13 904 600	14 312 200					
<i>Consumption</i>										
Scrap (a)	4 390 000	5 123 000	4 531 000	4 811 000	5 144 000					
Pig iron (a)	9 955 000	10 010 000	9 983 000	10 444 000	10 729 000					
Finished steel (b)	12 314 000	13 176 000	10 762 000	13 150 000	13 313 000					
<i>Imports</i>										
Scrap	139 089	225 483	180 261	154 967	204 100	37 225	70 492	81 783	84 007	159 432
Pig iron	116 724	105 007	102 531	81 689	89 863	12 669	18 925	19 955	15 201	17 957
Shot, powder, sponge etc.	38 454	43 956	40 574	34 768	25 772	22 240	26 958	32 971	28 676	27 009
Ferro-alloys	305 212	369 797	285 640	292 311	303 176	140 783	222 837	194 233	196 267	273 381
Iron and steel–										
Ingots and other primary forms	540 537	758 615	722 452	1 053 176	849 803	130 116	226 009	258 168	362 218	352 643
<i>Exports</i>										
Scrap	7 174 934	6 772 111	6 105 955	7 407 174	6 013 907	716 223	1 005 863	938 844	1 191 273	1 335 853
Pig iron	94 788	957	1 387	5 407	15 892	147 558	531	905	1 114	4 353
Shot, powder, sponge etc.	53 669	53 644	46 947	44 736	45 051	29 988	32 186	35 060	38 375	39 693
Ferro-alloys	39 659	57 230	50 368	42 568	42 791	116 686	236 866	457 720	389 849	362 469
Iron and steel–										
Ingots and other primary forms	1 305 976	1 712 102	2 246 377	2 692 654	3 514 850	472 338	775 032	965 422	1 012 574	1 450 504

(a) Consumption in steel making only.

(b) Net home disposals.

Consumption in the United Kingdom iron and steel industry 1998–2007

	Thousand tonnes									
	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Iron ore –										
Home produced (a)	1	1	1	1	0	1	1	0	0	0
Imported (b)	19 510	18 739	16 955	15 108	13 181	15 766	16 013	15 991	16 539	16 607
Manganese ore	22	14	36	4	4	0	6	3	6	3
Iron and steel scrap (f)	6 409	5 884	5 675	4 864	4 138	4 390	5 123	4 531	4 811	5 144
Pig iron (f)	12 619	11 859	10 970	9 713	8 312	9 955	10 010	9 983	10 444	10 729
Alloy metals (c) –										
Nickel	14	14	14	14	15	16	17	14	13	12
Molybdenum	3	2	2	2	2	2	2	2	2	2
Tungsten	0	0	0	0	0	0	0	0	0	0
Vanadium	1	1	1	1	1	0	0	0	0	0
Cobalt	0	0	0	0	0	0	0	0	0	0
Chromium	62	56	53	47	46	53	54	52	55	61
Niobium	1	1	0	0	0	0	0	0	0	0
Ferro-alloys –										
Ferro-manganese	125	112	106	91	77	94	95	92	97	100
Ferro-silico-manganese	32	29	27	24	21	23	23	22	24	24
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	44	42	36	35	37	37	36	38	39
Ferro-silico-zirconium	0	0	0	0	0	0	0	0	0	0
Calcium silicide	1	1	0	0	0	0	0	0	0	0
Ferro-phosphorus	1	1	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)	495	370	338	261	223	254	262	243	445	474
Limestone (e)	2 411	2 408	2 166	1 889	1 684	2 019	2 068	1 951	2 028	1 822
Lime (e)	739	698	660	561	501	530	584	593	631	585
Zinc for galvanising	97	89	87	64	66	62	53	57	60	58
Tin for tinplating	4	3	3	3	3	2	3	3	2	3

Average Fe content: (a) 55%, (b) 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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Lead										
<i>Production</i>										
Concentrate (a)										
Pb content (c)	700	500	400	400	150					
Unwrought–										
Bullion	9 000	36 000	36 000	36 000	36 000					
Refined–										
Primary (b)	195 000	125 938	161 350	174 703	119 000					
Secondary	169 574	120 000	143 000	144 000	144 000					
<i>Consumption</i>										
Refined	314 700	330 367	281 686	300 000	244 800					
Scrap	40 045	40 808	—	—	—					

continued

United Kingdom summary 2003–2007 *continued*

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Lead continued										
<i>Imports</i>										
Ores and concentrates	(c) 5 000	343	84	78	72	...	226	89	94	91
Ash and residues	423	51	358	447	443	278	19	136	148	670
Scrap	6 043	6 278	3 898	5 914	17 685	2 163	2 628	1 948	4 098	15 842
Unwrought										
Unrefined—										
Bullion (d)	168 228	127 970	173 910	120 871	119 726	83 515	93 506	143 042	130 338	191 196
Other	7 042	16 354	4 170	2 745	3 160	2 215	6 811	2 092	2 224	3 446
Refined	18 165	31 531	23 366	50 504	28 020	5 417	13 725	13 623	32 754	33 596
Alloys	2 925	3 497	3 811	644	7	1 240	2 178	2 424	517	35
<i>Exports</i>										
Ores and concentrates	5	26	507	202	19	50	47	337	147	91
Ash and residues	85	0	99	484	704	79	1	22	113	300
Scrap	28 569	45 646	27 248	1 859	31 942	7 259	15 909	11 791	1 364	31 087
Unwrought										
Unrefined—										
Bullion	70	5	474	73	...	39	14	329	72	...
Other	3 688	754	3 046	3 074	1 257	1 775	282	1 302	596	825
Refined	57 924	34 100	49 073	86 124	66 895	22 214	19 659	32 048	66 656	92 463
Alloys	44 091	31 148	38 806	48 589	39 246	17 818	17 798	25 241	37 477	56 008

(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.105.

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

Great Britain production of limestone, dolomite and chalk by broad end-uses 2007

Thousand tonnes					
Mineral	Constructional uses (b)	Cement	Agricultural uses (a)	Industrial uses (a)	Total
Limestone	61 803	...	...	5 945	77 587
Dolomite	5 898	—	...	...	7 622
Chalk	698	...	...	...	7 566
Total	68 399	13 837	1 826	8 713	92 775

(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) 2007

Thousand tonnes					
Use	Limestone	Dolomite	Chalk	Total	Of which for conversion by calcination
Agricultural	...	...	...	1 826	
Iron and steel	...	...	...	4 319	1 220
Glass making	99	...	—	...	
Asphalt filler	116	—	—	116	
Other fillers	...	—	...	991	
Chemical use	...	—	...	...	...
Building materials	...	—	...	698	
Other uses	...	—	...	...	...
Total	6 911	1 724	1 905	10 540	2 885

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone and chalk for cement, 1995–2007

Thousand tonnes

Year	Limestone	Chalk	Total
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
2006	...	...	12 408
2007	...	...	13 837

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for agricultural uses, 1995–2007

Thousand tonnes

Year	Limestone	Dolomite	Chalk	Total	Calcination (a)
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	...
2006	...	...	...	1 709	—
2007	...	...	...	1 826	—

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

Source: Office for National Statistics.

(b) BGS estimate.

Great Britain production of limestone, dolomite and chalk for industrial uses, 1995–2007

Thousand tonnes

Year	Limestone	Dolomite	Chalk	Total	Calcination
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
2006	5 911	...	...	8 776	2 459
2007	5 945	...	...	8 713	2 885

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

Source: Office for National Statistics.

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

(c) BGS estimate.

Great Britain production of limestone, dolomite and chalk for industrial uses by end-use, 1994–2007

Thousand tonnes

Year	Iron and steel making (a)	Chemicals (a)	Glass making	Special fillers	Asphalt fillers	Building materials (a)	Others (a)	Total (a)
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
2006	4 390	...	280	983	...	624	...	8 776
2007	4 319	...	...	991	116	698	...	10 540

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for calcination by end-use, 1994–2007

Thousand tonnes

Year	Agriculture	Iron and Steel	Chemicals	Building materials	Others	Total
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
2006	—	1 230	...	—	...	2 459
2007	—	1 220	...	—	...	2 885

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for iron and steel making, 1994–2007

Thousand tonnes

Year	Limestone	Dolomite and chalk	Total	Calcination (a)
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
2006	...	...	4 390	1 230
2007	...	...	4 319	1 220

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

Source: Office for National Statistics.

Great Britain consumption of dolomite, limestone and lime in iron and steel production, 1974–2007

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
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	254	—	1 889	—	—	561	—
2002	8	215	—	1 684	—	—	501	—
2003	8	246	—	2 019	—	—	530	—
2004	3	260	—	2 068	—	—	584	—
2005	0	243	—	1 951	—	—	593	—
2006	183	262	—	2 028	—	—	631	—
2007	184	291	—	1 822	—	—	581	—

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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Limestone —see Building and dimension stone										
<i>Production</i>										
Limestone	78 935 000	81 648 000	77 596 000	80 228 000	83 491 000					
Dolomite	12 167 000	12 226 000	11 514 000	12 101 000	7 622 000					
<i>Imports</i>										
Dolomite	179 003	170 916	218 932	111 177	146 587	4 129	3 690	4 032	3 135	3 721
Limestone flux (a)	4 976	9 155	132 061	22 067	32 446	469	646	4 492	1 615	1 679
Lime	15 487	12 651	13 995	20 681	23 946	2 140	2 536	2 035	2 388	2 747
<i>Exports</i>										
Dolomite (c)	...	...	144 707	47 360	4 642	...	...	5 106	2 230	252
Limestone flux (a)	247 665	234 101	265 228	307 136	348 347	3 631	3 430	3 991	5 744	4 894
Lime	360 584	110 087	94 648	101 138	103 928	12 745	10 978	10 989	11 740	12 831
Chalk										
<i>Production</i> (b)	8 066 000	7 997 000	7 105 000	7 376 000	7 566 000					
<i>Imports</i>										
	5 847	6 128	3 675	4 249	5 689	528	537	384	315	450
<i>Exports</i>										
	26 858	40 942	43 846	36 918	34 594	2 036	2 121	1 994	1 670	2 082

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

(c) Crude

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

Great Britain production of limestone by end-use and area of origin 2007

Area of origin	For constructional uses (a)						For other uses				
	Roadstone					Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
North East	...	...	...	1 127	...	—	...	678	974	...	...
Yorkshire and the Humber	...	293	642	2 575	...	—	...	1 102	1 824	...	66
East Midlands	46	659	384	4 044	...	—	3 582	1 082	3 817	18	319
East of England	—	—	—	—	—	—	—	—	420	—	—
South East	2	—	—	...	...	—	61	91	603	...	...
South West	...	2 055	1 427	4 140	—	...	4 271	2 801	4 132	45	307
West Midlands	...	...	...	...	—	—	...	...	467	...	...
North West	2	517	...	1 219	—	—	...	...	1 396	110	...
England	...	4 033	2 765	13 855	...	...	13 043	6 605	13 633	256	748
Wales	13	...	...	1 584	...	...	...	1 767	...	...	89
Scotland	...	...	...	85	...	—	...	39	...	...	...
Great Britain	...	4 976	2 992	15 524	1 006	...	15 981	8 411	18 081	304	...
England											
County		Total		County		Total					
Avon		3 713		Lancashire		4 095					
Bedfordshire		...		Leicestershire		3 680					
Buckinghamshire		1		Lincolnshire		...					
Cambridgeshire		...		Norfolk		...					
Cleveland		...		Northamptonshire		275					
Cheshire		...		Northumberland		...					
Cornwall		...		North Yorkshire		7 108					
Cumbria		...		Nottinghamshire		...					
Derbyshire		17 125		Oxfordshire		...					
Devon		...		Shropshire		...					
Dorset		200		Somerset		11 535					
Durham		3 270		South Yorkshire		...					
Gloucestershire		2 233		Staffordshire		...					
Hampshire		...		Suffolk		...					
Hereford and Worcester		...		Tyne and Wear		...					
Hertfordshire		...		Wiltshire		...					
Humberside		19		West Sussex		...					
Isle of Wight		...		West Yorkshire		...					
Kent		430									
England							67 378		continued		

(a) Including dolomite.

Source: Office for National Statistics.

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

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

(d) For water & effluent treatment and pollution control.

Thousand tonnes

								Total
Iron and steel	Cement	Chemical uses	Building materials	Environmental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	
—	—	—	—	—	—	...	—	3 952
...	...	—	—	—	—	—	—	9 672
...	...	...	...	...	98	56	679	22 027
—	—	—	—	—	—	—	—	420
—	—	—	—	—	—	—	—	999
...	—	—	—	—	—	18	37	19 712
...	1 031	—	—	—	—	...	—	2 494
...	...	—	—	—	—	11	—	8 102
1 884	6 334	...	...	...	98	...	717	67 378
...	1 491	—	—	—	...	...	—	14 549
—	...	—	—	—	—	...	...	1 555
...	...	...	...	...	...	116	...	83 482
Wales				Scotland				
County		Total	Region			Total		
Clwyd		5 733	East Central Scotland			1 048		
Dyfed		1 883	Highlands			135		
Gwent		...	North East Scotland			119		
Gwynedd		35	South of Scotland			...		
Mid Glamorgan		5 107	Tayside and Fife			...		
Powys		...	West Central Scotland			...		
South Glamorgan		1 103						
West Glamorgan		302						
			Scotland			1 555		
Wales		14 549						

England production of limestone by end-use 1996–2007

Year	For constructional uses (a)					For other uses					
	Roadstone					Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
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
2006	369	4 758	2 406	13 681	...	...	11 605	6 681	15 142	279	623
2007	...	4 033	2 765	13 855	...	...	13 043	6 605	13 633	256	748

continued

(a) Including dolomite.

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

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

(d) For water & effluent treatment and pollution control

Source: Office for National Statistics.

Wales production of limestone by end-use 1996–2007

Year	For constructional uses (a)					For other uses					
	Roadstone					Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
1996	10	...	177	4 164	...	(d) 65	...	...	7 192	...	...
1997	(e) 6	1 123	329	3 588	...	(d) 71	3 322	...	6 952	...	228
1998	37	1 107	341	2 849	...	(d) 110	3 607	...	6 653	...	119
1999	52	...	275	3 136	...	...	3 688	...	6 502	...	110
2000	45	...	206	2 177	...	...	3 375	...	6 676	...	106
2001	44	...	328	1 731	...	...	4 299	...	4 802	...	101
2002	45	912	...	1 280	...	—	4 115	...	4 761	...	...
2003	39	866	...	1 756	...	...	...	...	3 845	...	133
2004	29	953	...	1 416	...	...	2 977	...	3 142	...	99
2005	9	...	...	1 474	...	...	1 829	1 912	3 471	...	100
2006	...	1 260	...	1 495	...	...	...	1 909	4 460	...	85
2007	13	...	...	1 584	...	...	...	1 767	...	...	89

continued

(a) Including dolomite.

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

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

(d) For water & effluent treatment and pollution control

(e) BGS estimate.

Source: Office for National Statistics.

Scotland production of limestone by end-use 1996–2007

Year	For constructional uses (a)					For other uses					
	Roadstone					Railway ballast	Concrete aggregate	Other screened and graded	Other constructional uses	Armour-stone & Gabion	Agricultural use
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
1996	—	...	—	97	...	—	...	...	108	...	...
1997	—	41	—	86	...	—	20	...	107	...	...
1998	...	38	—	53	...	—	10	...	123	...	(d) 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
2006	...	44	...	77	...	—	...	30	128	...	...
2007	...	...	...	85	...	—	...	39	...	...	...

continued

(a) Including dolomite.

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

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

(d) For water & effluent treatment and pollution control

(e) BGS estimate.

Source: Office for National Statistics.

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
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
1 751	5 981	...	...	...	...	...	...	...	67 356
1 884	6 334	...	...	...	98	...	717	...	67 378

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
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
...	...	—	—	—	—	...	—	...	13 707
...	1 491	—	—	—	...	...	—	...	14 549

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environ-mental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
—	...	...	...	...	—	...	...	—	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
—	1 042	—	—	—	—	...	...	...	1 534
—	...	—	—	—	—	...	...	...	1 555

Great Britain production of dolomite by end-use and area of origin 2007

Thousand tonnes

Area of origin	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
North East	—	2 562	...	...	3 386
Yorkshire and the Humber
East Midlands	—
North West	—	—	...
West Midlands	—	...
England	601	...	...
Wales	—	...	—	—	...
Scotland	—	—	...
Great Britain	...	5 898	...	...	7 622

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

Source: Office for National Statistics.

(b) Including material for calcination.

