



British
Geological Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

United Kingdom Minerals Yearbook 2009



British Geological Survey

United Kingdom Minerals Yearbook 2009

Statistical data to 2008

By T Bide, N E Idoine, T J Brown, P A J Lusty, K Hitchen, M Quinn
and R Kendall

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British Geological Survey offices:

Keyworth, Nottingham NG12 5GG

☎ 0115 936 3100 Fax 0115 936 3200

www.bgs.ac.uk

Sales desk: ☎ 0115 936 3241

Fax 0115 936 3488, e-mail: sales@bgs.ac.uk

Online shop: www.geologyshop.com

Murchison House, West Mains Road, Edinburgh EH9 3LA

☎ 0131 667 1000 Fax 0131 668 2683

e-mail: scotsales@bgs.ac.uk

Natural History Museum, Cromwell Road, London SW7 5BD

☎ 020 7589 4090 Fax 020 7584 8270

☎ 020 7942 5344/45

e-mail: bgs london@bgs.ac.uk

Geological Survey of Northern Ireland, Colby House, Stranmillis Court, Belfast BT9 5BF

☎ 028 9038 8462 Fax 028 9038 8461

Maclean Building, Crowmarsh Gifford, Wallingford OX10 8BB

☎ 01491 838800 Fax 01491 692345

Columbus House, Greenmeadow Springs, Tongwynlais, Cardiff, CF15 7NE

☎ 029 2052 1962 Fax 029 2052 1963

Parent Body

Natural Environment Research Council, Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1EU

☎ 01793 411500 Fax 01793 411501

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All communications regarding the content of this publication should be addressed to the Head of Science, Minerals and Waste, British Geological Survey, Keyworth, Nottingham NG12 5GG

☎ 0115 936 3495

Fax 0115 936 3446

e-mail: minerals@bgs.ac.uk

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The compilers would also like to thank their colleagues in the British Geological Survey, in particular A J Hill, H Holbrook and J Stevenson.

Bibliographical reference

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Cover photograph

Extraction of granite at Mountsorrel Quarry, Loughborough. Operated by Lafarge Aggregates
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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.

In 2009 minerals issues in the UK were dominated by the global financial crises, and the trend of mothballing and closure of quarries and job cuts continued. Hanson UK, the aggregate and cement producer, was put up for sale by its parent company, Heidelbergcement. Steel producer Corus, was also a major casualty of the economic downturn and was forced to close its Teesside Cast Products plant with the loss of over 1700 jobs. Reductions in the demand for aggregates and other raw materials continued with the Mineral Products Association reporting crushed rock and sand and gravel sales during 2009 declining by 25 and 23 per cent respectively.

There remains concern within the EU and beyond over the security of supply of minerals and metals, especially those required for high-tech and environmental technologies. Following the EU Raw Materials Initiative in 2008 two expert working groups, on which the BGS was represented, were set up to assess raw materials critical to the EU economy and to advise upon best practices in land use planning, permitting and geological knowledge sharing. The reports of these groups were published in June 2010 and will feed into a new EC Communication on raw materials planned for the end of 2010.

Despite the recession, unprecedented demand from China and India caused world coal prices to remain relatively high, although they have dropped from record prices seen in 2008. This has led to greater investment in UK operations resulting in increased numbers of new opencast sites commencing production and more planning applications for new opencast sites. UK Coal plc has continued to invest in its three underground mines at Daw Mill, Thoresby and Kellingley and is considering the viability of re-opening Harworth colliery.

Continued demand from developing countries has meant that the effect of the recession on some metalliferous minerals was not as severe as for other commodities. Scotgold plc continues to work to bring the Cononish gold deposit into production and is exploring its contiguous licence areas in the Grampian Highlands for similar gold mineralisation. Wolf Minerals has continued investigations at the large tungsten-tin deposit in Devon and has raised funds for a feasibility study of the deposit to be completed during 2010. In Northern Ireland, a large proportion of the land area remains under licence for gold and base metal exploration and several companies have continued work throughout 2009.

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. I would also like to thank the many organisations, trade associations, companies and individuals who have generously supplied additional information.

John N Ludden, PhD
Executive Director

British Geological Survey
Keyworth
Nottingham

June 2010

Contents

Page

	General tables:
1	Minerals in the national economy (text)
2	British Geological Survey (text)
3	Trade in minerals and mineral-based products compared with total trade 2002–2008
5	Balance of trade in minerals and mineral-based products 2004–2008
7	Approximate value of minerals produced in the UK 2001–2008
7	UK approximate value of minerals produced onshore and offshore 2001–2008
8	UK mining and quarrying: gross value added 2000–2007
8	UK employment in the minerals industry, 2007 and 2008
9	UK production of minerals 2003–2009
10	England production of minerals 2002–2008
11	Wales production of minerals 2002–2008
11	Scotland production of minerals 2002–2008
12	Northern Ireland mineral production by county 2008
12	Minerals produced in Northern Ireland, the Isle of Man, Guernsey and Jersey 2004–2008
12	UK mineral production by underground mining 2006–2009
13	Area of land permitted for mineral working in England in 1994 and 2000
13	Mineral bearing land royalty values
14	Number of mineral workings in the UK by commodity
15	Abrasives, natural
15	Aggregates
22	Aluminium
23	Aluminium compounds
23	Antimony
23	Arsenic
24	Asbestos
24	Asphalt, natural
24	Ball clay
25	Barytes
25	Bauxite
26	Bentonite
26	Beryllium
26	Bismuth
26	Boron
27	Bricks
28	Bromine
28	Building and dimension stone
29	Cadmium
29	Cement
30	Chalk (see Limestone)
30	China clay
30	China stone (see Feldspar)
31	Chromium
31	Clays (also see Bricks)
33	Coal (also see Primary fuels)
38	Cobalt
39	Coke and breeze
39	Copper
40	Crushed rock (also see Aggregates)
46	Diamond
46	Diatomite
46	Dolomite (see Limestone)
46	Feldspar
47	Fireclay

Page

48	Fluorspar
49	Fuller's earth
49	Gas, natural (see Petroleum)
49	Germanium
49	Gold
52	Granite (see Igneous rock)
52	Graphite
52	Gypsum
53	Hafnium
54	Igneous rock (for graph, see Crushed rock)
56	Insulating materials
56	Iodine
56	Iron compounds and earth colours
57	Iron ore
57	Iron and steel
58	Lead
59	Limestone, dolomite and chalk (see graph, see Crushed rock)
69	Lithium
69	Magnesia
70	Magnesium
70	Manganese
71	Marble
71	Mercury
71	Mica
72	Molybdenum
72	Nepheline syenite
73	Nickel
73	Niobium (see Tantalum and Niobium)
73	Peat
74	Perlite
74	Petroleum and natural gas (also see Primary fuels)
84	Phosphorus
85	Platinum group metals
85	Potash
86	Precious and semi-precious stones (excluding diamonds)
86	Primary fuels
88	Pumice
88	Pyrite
89	Quartz and quartzite
89	Radioactive and associated materials
89	Rare earths
90	Salt
91	Sand and gravel (see also Aggregates)
97	Sandstone (for graph, see Crushed rock)
100	Selenium
100	Sepiolite
100	Silica sand
101	Silicon
102	Sillimanite
102	Silver
102	Slate
103	Strontium
103	Sulphur
103	Talc
104	Tellurium
104	Tin
105	Titanium
105	Tungsten
106	Vanadium
107	Vermiculite
107	Zinc
108	Zirconium

Maps and diagrams

Page

4	UK balance of trade in minerals and mineral-based products (2004–2008 average)
6	Value of UK minerals production 2008
6	Value of UK construction and industrial minerals production 2008
16	GB production of natural aggregates 1965–2008
17	GB production of crushed rock aggregate and sand and gravel by region 2008
37	UK onshore coal fields and mines, March 2010
44	GB production of crushed rock by end-use 2008
45	UK production of sandstone, igneous rock and limestone (including dolomite) 1895–2008
51	Mines Royal Licences and Leases in 2008
78	UK production and value of oil, including condensate 1971–2008
87	UK production and consumption of primary fuels 1950–2008
92	UK production of sand and gravel 1910–2008
93	GB production of sand and gravel by end-use 2008

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 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 of Energy and Climate Change, 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 of Energy and Climate Change

Digest of United Kingdom Energy Statistics (annual)
Department of Innovation and Skills
Monthly Statistics of Building Materials and Components
BIS website for energy and construction information

Office for National Statistics, UK Statistics Authority
Website: www.statisticsauthority.gov.uk or www.statistics.gov.uk
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 2008 were unavailable at the time of publication. GVA figures for 2007 can be found on page 8.

The estimated total value of minerals produced in 2008 in the UK, expressed as sales on an ex-works basis as opposed to GVA, was £41 835 million, an increase of 24.5 per cent on 2007. This is due to the increasing price of raw materials especially energy minerals, with revenues from oil and natural gas liquids sales rising by 24 per cent on 2007.

UK: Value of mineral production, 2006–2008		£ million	
	2006	2007	2008
Oil and natural gas liquids	19 845	20 728	27 306
Natural gas	11 741	9 377	10 612
Coal	705	708	1 154
Aggregates	1 815	1 797	1 844
Other construction minerals	330	312	349
Industrial minerals	625	686	566
Metalliferous minerals	<0.2	2	4
Total	35 060	33 609	41 835

Production of crude oil, including natural gas liquids, was 68 million tonnes, a slight decrease between 2008 and 2009. The increase in the value of production was due to the increasing price of oil, which continues to climb. Cumulative production of oil to the end of 2008 was 3315 million tonnes and estimated total remaining reserves in present discoveries are in the range 408 to 1130 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 72 million tonnes (oil equivalent) in 2007 to 70 million tonnes in 2008 and 60 million tonnes in 2009. 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 2008 was 2225 billion cubic metres and estimated remaining reserves in present discoveries are in the range 292 billion cubic metres to 907 billion cubic metres.

Coal production showed little change, decreasing by one per cent from 18 million tonnes in 2008 to 17.8 million tonnes in 2009. Production from deep mines was 7.7 per cent lower than in 2008 while opencast coal production increased by 3.5 per cent. Imports of coal to the UK remained relatively constant, rising by one per cent on 2008.

The high price of coal has contributed to the slowing of the long-term trend of production decreases. It is likely that coal production will rise in the next few years if planned deep mine developments are completed. The number of people employed by UK coal extraction has remained almost constant during 2009, falling from 5927 in January to 5912 in December. UK Coal plc has continued the planned investments in its three underground mines at Daw Mill, Thorseby and Kellingley and is considering the viability of re-opening Harworth colliery.

UK: Primary fuel consumption for total energy and use in electricity generation		Million tonnes of oil equivalent		
	Total energy		Electricity generation	
	2007	2008	2007	2008
Coal	40.9	37.9	32.9	32.9
Petroleum	75.6	74.4	1.2	1.8
Natural gas	90.1	93	30.4	32.4
Nuclear	14.0	12	14.0	11.9
Hydroelectricity, wind, other renewables, waste	5.6	6.4	4.4	4.6
Net electricity imports	0.4	0.9	0.5	0.9
Other fuels	-	-	1.4	1.9
Total	226.6	224.6	84.8	82.52

Total UK production of primary aggregates decreased from 222.8 million tonnes in 2007 to 200.5 million tonnes in 2008. Sales of primary aggregates (sand and gravel, and crushed rock) in Great Britain decreased by 10 per cent during 2008 compared to 2007 figures. The global economic decline has caused a significant fall in the demand for aggregates with a 24 per cent fall in sales during 2009. Although the economic recession may have ended the outlook for primary aggregate demand remains negative: orders for new construction dropped by around 14 per cent during 2009 and the Construction Products Association predict construction activity will decline by three per cent during 2010.

In 2008 there was a negative balance of trade in minerals and mineral-based products. The largest contributions to the deficit of £17 827 million were: monetary gold (-£5284 million); coal, coke and briquettes (-£1707 million); non-monetary gold (-£924 million); and non-ferrous metals (-£748 million). Mineral-based goods, including manufactured products, comprised 23.2 per cent of all imports and 29 per cent of all exports in 2008.

British Geological Survey

The BGS and the Department for Communities and Local Government (DCLG) continue to work on mineral planning issues, the collation of 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.

In 2009 a new world mineral statistics archive was launched on the MineralsUK website. This is an ongoing project to improve access to the historical record of worldwide mineral production and trade information held by BGS, which dates back to 1913 for many commodities. Many historical statistical publications from the World Mineral Statistics series have been scanned and made available as free downloads, in either e-book format or as pdf. The complete series will eventually be accessible online.

The mineral commodity profiles on the MineralsUK website have been updated with new profiles added on cobalt, platinum group elements and rare earths. The coal and uranium commodity profile were also updated during March 2010. The Mineral Planning Factsheet series has also been updated with revised factsheets on fluorspar, silica sand, kaolin and metals describing for each commodity its economic importance, the industry structure and related planning issues.

In keeping with the BGS OpenGeoscience ethos, of providing geological data free of charge, reports from the Mineral Reconnaissance Programme (MRP) have been made available on the MineralsUK website. The MRP provided geological, geochemical, geophysical, mineralogical and metallogenic information on prospective areas in Britain and currently 10 of the 146 reports have been made available.

In June 2009, 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.

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 survey of mineral workings in the UK, in order to provide a database of all quarries and mining 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 of source areas for building stone material for conservation or new building purposes. Currently the BRITPITS database holds over 109 000 records of mineral working sites, covering various commodities, from alabaster to zinc. The database also contains up-to-date information on currently operating sites in the UK, including onshore energy minerals, aggregates and industrial minerals.

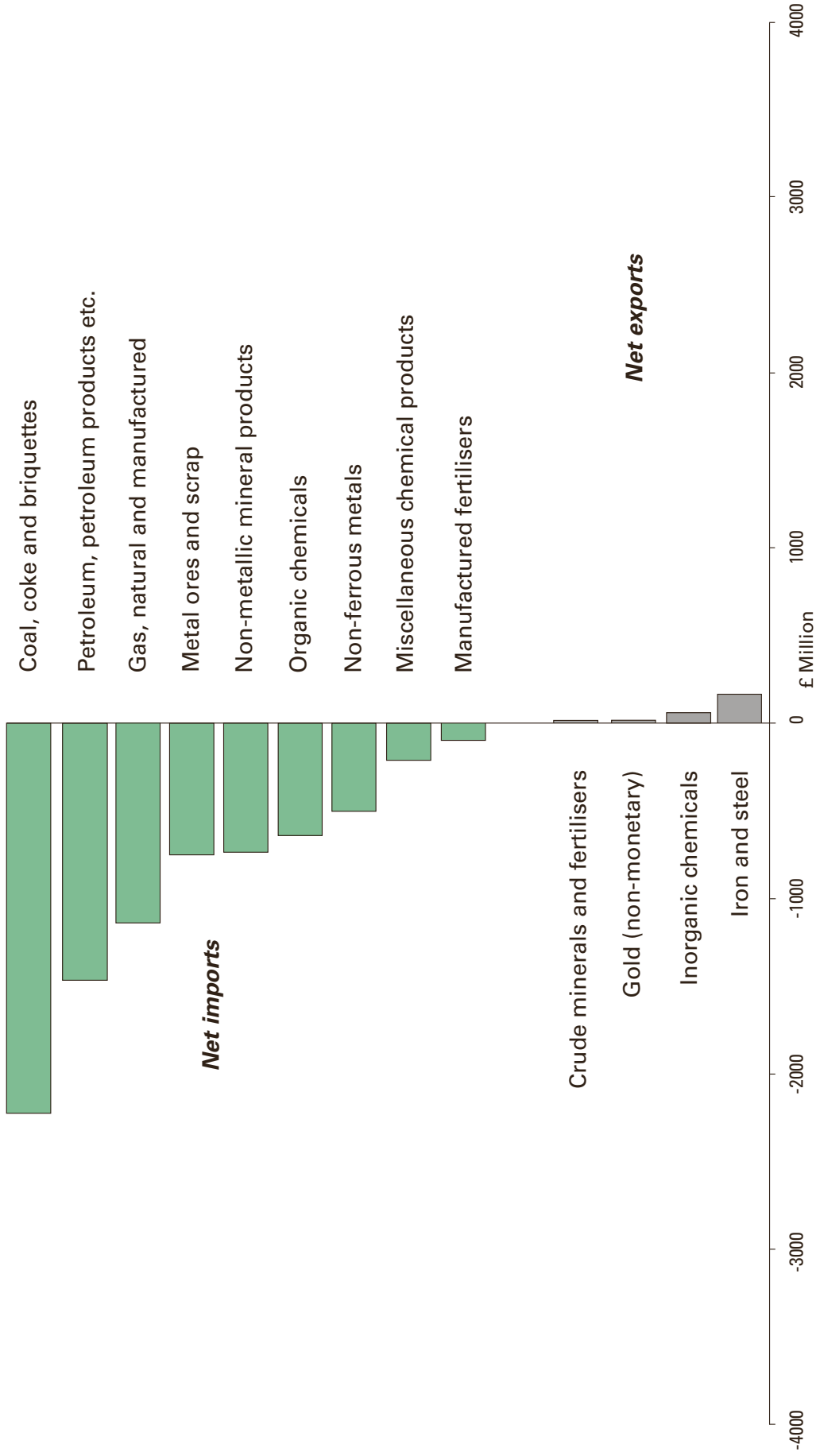
BGS's ongoing Geochemical Baseline Survey of the Environment (G-BASE) project continues the regional and urban geochemical mapping of mainland Britain and is currently undertaking a catchment-wide soil and water survey in the Clyde area, Scotland. A major geochemical survey of Greater London and surrounding areas — a project named *London Earth* — was complete in early 2010. This will enhance our understanding of interactions between people and ecosystems, of water resource protection, and will allow identification of impacts on the environment brought about by urbanisation and industrial activities. 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 kilometers. The G-BASE results have been presented in the form of regional atlases of which 14 have been published to date, national maps of selected elements are available at www.bgs.ac.uk/gbase and the analytical data are available for use under licence. Recent development of capability include pilot studies of mercury and persistent organic pollutants in the urban environment of London. Geochemical sampling sites can be found in the geochemistry layer of the BGS GeoIndex (www.bgs.ac.uk/geoindex).

Trade in minerals and mineral-based products compared with total trade 2002–2008

		£ million						
SITC section		2002	2003	2004	2005	2006	2007	2008
Imports (c.i.f.)								
0, 1	Food, beverages, tobacco	19 046.8	20 727.8	21 763.3	23 291.4	24 685.3	26 351.5	30 570.8
2, 4	Basic materials	6 513.9	6 733.6	6 968.6	7 366.7	8 497.5	10 115.7	11 411.2
	of which: Minerals	1 995.7	1 980.8	2 233.4	2 619.9	3 420.9	4 559.3	5 498.4
3	Fuels and related materials	9 590.4	11 162.8	16 209.1	23 535.0	29 531.8	29 470.4	44 289.5
	of which: Mineral-based	9 390.3	10 991.9	15 862.9	23 092.9	29 098.4	29 231.9	43 906.3
	Manufactured goods:							
5, 6	Semi-manufactures	54 973.4	57 949.8	62 171.0	64 754.7	71 723.1	76 718.3	81 638.4
	of which: Mineral-based	21 367.1	22 473.7	25 272.4	27 017.6	31 348.9	39 877.0	35 062.3
7, 8	Finished manufactures	136 303.1	138 263.3	144 032.6	151 715.1	166 367.3	166 661.7	171 678.0
9	Other (a)	5 352.3	6 113.7	3 884.1	1 847.1	24 977.9	3 600.3	5 286.0
	of which: Mineral-based	4 060.6	4 750.5	2 334.1	221.3	230.5	348.3	490.8
	Total	231 779.9	240 951.0	255 028.6	272 510.0	325 783.0	312 917.9	344 874.0
	All traded goods							
	of which: Mineral-based	36 813.6	40 196.9	45 702.8	52 951.7	64 098.7	74 016.4	84 957.8
	As % of all traded goods	15.9	16.7	17.9	19.4	19.7	23.7	24.6
Exports (f.o.b.)								
0, 1	Food, beverages, tobacco	10 035.8	10 879.8	10 615.2	10 690.2	11 080.1	11 752.6	13 670.8
2, 4	Basic materials	2 862.9	3 318.3	3 759.6	3 982.7	4 906.1	5 473.8	6 558.5
	of which: Minerals	1 374.6	1 673.2	2 064.2	2 186.1	2 893.7	3 372.5	4 141.9
3	Fuels and related materials	15 143.2	15 588.9	16 795.5	20 131.0	23 976.1	23 147.4	33 595.7
	of which: Mineral-based	15 042.4	15 421.9	16 644.7	20 030.0	23 872.3	23 035.7	33 485.2
	Manufactured goods:							
5, 6	Semi-manufactures	50 413.0	54 506.2	56 528.5	60 079.2	65 327.6	68 344.9	76 148.4
	of which: Mineral-based	20 011.6	21 103.8	22 932.3	25 962.2	28 775.7	30 464.8	33 924.9
7, 8	Finished manufactures	107 840.1	103 372.5	102 050.3	115 724.9	137 485.6	110 304.8	117 063.9
9	Other (a)	1 449.2	1 144.7	1 605.3	1 910.6	1 599.6	2 157.8	2 717.2
	of which: Mineral-based	479.2	399.0	826.1	878.6	378.1	923.9	863.7
	Total	187 744.2	188 810.3	191 354.4	212 518.6	244 375.2	221 069.6	249 644.0
	All traded goods							
	of which: Mineral-based	36 907.8	38 597.9	42 467.4	49 056.9	55 919.7	57 796.9	72 415.7
	As % of all traded goods	19.7	20.4	22.2	23.1	22.9	26.1	29.0

(a) Including non-monetary gold.

United Kingdom balance of trade in minerals and mineral-based products (2004–2008 average)



Balance of trade in minerals and mineral-based products 2004–2008

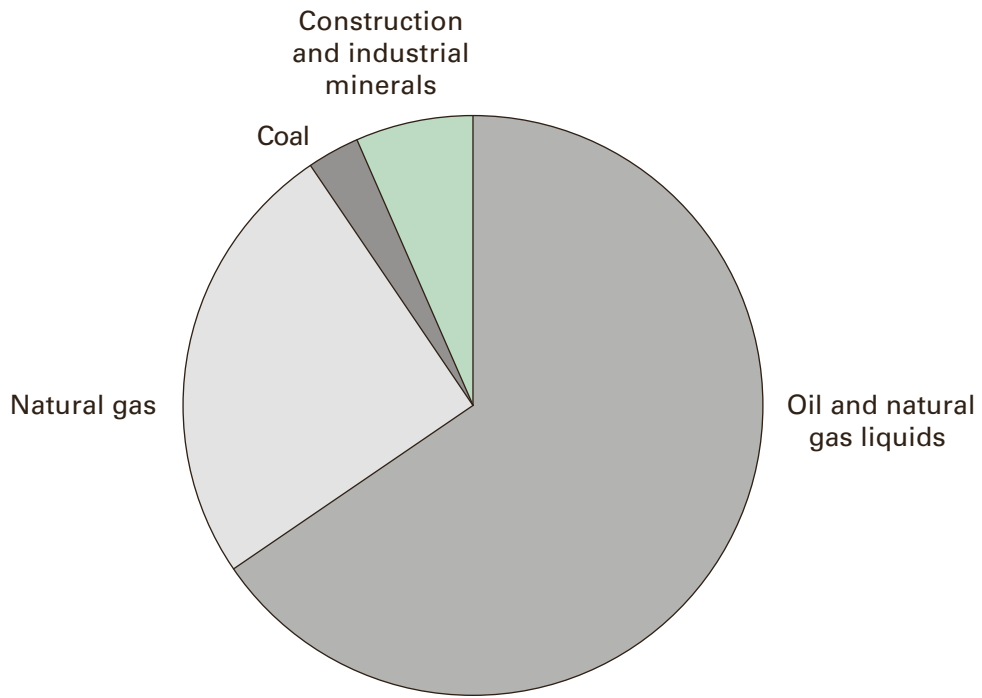
£ million (a)

SITC (R3) divisions	2004	2005	2006	2007	2008
27 Crude minerals and fertilisers:					
imports	385.5	396.9	491.4	479.1	554.7
exports	467.7	461.2	470.5	488.5	497.1
	+82.2	+64.4	-20.9	+9.4	-57.6
28 Metal ores and scrap:					
imports	1 847.9	2 223.0	2 929.5	4 080.2	4 943.7
exports	1 596.5	1 724.8	2 423.1	2 884.0	3 644.8
	-251.4	-498.2	-506.4	-1 196.2	-1 298.9
32 Coal, coke and briquettes:					
imports	1 512.4	1 992.9	2 225.9	2 105.3	3 688.4
exports	64.1	72.2	55.3	77.4	147.1
	-1 448.2	-1 920.7	-2 170.6	-2 027.9	-3 541.2
33 Petroleum, petroleum products and related materials:					
imports	13 514.4	19 126.4	24 125.0	23 863.9	33 325.9
exports	15 108.9	18 419.1	21 823.7	21 203.8	30 074.4
	+1 594.4	-707.3	-2 301.2	-2 660.1	-3 251.5
34 Gas, natural and manufactured:					
imports	836.1	1 973.7	2 747.6	3 262.7	6 892.1
exports	1 471.7	1 538.7	1 993.2	1 754.5	3 263.7
	+635.6	-434.9	-754.3	-1 508.2	-3 628.4
51 Organic chemicals:					
imports	6 940.3	7 350.6	7 883.8	8 858.9	8 660.3
exports	5 963.1	6 629.5	8 018.4	7 562.2	8 322.0
	-977.2	-721.2	+134.6	-1 296.7	-338.3
52 Inorganic chemicals:					
imports	1 379.2	1 503.4	2 132.5	2 734.8	2 749.3
exports	1 502.9	1 522.0	2 117.3	2 766.5	2 885.2
	+123.7	+18.6	-15.3	+31.8	+136
56 Manufactured fertilisers:					
imports	164.7	142.5	144.9	201.5	379.3
exports	81.0	80.6	87.3	99.3	197.0
	-83.7	-61.9	-57.7	-102.2	-182.3
53–59 (part) Miscellaneous chemical products:					
imports	3 179.9	3 386.2	3 588.5	3 823.6	4 196.2
exports	2 726.9	3 761.3	3 359.3	3 522.3	3 750.9
	-453.0	+375.0	-229.2	-301.3	-445.3
66 Non-metallic mineral products:					
imports	6 335.7	6 954.8	7 165.0	6 840.3	7 136.4
exports	5 891.3	6 499.3	6 231.7	5 828.7	6 303.0
	-444.3	-455.5	-933.3	-1 011.6	-833.4
67 Iron and steel:					
imports	3 405.9	3 456.0	3 873.9	4 638.2	5 136.0
exports	3 339.8	4 081.6	3 918.8	4 676.1	5 314.1
	-66.1	+625.7	+44.9	+37.9	+178.1
68 Non-ferrous metals:					
imports	3 752.7	4 086.5	6 369.5	6 395.1	6 567.3
exports	3 234.7	3 881.3	4 840.2	5 792.2	6 910.2
	-518.0	-205.1	-1529.3	-602.9	+342.9
69 Manufactures of metal:					
imports (b)	114.1	137.6	190.9	224.5	237.5
exports (b)	102.5	161.2	202.8	217.4	242.5
	-11.5	+23.6	+11.9	-7.1	+5.0
96 Coin other than gold:					
imports	1.9	2.5	3.3	3.7	4.7
exports	26.5	36.2	29.3	38.0	48.2
	+24.6	+33.7	+26.0	+34.3	+43.5
97 Gold (non-monetary):					
imports	2 332.2	218.8	227.2	344.5	486.0
exports	799.6	842.4	348.8	885.9	815.5
	-1 532.5	+623.6	+116.9	+541.4	+329.4
Total imports	45 702.8	52 951.7	64 098.7	67 856.3	84 957.9
Total exports	42 377.4	49 711.3	55 919.7	57 796.8	72 415.7
	-3 325.4	-3 240.4	-8 179.0	-10 059.5	-12 542.2
Gold (monetary):					
imports	2 619.0	2 686.4	8 148.7	6 925.5	13 010.0
exports	389.3	3 497.0	1 229.3	1 413.4	7 725.2
	-2 229.6	+810.6	-6 919.4	-5 512.1	-5 284.9
Grand total imports	48 321.7	55 638.1	72 247.4	74 781.8	97 967.9
Grand total exports	42 766.7	53 208.3	57 149.0	59 210.2	80 140.8
	-5 555.0	-2 429.8	-15 098.4	-15 571.6	-17 827.0

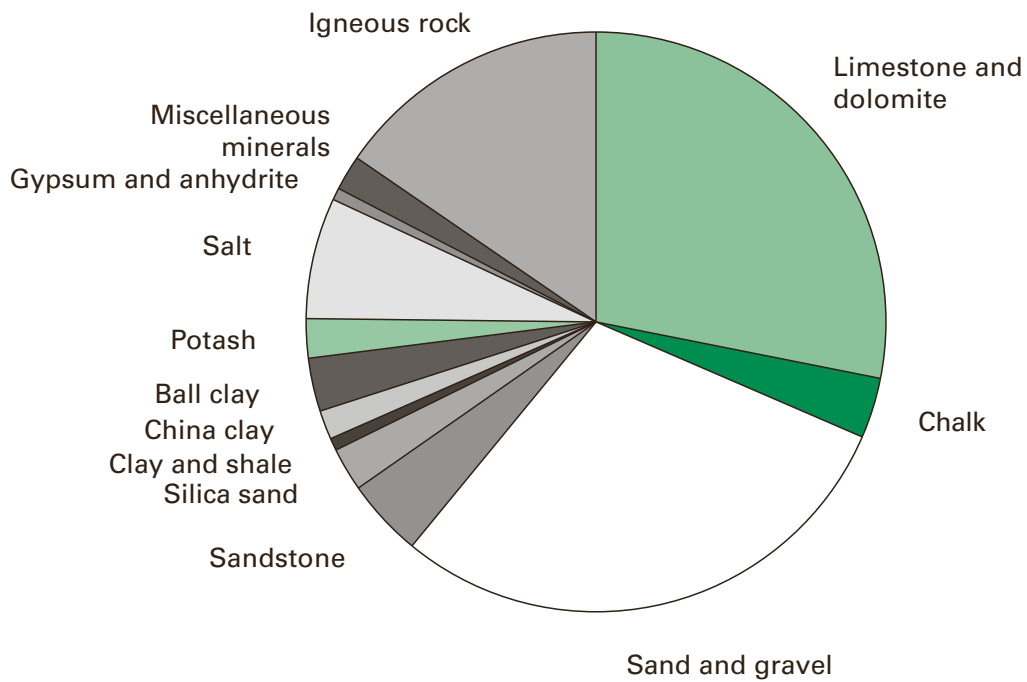
(a) Imports are valued c i f and exports are valued f o b.

(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 2008
 (total value £41 835 million)



Value of United Kingdom construction and industrial minerals production 2008
 (total value £2763 million)



Approximate value (a) of minerals produced in the United Kingdom 2001–2008

£ million

Mineral	2001	2002	2003	2004	2005	2006	2007	2008
Coal	1 028	889	794	800	722	705	708	1 154
Natural gas	8 140	8 199	7 554	7 115	8 902	11 741	9 377	10 612
Natural gas liquids	963	894	1 105	1 037	1 684	1 910	1 749	2 204
Crude petroleum	13 646	13 629	13 365	13 424	16 656	17 935	18 979	25 102
Iron ore	0	0	0	0	0	0	0	0
Tin	—	—	—	—	—	—	—	—
Gold	—	—	—	—	—	—	1	3
Other non-ferrous metals	0	0	0	0	0	0	0	0
Sand and gravel	677	707	719	722	746	818	811	814
Limestone and dolomite	702	670	685	756	687	756	686	777
Igneous rock	328	336	366	396	335	374	392	426
Sandstone	119	108	133	157	146	143	135	120
Chalk	69	72	88	112	112	101	117	93
Common clay and shale	19	19	24	25	27	27	26	19
China clay	187	192	168	195	107	64	58	45
Ball clay	47	44	43	46	51	81	82	82
Fuller's earth	5	5	4	3	1	—	—	—
Salt	152	148	192	217	222	195	285	186
Silica sand	54	53	56	67	58	72	69	67
Potash	67	68	83	68	72	64	60	61
Fluorspar	5	5	6	5	5	7	7	5
Gypsum and anhydrite	15	17	17	19	17	19	19	19
Miscellaneous minerals	41	40	39	39	44	49	49	46
Total	26 264	26 095	25 441	25 203	30 594	35 061	33 610	41 835
At 2005 constant prices								
Coal	1 142	959	831	816	722	686	670	1 064
Oil and gas	25 277	24 511	23 038	22 016	27 242	30 726	28 482	34 947
Metals	0	0	0	0	0	0	1	3
Construction and industrial minerals	2 763	2 680	2 744	2 885	2 630	2 695	2 645	2 544
Total	29 182	28 150	26 612	25 717	30 594	34 106	31 798	38 558

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

Source: British Geological Survey.

United Kingdom approximate value of minerals produced onshore and offshore 2001–2008

£ million

	2001	2002	2003	2004	2005	2006	2007	2008
Onshore	3 756	3 538	3 519	3 787	3 574	3 673	3 687	3 751
Offshore	22 433	22 482	21 839	21 416	27 019	31 387	29 923	38 084
Total	26 264	26 095	25 441	25 203	30 594	35 060	33 610	41 835

Source: British Geological Survey.

United Kingdom mining and quarrying: Gross value added (a) 2000–2007

£ million

	2000	2001	2002	2003	2004	2005	2006	2007
Production								
Mining and quarrying								
Mining and quarrying of energy producing materials								
Mining of coal	607	545	538	472	380	343	346	379
Extraction of mineral oil and natural gas	22 174	20 825	19 911	19 451	20 657	24 995	29 631	29 127
Other mining and quarrying	1 782	1 750	1 469	1 520	1 848	2 115	2 330	2 690
Total mining and quarrying	24 564	23 120	21 918	21 442	22 885	27 453	32 307	32 196
All industries	864 285	907 594	957 094	1 015 008	1 070 951	1 116 648	1 181 141	1 245 735
of which: minerals related (%)	3	3	2	2	2	2	3	3

(a) At current basic prices.

2008 data not available at time of publishing

Source: Office for National Statistics.

United Kingdom employment in the minerals industry, 2007 and 2008

Number

Mineral	2007			Northern Ireland	2008			Northern Ireland
	Great Britain (a)				Great Britain (a)			
	Mines (d)	Quarries	Total		Mines (d)	Quarries	Total	
Ball clay	—	...	...	—	—	...	...	—
Chalk	—	283	283	(b)...	—	151	151	(b)...
Chert and flint	—	...	...	—	—	...	...	—
China clay	—	...	...	—	—	...	...	—
Clay and shale	—	480	480	(b)...	—	360	360	(b)...
Coal	3 941	1 863	5 570	—	3 860	2 201	6 061	—
Dolomite	—	372	372	—	—	290	290	—
Fireclay	...	...	16	(b)...	...	...	8	(b)...
Gypsum and anhydrite	...	...	...	—	...	...	...	—
Igneous rock	—	1 899	1 899	355	—	1 685	1 685	471
Limestone	—	2 932	2 932	225	—	2 620	2 620	302
Oil and gas	—	—	(c)	—	—	—	(c)	—
Peat	—	174	174	—	—	252	252	—
Potash	...	...	...	—	...	...	...	—
Salt	...	...	...	(b)...	...	...	...	(b)...
Sand and gravel	—	3 142	3 142	492	—	2 699	2 699	289
Sandstone	—	1 448	1 448	310	—	1 233	1 233	318
Silica sand	...	...	262	—	—	149	149	—
Silica stone	...	...	...	—	...	...	...	—
Slate	...	...	...	—	...	...	...	—
Soapstone and talc	...	...	...	—	...	...	...	—
Others	...	...	2 143	613	...	...	1 906	417
	...	...	...	1 995	...	...	...	1 797

(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) Oil and Gas UK estimates the workforce employed on the UK Continental Shelf at 350 000, of which 34 000 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 Innovation and Skills.

United Kingdom production of minerals 2003–2009

Thousand tonnes

Mineral	2003	2004	2005	2006	2007	2008	2009 (Estimated)
Coal:							
Deep-mined	15 633	12 542	9 563	9 444	7 674	8 096	7 520
Opencast	12 126	11 993	10 445	8 635	8 866	9 509	9 854
Other (a)	520	561	490	438	467	449	500
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	79	70	65	65	62	55	...
Onshore	422	270	151	91	104	101	59 640
Offshore	102 425	96 071	88 003	79 856	71 959	69 517	
Crude oil							
Onshore	2 198	1 941	1 648	1 379	1 271	1 248	62 627
Offshore	95 637	85 575	75 530	68 287	69 086	65 497	
Condensates and other (c)							
Onshore	89	66	49	41	38	33	5 377
Offshore	8 149	7 792	7 493	6 872	6 437	6 168	
Iron ore	(h) 0.5	(h) 0.5	0.4	0.4	0.3	0.1	0
Non-ferrous ores (metal content):							
Tin	—	—	—	—	—	—	—
Lead (h)	0.7	0.5	0.4	0.4	0.3	0.3	0.3
Zinc	—	—	—	—	—	—	—
Gold (kilograms)	...	...	...	...	88	163	188
Silver (kilograms)	—	—	—	—	212	398	505
Chalk (e)	8 066	7 997	7 105	7 376	7 566	5 874	6 000
Clay and shale (e)	10 680	11 164	10 898	10 432	10 104	8 459	8 000
Igneous rock (j) (k)	51 356	53 037	53 104	53 954	58 909	53 489	40 100
Limestone (excluding dolomite)	78 935	81 648	77 596	80 228	83 491	74 143	59 700
Dolomite (excluding limestone)	12 167	12 226	11 514	12 101	7 622	5 509	
Sand and gravel:							
Land	72 984	78 145	75 171	71 418	72 810	66 638	65 800
Marine (i)	18 227	19 188	19 495	20 689	20 426	18 833	
Sandstone	18 259	18 844	18 685	18 038	16 806	12 255	9 200
Slate (g)	832	901	928	865	1 428	1 058	1 100
Ball clay (sales)	885	965	1 011	1 015	1 022	1 020	727
Barytes	(h) 57	61	64	48	53	43	36
Calcspars	—	—	—	—	—	—	—
Chert and flint	...	2	2	2	1	1	1
China clay (sales) (d)	2 097	1 945	1 911	1 762	1 671	1 355	1 060
China stone	3	2	2	1	1	0.5	0.5
Fireclay (e)	528	402	395	228	338	180	180
Fluorspar (h)	56	50	56	50	45	37	19
Fuller's earth (sales) (d) (f)	34	28	6	—	—	—	—
Gypsum (natural)	(h) 1 700	1 686	(h) 1 700	(h) 1 700	(h) 1 700	(h) 1 700	(h) 1 700
Lignite	...	...	...	...	...	...	...
Peat (000 m³)	2 008	1 262	1 505	1 593	885	760	800
Potash (b)	1 040	912	732	716	712	673	600
Rock salt (h)	1 700	2 000	2 000	2 000	1 900	1 900	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	2 800	2 800	2 800	2 800	2 800	2 800
Silica sand	4 073	5 011	4 146	5 174	4 909	4 777	5 000
Talc	6	4	6	4	3	2	3

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

(b) Marketable product (KCl).

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

(d) Dry weight.

(e) Excluding a small production in Northern Ireland.

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

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

(h) BGS estimate.

(i) Including marine-dredged landings at foreign ports (exports); see p.91.

(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): 2003: 142, 2004: 149; 2005: 129; 2006: 136; 2007: 160; 2008: 139 and Jersey: 2003: 290; 2004: 310; 2005: 305; 2006: 286; 2007: 295; 2008: 325

(l) Used for purposes other than salt making.

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

England production of minerals 2002–2008

Thousand tonnes

Mineral	2002	2003	2004	2005	2006	2007	2008
Coal:							
Deep-mined	(e) 15 600	15 044	12 081	9 011	8 954	7 452	7 817
Opencast	(e) 5 000	4 068	3 037	1 456	966	1 619	2 139
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	...	...	...	...	...	...	...
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	...	...	...	...	...	...	...
Offshore	...	...	...	...	...	...	...
Condensates and other (c)	...	...	...	...	...	...	...
Iron ore	1	1	(e) 0.5	(e) 0.5	—	—	—
Non-ferrous ores (metal content):							
Tin	—	—	—	—	—	—	—
Lead (e)	0.7	0.7	0.5	0.4	0.4	0.2	0.1
Zinc	—	—	—	—	—	—	—
Chalk	8 587	8 066	7 997	7 105	7 376	7 565	5 874
Clay and shale (b)	9 226	10 021	10 357	10 074	9 437	9 269	7 682
Igneous rock	21 889	21 878	20 174	20 576	22 076	21 865	21 056
Limestone (j)	73 528	69 507	72 173	67 325	67 356	67 378	60 738
Dolomite (k)	...	10 327	...	...	10 238	...	...
Sand and gravel:							
Land	59 633	58 484	62 735	58 926	56 148	54 512	61 669
Marine (g)	17 878	16 997	17 939	18 383	19 602	19 274	17 746
Sandstone	7 006	7 005	7 076	6 910	7 041	6 918	5 854
Slate (i)	...	...	...	...	...	...	...
Anhydrite	...	...	...	...	...	...	...
Ball clay (sales)	921	885	965	1 011	1 015	1 022	1 020
Barytes	...	...	...	...	11 456	10 229	6 709
Calcspas	(e) 10	—	—	—	...	...	...
Chert and flint	2	...	2	2	...	...	1
China clay (sales) (l)	2 163	2 097	1 945	1 911	1 762	1 671	1 355
China stone	2	2	2	2	1	1	0
Fireclay	449	483	338	346	213	305	168
Fluorspar (e)	53	56	50	56	50	43	37
Fuller's earth (sales) (h) (l)	44	34	28	6	—	—	—
Gypsum (natural)	(e) 1 700	(e) 1 700	1 686	(e) 1 700	(e) 1 700	(e) 1 700	(e) 1 700
Lignite	...	...	...	...	...	...	...
Peat (000 m ³)	857	1 228	903	928	857	654	496
Potash (d)	900	1 040	912	732	716	712	673
Potter's clay	...	...	...	...	...	...	...
Rock salt	...	...	...	...	...	...	...
Salt from brine (e)	1 000	1 000	1 000	1 000	1 000	1 000	1 000
Salt in brine (e) (f)	3 200	3 200	2 800	2 800	2 800	2 800	2 800
Silica sand	3 349	3 588	4 525	3 572	4 540	4 335	4 208
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.91.

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

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

(j) Including dolomite for constructional uses.

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

(l) Dry weight.

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

Wales production of minerals 2002–2008

Thousand tonnes

Mineral	2002	2003	2004	2005	2006	2007	2008
Coal:							
Deep-mined	(e) 800	589	461	552	485	253	110
Opencast	(e) 1 000	1 189	1 405	1 235	1 257	1 060	1 632
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	382	348	445	354	604	405	104
Igneous rock	2 111	2 507	2 295	2 364	2 596	2 474	3 028
Limestone (d)	12 850	13 208	12 926	12 759	13 707	14 549	12 114
Dolomite (f)	...	...	...	...	...	...	...
Sand and gravel:							
Land	1 613	1 503	1 871	1 634	1 528	1 187	2 361
Marine	1 145	1 230	1 249	1 112	1 087	1 152	1 086
Sandstone	3 136	3 179	3 241	3 233	3 415	3 558	2 323
Slate (c)	...	...	...	...	...	...	...
Fireclay	—	—	30	—	—	—	—
Silica sand	...	...	...	51	92	71	62

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

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

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

(d) Including dolomite for constructional uses.

(e) BGS estimate.

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

Sources: Office for National Statistics, Department of Business, Innovation and Skills and company data.

Scotland production of minerals 2002–2008

Thousand tonnes

Mineral	2002	2003	2004	2005	2006	2007	2008
Coal:							
Deep-mined	—	—	—	—	—	—	—
Opencast	(e) 7 100	6 869	7 547	7 753	6 487	6 188	5 678
Other (a)	...	...	...	...	...	...	...
Natural gas and oil:							
Methane (oil equivalent)							
Colliery	...	...	...	...	...	...	...
Onshore	—	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Crude oil							
Onshore	—	—	—	—	—	—	—
Offshore	...	...	...	...	...	...	...
Condensates and other (b)	...	...	...	...	...	...	...
Clay and shale	698	311	362	469	390	429	674
Igneous rock	20 543	20 920	23 724	23 052	23 194	26 345	22 925
Limestone (d)	1 635	1 730	1 746	1 746	1 534	1 555	1 473
Dolomite (f)	...	...	...	...	...	...	...
Sand and gravel (land-won)	8 643	8 103	8 455	8 808	8 592	9 025	8 097
Sandstone	1 645	1 481	1 613	1 466	1 372	1 502	1 381
Slate (c)	...	...	...	...	...	...	...
Barytes	...	...	...	...	36 990	42 317	35 917
Fireclay	42	45	35	49	15	32	12
Honestone	...	...	—	...	...	...	...
Peat (000 m ³)	117	779	359	577	736	231	265
Silica sand	...	...	...	522	542	503	508
Talc	6	6	4	6	4	3	2

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

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

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

(d) Including dolomite for constructional uses.

(e) BGS estimate.

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

Sources: Office for National Statistics, Department of Business, Innovation and Skills and company data.

Northern Ireland mineral production by county 2008

Thousand tonnes

County	Limestone	Sand & gravel	Basalt & igneous rock (a)	Sandstone	Others (b)	Total
Down	—	173	1 251	2 228	1 229	4 880
Antrim	260	1 056	3 171	—	599	5 086
Armagh	411	227	262	458	946	2 304
Fermanagh	2 293	569	158	—	68	3 089
Londonderry	31	1 121	1 334	—	52	2 538
Tyrone	744	3 987	305	11	37	5 084
Total	3 739	7 134	6 481	2 697	2 931	22 982

(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 2004–2008

Thousand tonnes

	2004	2005	2006	2007	2008
Northern Ireland					
Limestone	5 634	5 588	6 385	5 904	3 739
Sand and gravel	5 084	5 803	5 150	8 086	7 134
Basalt and igneous rock (a)	6 844	7 112	6 087	8 225	6 481
Sandstone	6 915	7 076	6 211	4 828	2 697
Granite					
Clay and shale					
Others (b)	1 266	2 090	1 698	2 468	2 931
Total	25 743	27 669	25 530	29 511	22 982
Isle of Man					
Limestone	93	89	110	112	113
Sand and gravel	275	197	358	206	197
Igneous rock	120	81	66	104	158
Slate	73	55	69	58	64
Total	562	422	602	480	532
Guernsey					
Igneous rock	149	129	136	160	139
Jersey					
Igneous rock (c)	310	305	326	295	325
Sand and gravel	71	70	75	65	67

(a) Excluding granite.

(c) BGS estimates.

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

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

United Kingdom mineral production by underground mining 2006–2009 (a)

Thousand tonnes

	2006	2007	2008	2009
Coal	9 444	7 674	8 096	7 520
Brine Salt (b)	3 800	3 800	3 800	3 800
Rock Salt (b)	2 000	2 000	2 000	2 000
Potash	716	712	673	600
Gypsum (b)	1 500	1 500	1 500	1 500
Other minerals (b) (c)	162	168	60	47
	17 622	15 854	16 129	15 467

(a) Figures exclude hydrocarbons

(b) BGS estimate

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

Mineral bearing land royalty values (a)

Pence per tonne

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

Source: Valuation Office Agency.

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

Commodity	Region										England Total	Wales	Scotland	Isle of Man	Northern Ireland	Channel Islands	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							
Anhydrite					1												1
Ball clay									18								18
Barytes				6													7
Calcite				1													1
Chalk		15		2		12											50
Chert																	1
China clay									12								12
China clay waste									14								14
Clay & shale	7	30	11	17	24	10		32	15	4	10	4				165	
Coal, underground	1	4	1	3	1				2							15	
Coal, opencast	3	2	1	4	1				11		8	20				39	
Fireclay		4	1		1							2				8	
Flint						4		3								7	
Fluorspar	1	1		11												13	
Gold																	1
Gypsum			1	3	1			1									6
Igneous & metamorphic rock	8		3	6	4			1	17		14	112	2	34	3	203	
Iron ore - ironstone		2			1			3									6
Lead				5													5
Limestone / dolomite	19	36	22	58	9	4		13	92		49	14	2	17		335	
Marble												1					1
Mine drainage gas		2		2													4
Natural gas		11		3				1	1								16
Oil				22				22	41		2						47
Peat		3	9			2											80
Potash		1															1
Salt		1	4			1											7
Sand	5	6	4	4	4	15		34	11		1	15				101	
Sand & gravel	6	33	28	41	43	102		67	40	7	16	113	3	63		562	
Sandstone	20	57	37	20	22	8		6	26		31	43		32		302	
Silica sand	1	2	7	2	3	18		6	1		1	6				47	
Slate			10														37
Slate waste			1						9		15						12
Talc												1					1
Tin																	1
Total	71	210	139	210	115	176	8	206	303	1 438	163	355	10	156	4	2 126	

(a) As at May 2010.

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

Source: British Geological Survey.

Abrasives, natural

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Carats					£ thousand				
Abrasives										
<i>Imports</i>										
Natural abrasives-										
Industrial diamonds	30 993 557	25 367 064	11 884 651	7 524 168	5 127 610	29 956	12 673	70 193	11 164	12 307
	Tonnes									
Dust and powder of precious and semi-precious stones	26	27	49	49	39	10 904	9 247	11 260	10 749	9 352
Pumice	35 533	71 598	97 832	206 353	2 259	1 898	1 213	1 659	2 546	2 013
Other	6 175	6 877	8 106	11 827	13 424	995	1 193	1 697	2 532	3 517
	Carats									
<i>Exports</i>										
Natural abrasives-										
Industrial diamonds	22 821 716	21 647 850	13 652 233	4 754 029	6 121 081	33 851	20 924	18 891	17 485	17 700
	Tonnes									
Dust and powder of precious and semi-precious stones	30	25	16	31	151	11 211	12 180	11 288	13 310	12 052
Pumice	242	138	70	40	76	450	275	227	93	293
Other	965	796	852	1 180	1 339	608	489	511	612	1 056

Aggregates

Sales of primary aggregates (sand and gravel, and crushed rock) in Great Britain were reported as 187.2 million tonnes in 2008, according to the official Annual Minerals Raised Inquiry (AMRI) carried out by the Office for National Statistics. This is a decrease of ten per cent compared to the 2007 AMRI survey (208.1 million tonnes). Of the total sales in 2008, 61 per cent comprised crushed rock aggregates, 32 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 recession causing a significant fall in the demand for aggregates; most of the decrease noted above occurred in the fourth quarter. Sales of aggregates continued to drop throughout 2009 and the Mineral Products Association (MPA) estimates that sales of crushed rock aggregates fell by 25 per cent in 2009, while sand and gravel sales fell by 23 per cent compared to 2008. These falls occurred despite some government construction spending being brought forward following the 2008 pre-budget report and they reflect the severe contraction that has occurred in the construction industry during the recession. Although other parts of the economy are showing signs of recovery, the construction industry is expecting a further fall in output in 2010 with only marginal growth forecast for 2011. As construction represents the biggest customer for aggregates and related products, this will continue to have an effect on the demand for aggregates.

Despite this, the Government decided not to continue the Aggregates Levy freeze beyond the 2010/11 fiscal year, and instead announced that the Levy will increase from £2.00 per tonne to £2.10 per tonne with effect from April 2011. The standard rate of Landfill Tax also continues to rise with another £8.00 per tonne increase from April 2010 (to £48 per tonne) and an additional rise to £56 per tonne from April 2011. The lower rate, which applies to inert materials, remains frozen at £2.50 per tonne.

Tarmac Ltd continued to be the largest aggregates company in the UK with an estimated market share of just under 23 per cent, according to the latest report from BDS Marketing Research Ltd. They are followed by Aggregate 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 MPA to have fallen by 30 per cent in 2009 compared to the previous year, which was already 14 per cent down on 2007. Tarmac continued as the UK's largest producer of concrete, followed by Cemex, Hanson, Aggregate Industries and Lafarge. Together these five companies represent 78 per cent of the market, even though they have reduced the number of readymix concrete plants they operate by 41 during 2009.

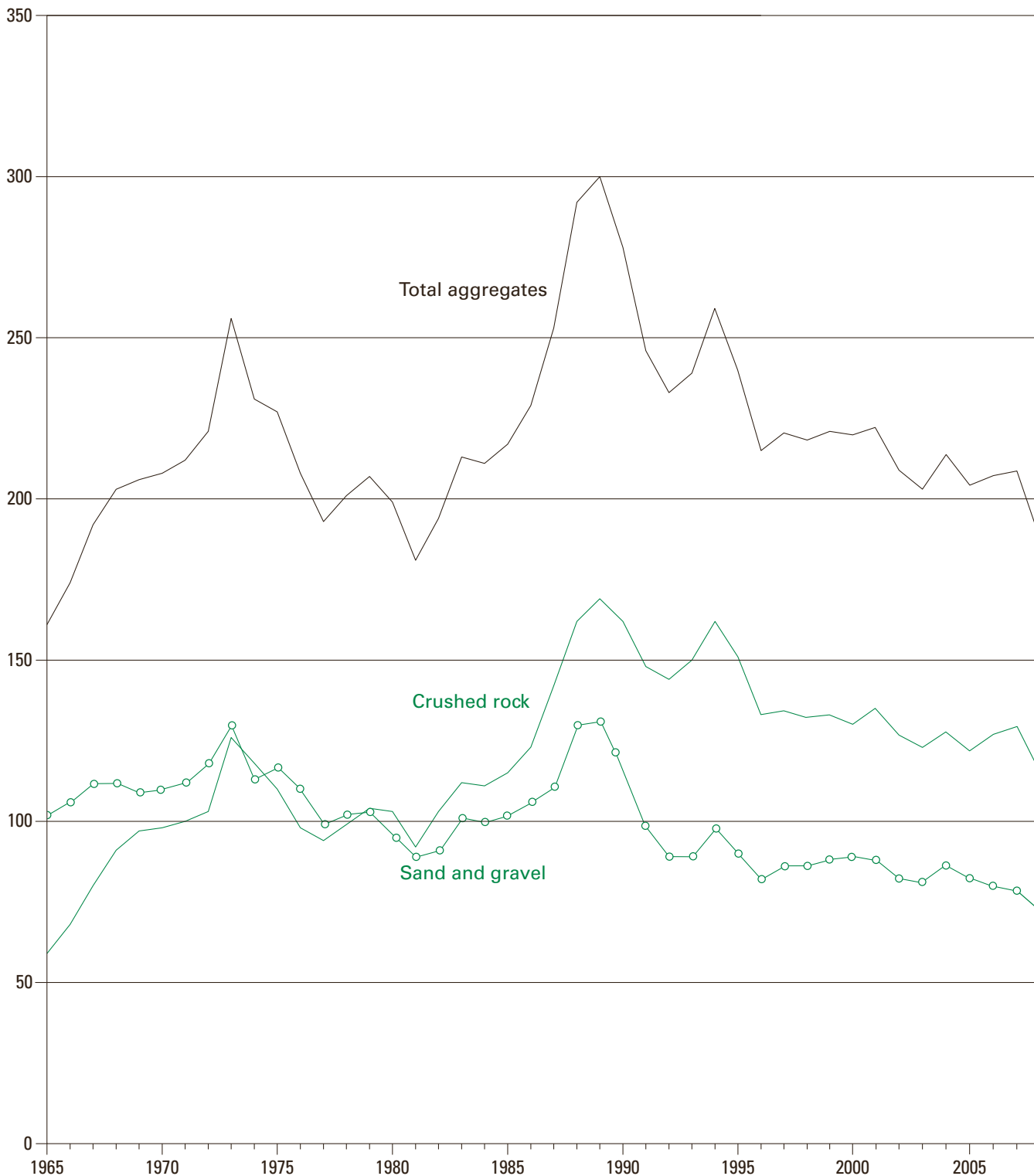
Asphalt sales appear at first to have fared slightly better than concrete or aggregates in 2009, but the MPA still estimates that volumes have declined by 18 per cent compared to 2008. It should be remembered that sales were already at their lowest level since the mid-1980s even before the recession started to take effect. Tarmac continues to be the largest asphalt company in the UK with an estimated market share of 28 per cent. They are followed by Aggregate Industries, Hanson, Cemex and Lafarge and together the top five represent 80 per cent of the total market.

New guidelines for aggregates provision in England were published by the Government in July 2009, covering the period from 2005 to 2020. The new guidelines generally recommend lower levels of provision for England compared to those issued in 2003; for sand and gravel the quantity is reduced by four per cent to 64 million tonnes per annum (MTPA) and for crushed rock by eight per cent to 93 MTPA. Despite this reduction the then South East England Regional Assembly (now part of the South East England Partnership Board) challenged the quantity specified for their

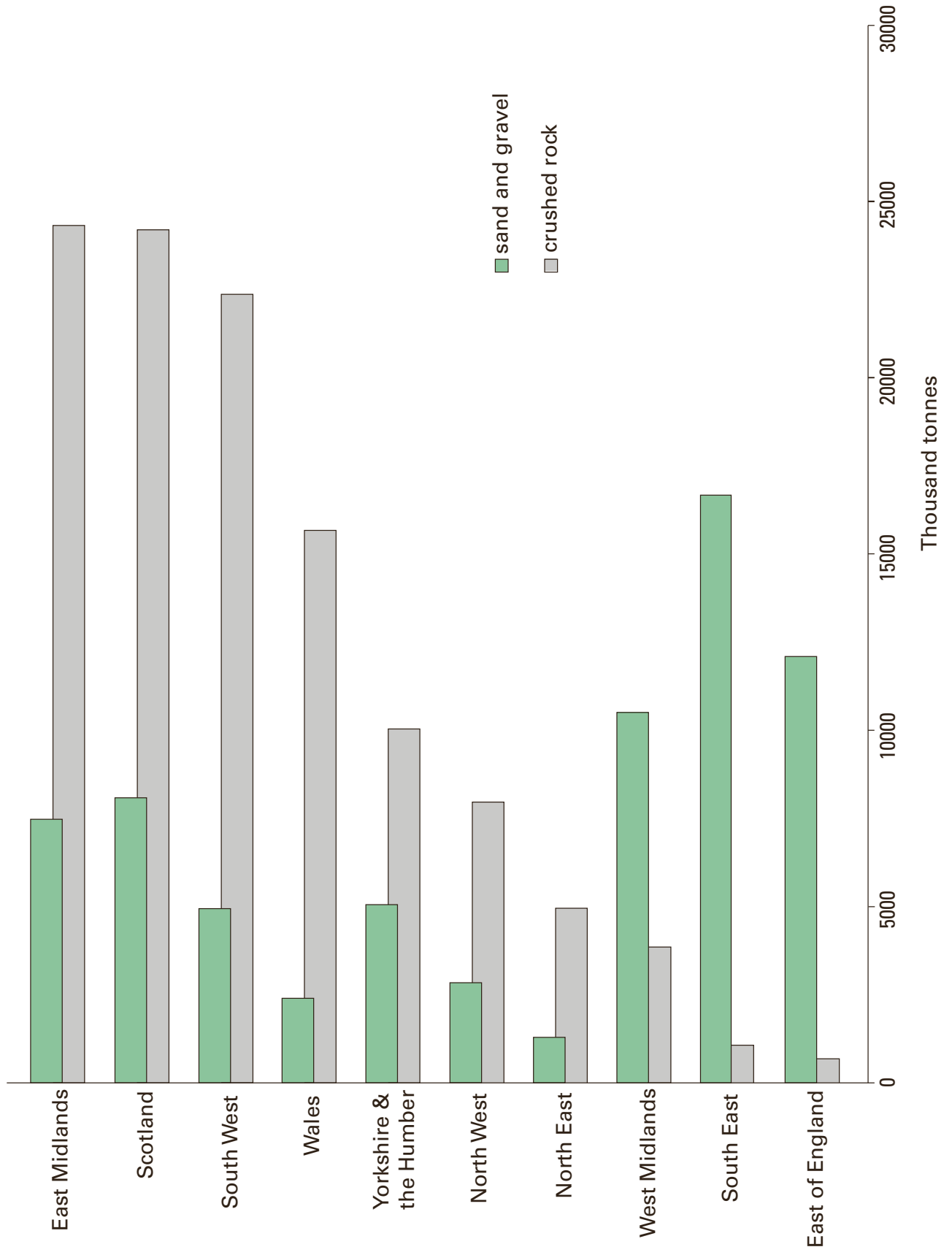
region, which was 12 MTPA, and proposed instead the much lower provision of 9 MTPA. However, following the review process the Secretary of State proposed a revised figure of 11 MTPA as the apportionment for the South East England region and this is open for public consultation until 1 June 2010. The principle of being able to challenge the figures outlined in the guidelines for aggregates provision, or the sub-regional apportionment to individual Mineral Planning Authorities, sets a precedent that other regions or local authorities may follow.

Great Britain production of natural aggregates 1965–2008

Million tonnes



Great Britain production of crushed rock aggregate and sand and gravel by region 2008



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

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 1960–2008

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	
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	(d) 11	127	42	38	80	207
2007	67	(d) 51	12	130	42	36	79	208
2008	59	47	9	115	37	35	72	187

(a) Including dolomite.

(d) BGS estimate.

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

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: 5; 2005: 5; 2006: 5; 2007: 6; 2008: 5. 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) 1960–2008**

Year	Value of new construction work (a)	Estimated consumption of aggregate			Total value of all construction work (a)	Estimated consumption of aggregate		
		Crushed rock	Sand and gravel (b)	Total		Crushed rock	Sand and gravel (b)	Total
		£ million	Tonnes per £1000			£ million	Tonnes per £1000	
1960	35 604	1.0	2.1	3.2	55 981	0.7	1.4	2.0
1961	38 964	1.0	2.2	3.2	59 952	0.7	1.4	2.1
1962	40 203	1.0	2.1	3.1	61 634	0.7	1.4	2.0
1963	40 962	1.1	2.2	3.2	63 129	0.7	1.4	2.1
1964	48 270	1.1	2.2	3.3	70 917	0.8	1.5	2.3
1965	51 193	1.2	2.0	3.1	74 417	0.8	1.4	2.2
1966	51 568	1.3	2.1	3.4	75 332	0.9	1.4	2.3
1967	56 143	1.4	2.0	3.4	80 632	1.0	1.4	2.4
1968	58 001	1.6	1.9	3.5	82 544	1.1	1.4	2.5
1969	56 851	1.7	1.9	3.6	80 788	1.2	1.3	2.5
1970	54 698	1.8	2.0	3.8	78 454	1.2	1.4	2.7
1971	56 454	1.8	2.0	3.8	80 396	1.2	1.4	2.6
1972	56 622	1.8	2.1	3.9	82 865	1.2	1.4	2.7
1973	56 705	2.2	2.3	4.5	84 099	1.5	1.5	3.0
1974	47 276	2.5	2.4	4.9	73 928	1.6	1.5	3.1
1975	44 961	2.4	2.6	5.0	69 384	1.6	1.7	3.3
1976	45 861	2.1	2.4	4.5	68 858	1.4	1.6	3.0
1977	44 240	2.1	2.2	4.4	67 991	1.4	1.5	2.8
1978	46 223	2.1	2.2	4.4	73 604	1.3	1.4	2.7
1979	42 793	2.4	2.4	4.8	74 156	1.4	1.4	2.8
1980	36 617	2.8	2.6	5.4	69 601	1.5	1.4	2.9
1981	32 762	2.8	2.7	5.5	62 872	1.5	1.4	2.9
1982	34 987	2.9	2.6	5.5	65 293	1.6	1.4	3.0
1983	37 939	3.0	2.7	5.6	71 141	1.6	1.4	3.0
1984	38 663	2.9	2.6	5.4	73 485	1.5	1.4	2.9
1985	38 027	3.0	2.7	5.7	73 881	1.6	1.4	2.9
1986	40 075	3.1	2.6	5.7	76 715	1.6	1.4	3.0
1987	45 610	3.1	2.4	5.6	85 486	1.7	1.3	3.0
1988	50 809	3.2	2.6	5.7	93 639	1.7	1.4	3.1
1989	51 497	3.3	2.5	5.8	96 901	1.7	1.4	3.1
1990	51 027	3.2	2.3	5.4	96 338	1.7	1.2	2.9
1991	48 552	3.0	2.0	5.1	89 076	1.7	1.1	2.8
1992	47 649	3.0	1.9	4.9	85 503	1.7	1.0	2.7
1993	47 195	3.2	1.9	5.1	84 024	1.8	1.1	2.8
1994	45 421	3.6	2.2	5.7	83 621	1.9	1.2	3.1
1995	45 444	3.3	2.0	5.3	84 463	1.8	1.1	2.8
1996	47 218	2.8	1.7	4.6	87 168	1.5	0.9	2.5
1997	48 766	2.7	1.8	4.5	88 989	1.5	1.0	2.5
1998	50 272	2.6	1.7	4.3	90 547	1.5	0.9	2.4
1999	51 929	2.6	1.7	4.3	91 746	1.4	1.0	2.4
2000	52 073	2.5	1.7	4.2	92 683	1.4	1.0	2.4
2001	51 717	2.6	1.7	4.3	94 269	1.4	0.9	2.4
2002	53 861	2.3	1.5	3.9	98 520	1.3	0.8	2.1
2003	56 340	2.2	1.4	3.6	104 013	1.2	0.8	2.0
2004	60 163	2.1	1.4	3.6	107 852	1.2	0.8	2.0
2005	59 412	2.1	1.4	3.4	107 007	1.1	0.8	1.9
2006	62 145	2.0	1.3	3.3	108 364	1.2	0.7	1.9
2007	64 544	2.0	1.2	3.2	110 952	1.2	0.7	1.9
2008	62 492	1.8	1.2	3.0	109 716	1.0	0.7	1.7

(a) Valued at constant 2005 prices.