Great Britain production of dolomite by end-use 1995–2007

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
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
2006	...	10 283	...	...	12 100
2007	...	5 898	...	...	7 622

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

Source: Office for National Statistics.

(b) Including material for calcination.

(c) BGS estimate.

England (d) production of dolomite by end-use 1995–2007

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
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	...	...
2006	...	8 434	...	...	10 238
2007	...	...	601	...	...

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

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

(b) Including material for calcination.

(c) BGS estimate.

Source: Office for National Statistics.

Great Britain production of chalk by end-use and area of origin 2007

Thousand tonnes

Area of origin	Cement	Construc- tional use	Agricultural use	Industrial uses	Total
Humberside	...	...	...	...	...
North Yorkshire	—	...	...	—	...
Yorkshire and the Humber	...	417	39	...	2 922
Derbyshire	—	4	—	—	4
Lincolnshire	—	...	...	—	...
East Midlands	—	...	...	—	...
Cambridgeshire	...	...	...	...	...
Norfolk	—	—	...	—	...
Suffolk	—	—	...	...	...
Essex	—	—	...	—	...
Hertfordshire	—	—	...	—	...
Bedfordshire	...	...	—	—	...
East of England	...	...	110	...	...
Kent	1 195	81	39	—	1 314
East Sussex	—	—	—	—	—
West Sussex	—	82	33	—	115
Hampshire	—	...	...	—	...
Surrey	—	—	...	—	...
Isle of Wight	—	12	—	—	13
South East	1 195	...	...	—	1 477
Devon	910	—	—	14	924
Wiltshire	—	—	—	—	—
South West	910	—	—	14	924
Great Britain (England)	...	698	...	...	7 565

Source: Office for National Statistics.

England production of chalk by end-use 1995–2007

Thousand tonnes

Year	Cement	Construc- tional use	Agricultural use	Industrial uses	Total
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
2006	...	681	...	...	7 376
2007	...	698	...	...	7 565

(a) BGS estimate.

Source: Office for National Statistics.

Lithium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Lithium										
<i>Imports</i>										
Oxide and hydroxide	554	498	446	385	614	1 435	950	1 299	1 364	2 212
Carbonate	687	490	657	650	779	1 037	808	1 158	1 525	2 150
<i>Exports</i>										
Oxide and hydroxide	169	285	125	94	92	397	288	289	288	389
Carbonate	193	160	203	271	158	323	238	396	723	572

Magnesia

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Magnesia										
<i>Imports</i>										
Dolomite	179 003	170 916	218 932	111 177	146 587	4 129	3 690	4 032	3 135	3 721
Magnesite	20 287	11 187	13 896	10 644	10 194	1 877	1 396	1 843	1 076	969
Magnesia—										
Dead burned	32 681	29 362	14 934	5 366	22 256	6 291	6 315	3 987	2 145	4 453
Caustic-calcined	35 217	38 708	49 037	44 641	35 650	6 322	5 549	8 004	6 937	5 335
Other	14 202	15 469	14 872	14 890	7 276	4 842	5 503	4 135	4 824	3 805
Kieserite	13 598	11 463	52 658	150 248	230 504	1 369	1 336	1 722	2 421	2 841
Magnesite or chrome-magnesite refractory bricks and shapes (a) (b)	77 411	50 259	35 280	27 792	30 884	18 986	19 703	16 519	18 171	18 886
<i>Exports</i>										
Dolomite (c)	...	...	144 707	47 360	4 642	...	...	5 106	2 230	252
Magnesite	34	49	87	26	51	19	59	42	48	129
Magnesia—										
Dead burned	4 304	3 514	2 273	1 612	2 022	1 988	1 831	1 488	896	952
Caustic-calcined	2 886	2 283	2 712	3 160	2 632	833	2 124	2 457	2 771	2 185
Other	19 058	18 999	15 092	14 264	11 717	14 302	14 169	11 935	12 074	10 262
Magnesite or chrome-magnesite refractory bricks and shapes (a) (b)	58 713	13 132	5 333	3 619	2 409	17 774	5 346	5 045	3 826	2 189

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

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

Magnesium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Magnesium										
<i>Consumption</i>										
Magnesium and alloys	...	...	...	...	...
<i>Imports</i>										
Ferro-silico-magnesium	5 663	4 969	5 448	3 810	2 303	3 010	2 418	2 754	1 738	1 168
Scrap	4 309	2 352	2 389	1 982	2 721	4 170	1 465	966	780	789
Unwrought	5 788	3 732	5 322	6 408	5 201	6 197	4 184	5 567	6 325	6 229
Unwrought alloys	2 229	5 737	7 954	7 197	3 904	2 702	6 429	8 628	7 376	4 557
Wrought	3 265	3 216	3 187	3 077	3 602	12 100	10 679	7 724	7 600	8 208
<i>Exports</i>										
Ferro-silico-magnesium	282	316	542	653	917	330	213	409	441	807
Scrap	23	181	1 933	1 772	2 398	25	173	1 702	1 413	2 938
Unwrought	862	380	650	209	8	1 656	605	808	275	82
Unwrought alloys	6 184	5 599	5 537	4 872	4 911	14 976	13 195	13 258	12 601	11 559
Wrought	1 054	273	282	605	1 533	3 821	2 738	2 873	3 084	5 448

Manganese

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Manganese										
<i>Consumption in Iron and Steel</i>										
<i>Industry</i>										
Ore	—	6 400	2 900	6 000	3 300					
Ferro-manganese	93 750	95 490	92 120	96 770	100 100					
Ferro-silico-manganese	22 660	23 080	22 170	23 620	24 430					
<i>Apparent consumption (a)</i>	101 000	116 000	107 000	118 000	125 000					
<i>Imports</i>										
Ores and concentrates	2 102	2 585	698	4 229	1 569	740	1 140	244	431	433
Ferro-manganese	76 686	91 832	79 045	86 598	100 694	26 699	55 380	38 427	37 430	57 728
Ferro-silico-manganese	53 421	63 935	57 136	59 985	56 036	18 537	34 837	24 041	23 440	29 887
Scrap	—	0	0	1	60	—	0	1	1	99
Unwrought	7 949	8 898	7 858	8 169	6 728	5 671	8 309	8 199	6 752	9 303
Wrought	301	291	365	394	232	333	363	533	542	599
Oxides	7 759	5 808	7 232	7 216	9 646	1 800	1 628	1 995	1 813	1 979
<i>Exports</i>										
Ores and concentrates	220	137	64	200	114	485	347	40	192	88
Ferro-manganese	434	1 554	660	473	1 136	1 792	1 734	1 297	949	1 359
Ferro-silico-manganese	42	8 247	5 003	60	7	22	5 075	1 513	90	11
Scrap	—	62	...	0	...	—	24	...	1	...
Metal (b)	3 000	3 100	3 100	2 000	2 100	3 500	3 700	4 200	2 400	3 600
Oxides	4 820	3 286	3 440	6 284	3 785	793	1 106	957	1 529	1 026

(a) BGS estimates; see p.v.

(b) BGS estimates, based on known imports into certain countries, may include some scrap

Marble

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Marble										
<i>Imports</i>										
Dimension stone—										
Unworked	18 565	29 893	63 046	32 609	37 404	11 930	14 655	18 901	17 463	20 144
Worked	60 473	69 920	77 698	100 555	111 039	40 413	46 701	52 806	65 977	63 620
Crushed and powdered	135 862	112 938	169 551	245 601	248 711	4 772	3 476	4 344	10 242	11 217
<i>Exports</i>										
Dimension stone—										
Unworked	6 203	2 362	2 126	1 549	2 227	447	203	287	184	553
Worked	1 072	1 658	2 905	4 068	4 740	3 320	3 726	4 951	6 441	7 319
Crushed and powdered	3 133	2 786	2 834	1 176	3 229	88	247	173	213	641

Mercury

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Mercury										
<i>Imports</i>										
Elemental	30	28	32	2	3	139	169	314	107	91
Oxide	0	0	0	0	...	3	4	3	2	...
<i>Exports</i>										
Elemental	1	3	191	79	4	50	59	996	491	59
Oxide	0	0	0	1	...	—	4	1	10	...

Mica

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Mica										
<i>Imports</i>										
Crude (a)	424	1 769	296	251	289	183	362	125	108	92
Ground	8 327	6 286	6 684	5 856	6 705	1 968	1 700	1 710	1 824	1 831
Waste	5 050	4 374	4 485	3 474	3 433	518	475	563	404	476
Worked	323	598	1 809	726	919	2 349	3 314	4 141	4 861	4 277
<i>Exports</i>										
Crude (a)	34	—	22	0	2	48	—	43	1	2
Ground	4 740	9 354	4 030	4 593	3 818	3 035	3 998	2 782	4 694	2 835
Waste	0	23	0	...	0	1	9	14	...	6
Worked	383	375	361	412	629	3 338	3 526	4 517	4 844	6 065

(a) Including sheets or splittings.

Molybdenum

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Molybdenum										
<i>Consumption in Iron and Steel</i>										
<i>Industry (a)</i>	2 080	2 120	2 040	2 140	2 390					
<i>Apparent consumption (a) (b)</i>	3 500	4 000	7 100	7 900	5 400					
<i>Imports</i>										
Roasted molybdenite concentrates	17 463	16 779	16 916	16 591	15 215	51 607	94 531	188 684	214 773	271 386
Other ores and concentrates	1 421	1 592	1 684	2 441	3 165	6 666	12 384	37 649	44 661	47 323
Ferro-molybdenum	434	836	861	640	515	2 395	6 862	14 352	15 250	13 635
Scrap	579	668	1 036	899	751	2 672	8 298	31 807	23 074	16 698
Powders	102	65	143	436	58	770	634	695	923	1 436
Unwrought	104	101	135	145	192	1 249	1 559	5 955	4 978	5 788
Wrought	384	1 020	1 563	1 965	389	5 916	6 733	9 077	7 393	7 978
Oxides and hydroxides	7	2	630	635	513	52	46	26 908	21 064	19 655
<i>Exports</i>										
Roasted molybdenite concentrates	32	106	119	100	6	160	1 246	2 981	427	122
Other ores and concentrates	52	74	60	66	72	189	318	518	700	720
Ferro-molybdenum	14 081	14 213	11 501	12 004	11 823	70 647	150 295	318 935	262 368	263 672
Scrap	82	116	450	259	207	654	1 672	10 788	5 638	3 971
Powders	1	17	52	17	14	6	269	857	359	55
Unwrought	23	26	47	1	2	181	375	413	38	121
Wrought	124	153	129	318	13	1 665	2 158	4 151	8 202	1 833
Oxides and hydroxides	7	86	2	0	2	63	1 106	941	3	5

(a) Metal content.

(b) BGS estimates; see p.v.

Nepheline syenite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Nepheline-syenite										
<i>Imports</i>	52 453	49 731	47 672	81 960	40 484	4 465	4 204	4 052	4 201	3 617
<i>Exports</i>	52	45	38	557	2 430	28	21	14	271	635

Nickel

Nickel is generally derived from magmatic sulphide deposits, the main ore minerals being pentlandite, pyrrhotite and garnierite. Nickel is valued as an alloying material, predominantly in stainless steel, for its corrosion resistance and strength at high temperatures.

In Northern Ireland Lonmin plc continued to actively explore for magmatic sulphide deposits containing nickel, copper and platinum-group metals in the company's licence areas over the Antrim Plateau based on data from the Tellus project. Alba Mineral Resources plc continues to hold ground at the Arthra nickel-copper-PGE prospect in Aberdeenshire under private mineral rights agreements with landowners. The company is seeking to finance advance work on this property.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Nickel										
<i>Production (a) (e)</i>	26 788	38 606	37 600	36 750	34 050					
<i>Consumption (b)</i>										
Iron and steel industry	15 820	16 800	14 380	13 370	12 450					
Other (c)	16 500	15 700	18 000	19 000	20 000					
Total (d)	32 308	32 470	32 400	32 400	32 400					
<i>Imports</i>										
Matte, oxide sinter etc	43 968	64 192	57 492	56 336	62 637	133 282	237 464	253 895	369 361	735 537
Ash and residues	12	24	...	50	0	16	157	...	8	13
Scrap	20 038	8 697	10 927	7 975	10 376	22 109	22 876	31 417	37 625	55 794
Ferro-nickel	16 437	14 628	11 325	13 169	14 960	19 932	28 544	22 137	34 683	70 052
Unwrought	34 162	45 264	24 019	17 414	21 044	169 206	240 872	195 283	237 631	412 993
Unwrought alloys	31 491	2 238	1 629	2 883	2 947	151 620	16 763	12 304	27 115	37 999
Oxides	61	103	277	59	49	367	704	1 780	534	773
<i>Exports</i>										
Matte, oxide sinter etc	200	964	196	517	40	754	2 641	1 520	3 612	575
Ash and residues	787	18	1 246	4 331	15 623	1 392	74	12 019	25 412	107 080
Scrap	7 861	10 465	14 119	15 555	16 872	19 082	29 820	46 495	50 350	70 146
Ferro-nickel	424	125	55	329	52	1 124	756	873	1 471	1 378
Unwrought	19 200	38 249	38 524	31 610	24 147	95 233	236 559	267 251	314 738	458 448
Unwrought alloys	4 899	4 710	6 141	6 486	4 375	33 016	38 881	62 045	75 063	80 199
Oxides	13	10	3	7	8	40	115	38	101	85

(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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Niobium and tantalum										
<i>Consumption in Iron and Steel Industry</i>										
Niobium (a)	410	420	410	430	480					
<i>Imports</i>										
Ores and concentrates	1	0	2	13	0	23	15	75	222	17
Ferro-niobium	1 148	1 236	1 175	1 098	1 490	6 246	6 132	6 884	7 427	12 836
Tantalum	842	243	97	119	96	76 281	60 170	9 895	9 501	6 572
Niobium (b)	116	103	123	143	140	2 331	2 917	2 250	7 953	2 972
<i>Exports</i>										
Ferro-niobium	59	47	79	74	49	499	373	607	513	944
Tantalum	278	77	131	83	77	55 155	19 840	21 641	11 569	4 706
Niobium (b)	55	23	26	9	124	631	788	357	315	2 012

(a) Metal content.

(b) Including rhenium.

Peat

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Thousand cubic metres					£ thousand				
Peat										
<i>Production</i>	2 008	1 262	1 505	1 593	885					
	Tonnes									
<i>Imports</i>										
Peat and agglomerated peat	520 464	539 854	426 908	433 419	508 843	28 572	30 001	28 463	22 332	24 861
<i>Exports</i>										
Peat and agglomerated peat	38 860	32 776	32 219	20 736	33 514	3 760	3 637	3 631	3 544	4 249

Perlite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Perlite										
<i>Imports</i>	59 046	91 914	34 450	101 910	150 255	2 986	2 294	2 624	3 357	3 200
<i>Exports</i>	1 025	7 256	938	885	947	252	437	163	201	218

Petroleum and natural gas (also see Primary fuels)

The first six months of 2008 witnessed the continued rise in the oil price which started at less than \$30 per barrel in mid 2003, was at \$51 per barrel in January 2007 and rose to \$147 per barrel in early July 2008 (another new record). Although global tensions and conflicts inevitably contributed to short-term volatility in the price, the continued increase over such a long time largely reflected the strength of the western economies and the global demand. However, almost overnight in mid July, the economic climate changed and the price of oil began to fall faster than it had risen (Figure 1) finishing the year at just below the \$40 per barrel mark with the world entering a global recession.

In May, Oil and Gas UK, the representative body for the UK offshore oil and gas industry, issued revised seismic data release guidelines to help companies share and access data and to improve companies' understanding of data release regulations. Later in the same month members of the same organisation met the Prime Minister and the Chancellor of the Exchequer to discuss the supply and demand balance of world oil markets. It was estimated that companies needed to invest around £30 billion over the next ten years to recover all the oil and gas currently planned.

In July, Oil and Gas UK published its annual economic report. Apart from stressing the contribution which the industry made to the UK economy as a whole, concerns were expressed about falling production, the rising costs of field developments and the establishment of a viable fiscal regime for future hydrocarbon production. However, it was suggested that the UKCS would still be able to provide 20–25% of UK gas demand and 60–65% of oil demand in 2020. Decommissioning redundant platforms and associated infrastructure was also viewed as one of the major challenges for the industry over the next two decades.

On 3rd October the Prime Minister announced the creation of a new Department of Energy and Climate Change (DECC). This was an amalgamation of groups within the Departments for Food and Rural Affairs (DEFRA) and Business, Enterprise and Regulatory Reform (BERR). It was hoped that the new department would more thoroughly address the twin challenges of global warming and continuity of energy supply which would still be largely dependent on fossil fuels for the foreseeable future. Hence the group responsible for the legislative control of the UK oil and gas industry now resided within its third different department in less than 18 months.