Source: Department for Business, Innovation & Skills (previously Department of Trade and Industry)

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

Source: British Geological Survey.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Aggregates										
<i>Production</i>										
Sand and gravel (a)	97 333 000	94 666 000	92 107 000	93 236 000	85 473 000					
Crushed rock (b)	147 067 000	141 636 000	145 578 000	148 534 000	127 996 000					
Total	244 400 000	236 302 000	237 685 000	241 770 000	213 469 000					
<i>Imports</i>										
Natural aggregates-										
Sand and gravel	924 304	643 594	634 844	896 715	647 603	14 481	14 117	17 583	18 260	16 043
Crushed rock (c)	619 076	1 516 919	2 270 355	1 909 733	1 984 383	10 661	19 037	27 202	27 501	34 449
Total	1 543 380	2 160 513	2 905 198	2 806 448	2 631 986	25 142	33 154	44 785	45 761	50 492
<i>Exports</i>										
Natural aggregates-										
Sand and gravel (d)	8 174 262	8 453 949	9 308 961	8 089 175	7 747 635	36 414	40 493	45 498	46 624	50 027
Crushed rock	4 528 231	4 850 971	5 322 099	5 959 212	5 260 973	22 865	25 141	25 773	33 637	36 693
Total	12 702 493	13 304 920	14 631 060	14 048 387	13 008 608	59 279	65 634	71 271	80 261	86 720

(a) Including production from marine dredging.

(b) Includes small quantities for other purposes in Northern Ireland.

(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): 2004: 6 191 867; 2005: 6 471 453; 2006: 6 714 659; 2007: 6 649 041; 2008: 6 211 703.

Aluminium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Aluminium										
<i>Production</i>										
Unwrought-										
Primary	359 631	368 477	360 325	364 595	316 000					
Secondary	205 400	204 200	204 200	193 900	205 200					
<i>Consumption</i>										
Unwrought-										
Primary	438 937	353 249	362 267	363 480	349 773					
Secondary	190 123	186 522	169 983	174 073	391 870					
Ferro-aluminium (a)	2 910	2 890	3 030	3 140	2 950					
<i>Imports</i>										
Scrap	78 309	116 285	137 626	158 827	145 819	53 549	91 004	120 370	145 358	155 175
Ash and residues	756	744	1 766	2 273	1 136	152	456	910	1 516	1 744
Unwrought	116 344	114 189	169 259	201 262	160 797	113 855	129 794	238 404	284 302	234 827
Unwrought alloys	118 398	87 063	245 496	93 145	93 210	127 138	104 159	147 969	150 316	152 037
<i>Exports</i>										
Scrap	319 217	474 587	385 211	906 831	872 988	226 044	299 115	351 964	491 914	574 214
Ash and residues	739	553	90	5	631	255	266	35	374	1 990
Unwrought	29 949	48 684	17 530	30 631	20 690	31 149	73 852	27 142	44 194	31 790
Unwrought alloys	306 372	329 691	331 598	269 523	265 018	296 207	381 248	514 295	420 852	426 355

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

Aluminium compounds

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Aluminium compounds										
<i>Imports</i>										
Oxide (alumina)	417 882	755 443	823 115	787 218	705 033	64 626	129 663	169 916	166 674	169 891
Hydroxide	59 844	130 321	101 126	112 287	110 503	11 224	26 646	22 582	22 834	27 336
Fused oxide (a)	33 956	36 277	36 099	30 960	50 448	11 541	13 164	13 527	11 779	23 988
Fluorides	2 286	5 849	7 983	4 897	4 553	2 348	2 859	2 938	2 790	3 668
<i>Exports</i>										
Oxide (alumina)	2 281	4 336	9 979	9 016	9 517	1 432	2 145	5 094	3 699	3 367
Hydroxide (b)	35 500	20 600	1 900	5 300	5 300	4 900	3 200	800	1 000	2 000
Fused oxide (a)	5 671	5 408	6 252	8 801	9 329	3 867	4 137	5 335	5 600	7 138
Fluorides	25	427	0	213	210	115	41	2	92	119

(a) Artificial corundum.

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

Antimony

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Antimony										
<i>Consumption (Sb content)</i>										
Metal	480	...	...	...	...	...	...	...	...	...
Scrap (a)	1 483	...	...	...	...	...	...	...	...	...
<i>Imports</i>										
Metal	410	60	81	110	98	796	180	380	428	972
Oxide	2 976	2 048	2 291	1 917	2 454	5 057	3 959	5 316	5 399	6 272
<i>Exports</i>										
Ash and residues	...	...	...	...	...	...	...	...	...	...
Metal	88	54	27	21	35	248	267	200	169	297
Oxide	663	621	397	379	558	1 186	1 190	928	936	1 655

(a) Including some antimony in ore.

Arsenic

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Arsenic										
<i>Imports</i>										
Elemental	165	3	49	70	52	248	90	415	212	240
<i>Exports</i>										
Elemental	0	1	1	0	0	8	32	34	3	98

Asbestos

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Asbestos										
<i>Imports</i>										
Fibre	0	...	0	187	...	3	...	1	1	...
Waste	2 149	...	...	...	...	102	...	...	...	...
Fabricated asbestos	356	281	86	50	53	910	732	786	1 486	1 799
Friction material with a basis of asbestos etc.	7 596	7 806	13 199	6 794	7 464	31 052	33 207	41 779	37 129	44 863
Articles of asbestos cement etc.	66 314	71 389	69 731	86 963	65 502	20 864	22 491	24 150	30 496	28 467
<i>Exports</i>										
Fibre	—	(a) 1	0	...	...	—	(a) 7	1	...	...
Waste	0	...	...	...	...	2	...	...	...	...
Fabricated asbestos	918	1 868	915	132	200	3 571	10 107	2 376	1 429	1 886
Friction material with a basis of asbestos etc.	3 513	2 706	2 877	3 152	3 453	23 253	29 082	31 927	33 282	45 785
Articles of asbestos cement etc.	16 848	16 917	16 902	18 285	15 994	6 639	7 222	6 803	6 618	7 586

(a) Unmanufactured asbestos, including fibre and waste.

Asphalt, natural

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Asphalt, natural										
<i>Imports</i>										
	94 670	47 510	138 249	183 969	152 309	7 958	6 027	18 069	30 046	32 946
<i>Exports</i>										
	160 783	166 866	160 972	287 977	141 900	15 689	17 221	20 040	36 092	22 126

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.

Sales of ball clay were 727 076 tonnes in 2009, a significant decrease on 2008 production of 1 020 496 tonnes. The UK is a major world producer and exporter of high-quality ball clay. In 2009, 583 062 tonnes (80 per cent) of sales were destined for export, including 358 672 tonnes to the EU. This represents a 32 per cent decrease compared with total exports in 2008. Decreasing demand for ball clays during 2008 and 2009 reflects a global decline in demand for ceramic tiles. The ceramic tile industry principally depends on the construction industry which has been severely affected by the financial crisis and the downturn in the property markets. In early 2009 news that Waterford Wedgeford plc had gone into receivership sparked concern amongst ball clay and kaolin suppliers regarding future demand for raw materials. Waterford Wedgeford plc was subsequently bought by a US private equity firm.

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 Sibelco UK, the world's leading producer of high-quality ball clays, and Imerys Minerals Ltd. Sibelco UK 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 workings in the Bovey basin and in Dorset.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Ball clay										
<i>Production (sales) (a)</i>	964 797	1 011 425	1 015 101	1 022 472	1 020 496					
<i>Imports</i>	18 241	12 938	19 304	18 126	12 197	1 142	1 112	1 781	1 754	1 880
<i>Exports (a)</i>	805 359	845 597	853 177	864 133	853 177					

(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.

UK barytes production has been on a declining trend for the last five years and was 36 232 tonnes in 2009, compared with 64 000 tonnes in 2005. Output is dominated by M-I Drilling Fluids UK from its Foss Mine, near Aberfeldy in Scotland, which accounted for more than 93 per cent of total production in 2009, with 33 684 tonnes. The output is mainly used in drilling fluids, although some is sold for use as a heavy aggregate in dense concrete to provide radiation shielding. Remaining production is confined to the Southern Pennine Orefield where barytes is derived as a by-product of processing fluorspar ore at Glebe Mines' Cavendish Mill, near Stoney Middleton in the Peak District. Quantities are essentially dependent on fluorspar output and on the barytes content of the fluorspar ore, which depends on the deposit being worked. Production has declined in line with fluorspar production to 2548 tonnes in 2009. 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 2008 were 56 794 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 9976 tonnes in 2008.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Barytes										
<i>Production</i>										
Barium minerals- Barytes	61 000	64 000	48 000	53 000	43 000					
<i>Imports</i>										
Barium minerals (a)	63 934	54 753	78 225	84 617	56 794	2 741	2 720	4 009	4 286	4 251
<i>Exports</i>										
Barium minerals (a) (b)	25 697	16 334	4 250	9 242	9 976	2 952	2 655	1 577	2 024	2 320

(a) Mainly barites with some witherite.

(b) Figure believed to be too high.

Bauxite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Bauxite										
<i>Imports (a)</i>	56 825	103 522	86 882	48 741	57 971	10 038	9 743	6 500	5 421	13 042
<i>Exports (a)</i>	889	4 325	28 636	4 276	6 121	319	1 478	1 887	1 683	2 137

(a) Excluding refractory grade bauxite.

Bentonite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Bentonite										
<i>Imports</i>	187 750	151 179	173 483	157 388	205 853	12 335	10 462	13 970	11 693	16 658
<i>Exports</i>	71 153	49 514	42 548	47 122	43 261	20 221	14 145	12 549	14 773	15 234

Beryllium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Beryllium										
<i>Imports</i>										
Metal	47	208	306	13	28	468	710	1 752	3 803	1 702
Oxides and hydroxides	4	7	7	6	11	361	452	502	410	891
<i>Exports</i>										
Metal	5	11	8	10	10	319	586	673	2 989	263

Bismuth

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Bismuth										
<i>Imports</i>										
Metal	2 205	2 858	2 347	1 908	1 582	8 201	11 596	12 234	23 190	16 140
<i>Exports</i>										
Metal	2 633	2 426	2 703	2 588	905	11 956	10 384	16 043	28 291	12 763

Boron

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Boron										
<i>Imports</i>										
Boron minerals (a)	4 243	5 732	3 470	4 360	2 322	1 086	1 342	1 162	1 324	627
<i>Exports</i>										
Boron minerals (a)	41	33	186	545	254	48	9	127	135	77

(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. Deliveries for the first three quarters of 2009 were 28 per cent lower than for the same period in 2008. Total clay brick deliveries for 2009 are estimated at 1320 million bricks. Actual production decreased from 2312 million bricks in 2007 to 1814 million bricks in 2008. Clay brick production for the first three quarters of 2009 was 40 per cent lower than for the same period in 2008. Total clay brick production for 2009 is estimated at 1200 million bricks. 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 during 2008 and 2009 reflects the global economic climate with construction output falling substantially. Construction output fell by over 11 per cent during 2009, the largest fall in a single year since 1974. The decline in demand for brick clay from over 16 million tonnes in 1974 to some 5 million tonnes in 2008 is broadly in line with the decline in the production of clay bricks. Brick clay sales in 2008 decreased by 27 per cent compared with 2007.

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, with a total annual capacity in excess of 900 million bricks. 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 9 UK manufacturing sites and a 20–30 per cent share of the brick market.

The years 2008 and 2009 have been extremely demanding 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. During 2009 Ibstock announced plans to close one of its kilns at its Pensnett factory in the West Midlands. Hanson has mothballed its Claughton Manor brickworks in Lancaster. At Tyrone Brick (Northern Ireland), part of the international building materials group CRH, shed the majority of its workforce as stockpiles reached storage capacity and orders declined. Tyrone Brick has been heavily affected by the downturn in the construction industry. In a positive development Hanson has opened a new £50 million fully mechanised brick factory on a brownfield site at Measham in Leicestershire. The operation is the largest 'soft-mud' brick plant in Europe and has a production capacity of 100 million bricks per year and forms part of a project by Hanson to replace older, less energy-efficient plants with new large-scale, highly automated operations.

Great Britain production of bricks, blocks and tiles 1999–2008

Material	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Millions										
Bricks:										
Clay (a)	2 759	2 694	2 595	2 600	2 606	2 707	2 601	2 359	2 312	1 814
Concrete	180	170	159	150	167	161	147	150	159	115
Total	2 939	2 864	2 754	2 750	2 772	2 868	2 748	2 510	2 471	1 929
Brick Production Region										
North East	133	130	136	138	137	147	137	110	132	118
Yorkshire and the Humber	211	195	186	187	186	195	194	169	158	140
East Midlands	522	508	495	480	487	514	510	454	431	310
East of England	331	334	321	349	362	343	329	301	281	203
South East	409	394	385	371	346	346	326	313	323	271
South West	145	148	132	129	132	143	125	117	98	70
West Midlands	573	572	558	570	586	624	613	578	592	489
North West	320	292	299	290	296	312	301	269	265	210
England	2 643	2 573	2 513	2 513	2 531	2 624	2 535	2 311	2 280	1 811
Wales	123	109	106	106	119	117	107	107	106	72
Scotland	174	181	136	131	122	127	107	91	84	47
Great Britain	2 939	2 864	2 754	2 750	2 772	2 868	2 748	2 510	2 471	1 929
Million square metres										
Concrete building blocks:										
Dense aggregate	38	38	37	36	37	38	36	35	37	30
Lightweight aggregate	21	23	23	24	25	25	26	25	26	18
Aerated concrete	29	30	29	32	34	33	28	27	27	20
Total	88	90	88	92	96	96	90	88	90	88
Roofing tiles:										
Concrete	26	27	25	25	21	21	26	24	24	20

(a) Including sandlime bricks.

Source: Department for Business Innovation and Skills.

Bromine

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Bromine										
<i>Imports</i>	7 146	7 995	7 592	5 266	5 903	2 115	3 280	4 584	4 625	4 476
<i>Exports</i>	1 126	235	1 138	1 470	1 015	1 169	639	1 935	2 236	1 716

Building and dimension stone

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Building and dimension stone										
<i>Production (a)</i>										
Sandstone	439 000	(b) 470 000	434 000	419 000	499 000					
Igneous rock	189 000	150 000	(b) 150 000	(b) 50 000	279 000					
Limestone	226 000	589 000	379 000	(b) 320 000	307 000					
Dolomite	8 000	(b) 8 000	(b) 3 000	(b) 1 000	2 000					
Total	862 000	(b)1 217 000	(b) 966 000	(b) 790 000	1 087 000					
<i>Imports</i>										
Unworked-										
Marble and other calcareous stone	29 893	63 046	32 609	37 404	37 444	14 655	18 901	17 463	20 144	21 150
Granite (c)	1 643 221	1 331 520	491 438	442 911	1 058 054	39 988	43 026	33 622	43 987	54 092
Sandstone	129 148	193 793	255 732	322 530	264 202	16 168	25 501	31 694	41 949	38 988
Other stone	29 224	28 138	116 986	68 726	54 415	5 463	4 580	12 024	10 393	10 983
Worked-										
Marble and other calcareous stone	69 920	77 698	100 555	111 039	114 870	46 701	52 806	65 977	63 620	74 273
Granite	81 551	88 916	114 802	114 967	115 495	50 079	57 884	66 403	74 519	80 043
Other stone	42 132	42 395	41 470	64 610	61 324	16 989	17 780	17 632	26 035	27 885
Paving stones and flagstones	188 204	168 548	220 005	297 099	176 448	22 402	22 825	30 337	43 258	30 602
<i>Exports</i>										
Unworked-										
Marble and other calcareous stone	2 362	2 126	1 549	2 227	1 019	203	287	184	553	264
Granite	1 806	1 974	2 394	7 634	8 629	238	292	983	2 125	1 741
Sandstone	4 920	5 683	5 426	1 081	354	1 169	949	764	269	109
Other stone	490	784	638	8 928	888	362	220	167	419	161
Worked-										
Marble and other calcareous stone	1 658	2 905	4 068	4 740	2 934	3 726	4 951	6 441	7 319	5 292
Granite	489	607	517	429	786	546	623	1 233	627	1 391
Other stone	3 685	5 688	5 958	7 022	7 372	2 652	5 070	4 475	5 860	5 386
Paving stones and flagstones	4 690	6 709	6 669	3 716	2 483	1 103	2 035	1 847	1 125	1 314

(a) Great Britain only.
(b) BGS estimate.

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

Cadmium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Cadmium										
<i>Production (a)</i>	—	—	—	—	—					
<i>Consumption</i>	592	598	598	598	598					
<i>Imports</i>										
Metal	479	206	129	276	212	647	538	642	1 218	957
Pigments	62	53	220	102	104	249	145	299	386	506
<i>Exports</i>										
Metal	27	79	7	76	54	131	167	46	334	739
Pigments	775	707	672	962	537	5 186	6 162	6 571	6 546	6 272

(a) Refined.

Cement

Finished cement production in Great Britain was 7.62 million tonnes in 2009 compared with 10.07 million tonnes in 2008. This is a notable drop as cement production has remained above 10 million tonnes for the last five years. The decrease in cement production during 2009 reflects the decline in orders for new construction work which fell by 20 per cent in the first nine months of 2009. 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 15 000 tonnes in 2008, compared with 28 000 in 2007 and 91 000 tonnes in 2006. The UK has become a net importer of cement due to insufficient domestic production capacity, importing more than 366 000 tonnes of Portland cement clinker in 2008. The four largest cement manufacturers in the UK are: Hanson Cement (formed by the merger of Castle Cement and Civil and Marine); CEMEX UK Operations; Lafarge Cement UK; and Tarmac Buxton Lime & Cement, which together operate 14 cement plants.

During 2009 Hanson announced 93 jobs losses and a decrease in its production at its Padeswood cement plant in Flintshire citing a fall in demand and difficult market conditions. Lafarge has announced it is to mothball its Westbury cement works in Wiltshire. The closure will result in 68 job losses and follows a decision made in September 2008 to mothball half the manufacturing facilities at the site. Increased energy costs and the economic slowdown have also made production at the site no longer viable. The site will continue to operate as a road and rail depot. Lafarge has submitted proposals for redeveloping the site of its former cement works at Northfleet in Kent. The development would include a bulk aggregate import terminal to handle up to three million tonnes of aggregates per year. Cemex UK has opened a new cement plant at the port of Tilbury, in Essex, after two years of construction and £49 million of investment. The grinding and blending plant, the only one in the south-east of England, can produce 1.2 million tonnes of cement per year. This will increase Cemex UK's cement production capacity by 20 per cent.

United Kingdom summary 2004-2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Cement										
<i>Production</i>										
Cement, clinker (a)	10 402 000	10 074 000	10 069 000	10 227 000	8 700 000					
Cement, finished (a)	11 405 000	11 216 000	11 469 000	11 887 000	10 071 000					
<i>Cubic metres</i>										
Ready-mixed concrete	22 856 000	22 432 000	23 029 000	23 548 000	20 051 000					
<i>Tonnes</i>										
<i>Consumption (home deliveries)</i>										
Finished cement (a) (b)	11 074 000	11 004 000	11 221 000	11 638 000	9 937 000					<i>continued</i>

United Kingdom summary 2004-2008 *continued*

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
<i>Imports</i>										
Portland cement clinkers	377 341	406 044	516 583	836 788	366 791	21 529	25 125	38 834	59 190	34 947
Aluminous cement	15 478	13 561	13 967	14 770	8 946	3 598	3 645	3 960	3 876	2 698
Portland cement	2 137 035	1 645 088	1 397 025	1 534 683	1 731 228	85 884	77 236	69 931	81 685	93 946
Other cement	48 811	24 144	12 824	11 445	19 378	2 636	2 804	3 244	2 862	4 148
<i>Exports</i>										
Portland cement clinkers	82 936	134 992	91 357	28 432	15 071	1 417	1 657	2 510	1 856	1 248
Aluminous cement	66 966	55 934	69 458	63 756	57 963	20 073	17 933	24 515	22 386	20 022
Portland cement	214 420	320 680	521 784	459 629	230 920	16 909	24 987	31 713	30 877	18 540
Other cement	9 551	12 620	17 400	24 695	35 160	1 952	2 328	3 184	4 354	4 630

(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 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 88 per cent of total sales.

Sales of china clay were 1 059 848 dry tonnes in 2009 compared with 1 355 365 tonnes in 2008. The UK is a major exporter of china clay and in 2009, 932 180 tonnes (88 per cent) of sales were destined for export, including 605 319 tonnes to the EU.

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. Following the announcement of 43 job losses at its Cornish operations in early 2009 Imerys temporarily shut operations across Cornwall and Devon for periods in April and May as a result of falling demand from the paper industry. Sibelco UK Ltd is now the only producer extracting kaolin at Lee Moor. Goonvean Ltd, a privately-owned company, operates five quarries in the St Austell Granite.

United Kingdom summary 2004-2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
<i>China clay</i>										
<i>Production (sales) (a) (b)</i>	1 944 955	1 910 874	1 762 328	1 671 426	1 355 365					
<i>Imports (c)</i>	108 260	72 812	79 958	54 888	67 349	9 439	8 741	10 007	8 064	12 116
<i>Exports (a) (b) (c)</i>	1 728 161	1 698 747	1 566 025	1 490 416	1 188 261					

(a) Dry weight.

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

(c) Excludes HS code 2507 00 80 'Other kaolinitic clays' which are shown in this volume under Ball clay.

China stone (see Feldspar)

Chromium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Chromium										
<i>Apparent consumption (a)</i>	103 100	56 200	45 600	59 700	87 000					
<i>Consumption in Iron and Steel Industry (b)</i>										
	53 860	52 070	54 670	60 980	68 770					
<i>Imports</i>										
Ores and concentrates	130 841	122 042	74 907	103 551	117 715	4 652	6 031	4 344	6 698	21 106
<i>Ferro-chrome</i>										
Under 4% carbon	12 892	9 712	7 049	11 396	13 250	10 477	9 092	6 607	11 820	31 747
4%-6% carbon	102	31	399	1 383	1 081	48	14	351	1 094	878
Over 6% carbon	99 240	53 735	45 046	34 197	65 360	31 029	21 902	18 869	17 514	75 033
Ferro-silico-chrome	—	728	350	1 242	256	—	217	128	635	136
Oxides and hydroxides (c)	9 600	9 500	7 100	13 000	9 000	4 100	5 700	5 000	9 200	12 400
Metal	2 321	1 723	4 022	2 134	3 099	8 862	6 963	12 883	9 820	15 062
<i>Exports</i>										
Ores and concentrates	622	228	47	178	—	403	101	15	37	...
<i>Ferro-chrome</i>										
Under 4% carbon	906	507	436	376	461	703	892	582	564	2 018
4%-6% carbon	111	...	938	622	160	127	...	243	371	324
Over 6% carbon	1 342	5 605	2 684	1 940	755	1 249	3 307	2 234	2 686	1 379
Ferro-silico-chrome	25	8	8	35	9	46	7	12	80	24
Oxides and hydroxides (d)	22 400	21 500	15 100	12 700	14 500	24 400	28 000	21 100	18 400	33 600
Metal	4 776	4 547	5 123	6 777	6 501	15 469	17 291	20 563	27 595	38 623

(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 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Clays (not elsewhere specified)										
<i>Production</i>										
Clay and shale (a)	11 164 000	10 898 000	10 432 000	10 104 000	8 459 000					
<i>Imports</i>										
Unspecified clays	79 261	99 221	75 154	79 697	55 659	13 940	13 430	13 511	15 407	17 332

(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 2008

Thousand tonnes

Area of origin	Bricks, pipes and tiles	Cement	Construc-tional use	Other uses	Total
Durham	...	—	—	—	...
Northumberland	...	—	—	—	...
Tyne and Wear	82	—	—	—	82
North East	195	—	—	—	195
Humberside	...	...	—	4	...
North Yorkshire	10	—	...	...	...
South Yorkshire	...	—	...	—	164
West Yorkshire	...	—	...	—	441
Yorkshire and the Humber	629	—	—	—	1 055
Derbyshire	...	...	—	—	...
Leicestershire	476	225	—	—	701
Nottinghamshire	...	—	...	—	...
Lincolnshire	—	—	...	—	...
East Midlands	938	—	—	—	1 636
Cambridgeshire	...	...	—	—	...
Suffolk	1	—	—	—	1
Essex	2	...	...	—	...
Norfolk	...	—	—	—	...
Bedfordshire	...	—	—	—	...
East of England	...	...	...	—	1 004
Buckinghamshire	...	—	—	—	...
Oxfordshire	—	—	...	—	...
Berkshire	—	—	22	25	47
Surrey	...	—	—	—	...
Kent	...	—	—	...	...
East Sussex	...	—	—	—	...
West Sussex	325	—	—	—	325
Hampshire	...	—	—	—	...
Greater London	—	—	—	30	30
South East	644	—	...	...	848
Avon	...	—	—	—	...
Cornwall	—	—	—	...	...
Dorset	...	—	...	—	...
Gloucestershire	...	—	...	2	82
Wiltshire	—	...	3	—	...
South West	...	...	92	...	317
Hereford and Worcester	...	—	—	—	...
Shropshire	...	—	—	—	...
Staffordshire	...	—	—	—	902
Warwickshire	134	...	22	—	...
West Midlands	126	—	—	—	126
West Midlands	1 229	811	22	—	2 062
Cumbria	25	—	...	—	...
Cheshire	...	—	...	—	...
Greater Manchester	50	—	—	...	...
Lancashire	...	—	...	—	446
North West	...	—	187	...	564
England	4 929	...	729	...	7 682
Clwyd	—	—	7	—	7
Gwynedd	—	—	5	—	5
Dyfed	—	—	...	—	...
Powys	...	—	14	17	...
Wales	...	—	...	17	104
South of Scotland	—	—	...	—	...
West Central Scotland	...	—	—	...	...
East Central Scotland	—	...	...	—	...
Tayside and Fife	—	—	...	—	...
North East Scotland	—	—	74	—	74
Scotland	...	...	...	...	674
Great Britain	4 969	2 013	1 318	159	8 459

Source: Office for National Statistics.

Great Britain production of clay and shale by end-use 1995–2008

							Thousand tonnes
Year	Bricks, pipes and tiles	Cement	Lightweight aggregate	Constructional 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	...	—	...	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	
2008	4 969	2 013	—	1 318	159	8 459	

(a) BGS estimate.

Source: Office for National Statistics.

Coal (also see Primary fuels)

In 2009, coal production was 17.3 million tonnes, a slight decrease of less than one per cent on the previous year. Underground production decreased almost six per cent and surface production increased by three per cent. Underground production was 7.5 million tonnes which accounts for 43 per cent of total production and surface operations totalled 7.9 million tonnes, representing 57 per cent of the total production (Coal Authority 2008, 2009).

The value of coal production is estimated to have risen to £1154 million in 2008, compared to £708 million in 2007. The number of people employed in UK collieries at the end of 2009 was 3931, and in opencast sites, 2229, an overall increase of 0.6 per cent over the year (Coal Authority 2009).

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 accounted for 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.

Over the last decade an increasing proportion of the coal used for electricity generation is imported. This has increased from 20 per cent (8.1 million tonnes) in 1999 to 75 per cent (35 million tonnes) in 2008. (Digest of United Kingdom Energy Statistics (DUKES) 2009).

In 2008, 98 per cent of imports were bituminous coal; of this steam coal comprised 83.8 per cent of the total and coking coal 14.2 per cent. Anthracite accounted for the remaining 0.3 per cent of imports (DUKES 2009). The sources of supply are summarised in the table below. The chief source of steam coal was Russia (56.7 per cent) and the chief source of coking coal was Australia (50.4 per cent). Coal imports in 2008 were 44.6 million tonnes which represents a decrease of 2.9 per cent compared to 2007. (DUKES 2009)

Coal Authority licences for opencast sites in production at 31 December 2009 totalled 35, of which 19 were in Scotland, nine in England and seven in Wales. There were 13 opencast operators in total (Coal Authority 2009). Scottish Coal, the largest opencast coal mining company in the UK and the second largest coal producer, held the greatest number of licences with 12 producing sites, all in Scotland. UK Coal plc held four opencast licences for producing sites in England and ATH Resources plc had five producing sites in Scotland. (DUKES 2009)

In December 2009, there were 16 licences for underground coal mines in production (Coal Authority 2009). 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 and include four mines in development three in Wales and one in Northumberland.

UK Coal is the largest UK coal producer, with deep mines at Daw Mill in Warwickshire, Kellingley in North Yorkshire and Thoresby in Nottinghamshire as well as Cutacre, Lodgehouse, Longmoor and Steadsburn surface mines (DUKES 2009). In January 2009, UK Coal announced that its Daw Mill Colliery had achieved the highest annual output for any colliery in the history of coal mining in Britain, producing 3 218 000 tonnes in the previous 12 months. The company announced increased losses of £129.1 million for 2009. This follows losses of £15.9 million in the previous year. The company has blamed low coal prices and geological problems at its deep mines as well as equipment failure

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 ten years and increase the planned production rates. In addition, new investments are being made at Daw Mill colliery.

After operating for almost 100 years, Welbeck colliery in Nottinghamshire ceased production in May 2010. The operator, UK Coal, is to transfer workers and equipment to nearby Thoresby colliery.

UK Coal is exploring the possibility of reopening Harworth Colliery where it estimates that there are 54 million tonnes of resources. The site has cost £3.5 million in 2008 in the care and maintenance of the mine as well as geological and seismic work to assess the viability of reopening the site (www.ukcoal.com/dm-harworth).

In June 2007, work commenced at the Ffos-y-fran Land Reclamation Scheme which incorporates the opencast extraction of coal as part of its program to restore 367ha of derelict land. The program is expected to last 17.5 years. Ffos-y-fran supplies its coal, via a rail-link to the Aberthaw power station near Barry in South Wales, contributing 400 000 tonnes in its first year of production, in the year leading up to 9th January 2009. December 2009 marked the millionth tonne of coal being extracted from this site from 30 coal seams. Ffos-y-fran, operated by Miller Argent is to become one of Europe's biggest opencast sites.

Permitted reserves of opencast coal in operational sites and those with planning permission but not yet worked at the end of 2008 are shown in the table below. This table includes information from Mineral Planning Authorities and Scottish Planning Authorities.

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

Mineral Planning Authority	Tonnes		
	2007	2008	2009
Derbyshire	994 340	1 335 291	968 207
Leicestershire	725 000	287 501	23 353
East Midlands	1 719 340	1 622 792	991 560
Durham	—	—	1 274 500
Northumberland	5 149 871	6 235 129	7 670 105
Newcastle	—	—	—
North East	5 149 871	6 235 129	8 944 605
Bolton	816 096	568 600	306 472
St Helens	—	—	—
North West	816 096	568 600	306 472
Barnsley	—	—	—
Calderdale	7 965	7 965	—
Kirklees	42 531	38676	34 688
Leeds	—	—	50 000
Rotherham	—	—	44 000
Wakefield	187 327	47 469	—
Yorkshire and the Humber	237 823	94 110	128 688
Shropshire	320 297	320 297	320 297
Telford and Wrekin	—	—	900 000
West Midlands	320 297	320 297	1 220 297
England	8 243 427	8 840 928	11 591 622
Carmarthenshire	—	39 619	—
Neath Port Talbot	3 393 590	2 713 724	2 411 416
Merthyr Tydfil	10 791 317	10 420 951	9 788 669
Powys	2 646 020	2 260 455	1 846 580
Wrexham	—	—	—
Wales	16 830 927	15 434 749	14 046 665
Clackmannanshire	—	—	—
Dumfries and Galloway	2 428 956	1 876 482	1 975 977
East Ayrshire	9 251 681	14 287 004	11 101 990
Falkirk	190 767	190 767	190 767
Fife	3 235 659	3 452 833	2 911 261
Midlothian	400 270	182 036	172 177
North Lanarkshire	—	—	102 000
South Lanarkshire	13 769 166	12 146 340	12 725 886
West Lothian	—	—	0
Scottish Borders	450 000	450 000	400 000
Scotland	29 726 499	32 585 462	29 580 058
Great Britain	54 800 853	56 861 139	55 218 345

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

UK supply of coal 2008

Thousand tonnes

	Bituminous		Anthracite	Total
	Steam coal	Coking coal		
Production				
Mine production	...	307	...	17 604
Other sources	...	...	...	449
Stock change	...	414	...	-3 395
Total production	...	721	...	14 658
Imports				
European Union	933	-	11	944
Australia	699	3 203	-	3 902
Canada	-	1 378	-	1 378
Colombia	5 294	-	-	5 294
Indonesia	2 162	-	-	2 162
China P.R.	-	-	-	0
South Africa	4 249	-	32	4 281
Russia	21 193	296	34	21 523
USA	2 792	1 472	16	4 280
Other countries	59	-	52	111
Total imports	37 381	6 349	145	43 875
Total exports	-357	-139	-104	-599
Total supply	...	6 931	...	57 934

Source: Department of Energy and Climate Change.

Great Britain production of deep-mined and opencast coal 1980–2008

Thousand tonnes

Year	Deep-mined			Opencast			Deep-mined and opencast		
	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total	Anthracite	Bituminous	Total
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
2008	...	...	8 096	...	...	9 509	...	...	17 605

(a) BGS estimate.

Source: Department of Energy and Climate Change

United Kingdom regional deep-mined coal production 2005–2010 (a)

Thousand tonnes

County/Unitary authority	2005/06	2006/07	2007/08	2008/09	2009/10
Doncaster	622	58	118	489	730
Kirklees	18	19	14	16	18
Rotherham	1 003	811	917	1 124	1024
Warwickshire	2 346	2 247	2 560	3116	2349
Derbyshire	24	26	24	21	20
Nottinghamshire	3 579	2 642	2 125	1 938	1735
Northumberland	125	—	—	—	—
North Yorkshire	2 042	1 908	1 569	1 183	1014
Gloucestershire	—	0	0	0	0
England	9 759	7 711	7 327	7 887	6 890
Rhondda, Cynon Taff	544	423	145	—	—
Neath Port Talbot	11	11	19	121	83
Torfaen	3	5	5	4	1
Wales	558	440	168	125	84
Scotland	—	—	—	—	—
United Kingdom	10 317	8 150	7 495	8 012	6 974

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom regional opencast coal production 2005–2010 (a)

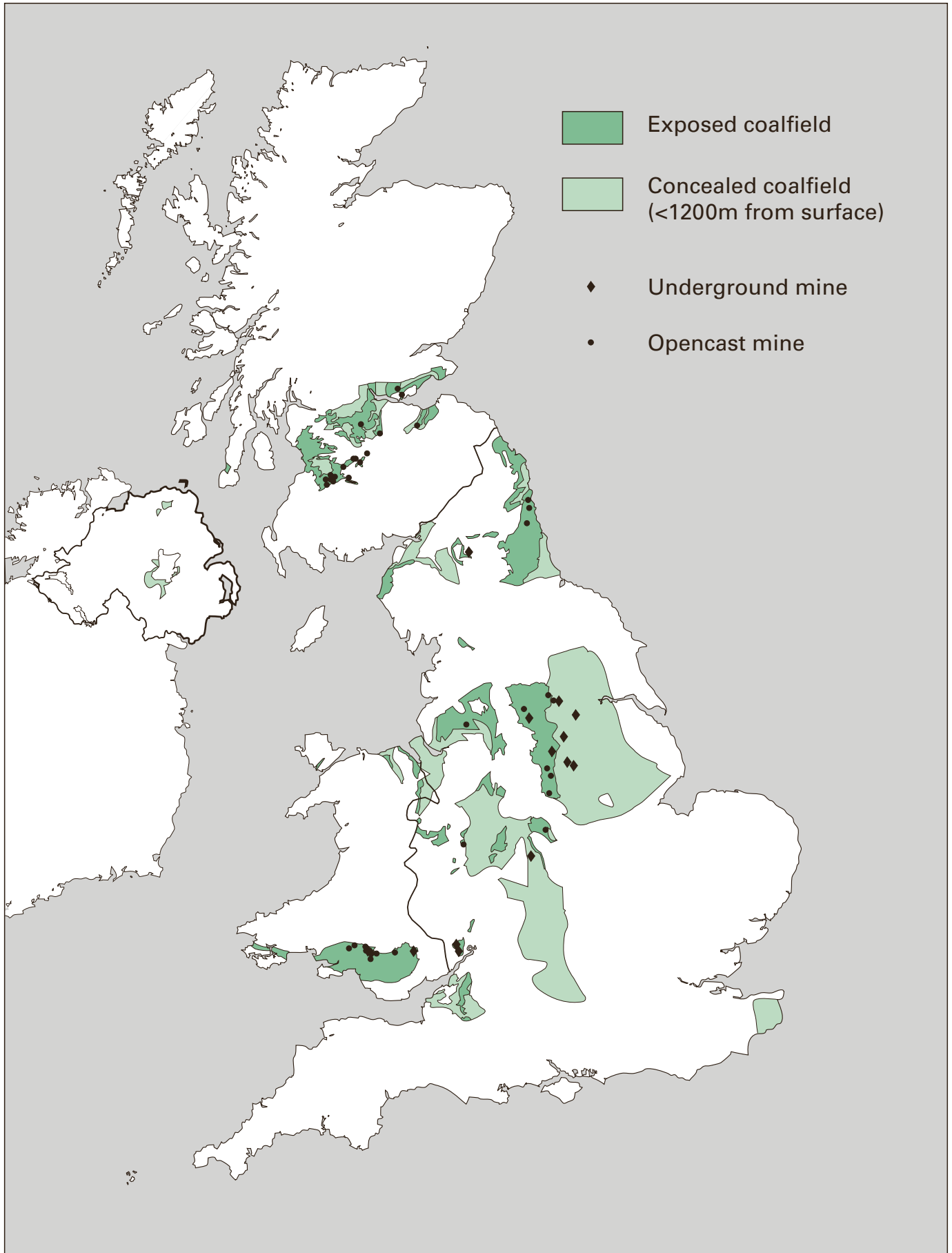
Thousand tonnes

County/Unitary authority	2005/06	2006/07	2007/08	2008/09	2009/10
Barnsley	11	—	—	—	—
Bolton	—	—	186	257	285
Calderdale	—	1	—	—	1
Kirklees	—	—	12	6	2
Rotherham	280	18	—	—	4
Wakefield	—	—	82	187	12
Lancashire	—	—	—	1	—
Leicestershire	69	8	110	441	293
Derbyshire	9	—	17	127	488
Durham	42	134	91	—	—
Newcastle upon Tyne	92	89	7	—	—
Northumberland	653	768	1 306	1 142	1 033
Leeds	11	—	—	—	26
Shropshire	25	0	—	—	—
St Helens	11	—	—	—	—
England	1 204	1 018	1 811	2 161	2 144
Merthyr Tydfil	—	—	38	447	670
Carmarthenshire	7	32	18	8	—
Wrexham	7	—	—	—	—
Neath Port Talbot	870	807	665	832	480
Powys	327	412	361	408	416
Bridgend	—	—	—	—	—
Wrexham	—	—	—	—	—
Wales	1 210	1 252	1 082	1 695	1 566
Clackmannanshire	—	—	—	—	—
Dumfries & Galloway	—	233	751	562	624
Falkirk	209	5	—	—	—
Midlothian	222	246	85	258	178
West Lothian	520	495	260	—	—
East Ayrshire	4 034	3 257	3 380	3 330	2 760
Fife	1 477	1 046	735	748	819
North Lanarkshire	130	—	—	—	2
South Lanarkshire	1 147	860	710	1 063	1 596
Scotland	7 739	6 143	5 921	5 961	5 979
United Kingdom	10 153	8 413	8 815	9 817	9 689

(a) Financial years to March.

Source: The Coal Authority.

United Kingdom onshore coalfields and mines as at March 2010



United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Coal										
<i>Production</i>										
Bituminous	25 096 000	20 498 000	18 517 000	17 070 000	17 912 000					
<i>Consumption</i>										
	60 451 000	61 842 000	67 450 000	62 886 000	58 212 000					
<i>Imports</i>										
Anthracite	197 787	187 388	125 011	135 941	213 318	12 129	13 262	9 444	7 769	27 725
Bituminous and other	35 958 449	43 890 778	49 544 012	43 024 560	43 038 043	1 319 047	1 864 790	2 095 699	1 951 342	3 480 141
Total	36 156 236	44 078 166	49 669 023	43 160 501	43 251 361	1 331 176	1 878 052	2 105 143	1 959 111	3 507 866
Briquettes of coal	7 697	6 125	9 604	6 127	13 164	838	789	1 211	1 068	1 348
Lignite (including agglomerated)	5 255	1 930	1 215	384	986	684	543	395	329	507
<i>Exports</i>										
Anthracite	172 486	169 252	137 353	123 549	165 473	11 419	12 704	10 739	10 474	15 647
Bituminous and Other	439 930	380 426	354 281	419 193	742 582	25 772	26 996	24 795	30 528	80 084
Total	612 415	549 678	491 634	542 742	908 055	37 191	39 701	35 534	41 002	95 730
Briquettes of coal	40 256	19 885	18 982	26 590	51 782	4 040	2 155	2 073	2 976	7 869
Lignite (including agglomerated)	3 172	3 149	3 804	2 966	3 157	250	311	481	410	591

Cobalt

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Cobalt										
<i>Consumption in Iron and Steel</i>										
Industry (a)	20	20	20	20	20					
Apparent consumption (a) (b)	1 100	1 100	2 000	2 900	2 400					
<i>Imports</i>										
Scrap	508	593	744	866	880	3 811	4 988	4 527	10 316	12 130
Unwrought	2 467	2 557	2 855	3 670	3 748	48 073	43 929	39 515	73 809	114 725
Wrought	887	738	828	885	767	14 201	12 012	16 942	11 182	14 241
Oxides	525	107	195	180	138	7 456	1 392	2 291	3 394	4 021
<i>Exports</i>										
Scrap	794	391	467	766	1 178	6 149	3 117	3 203	6 984	10 915
Unwrought	628	648	630	679	804	14 217	13 173	12 932	17 036	28 019
Wrought	460	432	597	855	633	14 884	14 113	19 281	20 921	26 806
Oxides	1 233	994	750	689	798	20 078	10 706	9 167	13 909	22 944

(a) Metal content.

(b) BGS estimate; see p.v.

Coke and breeze

United Kingdom summary 2004-2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Coke and breeze										
<i>Production</i>										
Coke oven - coke	4 038 000	4 105 000	4 384 000	4 451 000	4 323 000					
Coke oven - breeze	298 000	259 000	245 000	25 000	35 000					
<i>Consumption</i>										
Coke oven coke	3 718 000	3 639 000	3 868 000	4 024 000	3 900 000					
Breeze	1 364 000	1 337 000	1 411 000	1 228 000	1 204 000					
<i>Imports</i>										
Coke from coal	785 585	554 707	804 872	691 402	509 265	134 706	71 763	80 803	98 135	107 977
<i>Exports</i>										
Coke from coal	189 640	191 854	93 505	97 608	172 201	18 073	24 350	10 740	10 459	28 927
Coke from lignite	1	...	...	20 813	...	175	...	...	1 365	...

Copper

United Kingdom summary 2004-2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Copper										
<i>Consumption</i>										
Unwrought-										
Refined	243 417	165 406	172 092	41 454	42 920					
Copper in scrap for direct use (a)	120 000	120 000	120 000	120 000	120 000					
<i>Imports</i>										
Ores and concentrates	249	251	2 571	1 676	699	567	736	1 537	1 218	1 500
Matte and cement	9	5	15	2	7	66	76	63	51	134
Scrap	15 731	42 264	19 744	21 852	21 132	15 621	25 644	43 789	53 297	53 211
Ash and residues	867	1 108	610	1 089	635	370	579	758	1 395	782
Unwrought-										
Unrefined	122	1 978	264	7 401	5 529	77	4 307	600	23 350	18 981
Refined	214 067	181 767	183 727	46 820	47 716	342 492	364 395	668 026	170 610	187 844
Alloys	6 478	5 371	5 813	5 488	5 173	8 800	9 428	18 155	18 339	15 991
Master Alloys	1 592	820	930	714	548	2 719	1 934	3 113	2 827	2 778
<i>Exports</i>										
Matte and cement	79	41	515	16	28	445	523	1 864	181	215
Scrap	244 749	238 557	311 058	346 361	358 981	203 166	247 351	587 992	646 751	775 054
Ash and residues	2 017	675	1 168	465	723	1 136	74	522	196	591
Unwrought-										
Unrefined	759	271	153	786	3 066	3 344	2 772	1 922	4 844	16 062
Refined	6 603	15 982	5 969	8 489	4 850	9 643	33 657	18 721	29 618	20 571
Alloys	18 543	12 681	13 661	12 533	11 603	25 426	23 456	41 189	46 032	45 706
Master Alloys	3 492	2 332	3 590	5 609	6 219	6 653	6 160	14 471	21 354	25 047

(a) Additional to that used in secondary metal.

Crushed rock (also see Aggregates)

Great Britain production of crushed rock by region 1980–2008

Year	Thousand tonnes											
	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
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
2008	4 928	7 962	10 045	3 850	24 328	683	1 029	22 355	75 179	15 685	24 215	115 079

(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 2008

Area of origin	Thousand tonnes									
	Roadstone					Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Total
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
North East	...	...	...	...	...	679	481	1 444	...	4 928
North West	410	1 010	1 212	...	—	1 536	1 352	2 212	...	7 962
Yorkshire and the Humber	...	1 367	2 342	162	—	2 644	1 292	2 024	...	10 045
West Midlands	1 030	...	1 113	...	...	...	...	748	...	3 850
East Midlands	2 118	1 435	6 368	...	...	5 359	2 895	3 924	85	24 328
East of England	—	—	11	—	—	...	—	...	—	683
South East	—	—	...	—	—	...	...	...	...	1 029
South West	2 091	2 076	4 397	...	...	6 360	1 510	5 431	63	22 355
England	6 233	6 968	16 582	845	2 248	16 928	7 756	17 167	450	75 179
Wales	...	2 108	1 757	250	...	3 087	1 642	5 057	45	15 685
Scotland	...	1 080	7 310	109	...	2 981	5 639	4 331	218	24 215
Great Britain	9 361	10 156	25 649	1 204	3 408	22 995	15 036	26 555	713	115 079

Source: Office for National Statistics.

Great Britain production of crushed rock for aggregate 2008

Mineral	Thousand tonnes									Total
	Roadstone				Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	
	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings						
Limestone (inc. dolomite)	4 048	3 840	11 960	...	...	15 484	6 095	17 212	348	59 379
Igneous rock	4 708	4 086	12 580	575	...	6 597	7 618	7 150	...	46 723
Sandstone	605	2 230	1 109	...	157	914	1 323	2 192	...	8 977
Total	9 361	10 156	25 649	1 204	3 408	22 995	15 036	26 555	713	115 079

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 1996–2008

Year	Thousand tonnes									Total
	Roadstone			Railway ballast	Fill	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	
	Coated	Uncoated	Surface dressing chippings							
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
2008	19 517	25 649	1 204	3 408	...	22 995	15 036	26 555	713	115 079

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of crushed rock, gravel and sand for use in concrete, 1996–2008

Year	Thousand tonnes						Total
	Sandstone	Igneous rock	Limestone and dolomite	Gravel (a)	Concreting sand (a)		
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	
2008	914	6 597	15 484	18 787	26 885	68 667	

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

Source: Office for National Statistics.

Great Britain production of crushed rock for use as roadstone, 1996–2008

Year	Thousand tonnes							
	Sandstone		Igneous rock		Limestone and dolomite		Total	
	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated	Coated	Uncoated
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
2008	2 835	(b) 1 109	8 794	(a) 13 155	7 888	(b) 11 960	19 517	(a) 26 853

(a) Including surface dressing chippings

(b) Excluding surface dressing chippings

Source: Office for National Statistics.

Great Britain production of crushed rock for railway ballast, 1996–2008

Year	Thousand tonnes			
	Sandstone	Igneous rock	Limestone and dolomite	Total
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
2008	157	...	...	3 408

(a) BGS estimate.

Source: Office for National Statistics.

England production of crushed rock by end-use 1996–2008

Thousand tonnes

Year	Roadstone									Total
	Coated	Uncoated	Surface dressing chippings	Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	
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
2008	13 201	16 582	845	2 248	...	16 928	7 756	17 167	450	75 179

Source: Office for National Statistics.

Wales production of crushed rock by end-use 1996–2008

Thousand tonnes

Year	Roadstone									Total
	Coated	Uncoated	Surface dressing chippings	Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	
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
2008	...	1 757	250	...	...	3 087	1 642	5 057	45	15 685

Source: Office for National Statistics.

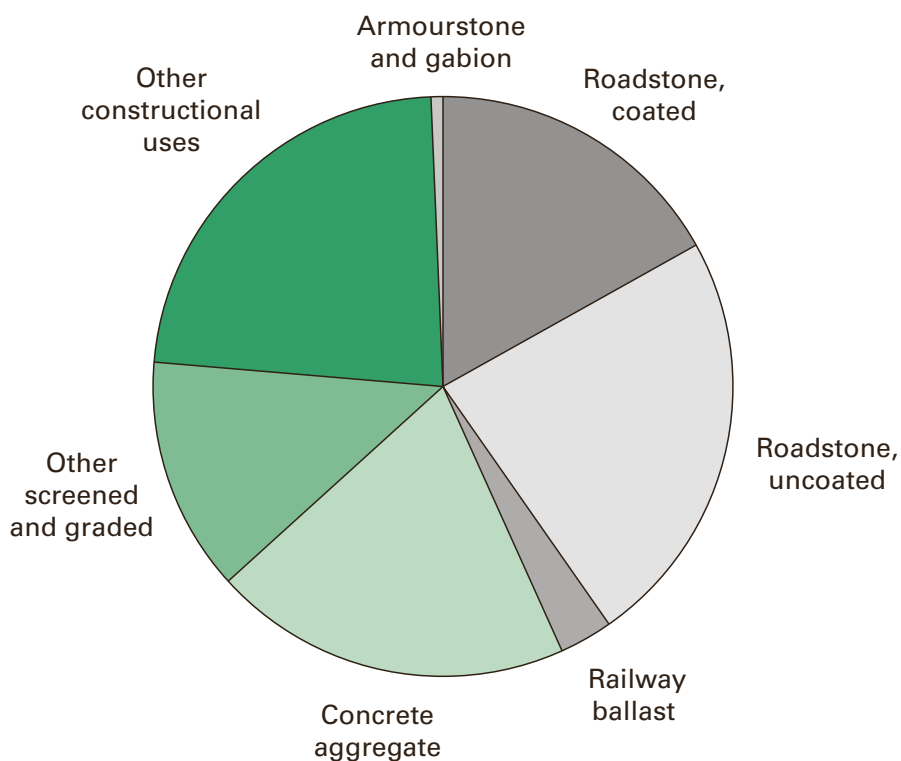
Scotland production of crushed rock by end-use 1996–2008

Thousand tonnes

Year	Roadstone									Total
	Coated	Uncoated	Surface dressing chippings	Railway ballast	Fill and ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & Gabion	
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
2008	...	7 310	109	...	...	2 981	5 639	4 331	218	24 215

Source: Office for National Statistics.

Great Britain production of crushed rock by end-use 2008
(total production £115.1 million tonnes)



Crushed rock (also see Aggregates)

United Kingdom summary 2004–2008

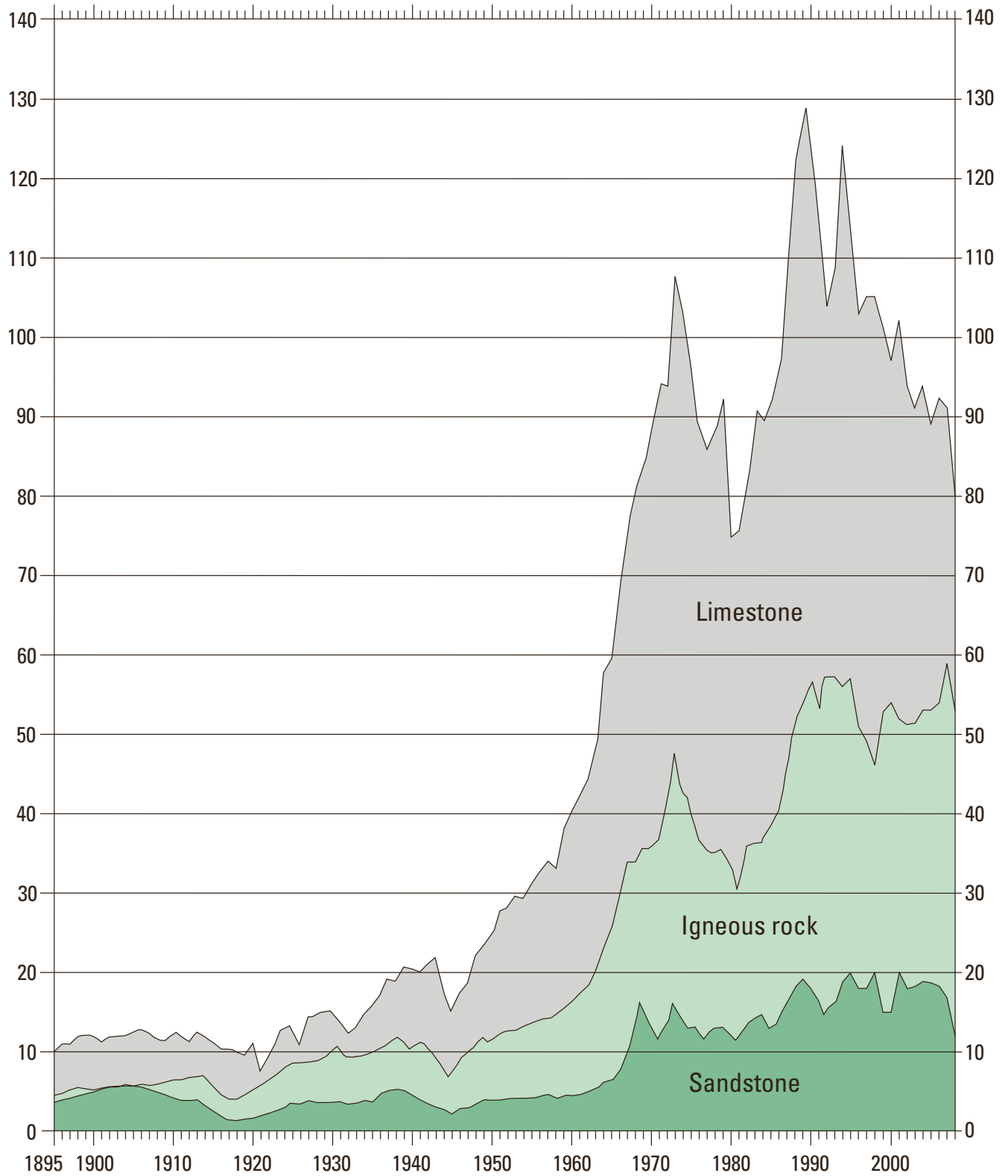
Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Crushed rock										
<i>Production (a)</i>	147 067 000	141 636 000	145 578 000	148 534 000	127 996 000					
<i>Imports (b)</i>	619 076	1 516 919	2 270 355	1 909 733	1 984 383	10 661	19 037	27 202	27 501	34 449
<i>Exports</i>	4 528 231	4 850 971	5 322 099	5 959 212	5 260 973	22 865	25 141	25 773	33 637	36 693

(a) Includes small quantities for other purposes in Northern Ireland.

(b) 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.

United Kingdom production of sandstone, igneous rock and limestone (including dolomite) 1895–2008

Million tonnes



Diamond

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Carats					£ thousand				
Diamond										
<i>Imports</i>										
Unsorted	10 557 063	33 441 810	14 408 621	13 661 786	10 283 610	256 208	542 182	556 447	573 786	876 344
Gem-										
Rough	68 227 020	78 735 595	78 790 692	81 195 314	59 534 653	3 479 633	3 731 322	3 575 369	2 999 781	2 761 345
Cut	9 317 146	12 039 040	7 370 573	973 433	1 343 330	577 773	632 372	798 474	752 728	911 691
Industrial	30 993 560	25 367 064	11 884 651	7 524 168	5 127 610	29 956	12 673	70 193	11 164	12 307
Dust	126 277 015	125 510 400	199 882 920	198 484 150	187 268 975	10 684	8 677	10 325	10 046	8 665
<i>Exports</i>										
Unsorted	6 394 541	16 818 545	3 544 216	5 307 857	3 388 395	492 362	1 087 752	301 075	363 578	477 338
Gem-										
Rough	78 613 304	76 400 064	88 991 279	84 573 134	66 479 817	3 638 553	3 477 092	3 944 529	3 337 596	3 448 031
Cut	1 592 715	5 330 874	2 341 635	477 463	795 612	493 848	510 487	447 503	538 638	699 752
Industrial	22 821 714	21 647 850	13 652 233	4 754 029	6 121 081	33 851	20 924	18 891	17 485	17 700
Dust	149 415 960	124 529 495	111 788 350	104 552 775	122 681 695	11 106	11 791	11 200	13 014	11 492

Diatomite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Diatomite										
<i>Production</i>										

<i>Imports (a)</i>	34 988	29 208	28 290	24 224	23 084	5 242	4 658	4 710	4 437	4 548
<i>Exports (a)</i>	2 123	708	687	1 238	903	745	598	1 085	1 025	502

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

Dolomite (see Limestone)

Feldspar

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Feldspar										
<i>Production</i>										
China stone	2 274	1 835	1 441	1 112	430					
<i>Imports</i>										
Feldspar	31 601	23 139	17 098	26 751	18 899	2 075	1 428	1 096	1 687	1 406
Nepheline-syenite	49 731	47 672	81 960	40 484	44 275	4 204	4 052	4 201	3 617	4 355
<i>Exports</i>										
Feldspar	261	48	38	40	82	117	18	121	20	28
Nepheline-syenite	45	38	557	2 430	902	21	14	271	635	520

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.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Fireclay										
<i>Production (a)</i>	402 000	395 000	228 000	338 000	180 000					
<i>Imports</i>										
Fireclay	199	497	1 279	1 467	2 556	108	156	377	244	402
Fireclay bricks etc	5 563	8 261	7 651	8 166	7 070	2 639	3 958	2 800	3 478	4 960
Refractory hollow-ware	1 347	1 676	1 969	1 357	2 272	2 023	2 956	2 688	2 670	3 557
<i>Exports</i>										
Fireclay	96	91	179	94	54	49	90	117	79	33
Fireclay bricks etc	1 985	3 135	2 676	3 283	4 347	2 937	4 336	4 800	3 957	5 319
Refractory hollow-ware	4 432	3 009	2 989	2 386	1 274	13 164	14 715	15 361	16 218	17 071

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

Great Britain production of fireclay by area of origin 2008

Area of origin	Total
Northumberland	42
Tyne and Wear	...
North East	...
West Yorkshire	...
Yorkshire and the Humber	...
Leicestershire	...
East Midlands	...
Shropshire	...
West Midlands	...
England	168
Wales	...
West Central Scotland	12
Scotland	12
Great Britain	180

Source: Office for National Statistics.

Great Britain production of fireclay by end-use 1996–2008

Thousand tonnes

Year	Refractory purposes	Bricks, pipes and tiles	Other uses	Total
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
2008	...	...	...	180

Source: Office for National Statistics.

Fluorspar

Fluorspar is the commercial term for the mineral fluorite (calcium fluoride, CaF₂), 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, CaF₂), 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 have been on a downward trend in recent years falling to 18 536 tonnes in 2009, a 49 per cent drop compared with 2008 and a 67 per cent decrease compared with 2005. 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 CaF₂. 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 tonnes in 2004 to 3875 tonnes in 2007. During 2009 fluorspar imports more than doubled compared with the previous year, reaching 8429 tonnes, but remaining well below historical levels. This increase in imports probably reflects the continued decline in domestic production.

Glebe Mines Ltd is the only producer of fluorspar in the UK. 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 a minor source of galena (lead sulphide). Production of lead concentrate (65 per cent lead) was 100 tonnes in 2009, having fallen from about 600 tonnes in 2005 and 2006.

In October 2009 Glebe Mines ore reserves were estimated to be 1 215 000 tonnes, accessible by open-pit working at Tearsall, Peak Pasture and High Rake. Consent for extraction at Tearsall was granted in 2009 for a duration of six years and working is likely to begin in 2010. High Rake is close to exhaustion and consent for extraction comes to an end in 2010. There is currently no working at Peak Pasture. Three million tonnes of fluorspar ore are accessible from underground mines at Milldam and Watersaw West. Neither mine is currently operating. Watersaw has planning consent for extraction until 2015.

In early 2009 Glebe Mines was fined £40 000 for the damage caused by the failure of one of the mine's tailings dams in January 2007 which resulted in flooding and waste discharge into surrounding areas and the nearby village of Stoney Middleton. Glebe Mines pleaded guilty to charges contrary to the Water Resources Act of 1991 and was ordered to pay £22 000 with £16 397 in costs to the Environment Agency. Glebe Mines has now completed the clean-up of the tailings dam failure, which has cost about £2 million. All the potentially hazardous material which was released into local watercourses has now been removed and transported back to the mine site.

In 2007, the sole UK consumer of acid-grade fluorspar, INEOS Fluor, acquired Glebe Mines Ltd. In February 2010, INEOS announced the sale of its fluorine chemical plant at Runcorn in Cheshire to the Mexican-owned chemical producer Mexichem. Glebe Mines remains under INEOS ownership.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Fluorspar										
<i>Production</i>	50 080	56 417	49 676	44 936	36 801					
<i>Imports</i>	25 092	4 051	6 620	3 875	8 429	2 458	94	976	1 040	2 389
<i>Exports</i>	4 592	4 315	2 451	589	187	954	1 070	476	304	156

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. UK production of fuller's earth ceased in 2005, bringing to an end this long-established minerals industry.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Fuller's earth										
<i>Crude production</i>	115 000	—	—	—	—					
<i>Sales (a)</i>	(b) 27 540	(b) 6 200	—	—	—					
<i>Imports</i>	2 574	3 122	14 700	...	...	316	504	1 408	...	...
<i>Exports</i>	124	778	1 102	...	...	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 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Germanium										
<i>Imports</i>										
<i>Metal</i>	2	5	2	3	1	1 993	2 094	1 205	872	400
<i>Exports</i>										
<i>Metal</i>	1	1	1	0	0	86	75	157	135	277

Gold

Mines Royal (gold and silver) exploration and development in Britain requires a licence from the Crown Estate Mineral Agent. The number of licences decreased in 2009 from 32 to 24, with eight licences being relinquished in Northern Ireland. Leases remained constant at four. The gold price fluctuated greatly during 2009 due to market uncertainties related to global economic conditions, but rose sharply in the last six months of the year due to a weak US dollar and rising oil prices. Year-on-year it has continued to rise, reaching over US\$1130 per ounce in December 2009. The average price of gold during 2009 was US\$970 per troy ounce, an 11 per cent increase on 2008. The high price of gold led to a continuation of interest in gold in Great Britain in 2009 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. Mines Royal Licence and Lease activity is distributed throughout the United Kingdom as follows:

	Licences	Pending	Leases	Pending
England	—	—	—	—
Northern Ireland	20	—	1	—
Scotland	3	5	—	—
Wales	1	1	3	—
Total	24	6	4	—

Source: Crown Mineral Agent

The 24 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 S A Resources Ltd) 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 National Trust	Wales	Dormant, part of Anglesey Mining plc
Omagh Minerals Ltd	Northern Ireland	Open pit mining at Cavanacaw

Source: Crown Mineral Agent

The level of exploration activity in Northern Ireland seems to have stabilised during 2009 following a rapid increase in 2007 and 2008 due to the release of data from the Tellus project. Several companies continue to explore for gold in the region, but no new licences are pending.

Tournigan Energy Ltd completed the sale of Dalradian Gold Ltd, the owners of the Curraghinalt gold project, to SA Resources Ltd in September 2009. The Curraghinalt project was previously the subject of an option agreement with C3 Resources which subsequently assigned its rights under the option agreement to SA Resources. The Curraghinalt deposit is 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 grams per tonne of gold. The deposit may also have economically recoverable copper in associated copper sulphides.

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). The processing facility continues to ramp-up production, producing 648 tonnes of wet concentrate in the first quarter of 2010. 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 over an area totalling 460 km². Omagh Minerals has explored its licence areas during 2009 collecting 468 soil and 260 rock samples in a programme looking to locate drilling targets and to test targets identified by Tellus data.

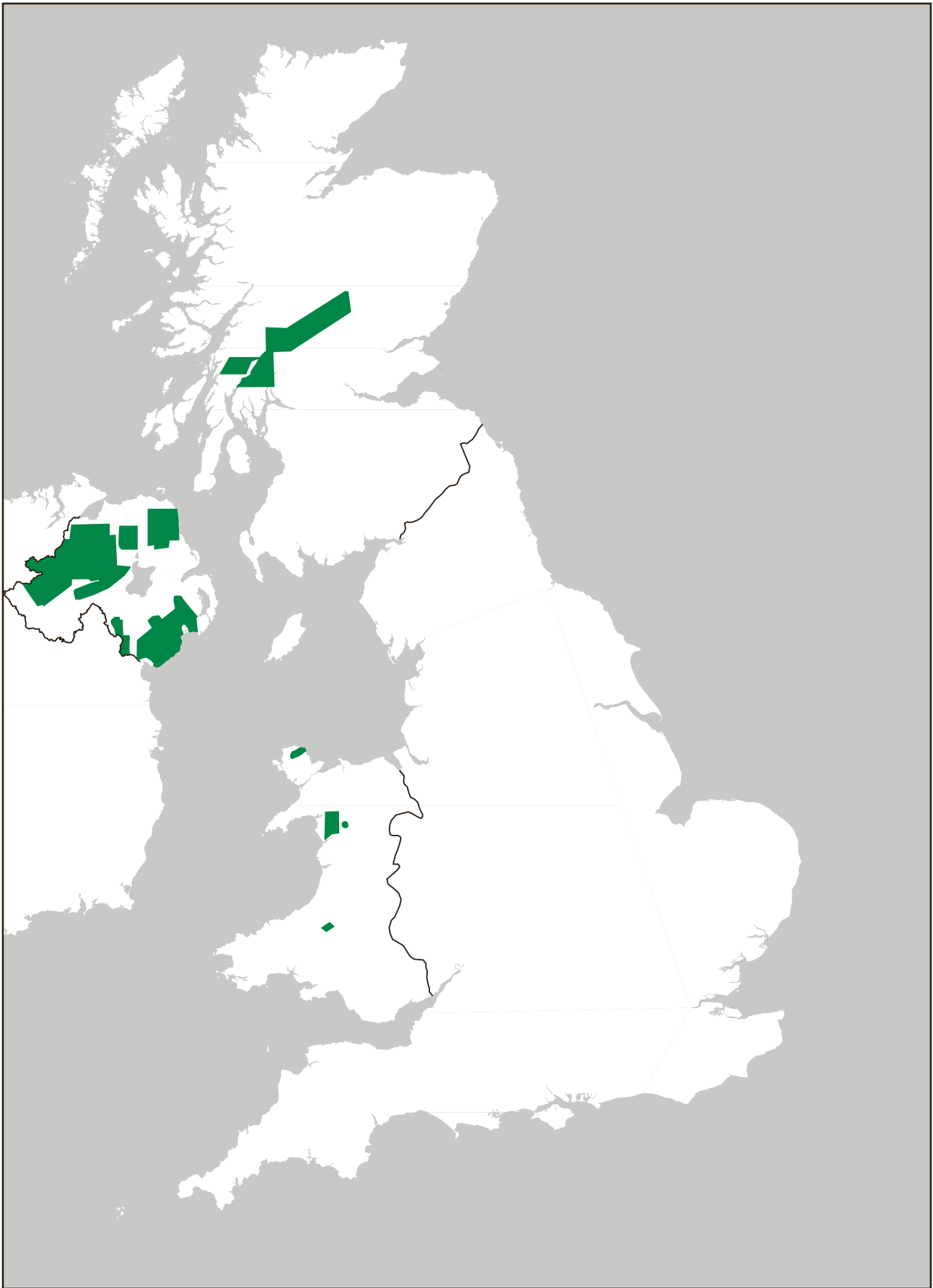
Conroy Diamonds and Gold plc is exploring over the Clontibret district, located on the border of Northern Ireland and the Republic of Ireland near Monaghan. The company has been focusing on the Clay Lake target north-east of Clontibret, where early drill holes give values of 0.62 grams per tonne of gold and 1 gram per tonne silver. These findings indicate that the deposit could be potentially larger than the Clontibret deposit. The JORC-compliant indicated resource for the Clontibret deposits 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. A scoping study was commissioned on the deposit in January 2010.