In November DECC published updated figures (to the end of 2007) for UK ranges of estimated hydrocarbon reserves and ultimate recovery. These were based on data provided by companies between January and March 2008 and included both onshore and offshore areas.

	Proven	Probable	Proven and probable	Possible	Maximum
Total oil reserves ¹	452	328	780	399	1179
Estimated ultimate recovery ¹	3695	328	4023	399	4422
Total gas reserves ²	343	304	647	293	940
Estimated ultimate recovery ²	2500	304	2804	293	3097

¹ millions of tonnes

² billion cubic metres

Cumulative production to end 2007 is 3243 million tonnes of oil and 2157 billion cubic metres of gas. The Central North Sea, between 56° and 59° North, is seen as the most lucrative area for future hydrocarbon resources. However the area to the west of Scotland (the Rockall Basin) still remains underexplored.

ICE Brent Crude — daily closing December 2007 to December 2008



The price of a barrel of Brent crude during 2008. The price peaked at about \$147 per barrel during early July (another new record).

Development and production

Twenty development wells were spudded onshore in 2008 (including 11 sidetracks). A significant number of these were associated with the Airth coal bed methane development in Clackmannanshire, Scotland. Also of particular note is the Lybster-1 well which was drilled from a coastal onshore location in Caithness to target the small offshore Lybster oil field just over two miles away. The field was originally discovered by offshore well 11/24-1 in 1996 and is likely to produce 2000 barrels per day (bpd) of 36° API oil from the Jurassic Beatrice Formation.

Offshore a total of 168 development wells were started (including 96 sidetracks) which is a similar number to the previous year. More than 60% were drilled in the Central North Sea (which includes the inner and most of the outer Moray Firth).

A single new onshore oilfield, Avington (Hampshire), was approved for development in 2008. Offshore there were 12 new approvals:

Name of field	Field type	Block number	Operator at time of approval	When approved
Boa (UK)	Oil	9/15a	Maersk	April
Don SW	Oil	211/18a	Petrofac	May
West Don	Oil	211/18	Petrofac	May
Grouse	Oil	21/19	Venture	June
Shelley	Oil	22/2b	Oilexco	June
Lochranza	Oil	15/20a	Maersk	October
Jacky	Oil	12/21c	Ithaca	November
Rita	Gas	44/22c	E.ON Ruhrgas	July
Durango	Gas	48/21	Bridge	August
Stamford	Gas	49/10c	Venture	August
Ceres	Gas	47/9b	Venture	September
Eris	Gas	47/8c	Venture	September

Venture received four approvals, more than any other company. The Ceres and Eris gas fields both comprise single-well developments tied back to BG's Mercury subsea template. The Stamford field, which actually came on stream in December, tested at a flow rate of 20 million standard cubic feet of gas per day (MMscfd).

Year 2008 also contained approvals for ten incremental projects associated with existing offshore fields. In the period from the beginning of January 1976 to the end of December 2008 there have been 175 oil field, 141 gas field and 32 condensate field approvals. A total of 367 approvals has been issued for offshore hydrocarbon fields.

The Buzzard oil field in the outer Moray Firth was the biggest oil-producing field on the UK Continental Shelf averaging about 197 000 bpd. This was more than the combined total of the next four biggest fields: Forties (average c. 61 240 bpd), Captain (c. 45 000 bpd), Schiehallion (c. 42 200 bpd) and Foinaven (c. 40 000 bpd). Wytch Farm in Dorset was again the biggest onshore producing oil field, averaging c. 22 480 bpd. This was far more than the combined production from all other onshore fields and accounted for approximately 85 per cent of onshore oil production.

The largest gas producing field was again Morecambe South which averaged c. 424 million standard cubic feet per day. Apart from the Rough storage facility, the Saturn complex and Sean gas fields were the next biggest producers at c. 142 and c. 113 MMscfd respectively.

The Nuggets field averaged c. 19 650 bpd of condensate in 2008. The next biggest condensate producer was Morecambe South at c. 1000 bpd.

The calendar year 2008 was a bumper year for new oil and gas fields coming on stream although many of the projects were relatively small scale. Most new fields were in the central and southern North Sea.

Field name	Field type	Block number	Operator stream	Date on
Maria	Oil	16/29a	BG	January
Lidsey	Oil	Onshore	Midmar Energy	March
Tweedsmuir South	Oil	21/1a	Talisman	June
Boa (UK)	Oil	9/15a	Maersk	June
Callanish	Oil	15/29b	ConocoPhillips	June
Chestnut	Oil	22/2a	Venture	September
Curlew C	Oil	29/7	Shell	September
Grouse	Oil	21/19	Venture	December
Starling	Condensate	29/3a	Shell	January
Jura	Condensate	3/15	Total	May
Brodgar	Condensate	21/3a	ConocoPhillips	July
Tristan NW	Gas	49/29b	Granby	April
Caravel	Gas	49/20b	Shell	April
Shamrock	Gas	49/20a	Shell	May
Wissey	Gas	53/4	Tullow	August
Victoria	Gas	49/17	Silverstone	October
Durango	Gas	48/21	Bridge	November
Stamford	Gas	49/10c	Venture	December

The onshore Lidsey field, on a tilted fault block structure, is located near Bognor Regis in West Sussex and was originally discovered in 1987. Midmar Energy obtained full interest in the field in 2005. The main reservoir is the Middle Jurassic Great Oolite Limestone but with only moderate porosity and low matrix permeability the overall recovery factor is likely to be low. Oil is raised by nodding donkey and is shipped off site by road.

The Chestnut field, one of the smallest stand-alone fields in the North Sea, started production in September via a newly-built FPSO facility capable of processing 30 000 bpd and storing 270 000 bbls. By the end of the year the field was producing over 8200 bpd. Net recoverable reserves have been estimated at 6.8 million barrels of oil.

Jura, one of the bigger projects to come on stream in 2008, is a high-pressure, high-temperature development which cost around \$300 million. Reserves are estimated at about 170 million barrels of oil equivalent (boe). Production is expected to be approximately 50 000 boe per day of gas and liquids.

Notably, the Boa (UK), Grouse, Durango and Stamford fields were both approved and brought on stream in 2008.

Exploration (including appraisal)

Nine onshore exploration wells were started in 2008. This is slightly fewer than the previous year. There was a wide geographical spread ranging from Fife, in Scotland, to Pencoed in Mid Glamorgan. Nexen spudded more wells than any other company.

Eleven onshore appraisal wells were started in 2008 — the highest number for many years. Several of these were drilled near Canonbie (in Dumfries and Galloway) by Greenpark Energy to investigate the viability of extracting coalbed methane to fuel local consumers.

Offshore, 44 exploration wells were spudded (including three sidetracks drilled for geological purposes). This is the highest number since 1998. As for many years, most were drilled in the Central North Sea but the Northern North Sea witnessed a resurgence in interest with ten wells being started, the highest number for ten years. Maersk, Nexen, Oilexco and Talisman drilled the most exploration wells.

The following exploration wells were classified by DECC as significant discoveries:

Well	Hydrocarbon type	Discovery operator at end of 2008	Date of Discovery
16/23-7	Oil	BP	May
20/2a-8	Oil	Nexen	August
210/24a-11	Oil	Dana	April
210/24a-11Z	Oil	Dana	May
210/29a-4	Oil	Sterling	November
23/21-6Z	Oil and gas	BG	June
22/25a-9Z	Gas/condensate	Maersk	October
47/14b-10	Gas	Gaz de France	November

Well 20/2a-8 drilled the Blackbird prospect (Upper Jurassic Ettrick and Buzzard sandstones) and proved 111 ft of net pay which yielded an average of 3800 bpd. The well was suspended as a possible future producer. The results from drilling the various individual Rinnes prospects in block 210/24a were still being fully evaluated at the end of the year with further wells planned for early in 2009. A substantial new oil development is likely in this part of the North Sea if all wells are successful. BG's Moth prospect, drilled by well 23/21-6Z, tested hydrocarbons from two intervals in Middle and Upper Jurassic sandstones. Flow rates were constrained by the test equipment but, with a properly-sized production string, might achieve 44 MMscfd and 4400 bpd of condensate. The Juliet prospect, well 47/14b-10, was tested at 38 MMscfd.

Other discoveries in 2008 were made by Total in well 3/15-12 (the Islay prospect) which produced 1.22 MMscfd and 8800 boe gas condensate and by Lundin in well 21/8-4 (the Torphins prospect) which discovered a 30 ft oil and gas column in a Paleocene sandstone. This was immediately appraised by well 4Z and the results are being studied for commerciality.

Sixty-one appraisal wells (including 26 sidetracks) were spudded in 2008. This is slightly fewer than in 2007 but still at a relatively high level. Twenty-eight (46 per cent) of these were in the Central North Sea.

A particular highlight was Sterling Resources' appraisal of the Breagh area structures. Well 42/13-4 tested Breagh East and yielded gas from two sand reservoirs, with a combined net interval of approximately 70 ft, and flowed on test at 10.2 MMscfd. The lower, poorer quality reservoir, produced 1.6 MMscfd. Breagh East may contain between 346 and 888 billion cubic feet (bcf) of gas. Breagh West was drilled by well 42/13-5 at the same location as 42/13-3 which tested 17.6 MMscfd in 2007. The new well proved 165 ft of gas sands. Subsequently, well 42/13-5Z drilled horizontally for 1200 ft through the gas sands before terminating at 10 746 ft (measured depth). Well 5Z was then tested at 26 MMscfd and the Breagh West accumulation may contain in the range 151 to 373 bcf of gas. The two fields comprise one of the largest gas discoveries for several years.

In January, Oilexco reported the successful appraisal of the Bugle prospect with well 15/23d-13Z which proved oil-bearing intervals in both the Dirk and Upper Galley Jurassic sandstones. Venture spudded appraisal well 47/9c-11 in February to test the Rotliegende Barbarossa prospect. The third sidetrack, well 11X, started in May and drilled horizontally to 15 600 ft (measured depth), flowed at 40 MMscfd. This field is likely to be developed in conjunction with the nearby Channon discovery with combined production possibly as high as 80 bcf. In March the Durango prospect was appraised by Bridge Resources with horizontal well 48/21a-4Z which had a 580 ft section drilled within the top 15 ft of a Zechstein gas column. Maximum flow rates on test were 42.5 MMscfd and 1340 bpd of condensate. Approval to develop the field was received in August and first gas was delivered in November. Ithaca Energy drilled well 14/18b-18 in the outer Moray Firth area in July to test the Leek Sandstone of the Athena prospect. The well was directionally drilled and penetrated 447 ft gross of oil-bearing formation which yielded 2330 bpd. West of Shetland, Chrysaor spudded appraisal wells 205/26-7 and 7Z to test the Jurassic Solan and updip Triassic reservoirs. The former proved an 85 ft oil-bearing reservoir section but neither well was drill stem tested. Other successful appraisals included Oilexco's Huntingdon prospect which was drilled by wells 22/14b-9 and 9Z. The sidetrack proved 26 ft of oil-bearing Forties Sandstone Formation which produced on test at 2700 bpd of 44° API oil. Spudded at the end of November, appraisal well 15/27-11 (drilled by Endeavour on the Rochelle prospect) proved 77 ft of net hydrocarbon pay within the Lower Cretaceous Kopervik sandstone. Reservoir characteristics are good with porosity in the order of 24%. In December Gaz de France spudded Cygnus well 44/12a-3. This tested at 32 MMscfd from the Carboniferous and suggests reserves in excess of 100 bcf of gas from this stratigraphic level. A higher Leman sandstone reservoir also contained gas.

Licensing

In January BERR published a new listing of Fallow Blocks and Discoveries. This ninth release added 58 new Fallow Blocks and 11 new Fallow Discoveries to the list. During the year, drilling began on 25 exploration or appraisal wells targeting prospects on previously Fallow B blocks (blocks licensed for three years with no future activity planned). As a result, the 47/14b-10 well (the Juliet prospect) and the 16/23s-7 (Kinnoull prospect) discovered gas and oil respectively. Since the Fallow process was initiated in 2002, 107 exploration or appraisal wells targeting prospects on Fallow B Blocks have been drilled. Thirty-five blocks offered in the UK 25th offshore licensing round were relinquished Fallow blocks or sub-areas.

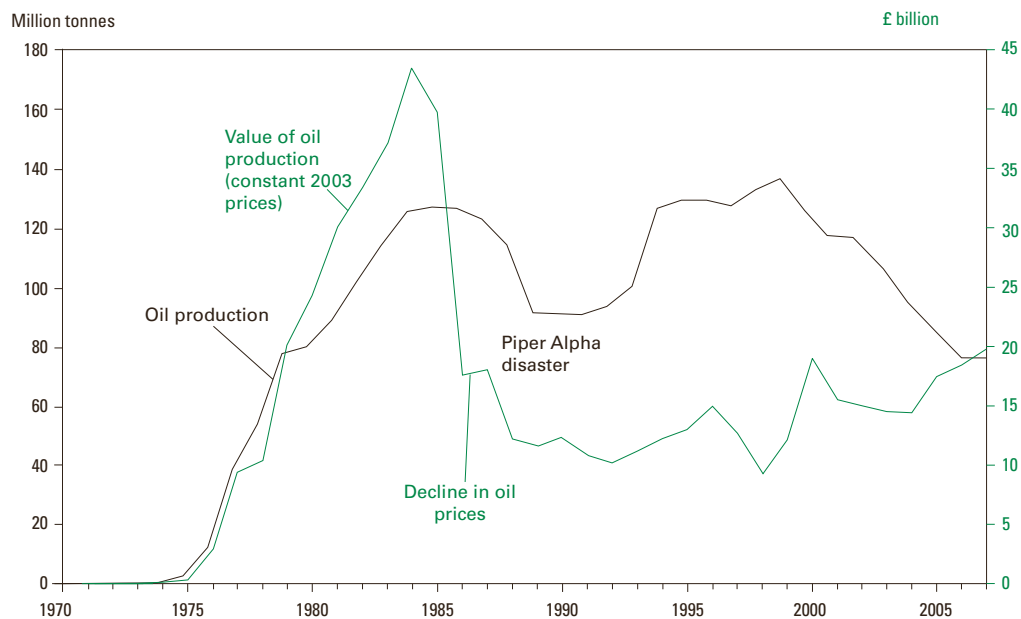
In February BERR announced that a record-breaking 2297 blocks or part-blocks were on offer in the 25th UK offshore licensing round with a closing date of 22nd May. In May the government disclosed that 193 applications had been received (7 for Frontier licences, 42 for Promote licences and 144 for Traditional licences). The applications covered 277 blocks and involved 131 different companies, of which 15 had not made an application in a previous round. The results of the round were announced in November with 171 licences being awarded to 100 companies involving 257 blocks. Venture, Nexen and Silverstone received the most licences but Oilexco promised to drill the most wells (six). A total of 34 firm wells was promised in the round.

The year also saw 96 offshore licences, affecting 124 blocks or part blocks, surrendered either on a voluntary or mandatory basis.

The 13th onshore licensing round, which had been announced by BERR on 7th November 2007, closed on the 6th February 2008 and 93 awards were made at the end of May. Composite Energy, Marathon Petroleum and Coastal Oil and Gas were the most successful companies in the round.

In December DECC created an onshore 'out of round' licence opportunity for companies to bid for an area north of Portsmouth (Ordnance Survey block SU60). Applications would have to be lodged by 9th March 2009.