Metallum Resources plc holds licences for exploration largely based on the results of the Tellus project. The company has identified targets 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. A resource statement released in February 2010 gives a measured, indicated and inferred resource containing 163 000 ounces of gold and 596 000 ounces of silver (using a 3.5 grams per tonne cut-off). Scotgold resumed drilling of the Cononish deposit in October 2009 as part of its programme to advance towards gold production. Scotgold estimates that the mine could potentially produce 20 000 to 30 000 ounces of gold a year. The results of the 2009 sampling programme for the Glen Orchy licence confirmed a significant number of high-grade gold values in the 250 km² area surrounding the Cononish gold and silver deposit. The regional outcrop sampling programme, which looked at nine sites, obtained maximum values of 217 and 196.8 grams per tonne of gold and over 200 grams per tonne of silver from a vein located several kilometres north-east of the Cononish deposit.

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.

Mines Royal Licences and Leases in 2008



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United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Gold										
<i>Imports</i>										
Waste and scrap	275	66	8	17	43	167 932	33 304	8 185	13 157	35 655
Unwrought (a)	1 028	339	1 152	725	878	4 701 983	2 825 803	8 263 982	7 017 522	13 136 670
Semi-manufactured	25	12	547	287	36	76 005	38 060	90 711	226 489	307 054
<i>Exports</i>										
Waste and scrap	472	541	314	282	272	4 004	52 473	36 296	37 334	293 085
Unwrought (a)	343	585	149	211	579	1 083 671	4 217 538	1 407 212	2 169 760	8 068 006
Semi-manufactured	64	53	24	44	24	88 082	70 236	52 874	76 554	162 089

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

Granite (see Igneous rock)

Graphite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Graphite										
<i>Imports</i>										
Natural graphite	19 075	17 766	16 978	17 225	14 309	8 814	9 453	9 243	8 642	7 766
Artificial graphite	12 508	13 761	15 334	16 112	20 728	14 275	15 165	15 435	15 136	21 815
Graphite crucibles etc	1 175	811	1 100	1 333	991	3 477	2 788	3 506	3 531	3 401
<i>Exports</i>										
Natural graphite	4 348	2 685	2 979	3 065	3 156	4 104	3 204	3 183	3 760	3 906
Artificial graphite	5 771	11 450	9 300	8 765	6 792	11 010	10 431	10 537	11 275	17 974
Graphite crucibles etc	9 007	9 111	11 699	10 900	11 342	18 452	17 647	21 255	22 612	25 447

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. British Gypsum is owned by French construction products company Saint-Gobain.

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. Reported imports of crude gypsum in 2008 were 140 783 tonnes valued at £8.5 million, a substantial decline from the 627 595 tonnes imported in 2005 with a reportedly similar value. Imports of calcined gypsum were 88 766 tonnes valued at around £12.4 million, compared with 52 678 tonnes in 2007.

Desulphogypsum, produced by the neutralisation of sulphur dioxide contained in flue gases at coal-fired power stations, is currently produced at a number of power stations in Britain. The principal producers of desulphogypsum are shown in the table below.

Thousand tonnes

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Drax	483	565	506	485	699	653	565	610	645	744	na
Ratcliffe-on-Soar	220	260	291	358	384	350	235	204	254	338	263
West Burton	—	—	—	—	—	274	335	289	255	217	164
Eggborough	—	—	—	—	—	—	31	46	36	66	na
Cottam	—	—	—	—	—	—	19	196	257	225	164
Total	703	825	797	843	1 083	1 228	1185	1303	1447	1590	na

na = not available

Production from the West Burton plant, which came on stream in December 2003, has been steadily declining and output in 2009 was 164 000 tonnes, the majority of which was sold for plasterboard manufacture. 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. A new FGD plant has been successfully commissioned at Scottish and Southern Energy's (SEE) Fiddlers Ferry power station in Cheshire. Commissioning of FGD equipment at SEE Ferrybridge power station in West Yorkshire also took place during 2009. Lafarge Plasterboard has synthetic gypsum supply contracts with operators at Cottam (EDF Energy) and Ferrybridge. A new FGD plant was commissioned at Rugeley power station in Staffordshire in mid-2009. Scottish Power has announced plans to install FGD at its Longannet power station in Fife.

Synthetic gypsum was 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. However, in early 2009 the company announced plans to close the site as a result of decreased demand for pigments.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Gypsum and plaster										
<i>Production</i>										
Gypsum, natural	1 686 000	(a)1 700 000	(a)1 700 000	(a)1 700 000	(a)1 700 000					
<i>Imports</i>										
Gypsum-										
Gypsum	(b) 64 043	627 595	369 714	196 613	140 783	8 160	9 738	8 415	8 511	8 522
Calcined gypsum (plasters)	(b) 163 025	133 522	92 069	52 678	88 766	8 780	11 003	10 976	10 674	12 433
<i>Exports</i>										
Gypsum-										
Gypsum	3 903	2 299	2 679	1 248	1 493	593	599	559	584	955
Calcined gypsum (plasters)	49 945	54 356	63 533	57 988	48 340	11 677	11 836	13 680	13 668	13 647

(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 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Hafnium										
<i>Imports</i>										
	3	23	14	16	41	285	934	919	708	1 832
<i>Exports</i>										
	57	1	8	1	1	244	137	336	56	254

Igneous rock (for graph, see Crushed rock)

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Igneous rock – see also Building and dimension stone										
Production (a)	53 037 000	53 104 000	53 954 000	58 909 000	47 009 000					
<i>Imports</i>										
Granite-										
Unworked	1 643 221	1 331 520	491 438	442 911	1 058 054	39 988	43 026	33 622	43 987	54 092
Worked	81 551	88 916	114 802	114 967	115 495	50 079	57 884	66 403	74 519	80 043
<i>Exports</i>										
Granite-										
Unworked	1 806	1 974	2 394	7 634	8 629	238	292	983	2 125	1 741
Worked	489	607	517	429	786	546	623	1 233	627	1 391

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

Great Britain production of igneous rock by end-use and area of origin 2008

Area of origin	Thousand tonnes										Total	
	Roadstone					Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion		Industrial uses
Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings								
North East	—	...	492	133	1 481
East Midlands	—	1 492	806	4 135	...	1 926	...	1 329	1 333	...	1	13 504
South West	...	356	...	509	3 326
West Midlands	278	73	28
North West	—	—	—	—	—	—	...
England	22	...	2 313	5 410	342	...	3 605	1 717	2 747	79	...	21 056
Wales	13	246	603	405	3 028
Scotland	244	1 580	...	6 924	5 298	3 999	198	...	22 925
Great Britain	279	4 708	4 086	12 580	575	...	6 597	7 618	7 150	47 009
England	Wales		Scotland									
County	Total	County	Total	Region	Total							
Northumberland	...	Mid Glamorgan	...	South of Scotland	...							
Durham	...	Powys	917	West Central Scotland	8 064							
Cumbria	...	Dyfed	...	East Central Scotland	2 515							
Shropshire	1 435	Gwynedd	955	Tayside and Fife	2 006							
Warwickshire	...			North East Scotland	1 878							
Leicestershire	...	Wales	3 028	Highlands	...							
Lincolnshire	...			Western Isles	170							
Somerset	...			Shetland	197							
Devon	...											
Cornwall	2 056			Scotland	22 925							
England	21 056											

Source: Office for National Statistics.

England production of igneous rock by end-use 1996–2008

Thousand tonnes

Year	Roadstone											Total	
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses		Other uses
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	18	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
2008	22	...	2 313	5 410	342	...	3 605	1 717	2 747	79	...	...	21 056

Source: Office for National Statistics.

Wales production of igneous rock by end-use 1996–2008

Thousand tonnes

Year	Roadstone											Total	
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses		Other uses
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
2008	13	...	...	246	...	...	...	603	405	...	...	...	3 028

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of igneous rock by end-use 1996–2008

Thousand tonnes

Year	Roadstone											Total	
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses		Other uses
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
2008	244	1 580	...	6 924	...	...	...	5 298	3 999	198	...	...	22 925

(a) BGS estimate.

Source: Office for National Statistics.

Insulating materials

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Insulating materials										
<i>Imports</i>										
Mineral wools (a)	34 567	33 438	44 986	36 100	24 135	27 848	35 145	34 486	34 748	32 142
Expanded minerals (b)	110 410	101 740	98 909	170 284	111 091	6 995	8 127	9 123	9 663	8 663
Other (c)	40 996	46 278	42 734	45 972	43 244	35 298	37 553	40 520	38 309	38 139
<i>Exports</i>										
Mineral wools (a)	21 782	25 329	29 911	33 825	24 700	38 331	41 965	51 274	58 525	39 471
Expanded minerals (b)	18 846	18 214	18 844	20 009	19 581	17 530	15 259	17 693	18 668	22 236
Other (c)	45 815	59 040	65 952	57 570	58 762	42 980	58 321	66 845	61 163	70 153

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

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

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

Iodine

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Iodine										
<i>Imports</i>										
	803	1 093	1 020	1 225	1 107	5 302	8 606	10 728	11 828	10 923
<i>Exports</i>										
	107	197	315	369	175	819	2 038	3 891	4 557	1 826

Iron compounds and earth colours

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Iron compounds and earth colours										
<i>Imports</i>										
Natural micaceous oxides	...	...	...	...	...	...	...	...	...	...
Earth colours containing 70% or more ferric oxide	105	152	122	136	74	50	40	34	48	25
Other iron compounds-Oxides and hydroxides	43 552	44 125	37 755	37 993	36 145	22 361	23 158	23 389	22 333	25 271
<i>Exports</i>										
Natural micaceous oxides	...	...	...	...	...	...	...	...	...	...
Earth colours containing 70% or more ferric oxide	97	58	20	79	450	216	147	34	150	646
Other iron compounds-Oxides and hydroxides	9 274	7 784	7 894	7 265	7 784	10 111	9 532	9 193	8 593	11 318

Iron ore

United Kingdom summary 2004-2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Iron ore										
<i>Production (a)</i>	(b) 500	354	341	(b) 300	145					
Fe content (b)	275	195	190	170	80					
<i>Consumption</i>										
Home-produced (b)	500	350	340	300	140					
Imported	16 013 200	15 991 100	16 538 800	16 607 000	15 342 500					
<i>Imports</i>										
Iron ore	15 298 713	16 204 615	16 370 705	17 435 472	15 282 786	321 118	458 754	539 498	644 177	938 415
Fe content (b)	9 200 000	9 700 000	9 000 000	10 600 000	9 300 000					
<i>Exports</i>										
Iron ore	212	2 107	5 229	5 396	7 731	213	534	1 256	1 734	953

(a) The Florence mine near Egremont, Cumbria closed in 2008.
The mine produced high-grade hematite for foundry uses, mineral specimens and jewellery. The mine was also a tourist attraction.

(b) BGS estimates.

Iron and steel

United Kingdom summary 2004-2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Iron and steel										
<i>Production</i>										
Pig iron	10 179 600	10 188 800	10 695 700	10 959 800	10 136 800					
Crude steel-										
Alloy qualities	957 100	862 400	760 100	779 400	824 900					
Other	12 808 600	12 376 500	13 144 500	13 532 800	12 695 600					
Total	13 765 700	13 238 900	13 904 600	14 392 300	13 520 500					
<i>Consumption</i>										
Scrap (a)	5 123 000	4 531 000	4 811 000	5 144 000	4 888 000					
Pig iron (a)	10 010 000	9 983 000	10 444 000	10 729 000	9 931 000					
Finished steel (b)	13 176 000	10 762 000	13 150 000	13 313 000	11 852 000					
<i>Imports</i>										
Scrap	225 483	180 261	154 967	204 100	228 294	70 492	81 783	84 007	159 432	133 546
Pig iron	105 007	102 531	81 689	89 863	61 657	18 925	19 955	15 201	17 957	21 724
Shot, powder, sponge etc	43 956	40 574	34 768	25 772	27 003	26 958	32 971	28 676	27 009	26 470
Ferro-alloys	363 141	276 930	288 116	298 803	314 921	220 195	190 858	194 384	271 513	430 007
Iron and steel-										
Ingots and other primary forms	758 615	722 452	1 053 176	849 803	679 019	226 009	258 168	362 218	352 643	409 887
<i>Exports</i>										
Scrap	6 772 111	6 105 955	7 407 174	6 013 907	6 616 708	1 005 863	938 844	1 191 273	1 335 853	1 868 340
Pig iron	957	1 387	5 407	15 892	2 523	531	905	1 114	4 353	2 308
Shot, powder, sponge etc	53 644	46 947	44 736	45 051	43 775	32 186	35 060	38 375	39 693	43 529
Ferro-alloys	55 578	49 637	41 879	41 841	41 963	235 291	457 209	389 373	361 635	366 798
Iron and steel-										
Ingots and other primary forms	1 712 102	2 246 377	2 692 654	3 514 850	3 348 794	775 032	965 422	1 012 574	1 450 504	1 619 056

(a) Consumption in steel making only.

(b) Net home disposals.

Consumption in the United Kingdom iron and steel industry 1999–2008

Thousand tonnes

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Iron ore –										
Home produced (a)	1	1	1	0	1	1	0	0	0	0
Imported (b)	18 739	16 955	15 108	13 181	15 766	16 011	15 990	16 539	16 607	15 338
Manganese ore	14	36	4	4	0	6	3	6	3	4
Iron and steel scrap (f)	5 884	5 675	4 864	4 138	4 390	5 123	4 531	4 811	5 144	4 888
Pig iron (f)	11 859	10 970	9 713	8 312	9 955	10 010	9 983	10 444	10 729	9 931
Alloy metals (c) –										
Nickel	14	14	14	15	16	17	14	13	12	12
Molybdenum	2	2	2	2	2	2	2	2	2	3
Tungsten	0	0	0	0	0	0	0	0	0	0
Vanadium	1	1	1	1	0	0	0	0	0	0
Cobalt	0	0	0	0	0	0	0	0	0	0
Chromium	56	53	47	46	53	54	52	55	61	69
Niobium	1	0	0	0	0	0	0	0	0	1
Ferro-alloys –										
Ferro-manganese	112	106	91	77	94	95	92	97	100	94
Ferro-silico-manganese	29	27	24	21	23	23	22	24	24	23
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	44	42	36	35	37	37	36	38	39	37
Ferro-silico-zirconium	0	0	0	0	0	0	0	0	0	0
Calcium silicide	1	0	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)	370	338	261	223	254	262	243	445	474	420
Limestone (e)	2 408	2 166	1 889	1 684	2 019	2 068	1 951	2 028	1 822	1 664
Lime (e)	698	660	561	501	530	584	593	631	585	496
Zinc for galvanising	89	87	64	66	62	53	57	60	58	50
Tin for tinplating	3	3	3	3	2	3	3	2	3	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 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Lead										
<i>Production</i>										
Concentrate (a)										
Pb content (b)	500	400	400	100	200					
Unwrought-										
Bullion	36 000	36 000	36 000	36 000	36 000					
Refined										
Primary (c)	125 938	161 350	174 703	119 000	139 000					
Secondary	120 000	143 000	144 000	144 000	144 000					
<i>Consumption</i>										
Refined	330 367	281 686	300 000	244 800	222 123					
Scrap	40 808	—	—	—	—					

continued

United Kingdom summary 2004–2008 *continued*

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Lead <i>continued</i>										
<i>Imports</i>										
Ores and concentrates	343	84	78	72	116	226	89	94	91	169
Ash and residues	51	358	447	443	423	19	136	148	670	200
Scrap	6 278	3 898	5 914	17 685	4 621	2 628	1 948	4 098	15 842	5 287
Unwrought										
Unrefined-										
Bullion (d)	127 970	173 910	120 871	119 726	194 113	93 506	143 042	130 338	191 196	252 593
Other	16 354	4 170	2 745	3 160	1 190	6 811	2 092	2 224	3 446	1 698
Refined	31 531	23 366	50 504	28 020	18 379	13 725	13 623	32 754	33 596	22 523
Alloys	3 497	3 811	644	7	19 924	2 178	2 424	517	35	24 743
<i>Exports</i>										
Ores and concentrates	26	507	202	19	177	47	337	147	91	277
Ash and residues	0	99	484	704	535	1	22	113	300	536
Scrap	45 646	27 248	1 859	31 942	47 660	15 909	11 791	1 364	31 087	44 505
Unwrought										
Unrefined-										
Bullion	5	474	73	...	...	14	329	72	...	...
Other	754	3 046	3 074	1 257	1 725	282	1 302	596	825	1 854
Refined	34 100	49 073	86 124	66 895	77 795	19 659	32 048	66 656	92 463	96 383
Alloys	31 148	38 806	48 589	39 246	57 466	17 798	25 241	37 477	56 008	79 823

(a) Byproduct of Pennine fluorspar operations.
(b) BGS estimate.

(c) Refined from imported bullion including lead content of alloys.
(d) Containing substantial quantities of silver; see p.102.

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

Great Britain production of limestone, dolomite and chalk by broad end-uses 2008

Mineral	Thousand tonnes				
	Constructional uses (b)	Cement	Agricultural uses	Industrial uses (a)	Total
Limestone	55 768	...	...	5 862	70 406
Dolomite	3 920	...	...	...	5 509
Chalk	512	...	...	...	5 889
Total	60 199	11 539	1 629	8 437	81 804

(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) 2008

Use	Thousand tonnes				
	Limestone	Dolomite	Chalk	Total	Of which for conversion by calcination
Agricultural	...	...	...	1 629	
Iron and steel	...	...	...	4 089	1 113
Glass making	112	...	—	...	
Asphalt filler	105	—	—	105	
Other fillers	...	—	...	928	
Chemical use	...	—	—	...	...
Building materials	...	—	...	529	
Water and effluent treatment and pollution control	...	—	...	1 362	...
Total	6 709	1 591	1 768	10 068	2 256

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone and chalk for cement, 1996–2008

Thousand tonnes

Year	Limestone	Chalk	Total
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
2008	...	...	11 539

(a) BGS estimate.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for agricultural uses, 1996–2008

Thousand tonnes

Year	Limestone	Dolomite	Chalk	Total	Calcination (a)
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	—
2008	...	...	...	1 629	—

(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, 1996–2008

Thousand tonnes

Year	Limestone	Dolomite	Chalk	Total	Calcination
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
2008	5 862	...	...	8 437	2 256

(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, 1995–2008

Thousand tonnes

Year	Iron and steel making (a)	Chemicals (a)	Glass making	Special fillers	Asphalt fillers	Building materials	Water and effluent treatment and pollution control (a)	Total (a)
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
2008	4 089	...	...	928	105	529	1 362	10 068

(a) Including material for calcination.

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for calcination by end-use, 1995–2008

Thousand tonnes

Year	Agriculture	Iron and Steel	Chemicals	Building materials	Others	Total
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
2008	—	1 113	...	—	...	2 256

Source: Office for National Statistics.

Great Britain production of limestone, dolomite and chalk for iron and steel making, 1995–2008

Thousand tonnes

Year	Limestone	Dolomite and chalk	Total	Calcination (a)
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
2008	...	...	4 089	1 113

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

Source: Office for National Statistics.

Great Britain production of limestone by end-use and area of origin 2008

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	...	...	...	882	...	—	546	...	936	...	...
Yorkshire and the Humber	...	...	761	...	...	—	...	1 056	1 837	39	37
East Midlands	47	626	629	...	—	...	...	1 558	...	...	259
East of England	—	—	—	11	—	—	...	—	...	—	—
South East	...	—	—	...	—	—	...	...	...	...	...
South West	164	1 735	1 727	3 872	...	...	5 004	1 083	4 777	...	261
West Midlands	...	...	...	...	—	—	...	...	412	...	...
North West	...	410	...	980	—	—	...	790	1 387	...	...
England	298	3 342	3 499	10 525	...	...	12 716	5 033	12 967	322	654
Wales	...	...	341	1 357	—	...	...	926	4 222	...	85
Scotland	...	...	—	78	...	—	...	136	23	...	...
Great Britain	307	4 048	3 840	11 960	...	...	15 484	6 095	17 212	348	...
England											
County	Total			County	Total						
Avon	4 254			Lancashire	3 332						
Bedfordshire	...			Leicestershire	2 489						
Buckinghamshire	1			Lincolnshire	630						
Cambridgeshire	...			Norfolk	...						
Cleveland	...			Northamptonshire	211						
Cheshire	—			Northumberland	...						
Cornwall	...			North Yorkshire	6 384						
Cumbria	3 736			Oxfordshire	...						
Derbyshire	15 691			Shropshire	...						
Devon	...			Somerset	11 082						
Dorset	200			South Yorkshire	...						
Durham	2 667			Staffordshire	...						
Gloucestershire	1 715			Suffolk	...						
Hampshire	...			Tyne and Wear	...						
Hereford and Worcester	...			Warwickshire	...						
Hertfordshire	...			Wiltshire	...						
Humberside	13			West Yorkshire	...						
Isle of Wight	....			England	60 738						
Kent	...										

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)	Total
—	—	—	—	—	—	—	—	3 325
...	—	—	—	—	—	—	—	8 648
...	...	...	...	...	112	...	633	19 020
—	—	—	—	—	—	—	—	428
—	...	—	—	—	—	—	—	994
...	—	—	—	—	—	...	35	18 997
—	...	—	—	—	—	...	—	2 257
...	869	—	—	—	—	...	—	7 068
1 898	5 684	...	...	...	112	...	667	60 738
...	1 238	—	—	—	—	...	—	12 114
—	...	—	—	—	—	...	...	1 473
...	...	...	...	...	112	105	...	74 324

Wales		Scotland	
County	Total	Region	Total
Clwyd	5 026	East Central Scotland	...
Dyfed	1 489	Highlands	96
Gwent	...	North East Scotland	...
Gwynedd	53	Tayside and Fife	...
Mid Glamorgan	3 985	West Central Scotland	56
Powys	...		
South Glamorgan	968	Scotland	1 473
West Glamorgan	...		
Wales	12 114		

England production of limestone by end-use 1997–2008

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	Uncoated						
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
2008	298	3 342	3 499	10 525	...	...	12 716	5 033	12 967	322	654

(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 1997–2008

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	Uncoated						
1996	10	...	177	4 164	...	(e) 65	...	...	7 192	...	...
1997	(e) 6	1 123	329	3 588	...	(e) 71	3 322	...	6 952	...	228	
1998	37	1 107	341	2 849	...	(e) 110	3 607	...	6 653	...	119	
1999	52	...	275	3 136	...	...	3 688	...	6 502	...	110
2000	45	...	206	2 177	...	...	3 375	...	6 676	...	106
2001	44	...	328	1 731	...	...	4 299	...	4 802	...	101
2002	45	912	...	1 280	...	—	4 115	...	4 761	...	...
2003	39	866	...	1 756	...	...	...	...	3 845	...	133
2004	29	953	...	1 416	...	...	2 977	...	3 142	...	99
2005	9	...	...	1 474	...	...	1 829	1 912	3 471	...	100
2006	...	1 260	...	1 495	...	...	...	1 909	4 460	...	85
2007	13	...	...	1 584	...	...	...	1 767	...	...	89
2008	...	...	341	1 357	—	...	...	926	4 222	...	85

(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 1997–2008

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	Uncoated						
1997	—	41	—	86	...	—	20	...	107	...	...
1998	...	38	—	53	...	—	10	...	123	...	(e) 125	
1999	(e) 4	...	—	80	...	—	11	...	144	...	...
2000	...	...	—	90	...	—	17	...	149	...	...
2001	...	...	—	127	...	—	24	...	126	...	148
2002	1	26	...	96	...	—	12	...	119	...	...
2003	...	30	...	104	...	—	...	...	98	...	174
2004	...	77	...	112	...	—	4	...	79	...	136	
2005	...	...	...	103	...	—	9	29	111	12	113
2006	...	44	...	77	...	—	...	30	128	...	...
2007	...	...	...	85	...	—	...	39	...	...	...
2008	...	...	—	78	...	—	...	136	23	...	...

(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	Environmental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
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
1 898	5 684	...	...	...	112	...	667	...	60 738

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environmental 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
...	1 238	—	—	—	—	...	—	...	12 114

Thousand tonnes

									Total
Iron and steel	Cement	Chemical uses	Building materials	Environmental uses (d)	Glass making	Asphalt filler (b)	Other fillers (c)	Other uses	
—	...	...	...	...	—	...	...	—	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
—	...	—	—	—	—	...	...	...	1 473

Great Britain consumption of dolomite, limestone and lime in iron and steel production, 1975–2008

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
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	—	—	585	—
2008	166	254	—	1 664	—	—	496	—

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.

Great Britain production of dolomite by end-use and area of origin 2008

Thousand tonnes

Area of origin	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
North East	...	2 123	...	...	2 911
Yorkshire and the Humber	...	656	...	...	...
East Midlands	—	...	...	...	...
England	2	...	539	...	...
Wales	—	...	—	—	...
Scotland	—	...	...	—	...
Great Britain	2	3 918	...	...	5 510

(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 1996–2008

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
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
2008	2	3 918	...	...	5 510

(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 1996–2008

Thousand tonnes

Year	Building stone	Constructional use (a)	Agricultural use (b)	Other uses (b)	Total
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	...	...
2008	2	...	539	...	...

(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 2008

Thousand tonnes

Area of origin	Cement	Construc- tional use	Agricultural use	Industrial uses	Total
Humberside	...	352	15	...	2 571
North Yorkshire	—	41	8	—	49
Yorkshire and the Humber	...	393	23	...	2 620
Lincolnshire	—	—	...
East Midlands	—	—	...
Cambridgeshire	284
Norfolk	—	—	...	—	...
Suffolk	—	—
Essex	—	—	...	—	...
Hertfordshire	—	—	35	—	35
Bedfordshire	...	—	—	—	...
East of England	128	...	...
Kent	...	5	42	—	...
West Sussex	—	22	18	20	60
Hampshire	—	—	...
Surrey	—	—	...	—	...
Isle of Wight	—	15	...	—	...
South East	20	498
Devon	—	—	...	—	...
Wiltshire	...	—	—	10	...
South West	...	—	...	10	...
Great Britain (England)	...	497	...	...	5 874

Source: Office for National Statistics.

England production of chalk by end-use 1996–2008

Thousand tonnes

Year	Cement	Construc- tional use	Agricultural use	Industrial uses	Total
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
2008	...	497	...	...	5 874

(a) BGS estimate.

Source: Office for National Statistics.

Lithium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Lithium										
<i>Imports</i>										
Oxide and hydroxide	498	446	385	614	932	950	1 299	1 364	2 212	1 764
Carbonate	490	657	650	779	1 072	808	1 158	1 525	2 150	1 804
<i>Exports</i>										
Oxide and hydroxide	285	125	94	92	232	288	289	288	389	494
Carbonate	160	203	271	158	216	238	396	723	572	377

Magnesia

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Magnesia										
<i>Imports</i>										
Dolomite	170 916	218 932	111 177	146 587	146 620	3 690	4 032	3 135	3 721	4 954
Magnesite	11 187	13 896	10 644	10 194	14 032	1 396	1 843	1 076	969	906
Magnesia-										
Dead burned	29 362	14 934	5 366	22 256	14 239	6 315	3 987	2 145	4 453	4 028
Caustic-calcined	38 708	49 037	44 641	35 650	40 402	5 549	8 004	6 937	5 335	7 824
Other	15 469	14 872	14 890	7 276	4 659	5 503	4 135	4 824	3 805	4 186
Kieserite	11 463	52 658	150 248	230 504	14 047	1 336	1 722	2 421	2 841	2 506
Magnesite or chrome-magnesite										
refractory bricks and shapes (a) (b)	50 259	35 280	27 792	30 884	29 876	19 703	16 519	18 171	18 886	19 800
<i>Exports</i>										
Dolomite (c)	...	144 707	47 360	4 642	4 786	...	5 106	2 230	252	249
Magnesite	49	87	26	51	316	59	42	48	129	169
Magnesia-										
Dead burned	3 514	2 273	1 612	2 022	1 287	1 831	1 488	896	952	713
Caustic-calcined	2 283	2 712	3 160	2 632	1 778	2 124	2 457	2 771	2 185	1 064
Other	18 999	15 092	14 264	11 717	10 582	14 169	11 935	12 074	10 262	10 411
Magnesite or chrome-magnesite										
refractory bricks and shapes (a) (b)	13 132	5 333	3 619	2 409	1 364	5 346	5 045	3 826	2 189	2 091

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

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

Magnesium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Magnesium										
<i>Consumption</i>										
Magnesium and alloys	...	...	...	...	...
<i>Imports</i>										
Ferro-silico-magnesium	4 969	5 448	3 810	2 303	1 614	2 418	2 754	1 738	1 168	1 744
Scrap	2 352	2 389	1 982	2 721	1 685	1 465	966	780	789	816
Unwrought	3 732	5 322	6 408	5 201	3 813	4 184	5 567	6 325	6 229	8 700
Unwrought alloys	5 737	7 954	7 197	3 904	3 618	6 429	8 628	7 376	4 557	8 351
Wrought	3 216	3 187	3 077	3 602	4 750	10 679	7 724	7 600	8 208	16 710
<i>Exports</i>										
Ferro-silico-magnesium	316	542	653	917	976	213	409	441	807	1 231
Scrap	181	1 933	1 772	2 398	2 222	173	1 702	1 413	2 938	4 439
Unwrought	380	650	209	8	38	605	808	275	82	220
Unwrought alloys	5 599	5 537	4 872	4 911	4 062	13 195	13 258	12 601	11 559	14 155
Wrought	273	282	605	1 533	1 333	2 738	2 873	3 084	5 448	5 856

Manganese

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Manganese										
<i>Consumption in Iron and Steel Industry</i>										
Ore	6 400	2 900	6 000	3 300	4 100					
Ferro-manganese	95 490	92 120	96 770	100 100	93 990					
Ferro-silico-manganese	23 080	22 170	23 620	24 430	22 940					
<i>Apparent consumption (a)</i>	116 000	107 000	118 000	125 000	123 000					
<i>Imports</i>										
Ores and Concentrates	2 585	698	8 458	1 569	8 266	1 140	244	431	433	1 045
Ferro-manganese	91 533	...	86 598	100 694	96 461	55 380	38 427	37 430	57 728	130 012
Ferro-silico-manganese	63 935	57 136	59 985	56 036	52 966	34 837	24 041	23 440	29 887	59 497
Scrap	0	0	1	60	751	0	1	1	99	1 528
Unwrought	8 898	7 858	8 169	6 728	7 895	8 309	8 199	6 752	9 303	15 160
Wrought	291	365	394	232	126	363	533	542	599	535
Oxides	5 808	7 232	7 216	9 646	7 913	1 628	1 995	1 813	1 979	3 348
<i>Exports</i>										
Ores and Concentrates	137	64	200	114	244	347	40	192	88	207
Ferro-manganese	1 554	660	946	1 136	2 421	1 734	1 297	949	1 359	1 293
Ferro-silico-manganese	8 247	5 003	60	7	49	5 075	1 513	90	11	27
Scrap	62	...	0	...	314	24	...	1	...	103
Metal (b)	6 300	3 100	2 000	2 100	6 200	3 700	4 200	2 400	3 600	6 100
Oxides	3 286	3 440	6 284	3 785	4 571	1 106	957	1 529	1 026	1 597

(a) BGS estimates; see p.v.

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

Marble

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Marble										
<i>Imports</i>										
Dimension stone-										
Unworked	29 893	63 046	32 609	37 404	37 444	14 655	18 901	17 463	20 144	21 150
Worked	69 920	77 698	100 555	111 039	114 870	46 701	52 806	65 977	63 620	74 273
Crushed and powdered	112 938	169 551	245 601	248 711	233 499	3 476	4 344	10 242	11 217	12 482
<i>Exports</i>										
Dimension stone-										
Unworked	2 362	2 126	1 549	2 227	1 019	203	287	184	553	264
Worked	1 658	2 905	4 068	4 740	2 934	3 726	4 951	6 441	7 319	5 292
Crushed and powdered	2 786	2 834	1 176	3 229	2 637	247	173	213	641	484

Mercury

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Mercury										
<i>Imports</i>										
Elemental	28	32	2	3	2	169	314	107	91	57
Oxide	0	0	0	0	...	4	3	2	...	...
<i>Exports</i>										
Elemental	3	191	79	4	6	59	996	491	59	102
Oxide	0	0	1	...	...	4	1	10	...	...

Mica

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Mica										
<i>Imports</i>										
Crude (a)	1 769	296	251	289	377	362	125	108	92	129
Ground	6 286	6 684	5 856	6 705	7 061	1 700	1 710	1 824	1 831	2 308
Waste	4 374	4 485	3 474	3 433	2 030	475	563	404	476	336
Worked	598	1 809	726	919	1 310	3 314	4 141	4 861	4 277	5 357
<i>Exports</i>										
Crude (a)	—	22	0	2	14	—	43	1	2	28
Ground	9 354	4 030	4 593	3 818	4 735	3 998	2 782	4 694	2 835	3 612
Waste	23	0	...	0	...	9	14	...	6	...
Worked	375	361	412	629	690	3 526	4 517	4 844	6 065	8 310

(a) Including sheets or splittings.

Molybdenum

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Molybdenum										
<i>Consumption in Iron and Steel</i>										
Industry (a)	2 120	2 040	2 140	2 390	2 700					
<i>Apparent consumption (a) (b)</i>	4 000	7 100	7 900	5 400	4 000					
<i>Imports</i>										
Roasted molybdenite concentrates	16 779	16 916	16 591	15 215	13 075	94 531	188 684	214 773	271 386	312 431
Other ores and concentrates	1 592	1 684	2 441	3 165	2 055	12 384	37 649	44 661	47 323	45 898
Ferro-molybdenum	836	861	640	515	369	6 862	14 352	15 250	13 635	9 489
Scrap	668	1 036	899	751	846	8 298	31 807	23 074	16 698	22 499
Powders	65	143	436	58	69	634	695	923	1 436	3 060
Unwrought	101	135	145	192	102	1 559	5 955	4 978	5 788	3 855
Wrought	1 020	1 563	1 965	389	1 085	6 733	9 077	7 393	7 978	33 571
Oxides and hydroxides	2	630	635	513	1 433	46	26 908	21 064	19 655	32 752
<i>Exports</i>										
Roasted molybdenite concentrates	106	119	100	6	3	1 246	2 981	427	122	72
Other ores and concentrates	74	60	66	72	61	318	518	700	720	1 145
Ferro-molybdenum	14 213	11 501	12 004	11 823	11 283	150 295	318 935	262 368	263 672	284 904
Scrap	116	450	259	207	217	1 672	10 788	5 638	3 971	5 848
Powders	17	52	17	14	—	269	857	359	55	34
Unwrought	26	47	1	2	2	375	413	38	121	54
Wrought	153	129	318	13	22	2 158	4 151	8 202	1 833	2 197
Oxides and hydroxides	86	2	...	2	8	1 106	941	3	5	109

(a) Metal content.

(b) BGS estimates; see p.v.

Nepheline syenite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Nepheline syenite										
<i>Imports</i>	49 731	47 672	81 960	40 484	44 275	4 204	4 052	4 201	3 617	4 355
<i>Exports</i>	45	38	557	2 430	902	21	14	271	635	520

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 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. Recent exploration has focused on identifying anomalous zones for follow-up work. Lonmin currently has ten licences in Northern Ireland, having relinquished two during 2009.

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

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Nickel										
<i>Production (a)</i>	38 606	37 600	36 750	34 050	38 700					
<i>Consumption (c)</i>										
Iron and steel industry	16 800	14 380	13 370	12 450	12 140					
Other (b)	15 700	18 000	19 000	20 000	20 000					
Total (d)	32 470	32 400	32 400	32 400	32 400					
<i>Imports</i>										
Mattes, sinters etc.	64 192	57 492	56 336	62 637	63 553	237 464	253 895	369 361	735 537	3 550
Ash and residues	24	...	50	0	0	157	...	8	13	6
Scrap	8 957	10 927	7 975	10 376	10 291	22 876	31 417	37 625	55 794	53 910
Ferro-nickel	14 628	11 325	13 169	14 960	16 520	28 544	22 137	34 683	70 052	44 805
Unwrought	45 264	24 019	17 414	21 044	16 888	240 872	195 283	237 631	412 993	182 155
Unwrought alloys	2 238	1 629	2 883	2 947	3 210	16 763	12 304	27 115	37 999	38 922
Oxides	103	277	59	49	13	704	1 780	534	773	158
<i>Exports</i>										
Mattes, sinters etc.	964	196	517	40	26	2 641	1 520	3 612	575	902
Ash and residues	18	1 246	4 331	15 623	13 588	74	12 019	25 412	107 080	74 891
Scrap	10 465	14 119	15 555	16 872	18 229	29 820	46 495	50 350	70 146	74 878
Ferro-nickel	125	55	329	52	81	756	873	1 471	1 378	1 779
Unwrought	38 249	38 524	31 610	24 147	26 235	236 559	267 251	314 738	458 448	324 550
Unwrought alloys	4 710	6 141	6 486	4 375	4 378	38 881	62 045	75 063	80 199	72 035
Oxides	10	3	7	8	19	115	38	101	85	316

(a) Nickel content of refinery products.

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

(c) Metal content.

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

Niobium (see Tantalum and Niobium)

Peat

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Thousand cubic metres					£ thousand				
Peat										
<i>Production</i>	1 262	1 505	1 593	885	760					
<i>Imports</i>										
Peat and agglomerated peat	539 854	426 908	433 419	508 843	430 590	30 001	28 463	22 332	24 861	26 555
<i>Exports</i>										
Peat and agglomerated peat	32 776	32 219	20 736	33 514	41 645	3 637	3 631	3 544	4 249	4 859

Perlite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Perlite										
<i>Imports</i>	91 914	34 450	101 910	150 255	45 064	2 294	2 624	3 357	3 200	3 304
<i>Exports</i>	7 256	938	885	947	702	437	163	201	218	74

Petroleum and natural gas (also see Primary fuels)

Compared to the previous 12 months, the calendar year 2009 witnessed a completely different pattern in the price of a barrel of oil. In 2008 Brent crude started the year at \$96 per barrel, climbed to \$147 in mid summer and declined to \$45 by year-end. By contrast, in 2009 the oil price rose steadily from \$45 per barrel at the beginning of January to nearly \$80 by year-end with only relatively minor fluctuations along the way. This may have been due to the global recession which subdued demand. However, when world economies recover, significant upward pressure on the oil price will return.

ICE Brent Crude — daily closing December 2008 to December 2009

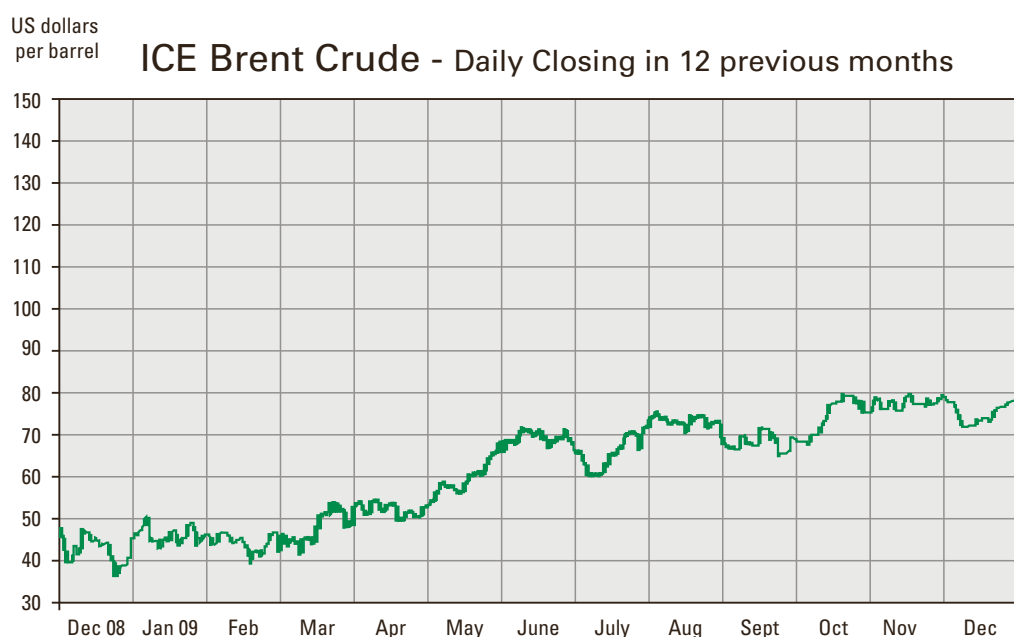


Figure 1 The price of a barrel of Brent crude through 2009. A steadily-rising trend saw Brent crude reach nearly \$80 per barrel by year end. However this was significantly less than the maximum reached in 2008 (c. \$147 per barrel).

In his April budget the Chancellor, Alistair Darling, introduced a number of tax incentives to encourage investment in the North Sea particularly in the development of small fields, heavy-oil fields and high-pressure, high-temperature fields in a relatively low oil price economy. The net effect will depend on worldwide oil prices, but it is likely that up to 50 small fields will now become economically viable, yielding between 350 and 450 million boe (barrels of oil equivalent) which would otherwise remain under the sea bed.

In July, Oil & Gas UK published its 2009 annual economic report. It predicted that even if 20 per cent of the UK energy budget is met by renewable sources by 2020, then 70 per cent will still have to come from oil and gas with only 40 per cent of this being delivered from the UK Continental Shelf (UKCS). The industry provided direct or indirect employment for 450 000 people and paid £12.9 billion in corporation tax to the Treasury in the 2008–09 financial year. Total expenditure on exploration, developments and operations over the last 40 years is estimated at £415 billion. The importance of the industry to the overall UK economy cannot be overestimated.

In October, a report by Deloitte and Douglas Westwood estimated that within the next 10 years 65 per cent of fields currently active on the UKCS are due to be decommissioned. This will require a number of economic, tax, legal and environmental aspects to be addressed as some 470 installations, 10 000 km of pipelines, 15 onshore terminals and 5000 offshore wells will have to be dismantled. The final cost for the whole of the UKCS may eventually reach £25 billion.

In November the Department for Energy and Climate Change (DECC) published updated figures (to the end of 2008) for UK ranges of estimated hydrocarbon reserves and ultimate recovery. These were based on data provided by companies between January and March 2009 and included both onshore and offshore areas.

	Proven	Probable	Proven and probable	Possible	Maximum
Total oil reserves ¹	408	361	770	360	1130
Estimated ultimate recovery ¹	3723	361	4084	360	4444
Total gas reserves ²	292	309	601	306	907
Estimated ultimate recovery ²	2517	309	2826	306	3132

1 millions of tonnes

2 billion cubic metres

Cumulative production to end 2008 is 3315 million tonnes of oil and 2225 billion cubic metres of gas. The Central North Sea (56°–59°N) is seen as potentially having the most undiscovered recoverable resources on the UKCS with up to 550 million barrels of oil and 349 tcf (trillion cubic feet) of gas remaining to be produced.

Development and production

Eleven development wells were spudded onshore in 2009 (including three sidetracks). This is the lowest number since 2000.

Offshore, a total of 130 development wells were started (including 53 sidetracks) which is the lowest number for many years. Half of these were drilled in the Central North Sea with most of the rest in the Northern North Sea.

In February, approval was granted to Egdon Resources for redevelopment of the onshore Kirklington oilfield in Nottinghamshire. Offshore there were six new approvals:

Name of field	Field type	Block number	Operator at time of approval	When approved
Auk North	Oil	30/16	Talisman	January
Bardolino	Oil	22/13a	Shell	June
Burghley	Oil	16/22	Talisman	October
Babbage	Gas	48/2a	E.ON Ruhrgas	January
Topaz	Gas	49/1	RWE Dea	March
Seven Seas	Gas	48/7c	Centrica	March

Approvals for three incremental projects associated with existing offshore fields were also given in 2009. In the period from the beginning of January 1976 to the end of December 2009 there have been 178 oil field, 144 gas field and 32 condensate field approvals. A total of 373 approvals have been issued for offshore hydrocarbon fields.

The Buzzard oil field in the outer Moray Firth was the biggest oil producing field on the UKCS averaging over 184 200 bpd (barrels per day). This was more than the combined total of the next three biggest fields: Forties (average 63 218 bpd), Clair (50 957 bpd) and Elgin (46 247 bpd). Wytch Farm in Dorset was again the biggest onshore producing oil field, averaging 20 756 bpd. Although down slightly on 2008, this was far more than the combined production from all other onshore fields. The Welton (near Lincoln) and Stockbridge (Hampshire) fields were the next biggest onshore producers.

The largest gas producing field was again Morecambe South, which averaged 212 MMscfd (million standard cubic feet per day). Apart from the Rough storage facility, the combined Leman fields at 186 MMscfd and Goldeneye (103 MMscfd) were the next biggest producers.

Morecambe South was also the biggest condensate producer at 790 MMscfd followed by Chiswick (743), Shamrock (675), Cutter (605) and Caravel (575).

The calendar year 2009 witnessed a much smaller number of new fields coming on stream than in the previous 12 months. Those fields which produced their first hydrocarbons were:

Field name	Field type	Block number	Operator	Date on stream
Avington Kirklington redevelopment	Oil	Onshore	Star Energy	January
Jacky	Oil	Onshore	Egdon Resources	March
West Don	Oil	12/21c	Ithaca	April
Don South West	Oil	211/18	Petrofac	April
Shelley	Oil	211/18a	Petrofac	June
Affleck	Oil	22/2b	Premier	August
Ettrick	Oil	30/19	Maersk	August
Rita	Gas	30/19	Nexen	August
Topaz	Gas	44/22c	E. ON Ruhrgas	March
	Gas	49/1	RWE Dea	November

By May the Jacky field was producing 8800 bpd of 38.9° API oil from the Beatrice 'A' Sand. Oil is processed through the Beatrice A platform where the small amount of gas produced with the oil is flared off. Estimates suggest that Jacky contains 5.1 million barrels of oil in place and that field life is in the order of 5.5 years.

The West Don and Don Southwest fields in the Northern North Sea came on stream in 2009. Both produce from Jurassic Brent Group sandstones using water injection to aid lift. Initially export was via shuttle tanker but oil will eventually be routed via the Thistle platform. By year end, nearly 100 000 barrels had been produced.

The Shelley oil field, in the Palaeocene Forties Sandstone, was originally discovered in 1984 by well 22/2-2 but then remained plugged for 20 years. In 2009 it was developed using two wells producing to a cylindrical floating production, storage and offloading (FPSO) vessel (66 metres long by 60 metres wide). There are an estimated 20 MMbbl (million barrels) of recoverable reserves and field life may be up to 25 years.

The Affleck field was discovered in 1974. The chalk reservoir is contained in a 4-way dip closure associated with a salt diapir. Production is via a new 28 km-long tieback pipeline to the Janice floating production unit and from there to Teesside. Produced gas goes to the Clyde platform and then the St Fergus onshore terminal. Field life is estimated at 13 years.

Ettrick was discovered in 1981 and was appraised by seven wells between 1982 and 1985. The field is mainly within Upper Jurassic Ettrick sandstones. Field development comprises five subsea production wells, linked to a FPSO, and three water injectors. Average production rate is aimed at 20 000 bpd.

Two gas fields came on stream in 2009. The Rita field was the first to be developed on the UKCS by E.ON Ruhrgas as an operator. The gas is transported through a new 14 km pipeline to the Hunter facility for onward transmission to the Theddlethorpe terminal. The Topaz field was developed as a single well tieback to the Schooner field 15 km to the north. The base reserves estimate is 20 bcf (billion cubic feet) with an initial production rate of 30 MMscfd (million standard cubic feet per day).

Exploration (including appraisal)

Thirteen onshore exploration wells were started in 2009. This is slightly more than in the previous year. Most were in northern England with Lincolnshire seeing the most activity. Composite Energy spudded more wells than any other company. Only two onshore appraisal wells were started in 2009.

Offshore, 23 exploration wells were spudded. This is half the number started in 2008. As usual, most were drilled in the Central North Sea.

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

Well	Hydrocarbon type	Discovery operator at end of 2009	Date of Discovery
20/1-8	Oil	Nexen	February
22/17-4Z	Oil	Talisman	February
22/22a-7	Oil	Talisman	June
205/21a-4	Oil	Hurricane	October
21/10-A52	Oil and gas	Apache	October
204/13-1	Oil and gas	OMV	October
3/14d-18	Gas condensate	Total	November
110/3b-6A	Gas	Venture	August
214/30a-2	Gas	DONG	September
113/27b-6	Gas	Centrica	December

Notably, exploration in the Central North Sea and West of Shetland areas proved to be the most rewarding.

In the Central North Sea, Talisman made two further discoveries in the Montrose-Arbroath hub area to add to their nearby Cayley discovery in 2007. Well 22/17-4Z drilled the Godwin prospect and yielded a sustained 7500 bpd from an Upper Jurassic Fulmar Sand reservoir, whereas the Shaw prospect was drilled by well 22/22a-7 and produced 4800 boe under test. The first sidetrack, 7Z, yielded 7700 bpd of 42° API oil. Shaw has an estimated 100 million barrels of oil in place. Nexen tested the Hobby prospect with well 20/1-8 which flowed at a restricted rate of 5500 bpd from a Jurassic reservoir. The discovery was immediately appraised with two sidetracks. The northern part of block 20/1, designated the Golden Eagle development area, has between 150 and 275 boe in place.

West of Shetland, all three significant discoveries were made by companies acting as operators in this area for the first time. Hurricane's Lancaster prospect, drilled by well 205/21a-4, was the first time that basement rocks had been specifically targeted on the UKCS as the principal potential reservoir. Oil with specific gravity of 34–39° API was proved which is significantly lighter, and easier to produce, than that in the nearby Clair field. The well discovered oil below the originally-mapped structural closure and, as a result, was drilled deeper than the original proposed total depth (TD). The basement was fractured and permeable and the oil flowed to surface under its own energy. The Lancaster prospect will be re-visited in 2010 for more tests. The Glenlivet prospect, drilled by DONG's 214/30a-2 well, discovered gas in 61 metres net pay interval within Paleocene sandstones. Two sidetracks were immediately drilled to appraise the discovery. A similar reservoir horizon yielded hydrocarbons in OMV well 204/13-1 which was drilled to a true vertical depth of 2743 metres in 1048 metres of water in order to test the Tornado prospect. The reservoir interval was 27.4 metres thick in this well with an average porosity of 28.5 per cent. A sidetrack well was drilled to 2610 metres to appraise the discovery penetrating about 36 metres of sandstone reservoir with a porosity reading of 29 per cent, slightly higher than that recorded in 204/13-1. The thickness, quality and extent of the reservoir are reportedly in line with pre-drill expectations.

Forty-two appraisal wells (including 24 sidetracks) were spudded in 2009, approximately one-third down on the previous year. More than half were drilled in the Central North Sea.

In early February 2009, Rochelle appraisal well 15/27-11 achieved flow-rates of 41 MMscfd of gas and 2 300 bpd of oil-condensate via a 72/64-inch choke. A 6 metres interval at the top of a 23.5 metres net pay section within the Lower Cretaceous Kopervik sandstone was tested. The well reached a final TD of 3160.5 metres. Following this successful appraisal, Endeavour plans to proceed with the development of the Rochelle discovery which is located in the Outer Moray Firth.

Completed in late March 2009, Vulcan appraisal well 48/25c-6 (TD 2 411 metres) operated by Silverstone encountered a substantial gas column within a Rotliegendes target. However, the target interval was found to have low permeability and porosity and the gas–water contact was higher than expected which reduced reserves to levels around 25 bcf which is considered to be non-commercial.

GDF Suez carried out two successful appraisals of the Cygnus prospect in the Southern North Sea Basin with wells 44/12a-3 and 4 completed in February and April 2009 respectively. Cygnus is a large multi fault-block accumulation discovered by well 44/12-1, which encountered gas only in a Lemn sandstone reservoir. Well 44/12a-3, drilled in a separate fault block reached a TD of 3 790 metres and proved gas reservoired in the primary Lemn reservoir and also a secondary Carboniferous target. On testing, low flow rates within the Lemn Sandstone reservoir were within pre-drill expectations but the Carboniferous interval tested gas at a rate of 32 MMscfd. The operator believes this appraisal has proven that the Carboniferous reservoir alone contains reserves in excess of 100 bcf which was significantly higher than anticipated. The well has also provided more information on the quality of the Lemn and Carboniferous reservoirs, the latter substantially exceeding expectations. Appraisal well 44/12a-4 was drilled 8 km north-west of 44/12a-3 in a third fault block in the north-east of the field. The well was drilled to a final TD of 3 744 metres after encountering 19 metres of gas-bearing reservoir within the Lemn Sandstone Formation. A stabilised flow-rate of 32 MMscfd from the Lemn Sandstone was obtained. GDF and its partners are already working on a first phase development plan that is expected to be approved later this year, with first gas expected in late-2010 or 2011. The operators believe that Cygnus is one of the largest undeveloped gas fields in the UK Southern North Sea.

In July, Venture Production drilled the successful Marram appraisal well 110/4-2 which is located in the East Irish Sea Basin. The well encountered a 143 metres gross gas column before reaching a TD of 616 metres. The gas is reservoired within the Ormskirk Sandstone Formation, but was not tested. However, initial results indicate reservoir quality is in line with pre-drill expectations. The gas has significant nitrogen content, but other fields in the area are being successfully developed despite a nitrogen presence. Once Marram results have been fully evaluated potential development options can be considered. Marram, on trend with the producing Hamilton and Lennox fields, contains recoverable reserves of up to 14 MMboe.

Licensing

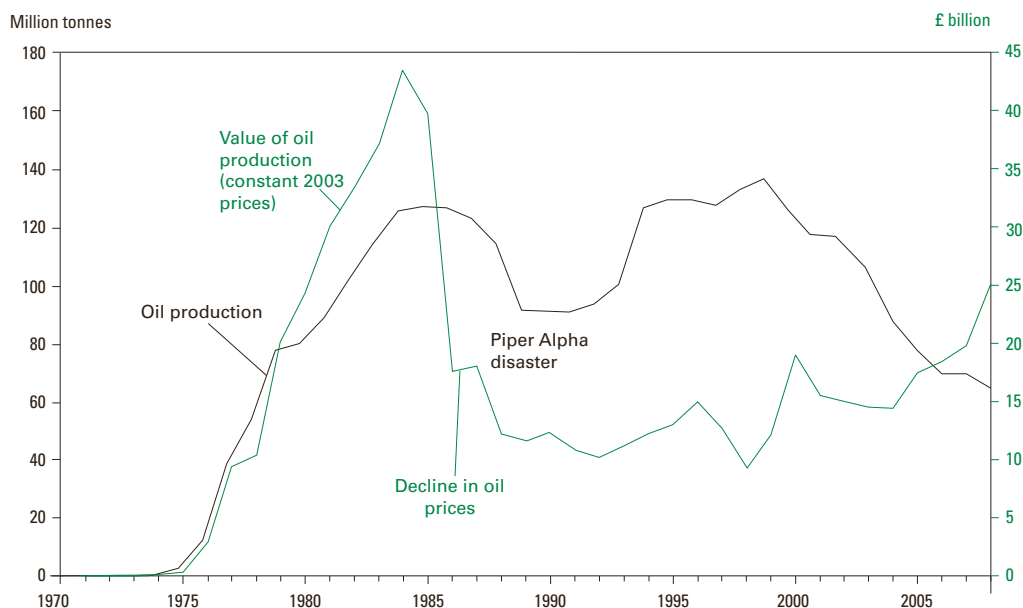
In January DECC published a new listing of Fallow Blocks and Discoveries. This tenth release added 36 new Fallow Blocks and eight new Fallow Discoveries to the list.

The onshore 'out of round' licence opportunity, originally announced by DECC in December 2008, for companies to bid for an area north of Portsmouth (Ordnance Survey block SU60) resulted in a single jointly-submitted application from Encore Oil plc, NP Weald Ltd, Oil & Gas Investments Ltd and Magellan Petroleum (N.T) Pty Ltd which was successful.

The year also saw 195 offshore licences, affecting 320 blocks or part blocks, surrendered either on a voluntary or mandatory basis.

No onshore or offshore round of licensing was announced by DECC in 2009. This was to give companies 'a breather' after several closely-spaced annual offshore rounds and to allow time for companies to arrange financial support for future licence applications. The 26th Seaward Licensing Round was launched by DECC on the 27 January 2010 with a closing date of 28 April 2010.

United Kingdom production and value of oil, including condensate 1971–2008



United Kingdom production of onshore crude petroleum and natural gas by fields 1997–2008

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
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	4
Cold Hanworth	—	2	2	1	4	13	20	15	7	7	10	8
Crosby Warren	4	4	1	0	3	3	3	2	2	2	3	3
Ewt Onshore	—	—	—	1	0	1	1	1	—	—	—	—
Farleys Wood	0	1	0	0	0	0	0	0	0	0	0	0
Fiskerton Airfield	—	1	19	18	5	1	0	0	0	0	0	—
Glentworth E	1	2	2	1	1	1	1	2	4	3	3	2
Goodworth	1	3	2	2	2	2	2	2	2	1	1	1
Herriard	2	1	1	1	—	1	2	1	1	1	0	0
Horndean	15	14	13	10	9	8	11	9	9	8	8	8
Humbly Grove	37	29	24	14	16	11	13	15	15	9	6	12
Keddington	—	2	5	3	1	1	2	2	1	0	1	2
Kirklington	0	0	—	—	—	—	1	0	0	0	0	0
Lidsey	—	—	—	—	—	—	—	—	—	0	0	1
Long Clawson	8	9	10	9	8	9	9	9	9	7	8	7
Nettleham	6	9	7	5	3	3	4	3	2	2	2	1
Newton-on-Trent	—	—	2	1	0	0	0	0	—	—	—	—
Palmers Wood	23	19	10	10	12	15	11	7	7	4	4	4
Rempstone	3	2	2	1	1	1	1	1	0	1	1	0
Scampton	2	0	0	0	0	0	0	0	1	1	1	1
Scampton N	17	12	11	11	11	10	9	9	8	7	7	9
Singleton	36	27	21	21	23	22	20	22	20	25	24	21
Stainton	1	1	0	1	1	1	1	1	0	1	1	1
Stockbridge	79	110	87	42	42	37	36	38	34	42	26	22
Storrington	—	14	15	8	4	20	21	20	10	11	8	5
Wareham	32	20	21	15	19	9	6	9	8	3	0	3
Welton	150	123	90	87	77	64	58	54	54	46	41	39
West Firsby	27	17	10	8	5	6	4	6	6	5	4	5
Whisby	0	0	0	0	0	0	5	9	7	—	—	—
Wytch Farm	4 481	4 690	3 867	2 919	2 656	2 381	1 915	1 649	1 394	1 139	1 042	1 055
Other	23	51	44	42	39	34	38	37	34	29	30	26
Total	4 949	5 161	4 269	3 234	2 944	2 654	2 194	1 929	1 642	1 360	1 234	1 240
Gas fields												Million cubic metres
Wytch Farm	242	156	149	111	115	108	82	73	61	46	34	44
Others	146	179	140	106	91	65	90	49	56	44	77	52
Total (a) (b)	388	335	289	217	205	173	172	122	117	90	111	97

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

(b) Other than colliery methane.

Source: Department of Energy and Climate Change.

United Kingdom production of offshore crude petroleum and natural gas by fields 1997–2008

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Oil fields	Thousand tonnes											
Alba	4 850	4 381	3 993	4 156	4 319	3 329	4 501	3 645	3 147	2 800	2 275	1 874
Alwyn N	966	1 078	1 093	891	808	704	551	449	433	307	321	260
Andrew	2 798	3 244	3 298	2 540	1 856	1 542	1 250	865	847	507	611	519
Angus	—	—	—	—	168	323	112	85	62	25	0	0
Arbroath	1 109	1 115	1 100	931	778	675	533	589	497	363	342	196
Ardmore	—	—	—	—	—	—	181	404	106	—	—	—
Arkwright	462	300	185	261	253	227	255	202	107	92	164	155
Atlantic	—	—	—	—	—	—	—	—	—	38	72	50
Auk	647	784	621	558	392	421	366	308	219	230	129	181
Balmoral	467	392	354	275	292	219	185	94	129	93	83	35
Banff	278	—	1 102	711	834	546	665	432	330	263	344	282
Beatrice	151	365	194	137	97	357	270	212	185	106	98	54
Beaully	—	—	—	—	480	394	213	94	99	57	44	21
Beinn	286	214	116	30	47	93	75	61	32	37	25	16
Beryl	3 748	2 961	2 296	1 621	1 541	1 559	1 356	1 198	1 092	1 141	781	582
Birch	768	500	226	94	101	0	9	173	196	188	139	68
Bittern	—	—	—	1 150	2 404	2 346	2 330	2 103	1 785	1 435	1 154	671
Bladon	108	283	145	32	—	—	—	—	—	—	—	—
Blair	—	—	—	—	—	—	—	—	—	—	—	—
Blake	—	—	—	—	1 024	2 024	1 733	1 565	1 245	1 173	1 060	793
Blane	—	—	—	—	—	—	—	—	—	—	187	537
Blenheim	399	219	141	38	—	—	—	—	—	—	—	—
Brae Central	385	475	288	242	169	183	227	206	379	261	172	193
Brae E	2 074	1 459	1 192	837	593	374	269	209	166	136	92	85
Brae N	363	412	335	280	262	228	250	166	89	111	97	44
Brae S	443	412	268	250	275	208	143	183	215	240	294	242
Brae W/Sedgwick	159	1 627	1 505	1 633	1 435	1 159	883	744	911	698	615	476
Braemar	—	—	—	—	—	—	46	245	239	196	166	166
Brechin	—	—	—	—	—	—	—	—	141	161	110	67
Brenda	—	—	—	—	—	—	—	—	—	0	493	656
Brent	6 264	6 054	4 536	3 538	2 843	1 925	1 122	766	474	395	329	327
Brimmond	60	80	48	48	31	34	16	8	0	0	0	0
Britannia	—	555	1 848	1 618	1 319	1 032	998	899	762	572	506	323
Broom	—	—	—	—	—	—	—	480	1 248	920	702	557
Bruce	1 289	898	1 845	1 647	1 448	1 328	1 212	744	638	454	356	284
Buchan	445	402	344	351	385	348	340	366	337	323	284	296
Buckland	—	—	474	1 601	1 141	643	566	373	269	211	136	64
Buzzard	—	—	—	—	—	—	—	—	—	—	7 262	9 938
Caledonia	—	—	—	—	—	—	406	244	116	43	18	7
Captain	1 461	2 836	2 525	2 458	3 107	3 109	2 974	3 580	2 644	2 363	2 782	2 357
Carnoustie	—	—	—	—	—	—	—	—	20	5	3	3
Chanter	48	15	7	8	6	4	2	4	2	0	32	6
Chestnut	—	—	—	—	—	—	—	—	—	—	—	155
Clair	—	—	—	—	—	—	—	0	691	1 299	1 525	2 385
Clapham	—	—	—	—	—	—	0	416	367	252	238	140
Claymore	2 096	1 818	1 658	1 564	1 411	1 425	1 268	1 394	1 237	1 201	1 101	743
Clyde	698	638	586	450	400	348	297	287	276	224	164	113
Columba B & D	511	319	243	538	931	543	481	558	378	232	186	131
Columba D	332	169	88	—	—	—	—	—	—	—	—	—
Columba E	—	217	170	153	136	112	73	296	182	94	96	38
Cook	—	—	—	406	876	796	544	531	456	385	166	169
Cormorant N	1 477	1 638	1 541	1 513	1 469	1 110	923	659	669	628	535	443
Cormorant S	1 012	820	1 023	915	626	597	395	171	179	348	164	228
Crawford	—	—	—	—	—	—	—	—	—	—	—	—
Curlew	86	1 438	1 508	817	386	218	212	179	219	243	171	115
Curlew C	—	—	—	—	—	—	—	—	—	—	—	73
Cyrus	603	541	402	253	181	190	141	119	115	30	55	46
Dauntless	197	308	38	—	—	—	—	—	—	—	—	—
Deveron	26	52	40	10	11	19	19	24	25	14	12	9
Don	108	100	89	69	45	19	2	0	0	0	—	—
Donan	193	—	—	—	—	—	—	—	—	—	—	—
Donan Maersk	—	—	—	—	—	—	—	—	—	—	1 591	1 198
Douglas	1 604	1 324	937	779	1 118	918	645	526	406	344	344	342
Douglas W	—	—	—	—	—	—	205	100	93	26	0	0
Drake	80	282	317	261	226	193	75	47	23	33	24	25
Duart	—	—	—	—	—	—	—	—	—	—	67	176
Dunbar	2 491	2 101	1 886	1 627	1 440	1 540	1 093	855	618	661	579	315
Dunlin	807	643	627	525	574	468	308	181	221	186	123	65
Dunlin SW	197	236	232	109	88	84	54	33	50	48	41	39
Durward	273	589	45	—	—	—	—	—	—	—	—	—
Egret	—	—	383	214	95	115	65	282	84	52	25	30
Eider	654	616	601	356	242	216	170	133	120	122	80	74
Elgin	—	—	—	—	1 974	4 146	4 502	3 622	3 061	2 668	2 482	2 094
Ellon	377	283	129	152	77	46	57	23	36	106	42	12
Emerald	—	—	—	—	—	—	—	—	—	—	—	—
Enoch	—	—	—	—	—	—	—	—	—	—	237	272
Erskine	4	791	883	82	837	973	816	665	514	358	166	179
Everest	313	286	235	203	230	238	245	207	164	117	105	133
Farragon	—	—	—	—	—	—	—	—	90	888	626	511
Fergus	562	276	161	81	57	48	60	75	48	46	38	18
Fife	1 077	820	362	585	449	539	490	294	253	190	112	33
Fleming	93	507	477	424	367	300	237	216	160	176	116	114
Flora	—	152	506	495	278	168	139	124	89	57	33	27
Foinaven	252	3 691	4 262	4 588	4 419	5 358	4 085	3 521	2 967	2 915	2 883	2 026
Forties	4 109	3 998	3 227	2 720	2 828	2 624	2 038	2 679	3 261	2 888	2 625	2 974
Franklin	—	—	—	—	199	1 006	1 175	1 621	2 019	1 872	1 757	1 310
Fulmar	547	468	373	228	172	165	134	100	179	161	90	137
Gadwall	—	—	—	—	—	—	—	—	212	68	2	82
Galley	—	946	1 333	1 602	1 099	795	573	456	352	234	104	0
Gannet A	1 192	1 015	866	711	553	562	380	359	373	453	345	265
Gannet B	58	35	29	29	51	72	110	82	95	10	22	14
Gannet C	1 151	919	688	390	417	310	208	175	146	189	221	157
Gannet D	437	467	359	478	538	320	339	231	186	300	224	184