United Kingdom production and value of oil, including condensate 1970–2007



United Kingdom production of onshore crude petroleum and natural gas by fields 1996–2007

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oil fields	Thousand tonnes											
Beckingham W	1	1	1	1	1	1	1	1	1	1	1	1
Brockham	—	—	—	—	0	—	1	2	4	5	4	3
Cold Hanworth	—	—	2	2	1	4	13	20	15	7	7	10
Crosby Warren	3	4	4	1	0	3	3	3	2	2	2	3
Ewt Onshore	—	—	—	—	1	0	1	1	1	—	—	—
Farleys Wood	0	0	1	0	0	0	0	0	0	0	—	—
Fiskerton Airfield	—	—	1	19	18	5	1	0	0	0	0	0
Glentworth E	1	1	2	2	1	1	1	1	2	4	3	3
Goodworth	—	1	3	2	2	2	2	2	2	2	1	1
Herriard	3	2	1	1	1	—	1	2	1	1	1	0
Hordean	17	15	14	13	10	9	8	11	9	9	8	8
Humbly Grove	36	37	29	24	14	16	11	13	15	15	9	6
Keddington	—	—	2	5	3	1	1	2	2	1	0	1
Kirklington	0	0	0	—	—	—	—	1	0	0	0	0
Lidsey	—	—	—	—	—	—	—	—	—	—	0	0
Long Clawson	8	8	9	10	9	8	9	9	9	9	7	8
Nettleham	1	6	9	7	5	3	3	4	3	2	2	2
Newton-on-Trent	—	—	—	2	1	0	0	0	0	—	—	—
Palmers Wood	24	23	19	10	10	12	15	11	7	7	4	4
Rempstone	3	3	2	2	1	1	1	1	1	0	1	1
Scampton	1	2	0	0	0	0	0	0	0	1	1	1
Scampton N	13	17	12	11	11	11	10	9	9	8	7	7
Singleton	36	36	27	21	21	23	22	20	22	20	25	24
Stainton	1	1	1	0	1	1	1	1	1	0	1	1
Stockbridge	86	79	110	87	42	42	37	36	38	34	42	26
Storrington	—	—	14	15	8	4	20	21	20	10	11	8
Wareham	42	32	20	21	15	19	9	6	9	8	3	0
Welton	153	150	123	90	87	77	64	58	54	54	46	41
West Firsby	26	27	17	10	8	5	6	4	6	6	5	4
Whisby	1	0	0	0	0	0	0	5	9	7	—	—
Wytch Farm	4 730	4 481	4 690	3 867	2 919	2 656	2 381	1 915	1 649	1 394	1 139	1 042
Other	53	23	51	44	42	39	34	38	37	34	29	30
Total	5 240	4 949	5 161	4 269	3 234	2 944	2 654	2 194	1 929	1 642	1 360	1 234
Gas fields	Million cubic metres											
Wytch Farm	245	242	156	149	111	115	108	82	73	61	46	34
Others	137	146	179	140	106	91	65	90	49	56	44	77
Total (a) (b)	382	388	335	289	217	205	173	172	122	117	90	111

(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 for Business Enterprise and Regulatory Reform.

United Kingdom production of offshore crude petroleum and natural gas by fields 1996–2007

Thousand tonnes

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oil fields												
Alba	3 808	4 850	4 381	3 993	4 156	4 319	3 329	4 501	3 645	3 147	2 800	2 275
Alwyn N	1 066	966	1 078	1 093	891	808	704	551	449	433	307	321
Andrew	856	2 798	3 244	3 298	2 540	1 856	1 542	1 250	865	847	507	611
Angus	—	—	—	—	—	168	323	112	85	62	25	0
Arbroath	1 452	1 109	1 115	1 100	931	778	675	533	589	497	363	342
Ardmore	—	—	—	—	—	—	—	181	404	106	—	—
Arkwright	65	462	300	185	261	253	227	255	202	107	92	164
Auk	458	647	784	621	558	392	421	366	308	219	230	129
Balmoral	410	467	392	354	275	292	219	185	94	129	93	83
Banff	380	278	—	1 102	711	834	546	665	432	330	263	344
Beatrice	438	151	365	194	137	97	357	270	212	185	106	98
Beaully	—	—	—	—	—	480	394	213	94	99	57	44
Beinn	389	286	214	116	30	47	93	75	61	32	37	25
Beryl	4 234	3 748	2 961	2 296	1 621	1 541	1 559	1 356	1 198	1 092	1 141	781
Birch	1 025	768	500	226	94	101	0	9	173	196	188	139
Bittern	—	—	—	—	1 150	2 404	2 346	2 330	2 103	1 785	1 435	1 154
Bladon	—	108	283	145	32	—	—	—	—	—	—	—
Blair	—	—	—	—	—	—	—	—	—	—	—	—
Blake	—	—	—	—	—	1 024	2 024	1 733	1 565	1 245	1 173	1 060
Blane	—	—	—	—	—	—	—	—	—	—	—	187
Blenheim	846	399	219	141	38	—	—	—	—	—	—	—
Brae Central	406	385	475	288	242	169	183	227	206	379	261	172
Brae E	2 739	2 074	1 459	1 192	837	593	374	269	209	166	136	92
Brae N	468	363	412	335	280	262	228	250	166	89	111	97
Brae S	522	443	412	268	250	275	208	143	183	215	240	294
Brae W/Sedgwick	—	159	1 627	1 505	1 633	1 435	1 159	883	744	911	698	615
Braemar	—	—	—	—	—	—	—	46	245	239	196	166
Brechin	—	—	—	—	—	—	—	—	—	141	161	110
Brenda	—	—	—	—	—	—	—	—	—	—	0	493
Brent	9 468	6 264	6 054	4 536	3 538	2 843	1 925	1 122	766	474	395	329
Brimmond	18	60	80	48	48	31	34	16	8	0	0	0
Britannia	—	—	555	1 848	1 618	1 319	1 032	998	899	762	572	506
Broom	—	—	—	—	—	—	—	—	480	1 248	920	702
Bruce	1 705	1 289	898	1 845	1 647	1 448	1 328	1 212	744	638	454	356
Buchan	536	445	402	344	351	385	348	340	366	337	323	284
Buckland	—	—	—	474	1 601	1 141	643	566	373	269	211	136
Buzzard	—	—	—	—	—	—	—	—	—	—	—	7 262
Caledonia	—	—	—	—	—	—	—	406	244	116	43	18
Captain	—	1 461	2 836	2 525	2 458	3 107	3 109	2 974	3 580	2 644	2 363	2 782
Carnoustie	—	—	—	—	—	—	—	—	—	20	5	3
Chanter	103	48	15	7	8	6	4	2	4	2	0	32
Clair	—	—	—	—	—	—	—	—	0	691	1 299	1 525
Clapham	—	—	—	—	—	—	—	0	416	367	252	238
Claymore	2 154	2 096	1 818	1 658	1 564	1 411	1 425	1 268	1 394	1 237	1 201	1 101
Clyde	666	698	638	586	450	400	348	297	287	276	224	164
Columba B & D	579	511	319	243	538	931	543	481	558	378	232	186
Columba D	667	332	169	88	—	—	—	—	—	—	—	—
Columba E	—	—	217	170	153	136	112	73	296	198	94	96
Cook	—	—	—	—	406	876	796	544	531	456	385	166
Cormorant N	1 470	1 477	1 638	1 541	1 513	1 469	1 110	923	659	669	628	535
Cormorant S	968	1 012	820	1 023	915	626	597	395	171	179	348	164
Crawford	—	—	—	—	—	—	—	—	—	—	—	—
Curlew	—	86	1 438	1 508	817	386	218	212	179	219	243	171
Cyrus	203	603	541	402	253	181	190	141	119	115	30	55
Dauntless	—	197	308	38	—	—	—	—	—	—	—	—
Deveron	58	26	52	40	10	11	19	19	24	25	14	12
Don	169	108	100	89	69	45	19	2	0	0	0	—
Donan	283	193	—	—	—	—	—	—	—	—	—	—
Donan Maersk	—	—	—	—	—	—	—	—	—	—	—	1 591
Douglas	768	1 604	1 324	937	779	1 118	918	645	526	406	344	344
Douglas W	—	—	—	—	—	—	—	205	100	93	26	0
Drake	—	80	282	317	261	226	193	75	47	23	33	10
Dunbar	2 408	2 491	2 101	1 886	1 627	1 440	1 540	1 093	859	618	661	579
Dunlin	755	807	643	627	525	574	468	308	181	221	186	298
Dunlin SW	259	197	236	232	109	88	84	54	33	50	48	41
Durward	—	273	589	45	—	—	—	—	—	—	—	—
Egret	—	—	—	383	214	95	115	65	282	84	52	25
Eider	815	654	616	601	356	242	216	170	133	120	122	80
Elgin	—	—	—	—	—	1 974	4 146	4 502	3 622	3 061	2 668	2 482
Ellon	140	377	283	129	152	77	46	57	23	36	106	42
Emerald	41	—	—	—	—	—	—	—	—	—	—	—
Enoch	—	—	—	—	—	—	—	—	—	—	—	237
Erskine	—	4	791	883	82	837	973	816	665	514	358	166
Everest	277	313	286	235	203	230	238	245	207	164	117	105
Farragon	—	—	—	—	—	—	—	—	—	90	888	626
Fergus	249	562	276	161	81	57	48	60	75	48	46	38
Fife	1 624	1 077	820	362	585	449	539	490	294	253	190	112
Fleming	—	93	507	477	424	367	300	237	216	160	176	59
Flora	—	—	152	506	495	278	168	139	124	89	57	33
Foinaven	—	252	3 691	4 262	4 588	4 419	5 358	4 085	3 521	2 967	2 915	2 883
Forties	5 140	4 109	3 998	3 227	2 720	2 828	2 624	2 038	2 679	3 261	2 888	2 625
Franklin	—	—	—	—	—	199	1 006	1 175	1 621	2 019	1 872	1 757
Fulmar	1 040	547	468	373	228	172	165	134	100	179	161	90
Gadwall	—	—	—	—	—	—	—	—	—	212	68	2
Galley	—	—	946	1 333	1 602	1 099	795	573	456	352	234	104
Gannet A	1 315	1 192	1 015	866	711	553	562	380	359	373	453	345
Gannet B	97	58	35	29	29	51	72	110	82	95	10	22
Gannet C	1 640	1 151	919	688	390	417	310	208	175	146	189	221
Gannet D	389	437	467	359	478	538	320	339	231	186	300	224

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1996–2007 *continued*

Thousand tonnes

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
<i>Oil fields continued</i>												
Gannet E	—	—	644	366	369	383	446	657	488	443	465	323
Gannet F	—	327	464	327	208	148	114	75	50	33	95	197
Gannet G	—	—	—	261	697	317	232	188	134	120	131	114
Glamis	72	50	47	36	21	16	14	14	9	1	0	10
Glenelg	—	—	—	—	—	—	—	—	—	—	242	396
Goldeneye	—	—	—	—	—	—	—	—	120	660	574	498
Goosander	—	—	—	—	—	—	—	—	—	—	197	470
Grant	—	—	138	257	217	171	143	133	100	125	96	51
Gryphon	1 879	1 542	1 348	1 094	904	962	566	456	574	945	872	693
Guillemot A	249	1 026	688	420	283	213	326	344	334	294	238	115
Guillemot NW	—	—	—	—	20	13	216	194	150	75	71	39
Guillemot W	—	—	—	—	329	467	482	509	407	130	112	136
Halley	—	—	—	—	—	—	175	141	130	0	0	0
Hamish	3	17	10	8	6	3	0	0	3	0	0	0
Hannay	—	—	—	—	—	—	149	194	209	205	221	103
Harding	1 930	3 860	4 655	4 281	4 328	3 178	3 192	2 536	2 024	1 626	1 303	1 031
Hawkins	—	—	—	—	—	—	17	91	57	27	12	1
Heather	285	251	225	204	191	222	203	183	117	129	103	77
Heron	—	—	—	2 369	2 466	1 604	939	678	326	349	284	207
Highlander	272	149	188	102	160	166	144	105	96	120	94	56
Howe	—	—	—	—	—	—	—	—	65	456	188	238
Hudson	1 516	1 595	400	1 245	1 227	981	803	709	613	474	387	459
Hutton	901	787	581	558	414	147	0	—	—	—	—	—
Hutton NW	296	308	262	295	83	113	30	0	—	—	—	—
Innes	—	—	—	—	—	—	—	—	—	—	—	—
Iona	—	28	13	77	53	24	9	2	0	0	5	1
Ivanhoe	520	401	282	239	327	309	349	186	100	64	63	45
Jade	—	—	—	—	—	—	507	845	760	701	546	320
James	—	—	—	—	—	—	—	—	53	154	47	53
Janice	—	—	—	1 713	1 351	1 019	720	574	495	246	328	134
Joanne	258	1 200	1 249	924	537	401	385	243	152	131	149	178
Judy	99	651	755	532	428	525	594	810	627	702	994	711
Keith	—	—	—	—	59	293	152	132	106	106	78	71
Kestrel	—	—	—	—	—	51	221	326	161	166	92	75
Kingfisher	—	211	1 315	988	804	874	608	403	257	270	225	179
Kittiwake	1 056	629	444	228	157	33	54	113	88	61	73	8
Kyle	—	—	—	—	—	515	439	328	193	236	179	193
Larch	—	—	169	14	73	170	411	106	64	41	38	39
Leadon	—	—	—	—	—	158	971	578	425	329	108	—
Lennox	105	454	894	857	1 376	1 798	1 697	1 573	1 236	905	871	539
Leven	59	83	42	37	125	90	57	52	156	81	35	7
Linnhe	—	—	—	—	—	—	—	—	—	—	—	—
Lomond	181	198	207	182	186	166	160	147	150	117	112	79
Loyal	—	—	98	931	1 190	925	990	893	680	491	472	307
Lyell	433	278	215	146	116	117	88	36	118	111	94	150
MacCulloch	—	583	2 001	1 755	1 354	1 087	1 442	1 409	1 318	1 092	791	533
Machar	444	—	396	1 733	1 496	1 310	756	433	686	632	877	521
Maclure	—	—	—	—	—	—	264	475	514	570	527	312
Madoes	—	—	—	—	—	—	36	1 018	1 140	829	499	273
Magnus	4 546	3 091	3 148	3 046	2 924	2 214	1 902	1 852	1 745	1 585	1 528	1 060
Magnus S	235	383	435	482	311	256	150	249	209	154	188	114
Mallard	—	—	148	701	459	244	219	157	69	70	293	286
Marnock	—	—	12	747	982	656	503	308	190	101	97	53
Maureen	447	495	474	173	—	—	—	—	—	—	—	—
Medwin	7	0	0	0	0	0	0	0	0	7	94	29
Merganser	—	—	—	—	—	—	—	—	—	—	4	165
Merlin	—	75	677	1 001	619	429	302	276	96	115	66	84
Miller	6 467	5 195	3 441	2 732	2 057	1 383	947	409	514	412	251	50
Mirren	—	—	—	—	—	—	79	431	270	285	300	230
Moir	29	17	12	3	—	—	—	—	—	—	—	—
Monan	—	—	75	560	163	87	34	26	31	8	0	0
Montrose	90	62	64	55	37	34	16	19	38	61	66	60
Mungo	—	—	706	1 876	2 440	2 534	2 343	1 930	1 694	1 596	1 309	944
Murchison UK	681	806	792	744	495	411	309	338	267	256	254	231
Nelson	7 082	5 603	4 695	4 515	4 089	2 913	3 907	3 279	2 255	1 882	1 377	1 465
Ness	80	171	104	123	41	134	117	94	9	4	35	18
Nethan	—	—	—	—	—	—	—	—	14	1	0	0
Nevis	184	744	1 084	1 595	1 447	1 146	942	971	947	840	805	931
Nicol	—	—	—	—	—	—	—	—	—	—	0	69
Ninian	2 423	2 367	2 197	2 054	1 723	1 764	1 510	1 448	1 238	1 192	1 297	1 159
Orion	—	—	—	137	322	263	211	172	150	201	318	240
Osprey	1 299	1 204	764	618	295	450	292	116	148	171	211	114
Otter	—	—	—	—	—	—	96	1 081	1 278	888	738	716
Pelican	1 403	1 269	1 282	1 075	717	462	551	345	221	248	254	120
Penguin E	—	—	—	—	—	—	—	660	738	372	464	302
Penguin W	—	—	—	—	—	—	—	91	140	210	106	134
Petronella	137	119	123	52	61	79	106	81	73	45	40	28
Pict	—	—	—	—	—	—	—	—	—	377	485	260
Pierce	—	—	—	1 416	2 508	1 793	1 418	1 105	773	1 044	650	729
Piper	3 148	2 416	1 951	1 490	1 156	957	813	670	567	552	413	414
Playfair	—	—	—	—	—	—	—	—	42	281	27	47
Renee	—	—	—	715	240	44	62	45	41	26	5	0
Rhum	—	—	—	—	—	—	—	—	—	2	48	62
Rob Roy	1 076	570	289	272	180	185	152	104	105	91	95	52
Ross	—	—	—	761	1 208	459	483	330	267	176	149	144
Rubie	—	—	—	185	346	215	191	162	141	102	42	36
Saltire	1 831	1 908	1 335	757	479	360	311	166	109	127	136	80
Scapa	947	915	770	638	444	370	329	377	300	239	110	280