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1997–2008 *continued*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Oil fields <i>continued</i>												Thousand tonnes
Gannet E	—	644	366	369	383	446	657	488	443	465	323	240
Gannet F	327	464	327	208	148	114	75	50	33	95	197	157
Gannet G	—	—	261	697	317	232	188	134	120	131	114	86
Glamis	50	47	36	21	16	14	14	9	1	0	10	3
Glennelg	—	—	—	—	—	—	—	—	—	242	396	367
Goosander	—	—	—	—	—	—	—	—	—	197	470	510
Grant	—	138	257	217	171	143	133	100	125	96	51	44
Gryphon	1 542	1 348	1 094	904	962	566	456	574	945	872	693	472
Guillemot A	1 026	688	420	283	213	326	344	334	294	238	115	200
Guillemot NW	—	—	—	20	13	216	194	150	75	71	39	28
Guillemot W	—	—	—	329	467	482	509	407	130	112	129	54
Halley	—	—	—	—	—	175	141	130	0	0	0	39
Hamish	17	10	8	6	3	0	0	3	0	0	0	0
Hannay	—	—	—	—	—	149	194	209	205	221	103	65
Harding	3 860	4 655	4 281	4 328	3 178	3 192	2 536	2 024	1 626	1 303	1 031	907
Hawkins	—	—	—	—	—	17	91	57	27	12	2	1
Heather	251	225	204	191	222	203	183	117	129	103	77	60
Heron	—	—	2 369	2 466	1 604	939	678	326	349	284	207	209
Highlander	149	188	102	160	166	144	105	96	120	94	56	65
Howe	—	—	—	—	—	—	—	65	456	188	238	162
Hudson	1 595	400	1 245	1 227	981	803	709	613	474	387	459	236
Hutton	787	581	558	414	147	0	—	—	—	—	—	—
Hutton NW	308	262	295	83	113	30	0	—	—	—	—	—
Innes	—	—	—	—	—	—	—	—	—	—	—	—
Iona	28	13	77	53	24	9	2	0	0	5	1	0
Ivanhoe	401	282	239	327	309	349	186	100	64	63	45	43
Jade	—	—	—	—	—	507	845	760	701	546	320	281
James	—	—	—	—	—	—	—	53	154	47	53	58
Janice	—	—	1 713	1 351	1 019	720	574	495	246	328	134	35
Joanne	1 200	1 249	924	537	401	385	243	152	131	149	178	143
Judy	651	755	532	428	525	594	810	627	702	994	711	468
Jura	—	—	—	—	—	—	—	—	—	—	—	93
Keith	—	—	—	59	293	152	132	106	106	78	71	58
Kestrel	—	—	—	—	51	221	326	161	166	92	75	66
Kingfisher	211	1 315	988	804	874	608	403	257	270	225	179	125
Kittiwake	629	444	228	157	33	54	113	88	61	73	8	5
Kyle	—	—	—	—	515	439	328	193	236	179	193	213
Larch	—	169	14	73	170	411	106	64	41	38	39	32
Leadon	—	—	—	—	158	971	578	425	329	108	—	—
Lennox	454	894	857	1 376	1 798	1 697	1 573	1 236	905	871	539	383
Leven	83	42	37	125	90	57	52	156	81	35	7	9
Linnhe	—	—	—	—	—	—	—	—	—	—	—	—
Lomond	198	207	182	186	166	160	147	150	117	112	79	69
Loyal	—	98	931	1 190	925	990	893	680	491	472	307	182
Lyell	278	215	146	116	117	88	36	118	111	94	150	104
MacCulloch	583	2 001	1 755	1 354	1 087	1 442	1 409	1 318	1 092	791	533	361
Machar	—	396	1 733	1 496	1 310	756	433	686	632	877	521	348
Maclure	—	—	—	—	—	264	475	514	570	527	312	427
Madoes	—	—	—	—	—	36	1 018	1 140	829	499	274	372
Magnus	3 091	3 148	3 046	2 924	2 214	1 902	1 852	1 745	1 585	1 528	1 060	1 260
Magnus S	383	435	482	311	256	150	249	209	154	188	114	92
Mallard	—	148	701	459	244	219	157	69	70	293	286	87
Marnock	—	12	747	982	656	503	308	190	101	97	53	42
Maureen	495	474	173	—	—	—	—	—	—	—	—	—
Medwin	0	0	0	0	0	0	0	7	94	29	15	
Merganser	—	—	—	—	—	—	—	—	4	165	213	—
Merlin	75	677	1 001	619	429	302	276	96	115	66	84	52
Miller	5 195	3 441	2 732	2 057	1 383	947	409	514	412	251	50	0
Mirren	—	—	—	—	—	79	431	270	285	300	230	209
Moirra	17	12	3	—	—	—	—	—	—	—	—	—
Monan	—	75	560	163	87	34	26	31	8	0	0	0
Montrose	62	64	55	37	34	16	19	38	61	66	60	33
Mungo	—	706	1 876	2 440	2 534	2 343	1 930	1 694	1 596	1 309	944	909
Murchison UK	806	792	744	495	411	309	338	267	256	254	231	220
Nelson	5 603	4 695	4 515	4 089	2 913	3 907	3 279	2 255	1 882	1 377	1 465	1 295
Ness	171	104	123	41	134	117	94	9	4	35	18	44
Nethan	—	—	—	—	—	—	—	14	1	0	0	0
Nevis	744	1 084	1 595	1 447	1 146	942	971	947	840	805	931	738
Nicol	—	—	—	—	—	—	—	—	—	0	69	86
Ninian	2 367	2 197	2 054	1 723	1 764	1 510	1 448	1 238	1 192	1 297	1 159	1 024
Orion	—	—	137	322	263	211	172	150	201	318	240	192
Osprey	1 204	764	618	295	450	292	116	148	171	211	114	146
Otter	—	—	—	—	—	96	1 081	1 278	888	738	716	367
Pelican	1 269	1 282	1 075	717	462	551	345	221	248	254	120	112
Penguin E	—	—	—	—	—	—	660	738	372	464	302	210
Penguin W	—	—	—	—	—	—	91	140	210	106	134	100
Petronella	119	123	52	61	79	106	81	73	45	40	28	0
Pict	—	—	—	—	—	—	—	—	377	485	260	176
Pierce	—	—	1 416	2 508	1 793	1 418	1 105	773	1 044	650	729	599
Piper	2 416	1 951	1 490	1 156	957	813	670	567	552	413	414	379
Playfair	—	—	—	—	—	—	—	42	281	27	47	26
Renee	—	—	715	240	44	62	45	41	26	5	0	0
Rhum	—	—	—	—	—	—	—	—	2	48	62	50
Rob Roy	570	289	272	180	185	152	104	105	91	95	52	26
Ross	—	—	761	1 208	459	483	330	267	176	149	144	92
Rubie	—	—	185	346	215	191	162	141	102	42	36	30
Saltire	1 908	1 335	757	479	360	311	166	109	127	136	80	85
Saxon	—	—	—	—	—	—	—	—	—	—	27	115
Scapa	915	770	638	444	370	329	377	300	239	110	280	175

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1997–2008 *continued*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Oil fields <i>continued</i>												
	Thousand tonnes											
Schiehallion	—	1 100	4 183	5 073	4 780	5 061	5 161	4 795	3 419	3 269	2 436	2 147
Scooter	—	—	—	—	—	—	0	180	243	250	145	68
Scott	5 569	4 531	4 017	2 771	2 162	1 889	1 264	1 127	815	1 005	1 202	693
Seymour	—	—	—	—	—	—	100	114	56	56	26	35
Shearwater	—	—	—	82	650	2 299	2 353	2 568	1 280	945	547	226
Skene	—	—	—	—	7	329	259	192	113	90	74	54
Skua	—	—	—	—	195	634	290	217	2	0	0	0
Staffa	—	—	—	—	—	—	—	—	—	—	—	—
Starling	—	—	—	—	—	—	—	—	—	—	—	422
Stafford UK	3 581	2 346	1 768	1 187	797	702	613	897	783	600	523	447
Stirling	37	9	16	17	28	25	25	15	27	31	26	18
Strathspey	1 331	1 006	643	414	352	530	419	464	243	384	251	195
Sycamore	—	—	—	—	—	—	358	134	21	116	54	65
Tartan	333	332	272	240	177	155	133	170	138	102	158	138
Teal	1 091	1 123	1 216	1 511	1 040	543	289	222	150	1	24	13
Teal S	268	122	136	79	86	42	77	32	0	30	2	21
Telford	1 519	1 521	1 014	1 092	1 141	1 128	853	628	434	377	282	229
Tern	2 593	2 287	2 125	1 803	1 681	1 370	1 043	780	600	506	491	394
Thelma	1 309	1 051	905	773	669	324	272	283	283	290	262	214
Thistle	430	363	305	288	191	252	219	172	141	164	155	100
Tiffany	1 205	762	425	275	190	143	129	109	121	170	145	131
Toni	684	794	655	467	383	378	519	258	218	202	145	117
Tulloch	—	—	—	—	—	254	646	452	354	320	511	278
Tweedsmuir	—	—	—	—	—	—	—	—	—	—	295	678
Tweedsmuir South	—	—	—	—	—	—	—	—	—	—	—	354
Other	94	—	—	202	—	—	—	—	—	—	1	73
Total	115 395	119 049	124 886	114 830	106 547	105 369	96 868	86 786	76 521	69 537	69 723	64 054
Gas fields												
	Million cubic metres											
Alison	91	97	18	53	55	39	81	51	41	33	44	33
Alison KX	60	62	52	46	58	55	50	48	40	27	28	49
Alwyn N (h)	2 039	1 730	1 608	1 288	832	1 272	1 254	961	1 400	805	—	—
Amethyst E	848	870	724	612	527	297	392	191	351	345	379	485
Amethyst W	515	423	262	471	643	509	469	257	223	187	193	157
Anglia	284	391	296	383	294	209	225	163	136	99	100	104
Ann	270	140	166	160	85	33	98	74	58	110	53	45
Annabel	—	—	—	—	—	—	—	—	567	901	630	464
Apollo	—	—	—	—	—	—	319	392	299	280	353	266
Arthur	—	—	—	—	—	—	—	—	858	661	539	219
Audrey	1 171	729	531	624	523	172	250	235	192	155	117	108
Bains	—	—	—	—	—	109	505	330	201	61	58	111
Baird	435	374	311	138	228	214	274	274	220	158	72	24
Barque	2 244	1 503	1 327	2 190	1 823	910	1 003	654	659	496	519	859
Barque S	8	2	0	0	0	0	0	0	0	0	0	0
Beaufort	—	—	—	—	1	—	—	—	—	—	—	—
Bell	—	—	344	941	662	673	389	124	0	152	230	193
Bessemer	812	735	692	1 204	391	208	128	101	38	48	50	40
Blane	—	—	—	—	—	—	—	—	—	—	—	38
Boulton	—	925	459	587	299	607	713	607	511	370	311	343
Boulton H	—	—	—	—	—	—	—	140	28	7	0	94
Boyle	—	—	—	—	—	143	456	349	240	172	117	91
Brigantine A	—	—	—	—	637	597	639	415	252	93	40	0
Brigantine B	—	—	—	—	573	428	166	157	138	59	40	0
Brigantine C	—	—	—	—	—	344	655	347	173	502	226	0
Brigantine D	—	—	—	—	—	0	5	28	0	35	21	0
Brown	—	(d)	(d)	(d)	(d) 118	39	0	0	3	32	37	31
Bruce (h)	5 613	4 959	5 164	5 678	6 264	6 277	6 195	4 748	4 390	3 255	—	—
Bure	42	64	12	35	21	18	15	2	0	3	4	4
Bure W	—	22	124	157	128	105	71	53	25	17	37	25
Caister Bunter	343	235	315	306	375	232	98	56	56	12	27	71
Caister Carboniferous	642	364	390	257	130	112	176	118	107	21	86	141
Calder	—	—	—	—	—	—	—	3	0	57	19	96
Callisto	254	199	104	24	86	95	69	53	31	24	38	9
Callisto N	—	—	—	16	119	69	40	7	9	5	4	27
Camelot C & S	846	563	187	206	150	114	52	30	29	3	15	10
Camelot N	49	30	1	—	11	0	3	0	0	0	2	10
Camelot NE	58	2	—	—	—	—	—	—	—	—	—	—
Captain (h)	—	—	—	—	71	72	56	76	61	39	—	—
Caravel	—	—	—	—	—	—	—	—	—	—	—	24
Carrack	—	—	—	—	—	—	75	1 220	1 098	616	823	550
Cavendish	—	—	—	—	—	—	—	—	—	—	274	649
Chiswick	—	—	—	—	—	—	—	—	—	—	92	542
CATS (g)	4 429	10 126	13 605	13 618	13 038	14 253	14 972	13 812	11 660	11 125	7 819	8 243
Cleeton	1 466	472	5	—	—	—	—	—	—	—	—	—
Clipper	1 152	669	598	1 101	903	459	409	247	357	268	108	417
Corvette	—	—	1 782	1 048	517	154	129	471	403	174	39	63
Cromarty	—	—	—	—	—	—	—	—	—	448	494	726
Cutter	—	—	—	—	—	—	—	—	—	293	343	466
Dalton	—	—	267	471	32	2	110	121	112	1	0	0
Davy	806	(d) 719	(d) 908	(d) 881	(d) 381	109	66	157	111	105	152	151
Davy East	—	—	—	—	—	—	—	—	—	—	93	74
Davy N	—	—	—	—	75	437	225	141	71	20	5	13
Dawn	92	94	102	29	0	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	18
Durango	—	—	—	—	—	—	—	—	—	—	—	15
Dunbar (h)	1 359	1 121	1 133	1 216	1 229	1 476	1 243	1 089	816	708	—	—
Ellon (h)	791	448	162	129	188	116	179	43	33	64	—	—
Europa	—	—	—	322	451	271	220	148	115	115	77	30
Esmond	—	—	—	—	—	—	—	—	—	—	—	—
Excalibur	599	681	552	453	427	365	269	224	181	147	123	113
FLAGS (e)	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	5 934
Forvie	—	—	—	—	—	—	—	—	0	879	—	—
Forbes	—	—	—	—	—	—	—	—	—	—	—	—
Frigg (UK) (h)(n)	191	511	253	367	447	408	454	491	—	—	—	—
Fulmar (f)	1 505	1 890	2 104	(k)	(k)	(k)	(k) 0	(k) 0	(k) 0	0	0	0
Galahad	707	509	431	344	337	259	211	175	387	154	111	83
Galleon	1 501	1 493	1 168	1 677	1 635	1 311	1 336	1 539	1 227	864	721	837

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1997–2008 *continued*

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
<i>Gas fields continued</i>												
	Million cubic metres											
Galley (h)	—	257	410	460	230	122	-6	-14	22	11	—	—
Ganymede	1 655	947	669	197	384	326	285	229	217	145	111	48
Garrow	—	—	—	—	—	—	—	—	—	—	53	37
Gawain	820	798	666	694	690	579	345	141	114	98	78	71
Gordon	—	—	—	—	—	—	—	—	—	—	—	—
Grant (h)	—	322	672	675	557	563	549	355	459	524	—	—
Grove	—	—	—	—	—	—	—	—	—	—	215	176
Guinevere	271	227	232	222	138	154	96	79	69	42	30	28
Hamilton	1 176	1 752	1 416	1 685	1 933	1 536	1 833	1 370	1 174	1 068	864	653
Hamilton E	—	—	—	—	167	503	354	216	145	125	75	33
Hamilton N	667	546	454	543	553	368	566	428	327	292	248	179
Hawksley	—	—	—	—	—	489	610	290	73	0	0	2
Helvellyn	—	—	—	—	—	—	—	255	73	48	38	24
Hewett & Della	1 301	1 324	1 133	1 484	1 211	818	593	475	399	343	287	158
Horne	—	—	—	—	—	—	—	—	246	325	337	129
Hoton	—	—	—	—	7	420	370	271	212	181	191	163
Hunter	—	—	—	—	—	—	—	—	—	—	15	24
Hyde	284	291	259	219	195	163	152	127	112	109	90	91
Indefatigable	1 507	2 055	1 345	1 197	1 310	1 110	769	801	562	359	262	262
Indefatigable SW	210	179	198	126	188	145	74	62	47	31	17	2
Ivanhoe & Rob Roy (h)	79	38	48	15	22	12	-2	10	0	-2	—	—
Johnston	469	327	540	667	414	273	387	461	327	272	114	321
Keith (h)	—	—	—	12	79	50	45	47	59	49	—	—
Kelvin	—	—	—	—	—	—	—	—	—	—	157	457
Ketch	—	—	297	1 233	819	549	478	317	233	244	411	294
Kilmar	—	—	—	—	—	—	—	—	—	252	271	198
Lancelot	621	557	761	696	495	504	414	339	289	230	169	154
Leman	3 013	4 740	3 060	3 957	3 835	3 061	3 009	3 178	2 664	2 295	1 492	1 705
Lennox	—	—	—	—	—	—	77	440	730	766	935	1 022
Malory	—	126	668	571	449	361	305	259	219	204	168	144
Markham (UK)	663	514	485	463	350	304	207	192	342	295	258	135
McAdam	—	—	—	—	—	—	—	514	578	926	465	354
Mercury	—	—	5	402	627	547	333	365	243	119	83	142
Miller (i)	2 028	1 254	1 109	624	328	302	163	174	144	51	3	0
Millom	—	—	29	144	1 023	1 048	927	801	606	536	329	360
Mimas	—	—	—	—	—	—	—	—	—	—	172	217
Minerva	—	—	—	—	—	—	577	576	406	317	277	224
Minke	—	—	—	—	—	—	—	—	—	—	133	17
Mordred	82	17	39	43	31	37	26	28	22	24	21	18
Morecambe N	2 930	1 294	848	3 872	3 017	3 128	2 594	2 118	1 396	1 215	917	868
Morecambe S	6 170	7 993	9 971	8 436	8 328	7 513	7 526	8 055	5 935	2 490	3 827	4 328
Munro	—	—	—	—	—	—	—	—	147	354	250	141
Murdoch	1 150	1 376	836	1 197	948	641	627	447	414	443	447	340
Murdochk	—	—	—	—	—	—	1 378	1 209	864	636	324	238
Neptune	—	—	17	1 466	2 007	1 685	1 301	1 168	922	661	551	380
Newsham	127	94	71	60	44	35	34	39	37	28	16	41
Nuggets (h)	—	—	—	—	134	1 333	1 744	1 678	1 811	1 537	1 422	989
Orwell	720	832	667	716	507	373	389	278	214	171	105	27
Pickerill	1 288	879	626	366	351	284	208	142	199	141	102	113
Piper & Tartan Area (h)	633	452	421	396	353	297	44	69	17	7	—	—
Ravenspurn N	2 968	1 580	1 319	1 294	761	497	317	362	540	435	401	295
Ravenspurn S	1 433	1 186	1 006	871	725	636	465	370	409	329	324	263
Renee/Rubie (h)	—	—	1	...	18	11	2	15	0	0	—	—
Rhum	—	—	—	—	—	—	—	—	44	1 485	—	—
Rose	—	—	—	—	—	—	—	206	227	165	94	177
Ross (h)	—	—	28	89	60	144	126	95	60	42	—	—
Rough (b)	—	—	—	428	17	0	0	0	0	0	0	0
SAGE (j)	8 035	10 398	15 459	16 802	15 449	15 138	15 707	14 827	13 227	11 910	11 570	11 034
Saturn (m)	—	—	—	—	—	—	—	—	433	1 578	1 598	1 453
Schooner	1 245	1 088	1 237	882	917	380	485	475	230	337	249	199
SEAL (l)	—	—	—	93	2 207	7 026	7 391	8 464	7 567	7 096	6 833	7 042
Sean E	301	227	253	148	124	32	36	7	16	7	0	89
Sean N & S	639	50	312	581	1 120	493	601	306	1 794	956	416	1 310
Shamrock	—	—	—	—	—	—	—	—	—	—	—	66
Sinope	—	—	75	274	20	0	0	3	0	0	0	0
Skiff	—	—	—	146	843	1 254	1 339	924	714	613	480	379
St Fergus Frigg (h)	—	—	—	—	—	—	—	—	—	—	7 833	6 685
Tethys	—	—	—	—	—	—	—	—	—	—	221	108
Thames	119	60	92	90	89	67	53	43	27	43	10	17
Thurne	—	—	—	—	—	—	—	—	—	—	129	66
Trent	279	347	521	341	228	213	195	150	149	208	161	116
Tristan	18	7	90	35	38	17	3	0	0	—	—	—
Tristan NW	—	—	—	—	—	—	—	—	—	—	—	26
Tyne N	76	130	255	222	77	28	22	21	16	41	84	31
Tyne S	539	435	479	360	321	184	153	98	108	62	0	44
Valiant N	295	334	172	274	210	163	167	137	134	108	107	98
Valiant S	391	397	298	538	424	343	238	211	199	169	161	141
Valkyrie	—	—	—	—	—	—	—	210	596	464	227	81
Vampire	—	—	367	727	317	122	81	35	0	0	31	0
Vanguard	120	132	78	166	184	158	107	113	80	74	73	69
Victor	1 724	1 064	949	970	775	525	563	503	378	618	616	415
Victoria	—	—	—	—	—	—	—	—	—	—	—	24
Viking B	687	629	2 465	1 542	1 329	992	872	912	708	677	512	429
Viscount	—	—	—	—	—	—	12	3	0	0	0	0
Vixen	—	—	—	499	1 035	771	558	242	234	138	103	47
Vulcan	827	816	584	952	797	642	497	423	358	317	271	247
Watt	—	—	—	—	—	—	—	16	0	0	0	0
Waveney	—	137	741	594	305	194	117	95	70	40	42	38
Welland NW	386	629	326	212	119	17	0	0	0	—	—	—
Welland S	173	210	155	76	44	17	0	0	0	—	—	—
Wenlock	—	—	—	—	—	—	—	—	—	—	38	340
Wensum	3	0	2	0	0	0	0	1	0	0	0	1
West Sole	1 224	1 218	1 170	1 050	940	844	765	473	574	584	557	537

continued

United Kingdom production of offshore crude petroleum and natural gas by fields 1997–2008 continued

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Gas fields continued												
	Million cubic metres											
Whittle	—	—	—	—	—	—	397	481	422	308	281	220
Windermere	279	438	320	273	196	166	125	87	45	41	37	28
Wissey	—	—	—	—	—	—	—	—	—	—	—	182
Wren	—	—	—	—	—	—	—	—	138	283	396	100
Yare	14	72	21	11	45	31	39	9	0	22	15	7
Others (c)	3 361	3 719	3 937	3 763	4 658	4 718	4 503	4 513	4 274	4 454	4 646	4 483
Total (a)	91 170	95 169	104 760	114 663	111 777	109 145	108 025	101 286	93 345	84 652	77 239	75 285

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

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

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

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

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

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

(g) Gas delivered to land via the Central Area Transmission System (CATS) from Andrew, Banff, Drake, Egret, Erskine, Everest, Faragon, Fleming, Hawkins, Heron, Jade, James, Janice, Joanne, Judy, Lomond, Machar, Madoes, Marnock, Mirren, Monan, Mungo Seymour and Skua.

(h) Associated gas 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 of Energy and Climate Change

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Petroleum										
<i>Production</i>										
Crude petroleum	87 516 000	77 179 000	69 665 000	70 357 000	130 994 000					
Condensates and other (a)	7 858 000	7 543 000	6 913 000	6 475 000	6 168 000					
Refined petroleum products	89 828 000	85 673 000	82 839 000	81 209 000	80 435 000					
<i>Consumption (inland deliveries)</i>										
<i>of refined products</i>										
<i>Used as fuels-</i>										
Refineries	5 419 000	5 602 000	4 728 000	4 307 000	4 531 000					
Elsewhere	63 181 000	63 716 000	64 042 000	63 759 000	61 767 000					
Not used as fuels	10 584 000	10 439 000	9 995 000	7 998 000	8 483 000					
Total	79 220 000	79 757 000	78 765 000	76 064 000	74 781 000					
<i>Imports</i>										
Crude petroleum	56 128 686	54 067 943	55 735 570	44 129 689	52 103 843	8 496 322	11 519 286	14 579 475	11 671 463	20 537 880
Partly refined petroleum and refined products	26 953 070	28 967 912	32 427 307	40 845 976	26 175 761	4 999 298	7 573 519	9 536 164	12 173 132	12 769 749
<i>Exports</i>										
Crude petroleum	60 743 679	50 619 044	47 864 601	47 058 702	43 354 245	9 373 420	10 979 393	12 929 441	12 663 222	16 674 142
Partly refined petroleum and refined products	32 103 465	31 553 984	31 621 552	29 396 482	31 936 044	5 706 574	7 402 777	8 801 422	8 515 217	13 373 616
Natural gas										
<i>Production</i>										
<i>Methane (b)</i>										
Colliery	70 000	65 000	65 000	62 000	55 000					
Offshore and onshore	96 341 000	88 154 000	79 947 000	72 063 000	69 617 000					
<i>Consumption</i>										
Natural gas (c)	96 576 000	86 639 000	89 057 000	90 038 000	93 056 000					<i>continued</i>

United Kingdom summary 2004-2008 continued

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
<i>Imports</i>										
Liquefied natural gas	—	375 764	2 475 652	1 063 541	731 859	—	121 581	570 306	182 025	218 048
Natural gas in gaseous state	5 198 582	6 933 794	5 405 923	14 213 672	17 401 227	669 739	1 609 898	1 936 967	2 700 741	6 207 818
Other natural gas (d)	806 387	856 485	3 262 978	1 198 737	1 046 202	164 115	231 638	810 593	379 858	465 986
<i>Exports</i>										
Liquefied natural gas	—	5 342	7	200	2 098	—	2 126	34	124	1 005
Natural gas in gaseous state	52 315	1 367 678	60 117	30 614	5 543	644 779	661 905	1 241 746	996 074	1 943 560
Other natural gas (d)	3 804 595	3 502 748	2 508 137	2 402 752	3 295 288	826 964	860 649	751 469	758 232	1 318 884

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

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

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

(d) Includes propane, liquefied propane, butane, liquefied butane, ethylene, gaseous hydrocarbons.

Phosphorus

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Phosphorus										
<i>Consumption in Iron and Steel</i>										
<i>Industry</i>										
Ferro-phosphorus	1 150	1 130	1 200	1 240	1 160					
<i>Imports</i>										
Phosphate rock	11 586	30 177	7 803	23 052	28 971	1 545	1 925	766	1 486	3 604
Amonium phosphates-										
Fertiliser	162 292	121 703	129 771	208 736	105 024	23 207	18 127	19 703	42 766	48 306
Superphosphates	178 902	164 196	141 417	172 560	126 083	20 127	18 410	15 974	31 497	53 975
Basic slag	5 931	3 878	6 289	...	...	278	198	262	...	...
Other phosphatic fertilisers	14 118	11 911	9 409	26 718	24 870	1 517	1 063	1 172	2 746	5 319
Elemental phosphorus	15 739	9 468	—	...	...	17 369	12 846	—	...	36
Phosphoric acids	175 986	161 905	170 353	149 686	110 067	34 991	36 875	41 196	38 229	64 480
Calcium phosphates	115 172	111 811	120 402	113 632	79 069	19 506	19 754	22 607	22 397	32 904
Sodium phosphates and										
orthophosphates	34 188	37 701	52 735	74 532	16 482	13 478	15 228	24 188	24 585	17 662
Polyphosphates including										
ammonium and sodium	32 147	56 016	25 236	51 155	29 107	11 822	17 080	11 337	13 348	25 957
<i>Exports</i>										
Phosphate rock	34	1 548	335	504	759	27	208	254	313	622
Amonium phosphates-										
Fertiliser	519	221	263	275	31 217	452	327	305	261	20 972
Other	...	...	6	21 691	...	...	...	44	13 465	6
Superphosphates	6	0	1 470	12	...	6	0	301	21	23
Basic slag	—	—	0	...	...	—	—	1	...	...
Other phosphatic fertilisers	426	457	476	44	...	136	186	103	41	...
Elemental phosphorus	125	1 227	24	2	100	237	2 166	21	25	132
Phosphoric acids	12 876	8 320	10 760	7 124	4 020	5 414	4 835	5 629	4 653	4 991
Calcium phosphates	15 160	14 750	23 267	23 698	5 704	8 527	9 359	13 226	14 980	4 466
Sodium phosphates and										
orthophosphates	7 105	6 558	4 724	3 382	2 443	3 715	4 151	2 775	2 420	2 950
Polyphosphates including										
ammonium and sodium	25 145	24 003	23 587	21 691	15 790	14 606	16 165	15 049	13 463	18 665

Platinum group metals

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Platinum group metals										
<i>Imports</i>										
Scrap	617	1 271	1 149	1 456	1 417	158 949	213 125	224 707	261 626	696 282
Unwrought or partly worked-										
Platinum	48	52	23	26	30	358 887	383 876	332 670	389 203	432 806
Palladium	25	31	37	42	33	98 921	95 291	178 290	199 298	135 692
Other platinum metals	8	7	9	7	5	67 054	96 755	204 830	303 995	252 822
<i>Exports</i>										
Scrap	2 681	2 881	3 507	3 794	4 279	18 989	24 592	53 027	60 527	84 625
Unwrought or partly worked-										
Platinum	45	71	43	53	41	614 350	619 359	734 052	895 179	1 069 051
Palladium	61	63	49	57	47	287 094	221 800	261 717	329 468	329 534
Other platinum metals	13	25	23	24	23	127 823	243 111	486 989	805 069	1 047 491

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 production 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 of about £100 million, 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 sea bed. In the south, a combination of seam dip and topographic relief takes the workings to more than 1300 m below the land surface.

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

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Potassium compounds										
<i>Indigenous production</i>										
KCl product	912 000	732 000	716 000	712 000	673 000					
<i>Apparent consumption (a)</i>										
Potassic fertilisers (K ₂ O content)	363 700	337 200	301 300	338 600	254 700					
<i>Imports</i>										
Crude natural salts	9 204	9 517	10 696	...	...	400	459	573	...	...
Chloride	207 056	198 893	170 942	202 623	330 662	20 808	22 001	19 835	25 097	46 983
Sulphate	11 742	12 206	14 274	16 166	15 157	1 933	2 149	2 583	3 457	4 423
Other potassic fertilisers	641	945	1 310	10 813	11 919	413	553	519	1 216	2 364
<i>Exports</i>										
Crude natural salts	11	14	14	...	...	59	15	41	...	...
Chloride (b)	510 000	340 000	430 000	350 000	283 000	...	...	...	...	102 000
Sulphate	21	6	39	163	93	12	20	16	20	42
Other potassic fertilisers	641	699	612	399	562	396	463	412	379	487

(a) Home deliveries plus imports.

(b) BGS estimate.