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1996–2007 *continued*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Oil fields continued												
	Thousand tonnes											
Schiehallion	—	—	1 100	4 183	5 073	4 780	5 061	5 161	4 795	3 419	3 269	2 436
Scoter	—	—	—	—	—	—	—	0	180	243	250	145
Scott	7 037	5 569	4 531	4 017	2 771	2 162	1 889	1 264	1 127	815	1 005	1 202
Seymour	—	—	—	—	—	—	—	100	114	56	56	16
Shearwater	—	—	—	—	82	650	2 299	2 353	2 568	1 280	945	547
Skene	—	—	—	—	—	7	329	259	192	113	90	74
Skua	—	—	—	—	—	195	634	290	217	2	0	0
Staffa	—	—	—	—	—	—	—	—	—	—	—	—
Statfjord UK	3 424	3 581	2 346	1 768	1 187	797	702	613	897	783	600	523
Stirling	42	37	9	16	17	28	25	25	15	27	31	26
Strathspey	1 499	1 331	1 006	643	414	352	530	419	464	243	384	251
Sycamore	—	—	—	—	—	—	—	358	134	21	116	54
Tartan	475	333	332	272	240	177	155	133	170	138	102	158
Teal	—	1 091	1 123	1 216	1 511	1 040	543	289	222	150	1	24
Teal S	44	268	122	136	79	86	42	77	32	0	30	2
Telford	104	1 519	1 521	1 014	1 092	1 141	1 128	853	628	434	377	282
Tern	2 781	2 593	2 287	2 125	1 803	1 681	1 370	1 043	780	600	506	491
Thelma	165	1 309	1 051	905	773	669	324	272	283	283	290	262
Thistle	536	430	363	305	288	191	252	219	172	141	164	155
Tiffany	1 764	1 205	762	425	275	190	143	129	109	121	170	145
Toni	1 057	684	794	655	467	383	378	519	258	218	202	145
Tulich	—	—	—	—	—	—	254	646	452	354	320	511
Tweedsmuir	—	—	—	—	—	—	—	—	—	—	—	295
Other	—	94	—	—	202	—	—	—	—	—	—	95
Total	116 500	115 395	119 049	124 886	114 830	106 547	105 369	96 868	86 906	77 180	70 073	70 251
Gas fields												
	Million cubic metres											
Alison	128	91	97	18	53	55	39	81	51	41	33	44
Alison KX	81	60	62	52	46	58	55	50	48	40	27	28
Alwyn N (h)	1 829	2 039	1 730	1 608	1 288	832	1 272	1 254	961	1 400	805	—
Amethyst E	1 416	848	870	724	612	527	297	392	191	351	345	379
Amethyst W	421	515	423	262	471	643	509	469	257	223	187	193
Anglia	439	284	391	296	383	294	209	225	163	136	99	100
Ann	428	270	140	166	160	85	33	98	74	58	110	53
Annabel	—	—	—	—	—	—	—	—	—	567	901	630
Apollo	—	—	—	—	—	—	—	319	392	299	280	353
Arthur	—	—	—	—	—	—	—	—	—	858	661	539
Audrey	1 197	1 171	729	531	624	523	172	250	235	192	155	117
Bains	—	—	—	—	—	—	109	505	330	201	61	58
Baird	459	435	374	311	138	228	214	274	274	220	158	72
Barque	1 829	2 244	1 503	1 327	2 190	1 823	910	1 003	654	659	496	519
Barque S	—	8	2	0	0	0	0	0	0	0	0	0
Beaufort	—	—	—	—	—	1	—	—	—	—	—	—
Bell	—	—	—	344	941	662	673	389	124	0	152	230
Bessemer	777	812	735	692	1 204	391	208	128	101	38	48	50
Boulton	—	—	925	459	587	299	607	713	607	511	370	311
Boulton H	—	—	—	—	—	—	—	—	140	28	7	0
Boyle	—	—	—	—	—	—	143	456	349	240	172	117
Brigantine A	—	—	—	—	—	637	597	639	415	252	93	40
Brigantine B	—	—	—	—	—	573	428	166	157	138	59	40
Brigantine C	—	—	—	—	—	—	344	655	347	173	502	226
Brigantine D	—	—	—	—	—	—	0	5	28	0	35	21
Brown	—	—	(d)	(d)	(d)	(d) 118	39	0	0	3	32	37
Bruce (h)	6 577	5 613	4 959	5 164	5 678	6 264	6 277	6 195	4 748	4 390	3 255	—
Bure	55	42	64	12	35	21	18	15	2	0	3	4
Bure W	—	—	22	124	157	128	105	71	53	25	17	37
Caister Bunter	295	343	235	315	306	375	232	98	56	56	12	27
Caister Carboniferous	649	642	364	390	257	130	112	176	118	107	21	86
Calder	—	—	—	—	—	—	—	—	3	0	57	19
Callisto	254	254	199	104	24	86	95	69	53	31	24	38
Callisto N	—	—	—	—	16	119	69	40	7	9	5	4
Camelot C & S	403	846	563	187	206	150	114	52	30	29	3	15
Camelot N	84	49	30	1	—	11	0	3	0	0	0	2
Camelot NE	204	58	2	—	—	—	—	—	—	—	—	—
Captain (h)	—	—	—	—	—	71	72	56	76	61	39	—
Carrack	—	—	—	—	—	—	—	75	1 220	1 098	616	823
Cavendish	—	—	—	—	—	—	—	—	—	—	—	274
Chiswick	—	—	—	—	—	—	—	—	—	—	—	92
CATS (g)	2 334	4 429	10 126	13 605	13 618	13 038	14 253	14 972	13 812	11 660	11 125	7 819
Cleeton	1 587	1 466	472	5	—	—	—	—	—	—	—	—
Clipper	1 190	1 152	669	598	1 101	903	459	409	247	357	268	108
Corvette	—	—	—	1 782	1 048	517	154	129	471	403	174	39
Cutter	—	—	—	—	—	—	—	—	—	—	293	343
Dalton	—	—	—	267	471	32	2	110	121	112	1	0
Davy	930	806	(d) 719	(d) 908	(d) 881	(d) 381	109	66	157	111	105	152
Davy East	—	—	—	—	—	—	—	—	—	—	—	93
Davy N	—	—	—	—	—	75	437	225	141	71	20	5
Dawn	170	92	94	102	29	0	0	0	0	0	0	0
Deben	—	—	66	240	93	28	13	11	6	0	0	—
Delilah	—	—	42	103	100	87	68	34	0	0	172	68
Dunbar (h)	1 371	1 359	1 121	1 133	1 216	1 229	1 476	1 243	1 089	816	708	—
Ellon (h)	521	791	448	162	129	188	116	179	43	33	64	—
Europa	—	—	—	—	322	451	271	220	148	115	115	77
Esmond	—	—	—	—	—	—	—	—	—	—	—	—
Excalibur	876	599	681	552	453	427	365	269	224	181	147	123
FLAGS (e)	6 459	6 948	7 417	7 596	(k) 10 307	(k) 11 651	(k) 10 578	(k) 7 890	(k) 7 528	(k) 8 482	7 579	6 659
Forvie	—	—	—	—	—	—	—	—	—	0	879	—
Forbes	—	—	—	—	—	—	—	—	—	—	—	—
Frigg (UK) (h) (n)	466	191	511	253	367	463	415	454	491	—	—	—
Fulmar (f)	1 716	1 505	1 890	2 104	(k)	(k)	(k)	(k) 0	(k) 0	(k) 0	0	0
Galahad	456	707	509	431	344	337	259	211	175	387	154	111
Galleon	1 398	1 501	1 493	1 168	1 677	1 635	1 311	1 336	1 539	1 227	864	721

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1996–2007 *continued*

Million cubic metres

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Gas fields <i>continued</i>												
Galley (h)	—	—	257	410	460	230	122	-6	-14	22	11	—
Ganymede	1 708	1 655	947	669	197	384	326	285	229	217	145	111
Garrow	—	—	—	—	—	—	—	—	—	—	—	53
Gawain	929	820	798	666	694	690	579	345	141	114	98	78
Gordon	—	—	—	—	—	—	—	—	—	—	—	—
Grant (h)	—	—	322	672	675	557	563	549	355	459	524	—
Grove	—	—	—	—	—	—	—	—	—	—	—	215
Guinevere	243	271	227	232	222	138	154	96	79	69	42	30
Hamilton	—	1 176	1 752	1 416	1 685	1 933	1 536	1 833	1 370	1 174	1 068	864
Hamilton E	—	—	—	—	—	167	503	354	216	145	125	75
Hamilton N	625	667	546	454	543	553	368	566	428	327	292	248
Hawksley	—	—	—	—	—	—	489	610	290	73	0	0
Helvellyn	—	—	—	—	—	—	—	—	255	73	48	38
Hewett & Della	2 188	1 301	1 324	1 133	1 484	1 211	818	593	475	399	343	287
Horne	—	—	—	—	—	—	—	—	—	246	325	337
Hoton	—	—	—	—	—	7	420	370	271	212	181	191
Hunter	—	—	—	—	—	—	—	—	—	—	—	15
Hyde	357	284	291	259	219	195	163	152	127	112	109	90
Indefatigable	2 139	1 507	2 055	1 345	1 197	1 310	1 110	769	801	562	359	262
Indefatigable SW	242	210	179	198	126	188	145	74	62	47	31	17
Ivanhoe & Rob Roy (h)	152	79	38	48	15	22	12	-2	10	0	-2	—
Johnston	585	469	327	540	667	414	273	387	461	327	272	114
Keith (h)	—	—	—	—	12	79	50	45	47	59	49	—
Kelvin	—	—	—	—	—	—	—	—	—	—	—	157
Ketch	—	—	—	297	1 233	819	549	478	317	233	244	411
Kilmar	—	—	—	—	—	—	—	—	—	—	252	271
Lancelot	685	621	557	761	696	495	504	414	339	289	230	169
Leman	3 468	3 013	4 740	3 060	3 957	3 835	3 061	3 009	3 178	2 664	2 295	1 492
Lennox	—	—	—	—	—	—	—	77	440	730	766	935
Malory	—	—	126	668	571	449	361	305	259	219	204	168
Markham (UK)	807	663	514	485	463	350	304	207	192	342	295	258
McAdam	—	—	—	—	—	—	—	—	514	578	926	465
Mercury	—	—	—	5	402	627	547	333	365	243	119	83
Miller (i)	2 534	2 028	1 254	1 109	624	328	302	163	174	144	51	3
Millom	—	—	—	29	144	1 023	1 048	927	801	606	536	329
Mimas	—	—	—	—	—	—	—	—	—	—	—	172
Minerva	—	—	—	—	—	—	—	577	576	406	317	277
Minke	—	—	—	—	—	—	—	—	—	—	—	133
Mordred	26	82	17	39	43	31	37	26	28	22	24	21
Morecambe N	2 626	2 930	1 294	848	3 872	3 017	3 128	2 594	2 118	1 396	1 215	917
Morecambe S	7 099	6 170	7 993	9 971	8 436	8 328	7 513	7 526	8 055	5 935	2 490	3 827
Munro	—	—	—	—	—	—	—	—	—	147	354	250
Murdoch	1 127	1 150	1 376	836	1 197	948	641	627	447	414	443	447
Murdochk	—	—	—	—	—	—	—	1 378	1 209	864	636	324
Neptune	—	—	—	17	1 466	2 007	1 685	1 301	1 168	922	661	551
Newsham	68	127	94	71	60	44	35	34	39	37	28	16
Nuggets (h)	—	—	—	—	—	134	1 333	1 744	1 678	1 811	1 537	1 422
Orwell	789	720	832	667	716	507	373	389	278	214	171	105
Pickerill	1 345	1 288	879	626	366	351	284	208	142	199	141	102
Piper & Tartan Area (h)	950	633	452	421	396	353	297	44	69	17	7	—
Ravenspurn N	2 942	2 968	1 580	1 319	1 294	761	497	317	362	540	435	401
Ravenspurn S	1 253	1 433	1 186	1 006	871	725	636	465	370	409	329	324
Renee/Rubie (h)	—	—	—	1	...	18	11	2	15	0	0	—
Rhum	—	—	—	—	—	—	—	—	—	44	1 485	—
Rose	—	—	—	—	—	—	—	—	206	227	165	94
Ross (h)	—	—	—	28	89	60	144	126	95	60	42	—
Rough (b)	—	—	—	—	428	17	0	0	0	0	0	0
SAGE (j)	7 321	8 035	10 398	15 459	16 802	15 449	15 138	15 707	14 827	13 227	11 910	11 570
Saturn (m)	—	—	—	—	—	—	—	—	—	433	1 578	1 598
Schooner	243	1 245	1 088	1 237	882	917	380	485	475	230	337	249
SEAL (l)	—	—	—	—	93	2 207	7 026	7 391	8 464	7 567	7 096	6 833
Sean E	512	301	227	253	148	124	32	36	7	16	7	0
Sean N & S	942	639	50	312	581	1 120	493	601	306	1 794	956	416
Sinope	—	—	—	75	274	20	0	0	3	0	0	0
Skiff	—	—	—	—	146	843	1 254	1 339	924	714	613	480
St Fergus Frigg (h)	—	—	—	—	—	—	—	—	—	—	—	7 833
Tethys	—	—	—	—	—	—	—	—	—	—	—	221
Thames	157	119	60	92	90	89	67	53	43	27	43	10
Thurne	—	—	—	—	—	—	—	—	—	—	—	129
Trent	80	279	347	521	341	228	213	195	150	149	208	161
Tristan	27	18	7	90	35	38	17	3	0	0	—	—
Tyne N	—	76	130	255	222	77	28	22	21	16	41	84
Tyne S	109	539	435	479	360	321	184	153	98	108	62	0
Valiant N	277	295	334	172	274	210	163	167	137	134	108	107
Valiant S	349	391	397	298	538	424	343	238	211	199	169	161
Valkyrie	—	—	—	—	—	—	—	—	210	596	464	227
Vampire	—	—	—	367	727	317	122	81	35	0	0	31
Vanguard	109	120	132	78	166	184	158	107	113	80	74	73
Victor	1 657	1 724	1 064	949	970	775	525	563	503	378	618	616
Viking B	628	687	629	2 465	1 542	1 329	992	872	912	708	677	512
Viscount	—	—	—	—	—	—	—	12	3	0	0	0
Vixen	—	—	—	—	499	1 035	771	558	242	234	138	103
Vulcan	656	827	816	584	952	797	642	497	423	358	317	271
Watt	—	—	—	—	—	—	—	—	16	0	0	0
Waveney	—	—	137	741	594	305	194	117	95	70	40	42
Welland NW	358	386	629	326	212	119	17	0	0	0	—	—

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1996–2007 *continued*

Million cubic metres

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Gas fields <i>continued</i>												
Welland S	117	173	210	155	76	44	17	0	0	0	—	—
Wenlock	—	—	—	—	—	—	—	—	—	—	—	38
Wensum	3	3	—	2	0	0	0	0	1	0	0	0
West Sole	857	1 224	1 218	1 170	1 050	940	844	765	473	574	584	557
Whittle	—	—	—	—	—	—	—	397	481	422	308	281
Windermere	—	279	438	320	273	196	166	125	87	45	41	37
Wren	—	—	—	—	—	—	—	—	—	138	283	396
Yare	51	14	72	21	11	45	31	39	9	0	22	15
Others (c)	3 175	3 361	3 719	3 937	3 763	4 658	4 718	4 503	4 513	4 274	4 454	4 646
Total (a)	89 514	91 170	95 171	104 760	114 663	112 563	109 694	108 025	101 286	93 345	84 204	76 745

- (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, Statford (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 delivered to land via the Frigg (FUKA) pipeline 2007 production figures are not broken down into various fields but added together under St Fergus Frigg.
(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
(n) UK share only, field no longer in production

Source: Department for Business Enterprise and Regulatory Reform

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Petroleum										
<i>Production</i>										
Crude petroleum	97 835 000	87 516 000	77 179 000	69 665 000	70 357 000					
Condensates and other (a)	8 238 000	7 858 000	7 543 000	6 913 000	6 475 000					
Refined petroleum products	84 529 000	89 828 000	85 673 000	82 839 000	81 209 000					
<i>Consumption (inland deliveries) of refined products</i>										
<i>Used as fuels—</i>										
Refineries	5 458 000	5 419 000	5 602 000	4 728 000	4 307 000					
Elsewhere	61 107 000	63 181 000	63 716 000	64 042 000	63 759 000					
Not used as fuels	10 411 000	10 584 000	10 439 000	9 995 000	7 998 000					
Total	77 046 000	79 220 000	79 757 000	78 765 000	76 064 000					
<i>Imports</i>										
Crude petroleum	44 511 352	56 128 686	54 067 943	55 735 570	44 129 689	5 954 247	8 496 322	11 519 286	14 579 475	11 671 463
Partly refined petroleum and refined products	23 792 249	26 953 070	28 967 912	32 427 307	40 845 976	3 782 547	4 999 298	7 573 519	9 536 164	12 173 132
<i>Exports</i>										
Crude petroleum	69 617 507	60 743 679	50 619 044	47 864 601	47 058 702	9 254 832	9 373 420	10 979 393	12 929 441	12 663 222
Partly refined petroleum and refined products	27 852 607	32 103 465	31 553 984	31 621 552	29 396 482	4 376 653	5 706 574	7 402 777	8 801 422	8 515 217
Natural gas										
<i>Production</i>										
<i>Methane (c)</i>										
Colliery	79 000	70 000	65 000	65 000	62 000					
Offshore and onshore	102 847 000	96 341 000	88 154 000	79 947 000	72 063 000					
<i>Consumption</i>										
Natural gas (b)	94 494 000	96 576 000	86 639 000	89 057 000	90 038 000					
<i>Imports</i>										
Liquefied natural gas	509 848	661 898	1 220 190	3 262 955	2 261 744	132 619	140 779	342 552	810 449	557 817
Other natural gas	...	5 343 071	6 945 853	5 405 946	14 214 205	...	693 076	1 620 566	1 937 111	2 701 807
<i>Exports</i>										
Liquefied natural gas	3 734 960	3 670 296	3 384 448	2 455 229	2 398 979	673 538	768 850	821 226	740 502	756 566
Other natural gas	1 519 493	186 614	1 491 320	113 025	34 587	1 036 236	702 893	703 453	1 252 714	997 864

(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 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Phosphorus										
<i>Consumption in Iron and Steel Industry</i>										
Ferro-phosphorus	1 130	1 150	1 130	1 200	1 240					
<i>Imports</i>										
Phosphate rock	1 242	11 586	30 177	7 803	23 052	259	1 545	1 925	766	1 486
Ammonium phosphates–Fertiliser	192 537	162 292	121 703	129 771	208 736	22 984	23 207	18 127	19 703	42 766
Superphosphates	212 297	178 902	164 196	141 417	172 560	20 327	20 127	18 410	15 974	31 497
Basic slag	6 215	5 931	3 878	6 289	...	244	278	198	262	...
Other phosphatic fertilisers	14 425	14 118	11 911	9 409	26 718	1 073	1 517	1 063	1 172	2 746
Elemental phosphorus	12 270	15 739	9 468	—	—	12 488	17 369	12 846	—	—
Phosphoric acids	220 427	175 986	161 905	170 353	149 686	44 408	34 991	36 875	41 196	38 229
Calcium phosphates	120 167	115 172	111 811	120 402	113 632	23 470	19 506	19 754	22 607	22 397
Sodium phosphates and orthophosphates (b)	45 019	34 188	37 701	52 735	74 532	18 131	13 478	15 228	24 188	24 585
<i>Exports</i>										
Phosphate rock	111	34	1 548	335	504	85	27	208	254	313
Ammonium phosphates–Fertiliser	493	519	221	263	275	444	452	327	305	261
Other (a)	...	...	...	6	21 691	...	...	...	44	13 465
Superphosphates	2 484	6	0	1 470	12	320	6	0	301	21
Basic slag	1	—	—	0	...	5	—	—	1	...
Other phosphatic fertilisers	333	426	457	476	44	123	136	186	103	41
Elemental phosphorus	422	125	1 227	24	2	1 138	237	2 166	21	25
Phosphoric acids	16 322	12 876	8 320	10 760	7 124	6 789	5 414	4 835	5 629	4 653
Calcium phosphates	15 046	15 160	14 750	23 267	23 698	8 752	8 527	9 359	13 226	14 980

(a) Including polyphosphates.

(b) Excluding polyphosphates.

Platinum group metals

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Platinum group metals										
<i>Imports</i>										
Scrap	367	617	1 271	1 149	1 456	170 533	158 949	213 125	224 707	261 626
Unwrought or partly worked–Platinum	14	48	52	23	26	169 110	358 887	383 876	332 670	389 203
Palladium	48	25	31	37	42	245 258	98 921	95 291	178 290	199 298
Other platinum group	9	8	7	9	7	30 306	67 054	96 755	204 830	303 995
<i>Exports</i>										
Scrap	1 863	2 681	2 881	3 507	3 794	13 676	18 989	24 592	53 027	60 527
Unwrought or partly worked–Platinum	37	45	71	43	53	447 735	614 350	619 359	734 052	895 179
Palladium	28	61	63	49	57	117 277	287 094	221 800	261 717	329 468
Other platinum group	10	13	25	23	24	51 748	127 823	243 111	486 989	805 069

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 decreased during 2008, to 673 000 tonnes KCl compared with 712 000 tonnes in 2007. This decrease reflects the global downturn in potash production during the final quarter of 2008. A large proportion of this was exported through the company's deepwater terminal on the River Tees. 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. Rock salt production is not disclosed for commercial reasons.

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 around 1000 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 13 km and cover an area of 20 km². The mine extends 5 km offshore to the north where operations are approximately 800 m below the seabed. In the south, a combination of seam dip and topographic relief takes the workings to more than 1300 m below the land surface.

The potash ore is a mixture of sodium and potassium chloride crystals with occasional inclusions of insoluble material, usually clays. Returning the insoluble waste material (mainly clay) into disused mine workings was started in 2003 thereby reducing discharges into the North Sea. Infrastructure and development work for the project was part funded by a European Commission grant. Cleveland Potash has recently announced a £20 million expansion plan for its Boulby mine. The funding will allow Cleveland Potash to further explore the resource and develop new reserves.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Potassium compounds										
<i>Indigenous production</i>										
KCl product	1 040 000	912 000	732 000	716 000	712 000					
<i>Apparent consumption (a)</i>										
Potassic fertilisers (K ₂ O content)	388 400	363 700	337 200	301 300	338 600					
<i>Imports</i>										
Crude natural salts	12 751	9 204	9 517	10 696	...	661	400	459	573	...
Chloride	246 164	207 056	198 893	170 942	202 623	22 023	20 808	22 001	19 835	25 097
Sulphate	3 765	11 742	12 206	14 274	16 166	1 152	1 933	2 149	2 583	3 457
Other potassic fertilisers	1 674	641	945	1 310	10 813	343	413	553	519	1 216
	264 354	228 643	221 561	197 221						
<i>Exports</i>										
Crude natural salts	48	11	14	14	...	71	59	15	41	...
Chloride (b)	630 000	510 000	350 000	450 000	...	...	...	...	...	...
Sulphate	153	21	6	39	163	82	12	20	16	20
Other potassic fertilisers	456	641	699	612	399	395	396	463	412	379

(a) Home deliveries plus imports.

(b) BGS estimate.

Precious and semi-precious stones

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Precious and semi-precious stones (excluding diamond) (a)										
<i>Imports</i>										
Natural stones	427	88	98	326	235	52 655	52 027	65 870	73 492	110 025
Synthetic stones	12	23	28	18	48	3 653	5 931	5 390	5 686	5 103
Dust and powder	0	1	2	3	1	166	220	569	935	704
<i>Exports</i>										
Natural stones	6	17	3	2	31	43 278	43 605	62 092	61 510	71
Synthetic stones	12	9	1	1	5	4 510	3 714	1 393	844	1 403
Dust and powder	19	1	0	0	4	40	105	389	87	296

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

Primary fuels

United Kingdom production of primary fuels 1982–2007 (energy supplied basis)

Million tonnes of oil equivalent (a)

Year	Coal	Petroleum	Natural gas (b)	Nuclear electricity	Hydro-electricity (c)	Total (d)
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	216
2006	11	84	80	17	1	197
2007	13	84	72	14	1	188

(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 for Business Enterprise and Regulatory Reform

United Kingdom production and consumption of primary fuels 1951–2007

Million tonnes of oil
or oil equivalent



United Kingdom consumption of energy (primary fuel input) 1982–2007 (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)
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	94	18	1	1	235
2006	43	77	89	17	1	1	232
2007	41	76	90	14	1	0	226

(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 for Business Enterprise and Regulatory Reform.

Pumice

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Pumice										
<i>Imports</i>	21 406	35 533	71 598	97 832	206 353	2 978	1 898	1 213	1 659	2 546
<i>Exports</i>	1 389	242	138	70	40	702	450	275	227	93

Pyrite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Pyrite										
<i>Imports</i>										
Iron pyrites (incl. cupreous) –										
Unroasted	11	29	26	19	105	13	28	30	7	24
Roasted	19 230	2 436	1 911	1 282	131 230	406	364	251	171	5 649
<i>Exports</i>										
Iron pyrites (incl. cupreous) –										
Unroasted	32	4	4	2	122	14	3	20	7	20
Roasted	0	1	4	6	95	3	1	2	5	43

Quartz and quartzite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Quartz and quartzite										
<i>Imports</i>										
Quartz	541	317	1 259	5 235	7 143	173	142	466	1 078	1 659
Quartzite	472	413	193	306	2 512	368	596	400	512	377
<i>Exports</i>										
Quartz	94	190	529	1 367	541	399	400	364	291	310
Quartzite	120	1 769	2 652	170	45	388	321	360	296	225

Radioactive and associated materials

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Radioactive and associated materials										
<i>Imports</i>										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	303 640	569 122	591 337	1 176 048	1 708 433
<i>Exports</i>										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	610 490	647 633	657 761	709 205	1 708 528

Rare earths

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Rare earths										
<i>Imports</i>										
Rare earth metals (a)	115	136	166	88	88	978	692	656	486	865
Cerium compounds	2 519	1 914	2 324	1 615	2 167	7 278	3 915	4 017	3 253	4 768
Other rare earth compounds (b)	471	775	775	600	664	2 552	4 716	5 082	2 768	4 152
Ferro-cerium and other pyrophoric alloys	1	9	19	60	77	99	32	2 819	4 012	81
<i>Exports</i>										
Rare earth metals (a)	16	10	26	29	143	312	281	283	453	610
Cerium compounds	118	47	121	111	37	2 953	1 776	3 153	1 596	545
Other rare earth compounds (b)	1 105	1 157	1 189	954	1 089	6 055	5 415	6 076	5 669	4 634
Ferro-cerium and other pyrophoric alloys	768	197	2	76	80	323	190	17	125	160

(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.

The official figure for total UK salt production in 2007 was 5 320 000 tonnes. Separate 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 2008. Rock salt is produced at three locations in the UK. The Winsford Mine in Cheshire, operated by the Salt Union, is the largest source (90 per cent of rock salt production), 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 which can produce around 500 000 tonnes annually. A proportion of the rock salt from this mine is exported to the eastern seaboard of the USA. Cleveland Potash imported 40 000 tonnes of salt from Spain to meet increased demand for de-icing grit, following a particularly cold start to 2009.

The Winsford Mine, with some 26 million cubic metres of space, has a constant temperature and humidity, is dry and gas-free. Part of the mine is currently in use for the secure, long-term and 'active' storage of a wide range of documents and sensitive or fragile materials. 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 which 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. The principal waste stream is residues from energy and waste plants.

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. In 2006 Ineos 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), have secured consent to increase the gas storage capacity at their new Aldbrough Gas Storage Facility, near Hornsea in East Yorkshire. The companies are already developing nine gas storage caverns with a capacity 420 million cubic metres. Dewatering of the first two caverns started in August 2008 and are not expected to be operational until 2009.

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 162 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. The company has conducted geological surveys across the site to confirm the areas suitability for underground gas storage and a planning application for the facility was submitted in 2007. The proposed facility would have ten underground caverns with a total capacity of 420 million cubic metres.

Following extensive local opposition and rejection of its original plans to construct a natural gas storage facility at the Preesall saltfield, Canatxx Gas Storage Limited have submitted a new planning application to Lancashire County Council for a £300 million gas storage scheme. 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, has been granted planning permission to construct a salt cavern gas storage facility on the Isle of Portland, Dorset. The project will involve creating 14 storage caverns, at a depth of 2400 metres, with a capacity of around 1000 million cubic metres. Portland Gas is also looking at the feasibility of developing a gas storage facility at Larne Lough in Northern Ireland.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Salt										
<i>Production</i>										
Salt, rock (a)	1 700 000	2 000 000	2 000 000	2 000 000	1 800 000					
Salt from brine (a)	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000					
Salt in brine (a) (b)	3 200 000	2 800 000	2 800 000	2 800 000	2 800 000					
<i>Imports</i>	217 009	219 581	287 623	246 879	237 772	10 928	13 728	17 121	17 673	18 097
<i>Exports</i>	537 497	691 895	538 796	557 311	514 868	23 202	26 763	26 517	29 091	28 112

(a) BGS estimate.

(b) Used for purposes other than salt making.

Sand and gravel (see also Aggregates)

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Sand and gravel										
<i>Production</i>										
Sand & gravel (a)	91 211 000	97 333 000	94 666 000	92 107 000	93 236 000					
<i>Consumption (b)</i>										
Building sand	13 395 000	12 761 000	13 233 000	12 105 000	12 207 000					
Concreting sand	31 411 000	32 529 000	29 848 000	29 815 000	30 202 000					
Gravel and hoggins	35 415 000	40 768 000	39 311 000	38 321 000	36 092 000					
Total	80 211 000	86 057 000	82 392 000	80 242 000	78 501 000					
<i>Imports</i>										
Sand and gravel	861 439	924 304	643 594	634 844	896 715	11 406	14 481	14 117	17 583	18 260
<i>Exports</i>										
Sand and gravel (c)	8 419 845	8 174 262	8 453 949	9 308 961	8 089 175	36 708	36 414	40 493	45 498	46 624

(a) Including production from marine dredging.

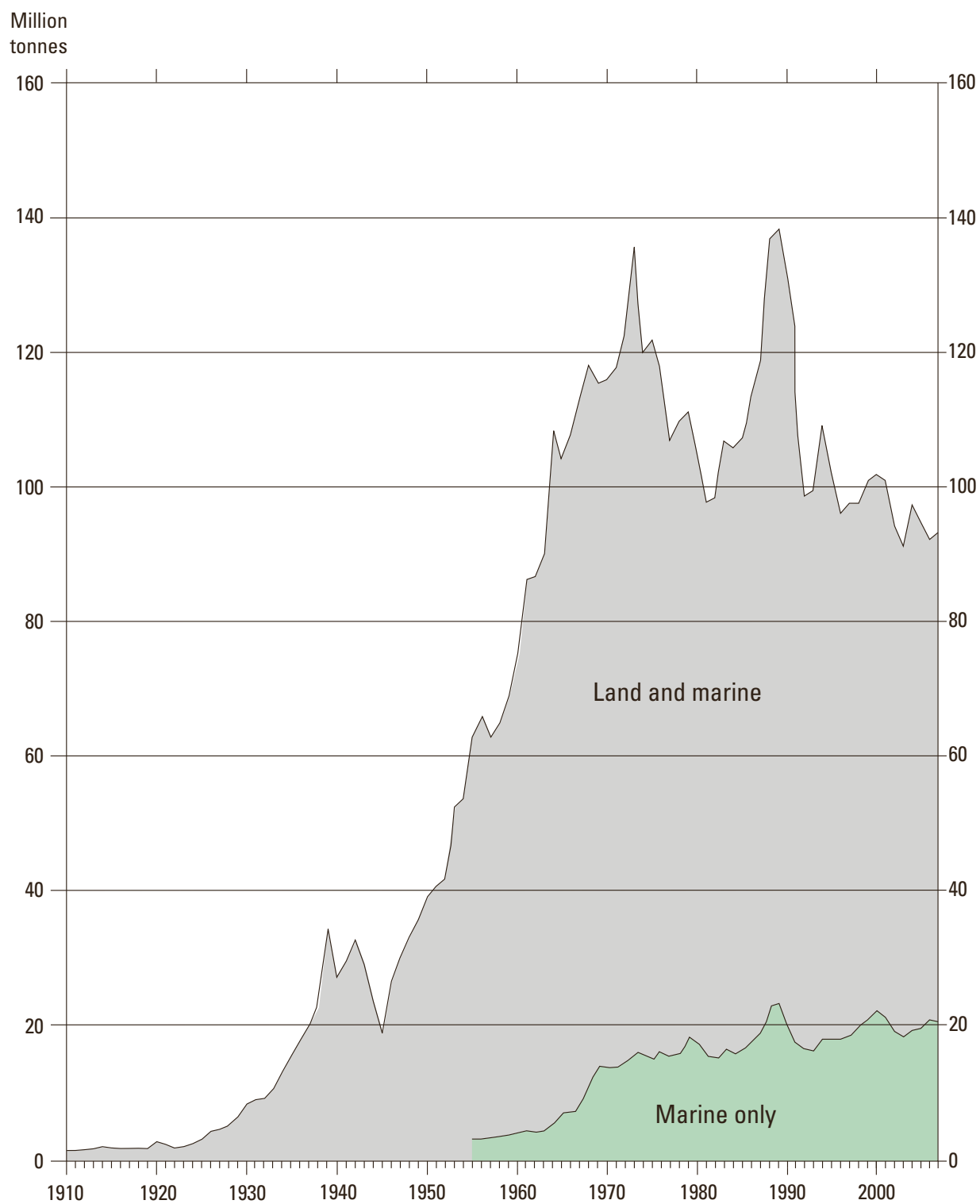
(b) Great Britain: production for the home market including landings of marine-dredged materials at British ports.

(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):
2003: 6 095 640; 2004: 6 191 867; 2005: 6 471 453; 2006: 6 714 659;
2007: 6 649 041.

United Kingdom production of sand and gravel 1910–2007



United Kingdom production of sand and gravel 1987–2007

Million tonnes

Year	Land-based production			Marine-dredged		Total	Total production United Kingdom	For beach replenishment (c) (d)
	Great Britain (a)	Northern Ireland (b)	Total	For home market (a)	For export (c)			
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
2006	66.3	5.2	71.5	14.0	6.7	20.7	92.1	4.1
2007	64.7	8.1	72.8	13.8	6.6	20.4	93.2	2.1

Sources:

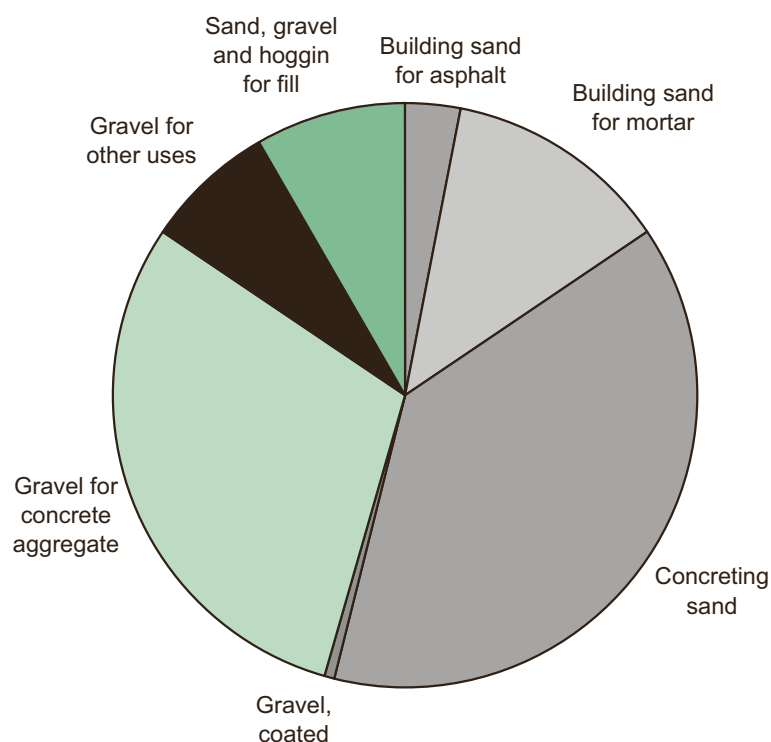
(a) Office for National Statistics.

(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 2007 (total production £78.5 million tonnes)



Great Britain production of sand and gravel by end-use and area of origin 2007

Thousand tonnes

Area of origin	Sand		Gravel				Sand, gravel and hoggins for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (c)		
	For asphalt	For use in mortar						
North East	...	(a) 213	(a) 750	...	(a) ...	(a) ...	(a) ...	1 411
Yorkshire and the Humber	...	550	2 068	...	(a) 1 522	522	...	(a) 5 098
East Midlands	108	782	3 775	—	2 602	901	317	8 485
East of England	596	(a) 1 196	(a) 4 572	61	(a) 3 871	(a) 779	(a) 2 209	(a) 13 283
South East	214	(a) 2 058	(a) 6 346	—	(a) 8 309	(a) 641	(a) 874	(a) 18 442
South West	(a) ...	(a) 1 047	(a) 2 914	...	(a) 1 207	(a) ...	(a) 516	(a) 6 801
West Midlands	...	1 111	3 833	...	3 391	794	679	10 025
North West	162	(a) 1 171	(a) 1 634	—	...	...	250	(a) 3 592
England								
Land-won	...	...	...	226	...	...	...	54 512
Marine (b)	...	...	...	—	...	...	...	12 625
Total	(a) 1 864	(a) 8 128	(a) 25 891	226	(a) 21 247	(a) 4 493	(a) 5 288	(a) 67 137
Wales								
Land-won	...	...	...	—	...	178	...	1 187
Marine (b)	—	...	...	—	...	—	...	1 152
Total	...	(a) 749	(a) 902	—	(a) 443	178	(a) ...	(a) 2 339
Scotland								
Total	...	1 000	3 409	80	1 931	1 058	...	9 025
Great Britain								
Land-won	...	8 969	24 026	306	17 151	5 692	...	64 724
Marine (b)	...	908	6 176	—	6 470	37	...	13 777
Total	(a) 2 330	(a) 9 877	(a) 30 202	306	(a) 23 621	(a) 5 729	(a) 6 436	(a) 78 501

(a) Including marine-dredged material.

(b) Excluding marine-dredged landings at foreign ports (exports) see p.93.

(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 1979–2007

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
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
2006	1 471	3 599	5 016	9 396	8 979	13 588	20 194	6 793	69 035	2 615	8 592	80 242
2007	1 411	3 592	5 098	10 025	8 485	13 283	18 442	6 801	67 137	2 339	9 025	78 501

(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 1995–2007

Thousand tonnes

Year	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (b)		
	For asphalt	For use in mortar						
1995								
Land-won	...	...	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
2006								
Land-won	1 847	...	...	199	...	...	...	56 148
Marine (a)	—	...	...	—	...	...	...	12 887
Total	1 847	7 985	25 618	199	23 328	4 565	5 492	69 035
2007								
Land-won	...	...	...	226	...	...	...	54 512
Marine (a)	...	...	...	—	...	...	...	12 625
Total	1 864	8 128	25 891	226	21 247	4 493	5 288	67 137

(a) Excluding marine-dredged landings at foreign ports (exports), see p.93.

Source: Office for National Statistics.

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

Wales production of sand and gravel by end-use 1996–2007

Thousand tonnes

Year	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (b)		
	For asphalt	For use in mortar						
1996								
Land-won	44	...	610	—	...	—	460	1 519
Marine (a)	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 (a)	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 (a)	...	497	570	—	162	—	...	1 258
Total	45	768	1 282	—	532	—	333	2 959
1999								
Land-won	...	...	683	—	453	2	354	1 800
Marine (a)	...	...	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 (a)	4	620	489	—	164	—	3	1 280
Total	...	951	991	—	568	...	389	2 939
2001								
Land-won	...	...	...	—	...	116	...	1 670
Marine (a)	...	...	...	—	...	—	...	1 216
Total	16	1 120	923	—	524	116	187	2 886
2002								
Land-won	...	...	...	—	...	...	...	1 613
Marine (a)	...	...	...	—	...	—	...	1 145
Total	...	862	1 140	—	487	134	...	2 758
2003								
Land-won	...	...	...	—	...	...	...	1 503
Marine (a)	...	...	...	—	...	—	...	1 230
Total	...	987	1 073	—	430	...	107	2 733
2004								
Land-won	...	...	...	—	...	142	...	1 871
Marine (a)	...	...	...	—	...	—	...	1 249
Total	16	688	1 364	—	526	142	384	3 120
2005								
Land-won	...	...	...	...	...	262	...	1 634
Marine (a)	...	...	...	...	...	—	...	1 112
Total	...	974	824	...	450	262	206	2 746
2006								
Land-won	...	...	...	...	...	206	...	1 528
Marine (a)	—	...	...	...	...	—	...	1 087
Total	...	954	978	...	280	206	179	2 615
2007								
Land-won	...	...	...	—	...	178	...	1 187
Marine (a)	—	...	...	—	...	—	...	1 152
Total	...	749	902	—	443	178	...	2 339

(a) Excluding marine-dredged landings at foreign ports (exports), see p.93.

Source: Office for National Statistics.

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

Scotland (land-won) production of sand and gravel by end-use 1996–2007

Thousand tonnes

Year	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (a)		
	For asphalt	For use in mortar						
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
2006	...	968	3 219	...	1 745	877	1 197	8 592
2007	...	1 000	3 409	80	1 931	1 058	...	9 025

(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 2003–2007

Tonnes

Commodity	2003	2004	2005	2006	2007
Sandstone —see Building and dimension stone					
<i>Production</i>	18 259 000	18 844 000	18 685 000	18 038 000	16 806 000

Great Britain production of sandstone by end-use and area of origin 2007

Thousand tonnes

Area of origin	Roadstone						Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast						
North East	48	—	—	—	—	—	—	3	48	...	—	...
Yorkshire and the Humber	...	—	613	69	...	—	...	390	186	...	...	1 567
North West	31	—	...	...	—	—	...	...	...	...	—	2 703
West Midlands	5	...	...	...	...	...	...	...	...	—	...	1 564
East Midlands	...	—	—	...	—	—	—	46	90	...	—	306
East of England	—	—	—	—	—	—	—	—	170	—	—	171
South East	2	—	—	—	—	—	—	—	...	—	—	...
South West	...	...	...	...	—	92	...	28	205	...	—	479
England	365	348	...	824	...	...	...	878	...	...	...	6 918
Wales	24	...	1 262	281	99	—	225	427	...	16	...	3 558
Scotland	30	...	...	244	...	...	...	148	...	...	1	1 502
Great Britain	419	877	2 308	1 349	402	...	1 529	1 453	3 144	75	...	11 978
England						Wales						
County		Total		County		Total		County		Total		
Avon		...		North Yorkshire		1 057		Clwyd		...		
Bedfordshire		—		Northamptonshire		109		Dyfed		...		
Cheshire		127		Northumberland		88		Gwent		...		
Cornwall		168		Oxfordshire		—		Mid Glamorgan		...		
Cumbria		404		Shropshire		...		Powys		...		
Derbyshire		197		Somerset		...		West Glamorgan		762		
Devon		...		South Yorkshire		11						
Dorset		...		Staffordshire		...						
Durham		11		Surrey		—						
Gloucestershire		8		West Sussex		28						
Greater Manchester		921		West Yorkshire		499						
Hereford & Worcester		1		Wiltshire		—						
Lancashire		1 251										
Norfolk		171		England		6 918		Scotland				
								Region		Total		
								Highlands		173		
								North East Scotland		...		
								Orkney		...		
								Shetland		...		
								South of Scotland		707		
								Tayside and Fife		1		
								West Central Scotland		...		
										Scotland 1 502		

Source: Office for National Statistics.

England production of sandstone by end-use 1995–2007

Thousand tonnes

Year	Roadstone						Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings									
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
2006	396	...	1 046	799	187	...	252	1 310	...	2 499	...	30	...	7 041
2007	365	348	...	824	...	...	...	878	...	...	...	...	...	6 918

(a) BGS estimate.

Source: Office for National Statistics.

Wales production of sandstone by end-use 1995–2007

Thousand tonnes

Year	Roadstone						Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings									
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
2006	14	...	...	234	185	—	...	593	...	941	11	—	...	3 415
2007	24	...	1 262	281	99	—	225	427	...	...	16	...	...	3 558

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of sandstone by end-use 1995–2007

Thousand tonnes

Year	Roadstone						Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	Other uses	Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings									
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
2006	25	141	...	302	143	...	...	134	...	356	...	...	...	1 372
2007	30	...	...	244	...	...	...	148	...	...	...	1	...	1 502

(a) BGS estimate.

Source: Office for National Statistics.

Selenium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Selenium										
<i>Imports</i>										
Elemental	563	969	488	786	1 350	4 048	5 317	7 629	5 005	6 300
<i>Exports</i>										
Elemental	139	97	106	95	118	1 046	3 019	5 670	2 533	2 955

Sepiolite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Sepiolite										
<i>Imports</i>	(a) 55 483	51 044	65 565	72 340	282 733	...	4 965	7 955	10 922	22 553

(a) Exports from Spain.

Silica sand

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

For several years silica sand production in the UK has remained about four million tonnes per year. An exception was 2004 when total sales increased to more than five million tonnes. 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. Silica sand production in 2007 decreased slightly to 4 909 000 tonnes compared with 5 174 000 tonnes in 2006. As a percentage of total output in 2007, around 88 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 required an extension containing at least ten years of reserves to provide certainty for the planned capital investment at the site. In 2007 Staffordshire County Council refused planning permission for the extension citing the unacceptable impact on the local community. 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) that 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. The underground mine at Lochaline on the west coast of Scotland was closed in December 2008, having been in production since the 1940s. Tarmac indicated that the operation which worked some of the highest purity silica sand in the UK was commercially unviable due external market conditions.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Silica sand										
<i>Production (a)</i>	4 073 000	5 011 000	4 146 000	5 174 000	4 909 000					
<i>Imports</i>	78 944	79 829	127 992	190 813	61 454	9 646	9 844	8 453	9 234	8 516
<i>Exports</i>	51 095	166 899	174 236	388 440	222 581	3 577	5 244	4 586	6 402	6 393

(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 2007

Area of origin	Thousand tonnes				
	Foundry uses	Glass manufacture	Other industrial uses	Agricultural, horticultural & leisure uses	Total
North East (a)	1	—	—	...	...
Yorkshire and the Humber (b)	...	...	14	61	...
East Midlands (c)	25	—	109	...	...
West Midlands (d)	...	...	...	...	...
East of England (e)	...	...	...	...	1 155
South East (f)	—	...	...	290	706
South West (g)	...	...	...	80	167
North West (h)	428	...	323	...	1 433
England	...	...	1 094	1 106	4 335
Wales (i)	...	—	...	...	71
Scotland (j)	...	...	...	...	503
Great Britain	527	1 930	1 178	1 274	4 909

(a) From Northumberland, Tyne & Wear and Durham

(b) From North Yorkshire, South Yorkshire and Humberside

(c) From Nottinghamshire and Lincolnshire

(d) From Staffordshire and Hereford and Worcester

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

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

(g) From Gloucestershire, Wiltshire, Dorset, Devon and Cornwall

(h) From Cumbria, Greater Manchester, Cheshire and Merseyside

(i) From Clwyd, Dyfed and West Glamorgan

(j) From South of Scotland, West Central Scotland, East Central Scotland, Tayside and Fife, Highlands, Western Isles and Orkney

Source: Office for National Statistics.

Silicon

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Silicon										
<i>Consumption in Iron and Steel</i>										
<i>Industry</i>										
Ferro-silicon	36 640	37 320	35 850	37 610	38 900					
Silico-manganese	22 660	23 080	22 170	23 620	24 430					
Calcium silicide	90	90	80	90	90					
Ferro-silico-zirconium	60	60	60	60	70					
<i>Imports</i>										
Elemental silicon—										
Containing not less than 99.99% silicon	2 204	2 737	2 744	2 203	1 504	41 302	45 773	54 393	46 953	49 825
Other	98 268	97 751	74 359	27 309	24 284	80 300	78 007	61 024	25 192	25 025
Doped silicon	298	378	319	399	467	33 342	36 494	33 309	30 409	35 333
Ferro-silicon	75 469	72 436	58 225	64 610	66 838	31 179	30 803	26 065	28 782	33 311
Ferro-silico-manganese	53 421	63 935	57 136	59 985	56 036	18 537	34 837	24 041	23 440	29 887
Ferro-silico-magnesium	5 663	4 969	5 448	3 810	2 303	3 010	2 418	2 754	1 738	1 168
Ferro-silico-chrome	63	—	728	350	1 242	35	—	217	128	635
<i>Exports</i>										
Elemental silicon—										
Containing not less than 99.99% silicon	314	376	597	788	571	12 874	15 341	23 535	19 922	23 458
Other	2 385	1 179	1 869	6 175	10 754	2 763	2 589	2 148	6 420	11 815
Doped silicon	270	325	359	545	957	105 080	112 031	64 963	80 048	85 190
Ferro-silicon	1 845	2 744	2 652	2 733	2 314	3 362	2 430	3 173	3 331	3 096
Ferro-silico-manganese	42	8 247	5 003	60	7	22	5 075	1 513	90	11
Ferro-silico-magnesium	282	316	542	653	917	330	213	409	441	807
Ferro-silico-chrome	35	25	8	8	35	89	46	7	12	80

Sillimanite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Sillimanite										
<i>Imports</i>										
Sillimanite minerals (a)	22 649	24 348	39 650	10 268	10 239	2 752	2 525	2 441	1 898	1 774
Mullite	8 656	12 392	10 430	7 468	12 036	2 696	3 198	3 828	3 288	3 963
Chamotte earth (b)	11 013	18 033	23 462	19 120	29 416	1 939	1 874	2 582	2 351	3 393
<i>Exports</i>										
Sillimanite minerals (a)	47	87	14	41	75	12	26	14	17	43
Mullite	3 191	1 929	2 403	1 884	2 355	2 197	1 485	1 833	1 457	1 811
Chamotte earth (b)	111	198	59	112	235	65	114	65	78	132

(a) Andalusite, kyanite and sillimanite.

(b) Calcined refractory clay including flint clay.

Silver

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Silver										
<i>Imports</i>										
Scrap (a)	2 952	2 489	2 283	2 742	3 049	191 927	155 978	157 000	311 032	590 691
Unwrought	2 038	1 521	1 144	6 898	3 500	238 727	211 043	181 193	1 036 089	642 960
Partly worked	447	584	342	419	2 018	47 123	57 760	54 351	53 981	57 981
Silver in unrefined lead bullion (b)	340	270	370	240	239					
<i>Exports</i>										
Scrap (a)	2 444	2 386	3 325	3 785	5 051	21 299	16 120	27 905	37 217	38 340
Unwrought	3 095	1 458	2 050	762	1 806	268 641	188 053	360 137	164 306	408 430
Partly worked	334	297	240	307	214	13 049	22 914	16 469	26 417	27 564

(a) Including scrap of platinum group metals.

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

Slate

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Slate										
<i>Production</i>										
Architectural and cladding uses, roofing and damp proof courses	...	...	...	...	...
Powder and granules	...	...	...	...	...
Crude blocks	33 000	43 000	92 000	76 000	41 000					
Fill and other uses	728 000	681 000	690 000	714 000	1 332 000					
Total	832 000	901 000	928 000	865 000	1 428 000					
<i>Imports</i>										
Unworked (a)	29 690	34 314	27 693	52 135	45 556	7 047	7 480	7 769	11 029	11 709
Roofing and wall tiles	139 819	160 921	165 790	156 784	174 574	45 227	51 248	53 385	51 255	59 391
Other worked slate (b)	15 601	60 720	55 854	55 401	41 222	4 486	9 847	10 237	10 778	9 217
<i>Exports</i>										
Unworked (a)	774	3 764	4 441	450	255 297	690	627	565	332	1 846
Roofing and wall tiles	11 978	16 917	24 963	9 348	13 230	7 070	9 445	12 331	5 410	7 275
Other worked slate (b)	2 313	1 919	2 868	4 266	7 133	2 675	2 140	2 515	2 932	2 280

(a) Including roughly split or squared.

(b) Including articles of slate or agglomerated slate.

Strontium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Strontium										
<i>Imports</i>										
Oxides	...	...	...	...	...	...	...	...	...	...
Carbonate	16 842	12 297	4 672	1	3	5 268	3 436	1 287	7	13
<i>Exports</i>										
Oxides	...	...	...	...	...	...	...	...	...	...
Carbonate	66	13	11	425	513	21	76	41	300	71

Sulphur

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Sulphur										
<i>Supply</i>										
Produced (a)	115 000	120 000	124 000	115 000	130 000					
Imported (b)	29 028	48 948	31 485	18 942	13 679					
Sulphur, zinc concentrates (imported) (c)	4 800	80	260	175	50					
<i>Consumption</i>										
For sulphuric acid–										
Sulphur	162 700	...	...	...	...	
Zinc concentrates (c)	...	...	...	...	...
<i>Imports</i>										
Sulphur–										
Crude	29 028	48 948	31 485	18 942	13 679	2 430	2 705	2 017	1 679	3 198
Sublimed, colloidal etc.	541	675	577	1 297	1 073	809	419	408	1 001	832
<i>Exports</i>										
Sulphur–										
Crude	476	700	431	113	8 207	842	995	622	228	262
Sublimed, colloidal etc.	836	1 387	1 458	1 312	624	479	460	533	392	265

(a) Produced from oil refineries.
(b) Including waste and residues.

(c) Sulphur content calculated at 29%.

Talc

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Talc										
<i>Production</i>	6 494	3 881	6 000	4 325	2 850					
<i>Imports</i>	59 172	66 722	65 496	55 200	54 812	9 807	11 205	10 816	10 815	11 176
<i>Exports</i>	3 325	3 317	5 244	4 626	2 389	1 048	1 154	1 415	1 501	878

Tellurium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Tellurium										
<i>Imports</i>	41	17	104	38	38	504	153	1 780	806	1 070
<i>Exports</i>	37	46	36	53	40	679	1 125	1 607	1 753	1 781

Tin

Tin in the form of cassiterite and stannite generally occurs in high temperature veins associated with granite intrusions. Tin is valued for its corrosion resistance and is used for plating steel and alloying with other metals.

No tin has been produced in the UK for 11 years since the closure of the South Crofty mine, Cornwall. Western United Mines Limited (WUM), the owners of the mine, has continued to investigate the possible re-opening of the site, investing £35 million. During 2008 WUM have been engaged in a drilling programme and negotiations with the local councils to enable the construction of new infrastructure.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Tin										
<i>Consumption</i>										
Refined	7 125	5 301	3 203	4 080	3 060					
<i>Imports</i>										
Concentrates	—	2	...	0	0	—	12	...	43	39
Scrap	168	215	468	1 728	452	303	204	206	510	317
Ash and residues	—	—	...	...	...	—	—	...	...	...
Unwrought	7 488	5 861	4 812	3 558	13 630	22 377	27 342	21 677	17 917	32 618
Unwrought alloys	2 378	1 145	2 067	891	525	6 163	4 821	5 605	5 029	5 535
<i>Exports</i>										
Concentrates	29	0	2	4	373	65	1	10	21	2 012
Scrap	4 499	7 353	20 603	35 252	27 329	2 436	3 539	16 374	31 425	43 699
Ash and residues	61	243	97	165	124	87	412	210	474	199
Unwrought	283	524	1 608	8 395	4 085	1 080	2 872	7 899	43 259	29 224
Unwrought alloys	2 152	885	442	698	696	4 263	3 685	2 336	4 107	5 332

Titanium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Titanium										
<i>Production</i>										
Titanium dioxide pigment (c)	297 000	291 000	274 000	275 000	268 000					
<i>Apparent consumption (a)</i>	36 200	18 200	43 200	78 800	68 200					
<i>Consumption in Iron and Steel Industry</i>										
Ferro-titanium	940	960	970	1 020	1 050					
<i>Imports</i>										
Ores and concentrates										
Ilmenite	113 852	110 596	80 435	175 882	181 794	7 145	6 068	4 631	25 815	27 878
Other (rutile)	111 754	113 852	109 238	48 147	42	27 719	25 336	24 777	12 111	36
Scrap	11 097	13 324	12 685	14 375	12 585	21 183	43 071	81 768	88 437	45 141
Unwrought	10 932	10 633	10 490	10 736	11 966	34 162	41 027	78 936	75 833	70 708
Wrought	3 097	3 444	4 763	5 156	6 354	52 231	58 318	94 902	141 150	176 721
Ferro-titanium (b)	2 042	2 457	1 883	1 087	1 677	3 516	8 071	11 011	6 434	6 732
Oxides	5 827	10 276	8 316	10 769	6 981	8 417	12 360	11 095	11 521	8 884
Pigments based on titanium dioxide	68 311	64 511	58 786	60 759	67 727	87 649	82 979	79 997	82 835	113 787
Titanium slag	44 890	...	64 848	91 603	151 494	34 972	31 242	28 718	27 968	33 379
<i>Exports</i>										
Ores and concentrates										
Ilmenite	—	1	87	58	26	—	11	586	199	100
Other (rutile)	48	42	27	99	...	49	226	256	780	...
Scrap	1 423	1 797	3 057	4 280	4 476	2 989	5 762	19 696	28 935	20 964
Unwrought	5 252	5 438	5 443	2 952	3 263	16 485	25 261	49 550	31 888	17 402
Wrought	3 409	4 678	8 712	6 795	5 196	58 664	73 773	133 007	169 621	178 876
Ferro-titanium (b)	14 676	20 703	17 361	17 645	19 515	29 417	66 151	118 690	108 240	79 176
Oxides	2 940	1 221	1 549	1 224	1 130	2 724	2 493	3 506	3 792	2 392
Pigments based on titanium dioxide	239 601	233 370	214 192	181 023	210 938	283 891	264 630	257 482	220 091	247 463

(a) BGS estimates; see p.v.

(b) Including ferro-silico-titanium.

(c) Articol estimates.

Tungsten

The main sources of tungsten are the minerals scheelite and wolframite, which are deposited from hydrothermal solutions generally related to granite magmatism. Tungsten-bearing veins are commonly associated with tin and molybdenum which can be important by- or co-products. Tungsten is valued for its corrosion resistance, high melting point and tensile strength at high temperature.

Wolf Minerals Ltd, the owners of the Hemerdon mine, near Plympton in Devon, continued work to resume tungsten production at the site. A drilling programme completed in November 2008 led to a large increase in estimates of both tonnage and grade of the deposit. A new resource gave 97.4 million tonnes at 0.22% tungsten trioxide and 0.023% tin (inferred and indicated). This is a 20 per cent rise on the previous tonnage estimate made in March 2008. This revision places Hemerdon among the largest tungsten resources in the western world. Confidence in the resource estimation has also been increased with the majority obtaining 'indicated' status according to JORC guidelines, replacing its previous 'inferred' status. Work continues to define a JORC compliant reserve at Hemerdon.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Tungsten										
<i>Consumption in Iron and Steel Industry (a)</i>										
	40	40	40	40	40					
<i>Imports</i>										
Ores and concentrates	190	0	4 914	34	2	30	8	813	229	27
W content	140	0	2 530	177	...					
Scrap	1 443	1 106	1 978	1 841	1 823	4 019	4 453	12 339	16 240	18 787
Unwrought	359	413	705	2 766	389	2 898	3 550	9 615	22 773	5 953
Wrought	130	384	521	111	713	4 644	6 609	6 240	5 015	6 828
Ferro-tungsten (b)	60	10	36	134	33	241	45	344	948	397
Carbide	1 232	838	974	913	1 409	10 524	9 071	14 301	18 831	25 842
Ash and residues	—	—	...	...	...	—	—	...	...	...
Tungstates	121	125	43	39	51	574	422	287	379	590
Oxides and hydroxides	1 321	295	318	707	746	6 386	1 341	3 987	9 535	8 566
<i>Exports</i>										
Ores and concentrates	...	20	5	1	36	48	72	51	44	589
W content	...	10	3	0						
Scrap	1 431	793	1 130	1 161	1 991	3 421	3 232	5 815	8 062	17 528
Unwrought	198	177	242	845	373	1 689	1 519	3 285	6 659	4 232
Wrought	424	297	360	93	80	1 935	2 741	2 200	2 532	3 091
Ferro-tungsten (b)	10	39	37	17	8	44	106	315	246	112
Carbide	70	92	83	251	303	1 003	1 697	1 637	3 937	7 874
Tungstates	182	41	33	12	11	1 118	130	77	181	182
Oxides and hydroxides	5	333	46	4	0	90	1 198	794	143	4

(a) Metal content.

(b) Including ferro-silico-tungsten.

Vanadium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Vanadium										
<i>Consumption in Iron and Steel Industry (a)</i>	70	70	70	80	90					
<i>Imports</i>										
Scrap	6	—	...	...	...	29	...	...	...	...
Unwrought	67	196	458	(b) 174	(b) 583	410	1 629	5 598	(b) 3 133	(b) 5 232
Wrought	183	141	354	233	...	1 501	1 032	3 893	4 944	...
Ferro-vanadium	1 071	1 262	609	1 623	755	3 764	6 073	14 660	10 669	11 036
Oxides	363	306	339	472	425	936	806	3 804	4 063	3 053
<i>Exports</i>										
Ash and residues	...	...	...	...	...	...	...	...	...	...
Scrap	22	...	...	...	...	188	...	...	...	...
Unwrought	6	(b) 14	(b) 18	(b) 0	(b) 2 182	35	(b) 194	(b) 468	(b) 47	(b) 902
Wrought	1 109	1 061	415	69	...	2 226	4 148	8 253	127	...
Ferro-vanadium	39	17	...	151	96	228	125	...	2 728	1 400
Oxides	—	2	20	23	697	3	14	241	80	10 420

(a) Vanadium content of ferro-vanadium.

(b) Including scrap.

Vermiculite

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Vermiculite										
<i>Imports</i>	30 102	32 778	32 063	34 772	34 072	3 499	3 780	4 073	4 484	4 182
<i>Exports</i>	230	148	31	101	5	147	249	112	69	52

Zinc

Zinc is extracted from several different types of deposits, usually as a co-product with lead and copper. It is valued for its corrosion resistance and its workability for die-casting. Zinc is the fourth-most widely used metal in the world.

Anglesey Mining plc has halted exploration and development work on the Parys Mountain polymetallic Cu-Pb-Zn-Ag-Au deposit on Anglesey in North Wales. This follows failure of the proposed sale of the project to Perth-based company Western Metals Ltd.

Metallum Resources plc has obtained licences to explore for Irish-style zinc-lead deposits in Northern Ireland. The company has been exploring for volcanogenic massive sulphide mineralisation in the Sperrin Mountains and data compilation and re-analysis of drillcore has been undertaken for other licence areas.

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Zinc										
<i>Production</i>										
Slab	16 600	—	—	—	—					
<i>Consumption</i>										
Slab	176 200	150 100	161 676	161 676	172 000					
Scrap (Zn content)	57 374	88 782	...	...	...		
Total	233 574	238 882	...	...	...		
<i>Imports</i>										
Ores and concentrates	16 611	260	903	603	164	2 413	435	866	881	418
Ash and residues	10 941	26 221	6 838	5 632	4 918	13 800	64 298	2 106	3 863	3 553
Scrap	172	228	188	334	30	39	69	57	243	41
Unwrought	171 219	139 477	135 840	119 676	122 458	91 816	86 214	103 949	215 030	222 907
Unwrought alloys	13 796	15 960	16 128	15 666	13 201	8 075	9 668	10 207	29 565	28 338
<i>Exports</i>										
Ores and concentrates	113	326	141	468	82	673	200	90	1 237	301
Ash and residues	11 403	20 699	28 472	7 009	7 068	3 479	4 847	24 231	5 807	6 677
Scrap	15 436	9 851	9 881	4 571	7 543	4 715	4 974	6 673	4 948	9 610
Unwrought	3 106	1 581	1 661	5 325	5 932	1 756	1 055	1 406	8 776	10 236
Unwrought alloys	21 770	26 260	38 267	37 120	33 799	13 817	17 629	32 540	61 587	63 495

(a) Zinc and mixed zinc-lead concentrates.

Zirconium

United Kingdom summary 2003–2007

Commodity	2003	2004	2005	2006	2007	2003	2004	2005	2006	2007
	Tonnes					£ thousand				
Zirconium										
<i>Consumption in Iron and Steel Industry</i>										
Ferro-silico-zirconium	60	60	60	60	70					
<i>Apparent consumption (a)</i>	19 400	18 200	11 000	8 000	7 000					
<i>Imports</i>										
Ores and concentrates (b)	39 285	32 917	19 519	13 729	11 007	11 383	11 482	9 012	8 769	7 296
Scrap	173	156	129	114	62	763	408	695	465	278
Unwrought	22	79	65	175	150	383	882	1 252	2 346	1 071
Wrought	151	209	144	178	235	4 848	3 757	1 758	4 131	3 411
<i>Exports</i>										
Ores and concentrates	418	505	699	902	1 096	395	357	534	847	1 022
Scrap	107	22	20	25	41	702	105	153	111	104
Unwrought	65	75	46	5	0	195	161	73	22	6
Wrought	72	86	61	60	13	934	1 358	411	1 934	779

(a) BGS estimates; see p.v.

(b) Mainly zircon.



£25.00 net