Precious and semi-precious stones

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Precious and semi-precious stones (excluding diamond) (a)										
<i>Imports</i>										
Natural stones	88	98	326	235	97	52 027	65 870	73 492	110 025	105 565
Synthetic stones	23	28	18	48	69	5 931	5 390	5 686	5 103	5 184
Dust and powder	1	2	3	1	2	220	569	935	704	686
<i>Exports</i>										
Natural stones	17	3	2	31	3	43 605	62 092	61 510	71	100 384
Synthetic stones	9	1	1	5	5	3 714	1 393	844	1 403	3 381
Dust and powder	1	0	0	4	9	105	389	87	296	560

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

Primary fuels

United Kingdom production of primary fuels 1983–2008 (energy supplied basis)

Million tonnes of oil equivalent (a)

Year	Coal	Petroleum	Natural gas (b)	Nuclear electricity	Hydro-electricity (c)	Total (d)
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	217
2006	11	84	80	17	1	197
2007	11	84	72	14	1	186
2008	11	79	70	12	1	177

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

(b) Including colliery methane.

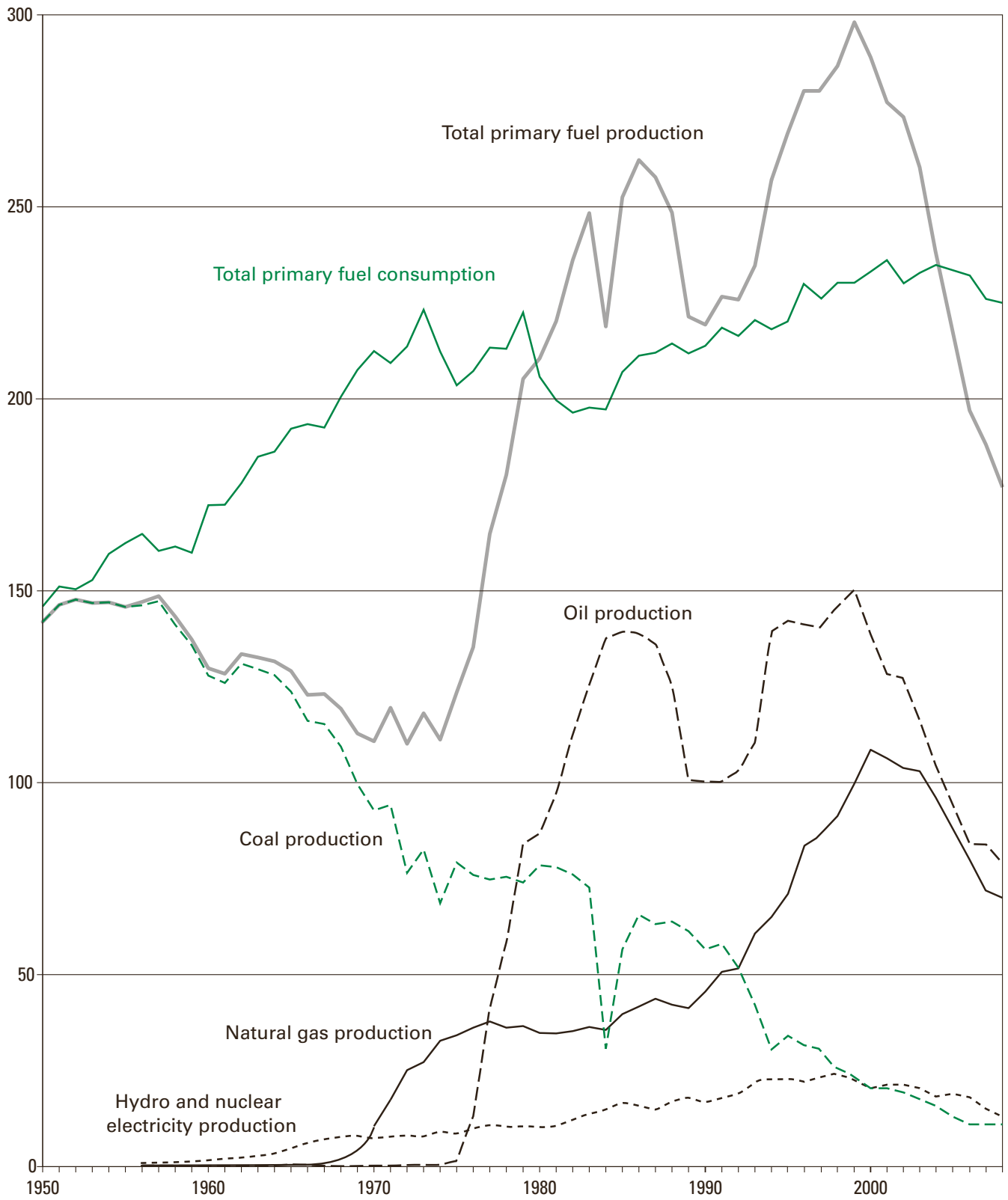
(c) Including, from 1988, other renewable primary electricity sources (wind, etc.).

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

Source: Department of Energy and Climate Change.

United Kingdom production and consumption of primary fuels 1950–2008

Million tonnes of oil
or oil equivalent



United Kingdom consumption of energy (primary fuel input) 1983–2008 (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)
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	233
2007	41	76	90	14	1	0	227
2008	38	74	93	12	1	1	225

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

(b) Including colliery methane.

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

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

Source: Department of Energy and Climate Change.

Pumice

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Pumice										
<i>Imports</i>	35 533	71 598	97 832	206 353	2 259	1 898	1 213	1 659	2 546	2 013
<i>Exports</i>	242	138	70	40	76	450	275	227	93	293

Pyrite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Pyrite										
<i>Imports</i>										
Iron pyrites (incl. cupreous)-										
Unroasted	29	26	19	105	704	28	30	7	24	153
Roasted	2 436	1 911	1 282	131 230	693	364	251	171	5 649	98
<i>Exports</i>										
Iron pyrites (incl. cupreous)-										
Unroasted	4	4	2	122	161	3	20	7	20	5
Roasted	...	4	6	95	90	...	2	5	43	15

Quartz and quartzite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Quartz and quartzite										
<i>Imports</i>										
Quartzite	413	193	306	2 512	353	596	400	512	377	324
Quartz	317	1 259	5 235	7 143	4 036	142	466	1 078	1 659	3 140
<i>Exports</i>										
Quartzite	1 769	2 652	170	45	99	321	360	296	225	102
Quartz	190	529	1 367	541	657	400	364	291	310	344

Radioactive and associated materials

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Radioactive and associated materials										
<i>Imports</i>										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	...	...	...	...	...	569 122	591 337	1 176 048	1 708 433	1 130 734
<i>Exports</i>										
Natural and enriched uranium, plutonium, artificial radioactive isotopes, and their compounds	...	...	...	...	...	647 633	657 761	709 205	1 708 528	1 626 085

Rare earths

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Rare earths										
<i>Imports</i>										
Rare earth metals (a)	135	166	88	88	133	692	656	486	865	1 297
Cerium compounds	1 914	2 324	1 615	2 167	2 067	3 915	4 017	3 253	4 768	5 802
Other rare earth compounds (b)	775	775	600	664	251	4 716	5 082	2 768	4 152	3 461
Ferro-cerium and other pyrophoric alloys	9	19	60	77	57	32	2 819	4 012	81	109
<i>Exports</i>										
Rare earth metals (a)	10	26	29	143	237	281	283	453	610	798
Cerium compounds	47	121	111	37	73	1 776	3 153	1 596	545	1 257
Other rare earth compounds (b)	1 157	1 189	954	1 089	622	5 415	6 076	5 669	4 634	2 673
Ferro-cerium and other pyrophoric alloys	197	2	76	80	7	190	17	125	160	86

(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 2008 was 5 287 000 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. Production of rock salt is expected to be considerably higher in 2009 and 2010 than in previous years, following particularly cold periods, with annual consumption for road de-icing doubling to about 2 million tonnes. Rock salt is produced at three locations in the UK. The Winsford Mine in Cheshire, operated by the Salt Union, is the largest source (50 per cent of de-icing 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. Plans have been approved for a 279 hectare extension to the Kilroot mine. Current reserves of salt were due to run out by 2012 but the extension will provide another 30 years of reserves for the mine. Cleveland Potash imported 40 000 tonnes of salt from Spain to meet increased demand for de-icing grit in early 2009. Salt Union responded to the increased demand in late 2009 by operating its mine on a 24-hour basis and producing 30 000 tonnes per week.

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. Brunner Mond's UK soda ash operations are running at full capacity following the closure of a plant in the Netherlands.

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.

It is important to note that rock salt mining and modern solution mining techniques have the capacity to produce stable cavities ideally suited for certain types of storage. Large underground salt caverns produced by solution mining may be used for the storage of liquids (oil, natural gas liquids, and liquefied petroleum gas), gaseous hydrocarbons and compressed air.

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. Part of the Winsford Mine is also being used by Veolia Environmental Services for the disposal of selected wastes. Planning permission allows for the disposal of up to 100 000 tonnes per year of suitable package wastes. All waste must be in either solid, granular or powder form, but must not be flammable, reactive, volatile, biodegradable or radioactive waste products. The principal waste stream is residues from energy and waste plants.

Commercial operations have commenced at Scottish and Southern Energy's Aldbrough gas storage facility, near Hornsea in East Yorkshire. The facility will initially provide about 60 million cubic metres of storage capacity in two caverns. A further three caverns are expected to be available for gas storage by the end of 2010. E.ON UK is developing plans to construct a major underground gas storage facility north of Aldbrough in East Yorkshire. The proposed facility would have ten underground caverns with a total capacity of 420 million cubic metres. E.ON UK is developing a gas storage facility at the Holford site in Cheshire and commercial operations are expected to commence in autumn 2011. 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. In early 2010 Lancashire County Council refused a proposal by Canatxx to develop a natural gas storage facility in the Preesall saltfield in Lancashire, indicating the company had failed to provide sufficient geological evidence to support the proposal. Portland Gas Ltd, a wholly owned subsidiary of Infrastrata plc, is developing a gas storage facility on the Isle of Portland, Dorset. During 2009, work commenced on development of the facility, which is expected to have a total cost of £456 million. Current plans suggest commercial operations will commence in 2014, with full storage capacity available in 2018. Plans for a major undersea gas storage facility in Northern Ireland have been announced. An initial planning application has been submitted for the facility which will be located on the shore of Larne Lough, near Belfast. The project, a joint venture between Infrastrata plc and Mutual Energy, would be capable of storing 500 million cubic metres of gas.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Salt										
<i>Production</i>										
Salt, rock (a)	2 000 000	2 000 000	2 000 000	2 000 000	2 000 000					
Salt from brine (a)	1 000 000	1 000 000	1 000 000	1 000 000	1 000 000					
Salt in brine (a) (b)	2 800 000	2 800 000	2 800 000	2 800 000	2 800 000					
<i>Imports</i>	219 581	287 623	246 879	237 772	237 288	13 728	17 121	17 673	18 097	21 973
<i>Exports</i>	691 895	538 796	557 311	514 868	873 708	26 763	26 517	29 091	28 112	33 995

(a) BGS estimate.

(b) Used for purposes other than salt making.

Sand and gravel (see also Aggregates)

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Sand and gravel										
<i>Production (a)</i>	97 333 000	94 666 000	92 107 000	93 236 000	85 473 000					
<i>Consumption (b)</i>										
Building sand	12 761 000	13 233 000	12 105 000	12 207 000	10 595 000					
Concreting sand	32 529 000	29 848 000	29 815 000	30 202 000	26 885 000					
Gravel and hoggin	40 768 000	39 311 000	38 321 000	36 092 000	34 648 000					
Total	86 057 000	82 392 000	80 242 000	78 501 000	72 127 000					
<i>Imports</i>	924 304	643 594	634 844	896 715	647 603	14 481	14 117	17 583	18 260	16 043
<i>Exports (c)</i>	8 174 262	8 453 949	9 308 961	8 089 175	7 747 635	36 414	40 493	45 498	46 624	50 027

(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):
2004: 6 191 867; 2005: 6 471 453; 2006: 6 714 659; 2007: 6 649 041;
2008: 6 211 703.

United Kingdom production of sand and gravel 1988–2008

Million tonnes

Year	Land-based production			Marine-dredged			Total production United Kingdom	For beach replenishment (c) (d)
	Great Britain (a)	Northern Ireland (b)	Total	For home market (a)	For export (c)	Total		
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
2008	59.5	7.1	66.6	12.6	6.2	18.8	85.5	2.2

Sources:

(a) Office for National Statistics.

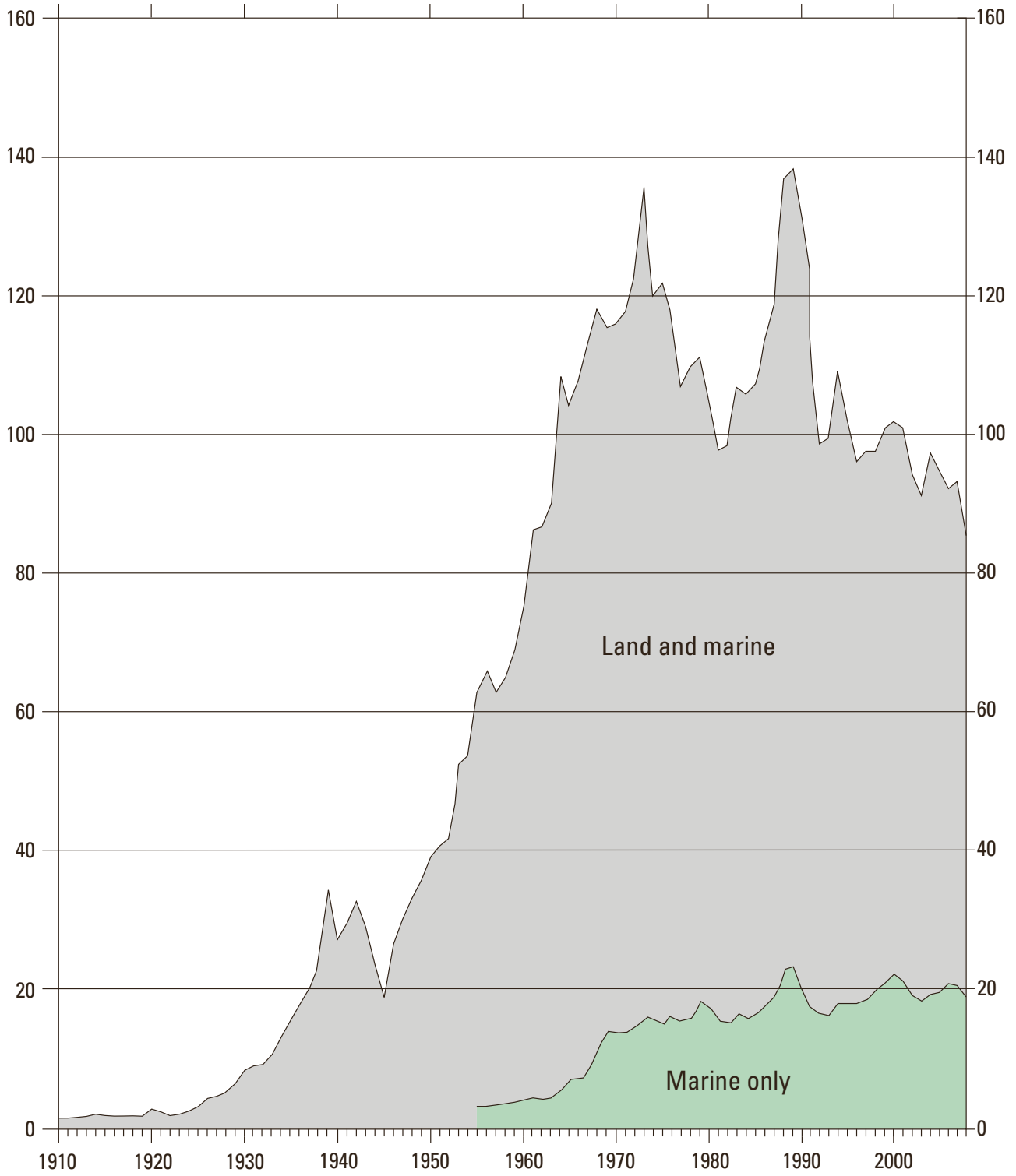
(b) Department of Enterprise, Trade & Investment.

(c) Crown Estate Commissioners.

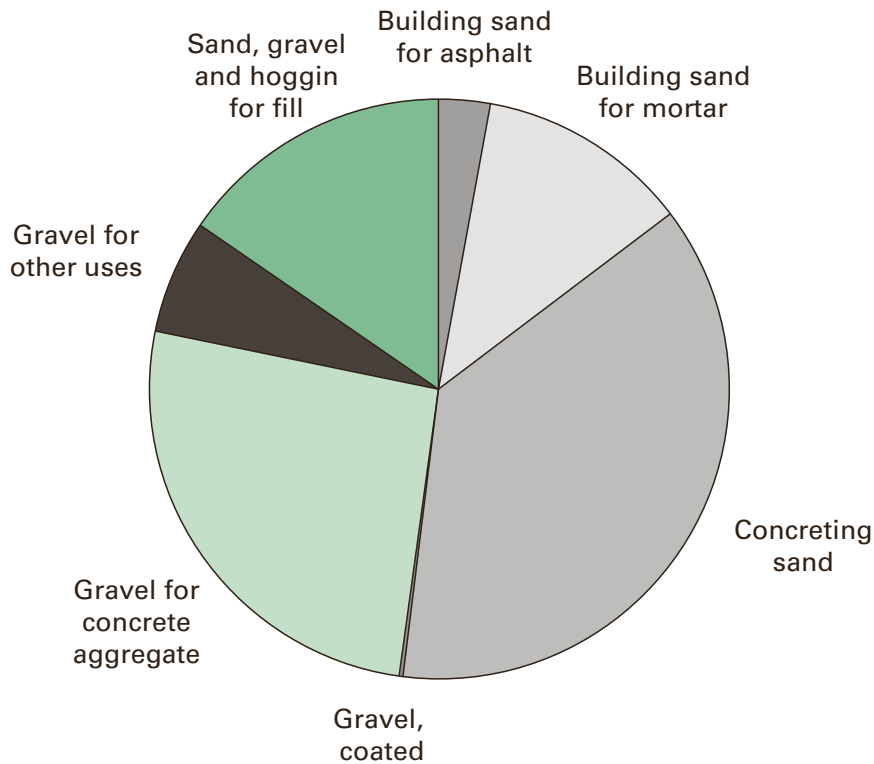
(d) These figures for marine-dredged sand and gravel used for beach replenishment and contract fill may be included in home market production, and have therefore not been included in the totals.

United Kingdom production of sand and gravel 1910–2008

Million tonnes



Great Britain production of sand and gravel by end-use 2008
(total production 72.1 million tonnes)



Great Britain production of sand and gravel by end-use and area of origin 2008

Thousand tonnes

Area of origin	Sand		Gravel				Sand, gravel and hoggin for fill	Total
	Building sand		Concreting sand	Coated with a bituminous binder	Concrete aggregate	Other screened & graded gravels (c)		
	For asphalt	For use in mortar						
North East	...	(a) 205	(a) 613	...	(a) ...	(a) ...	(a) ...	(a) 1 288
Yorkshire and the Humber	...	571	1 861	—	(a) 1 237	...	922	(a) 5 014
East Midlands	...	747	3 181	—	2 126	...	973	7 477
East of England	...	(a) 991	(a) 4 238	...	(a) 3 079	(a) 756	(a) 2 602	(a) 12 060
South East	(a) ...	(a) 1 493	(a) 5 499	(a) ...	(a) 6 757	(a) 428	(a) 2 259	(a) 16 582
South West	(a) ...	(a) 737	(a) 2 609	—	(a) ...	234	(a) 586	(a) 5 960
West Midlands	...	1 427	3 613	...	2 568	739	2 029	10 476
North West	136	(a) 813	(a) 1 435	—	...	251	...	(a) 2 813
England								
Land-won	...	...	...	...	...	...	...	50 134
Marine (b)	...	...	...	...	...	...	...	11 535
Total	(a) 1 622	(a) 6 985	(a) 23 048	(a) 66	(a) 17 071	(a) 3 317	(a) 9 560	(a) 61 669
Wales								
Land-won	...	...	...	—	...	...	...	1 275
Marine (b)	...	...	...	—	...	...	...	1 086
Total	(a) 49	(a) 660	(a) 1 032	—	(a) 382	(a) 95	(a) 143	(a) 2 361
Scotland								
Total	397	882	2 805	88	1 334	1 189	1 403	8 097
Great Britain								
Land-won	2 019	7 773	21 126	...	12 989	...	10 874	59 506
Marine (b)	49	754	5 759	...	5 798	...	232	12 621
Total	(a) 2 068	(a) 8 527	(a) 26 885	(a) 154	(a) 18 787	(a) 4 601	(a) 11 106	(a) 72 127

(a) Including marine-dredged material.

(b) Excluding marine-dredged landings at foreign ports (exports), see p.91.

(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 1980–2008

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
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
2008	1 288	2 813	5 014	10 476	7 477	12 060	16 582	5 960	61 669	2 361	8 097	72 127

(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 1996–2008

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	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
2008								
Land-won	...	...	...	...	...	...	...	50 134
Marine (a)	...	...	...	...	...	...	...	11 535
Total	1 622	6 985	23 048	66	17 071	3 317	9 560	61 669

(a) Excluding marine-dredged landings at foreign ports (exports), see p.91.

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

Source: Office for National Statistics.

Wales production of sand and gravel by end-use 1996–2008

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
2008								
Land-won	...	...	...	—	...	...	...	1 275
Marine (a)	...	...	...	—	...	...	...	1 086
Total	49	660	1 032	—	382	95	143	2 361

(a) Excluding marine-dredged landings at foreign ports (exports), see p.91.

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 1996–2008

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
2008	397	882	2 805	88	1 334	1 189	1 403	8 097

(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 2004–2008

Commodity	2004	2005	2006	2007	2008
Tonnes					
Sandstone – see Building and dimension stone					
<i>Production</i>	18 844 000	18 685 000	18 038 000	16 806 000	12 255 000

Great Britain production of sandstone by end-use and area of origin 2008

Thousand tonnes

Area of origin	Roadstone											Total
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses	
North East	42	—	—	—	—	—	—	—	...	—	—	...
Yorkshire and the Humber	141	—	606	...	...	—	...	237	187	...	...	1 786
North West	25	—	...	...	—	—	...	...	...	...	—	1 878
West Midlands	6	...	...	...	...	—	...	—	...	—	...	...
East Midlands	...	—	—	...	—	—	—	8	...	3	—	204
East of England	5	—	—	—	—	—	—	—	252	—	—	257
South East	...	—	—	—	—	—	—	—	...	—	—	...
South West	13	—	...	17	...	157	...	...	...	3	—	791
England	339	...	1 157	646	...	157	607	1 007	1 453	49	...	5 854
Wales	18	...	...	155	...	—	...	112	430	...	...	2 323
Scotland	143	...	...	308	...	—	...	204	310	...	...	1 381
Great Britain	499	605	2 230	1 109	...	157	914	1 323	2 192	...	82	9 558

England				Wales	
County	Total	County	Total	County	Total
Cheshire	...	Northamptonshire	14	Dyfed	...
Cornwall	...	Northumberland	162	Gwent	...
Cumbria	...	Oxfordshire	...	Mid Glamorgan	...
Derbyshire	189	Shropshire	...	Powys	...
Devon	...	Somerset	...	West Glamorgan	693
Dorset	—	South Yorkshire	5		
Durham	...	Staffordshire	25	Wales	2 323
Gloucestershire	9	West Sussex	30		
Greater Manchester	597	West Yorkshire	732		
Hereford & Worcester	2	Wiltshire	—		
Lancashire	873				
Leicestershire	1	England	5 854		
Norfolk	257				
North Yorkshire	1 050				

Scotland	
Region	Total
East Central Scotland	...
Highlands	95
North East Scotland	...
Orkney	...
Shetland	...
South of Scotland	755
Tayside and Fife	...
West Central Scotland	...
Scotland	1 381

Source: Office for National Statistics.

England production of sandstone by end-use 1996–2008

Year	Roadstone											Total	
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses		Other uses
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
2008	339	...	1 157	646	...	157	607	1 007	1 453	49	...	...	5 854

(a) BGS estimate.

Source: Office for National Statistics.

Wales production of sandstone by end-use 1996–2008

Year	Roadstone											Total	
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses		Other uses
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
2008	18	...	...	155	...	—	...	112	430	...	...	...	2 323

(a) BGS estimate.

Source: Office for National Statistics.

Scotland production of sandstone by end-use 1996–2008

Year	Roadstone											Total	
	Building stone	Sold coated	For coating at remote plants	Uncoated	Surface dressing chippings	Railway ballast	Concrete aggregate	Other screened & graded	Other constructional uses	Armour-stone & gabion	Industrial uses		Other uses
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
2008	143	...	...	308	...	—	...	204	310	...	...	...	1 381

(a) BGS estimate.

Source: Office for National Statistics.

Selenium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Selenium										
<i>Imports</i>										
Elemental	969	488	786	1 350	409	5 317	7 629	5 005	6 300	8 645
<i>Exports</i>										
Elemental	97	106	95	118	221	3 019	5 670	2 533	2 955	3 719

Sepiolite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Sepiolite										
<i>Imports</i>										
	51 044	65 565	72 340	282 733	227 453	4 965	7 955	10 922	22 553	43 004

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.

During the last five years silica sand production in the UK has remained in the range of four to five million tonnes per year. Silica sand production in 2008 decreased slightly to 4 777 000 tonnes compared with 4 009 000 tonnes in 2007. As a percentage of total output in 2008, 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 increasingly important as a source of silica sand for UK industry in the future.

There are a number of silica sand producers in the UK. The largest is Sibelco UK Ltd, which accounts for over 50 per cent of total production and an even greater proportion of colourless glass sand production. Sibelco UK has silica sand operations in Cheshire, Staffordshire, Surrey, Norfolk, North Lincolnshire, Yorkshire and Bedfordshire in England and West Lothian in Scotland.

About 50 per cent of the silica sand produced in the UK is used by the glass industry for the manufacture of flat glass, colourless containers, coloured containers and specialist glass uses. Foundry sand production has been declining for a number of years and accounts for about 10 per cent of silica sand consumption. This is due to a decline in the total quantity of metals being cast, as the manufacturing sector of the UK economy has declined. Over the last decade, this downward trend has been countered by increasing demand for silica sand for the glass industry.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Silica sand										
<i>Production (a)</i>										
	5 011 000	4 146 000	5 174 000	4 909 000	4 777 000					
<i>Imports</i>										
	79 829	127 992	190 813	61 454	48 112	9 844	8 453	9 234	8 516	8 045
<i>Exports</i>										
	166 899	174 236	388 440	222 581	156 451	5 244	4 586	6 402	6 393	4 614

(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 2008

Thousand tonnes

Area of origin	Foundry uses	Glass manufacture	Other industrial uses	Agricultural, horticultural & leisure uses	Total
North East (a)	...	—	—	...	12
Yorkshire and the Humber (b)	...	...	14	...	...
East Midlands (c)	8	—	92	...	...
West Midlands (d)	...	...	...	...	...
East of England (e)	...	...	...	280	...
South East (f)	—	...	240	...	642
South West (g)	...	...	...	53	105
North West (h)	397	...	349	...	1 336
England	...	...	1 129	1 033	4 208
Wales (i)	8	—	...	...	62
Scotland (j)	...	...	...	...	508
Great Britain	443	1 932	1 186	1 216	4 777

(a) From Northumberland, Tyne & Wear and Durham

(b) From North Yorkshire, West Yorkshire, South Yorkshire and Humberside

(c) From Nottinghamshire and Lincolnshire

(d) From Staffordshire and Hereford and Worcester

(e) From Cambridgeshire, 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 and Cheshire

(i) From Clwyd, Dyfed and West Glamorgan

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

Source: Office for National Statistics.

Silicon

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Silicon										
<i>Consumption in Iron and Steel</i>										
<i>Industry</i>										
Ferro-silicon	37 320	35 850	37 610	38 900	36 520					
Calcium silicide	90	80	90	90	80					
Ferro-silico-zirconium	60	60	60	70	70					
Ferro-silico-manganese	23 080	22 170	23 620	24 430	22 940					
<i>Imports</i>										
Elemental silicon-										
Containing not less than										
99.99% silicon	2 737	2 744	2 203	1 504	2 788	45 773	54 393	46 953	49 825	88 581
Other	97 751	74 359	27 309	24 284	54 019	78 007	61 024	25 192	25 025	83 887
Doped silicon	378	319	399	467	378	36 494	33 309	30 409	35 333	35 288
Ferro-silicon	72 436	58 225	64 610	66 838	59 438	30 803	26 065	28 782	33 311	42 239
Ferro-silico-manganese	63 935	57 136	59 985	56 036	52 966	34 837	24 041	23 440	29 887	59 497
Ferro-silico-magnesium	4 969	5 448	3 810	2 303	1 614	2 418	2 754	1 738	1 168	1 744
Ferro-silico-chrome	—	728	350	1 242	128	—	217	128	635	136
<i>Exports</i>										
Elemental silicon-										
Containing not less than										
99.99% silicon	376	597	788	571	645	15 341	23 535	19 922	23 458	38 735
Other	1 179	1 869	6 175	10 754	14 488	2 589	2 148	6 420	11 815	24 901
Doped silicon	325	359	545	957	622	112 031	64 963	80 048	85 190	78 997
Ferro-silicon	2 744	2 652	2 733	2 314	3 299	2 430	3 173	3 331	3 096	4 728
Ferro-silico-manganese	8 247	5 003	60	7	49	5 075	1 513	90	11	27
Ferro-silico-magnesium	316	542	653	917	976	213	409	441	807	1 231
Ferro-silico-chrome	25	8	8	35	9	46	7	12	80	24

Sillimanite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Sillimanite										
<i>Imports</i>										
Sillimanite minerals (a)	24 348	39 650	10 268	10 239	11 920	2 525	2 441	1 898	1 774	2 515
Mullite	12 392	10 430	7 468	12 036	6 488	3 198	3 828	3 288	3 963	3 588
Chamotte earth (b)	18 033	23 462	19 120	29 416	22 243	1 874	2 582	2 351	3 393	3 635
<i>Exports</i>										
Sillimanite minerals (a)	87	14	41	75	16	26	14	17	43	8
Mullite	1 929	2 403	1 884	2 355	2 060	1 485	1 833	1 457	1 811	1 825
Chamotte earth (b)	198	59	112	235	162	114	65	78	132	110

(a) Andalusite, kyanite and sillimanite.

(b) Calcined refractory clay including flint clay.

Silver

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Silver										
<i>Imports</i>										
Scrap (a)	2 489	2 283	2 742	3 049	4 223	155 978	157 000	311 032	590 691	636 999
Unwrought	1 521	1 144	6 898	3 500	3 328	211 043	181 193	1 036 089	642 960	874 396
Partly worked	584	342	419	2 018	616	57 760	54 351	53 981	57 981	73 951
Silver in unrefined lead bullion (b)	260	350	240	240	390					
<i>Exports</i>										
Scrap (a)	2 386	3 325	3 785	5 051	5 447	16 120	27 905	37 217	38 340	57 315
Unwrought	1 458	2 050	762	1 806	5 909	188 053	360 137	164 306	408 430	1 307 184
Partly worked	297	240	307	214	162	22 914	16 469	26 417	27 564	19 567

(a) Including scrap of platinum group metals.

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

Slate

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Slate										
<i>Production</i>										
Architectural and cladding uses, roofing and damp proof courses	...	...	...	...	...
Powder and granules	...	...	...	...	...
Crude blocks	43 000	92 000	76 000	41 000	37 000					
Fill and other uses	681 000	690 000	714 000	1 332 000	967 000					
Total	901 000	928 000	865 000	1 428 000	1 058 000					
<i>Imports</i>										
Unworked (a)	34 314	27 693	52 135	45 556	32 258	7 480	7 769	11 029	11 709	9 059
Roofing and wall tiles	160 921	165 790	156 784	174 574	179 150	51 248	53 385	51 255	59 391	66 118
Other worked slate (b)	60 720	55 854	55 401	41 222	30 012	9 847	10 237	10 778	9 217	8 448
<i>Exports</i>										
Unworked (a)	3 764	4 441	450	255 297	56 907	627	565	332	1 846	803
Roofing and wall tiles	16 917	24 963	9 348	13 230	8 459	9 445	12 331	5 410	7 275	5 940
Other worked slate (b)	1 919	2 868	4 266	7 133	6 014	2 140	2 515	2 932	2 280	1 588

(a) Including roughly split or squared.

(b) Including articles of slate or agglomerated slate.

Strontium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Strontium										
<i>Imports</i>										
Carbonate	12 297	4 672	1	3	212	3 436	1 287	7	13	25
<i>Exports</i>										
Carbonate	13	11	425	513	2	76	41	300	71	17

Sulphur

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Sulphur										
<i>Supply</i>										
Produced (a)	120 000	124 000	115 000	130 000	135 000					
Imported (b)	48 948	31 485	18 942	13 679	2 430					
Sulphur, zinc concentrates (imported) (c)	80	260	175	50	107					
<i>Consumption</i>										
For sulphuric acid-										
Sulphur	...	...	...	...	...
Zinc concentrates (c)	...	...	...	...	...
<i>Imports</i>										
Sulphur-										
Crude	48 948	31 485	18 942	13 679	9 637	2 705	2 017	1 679	3 198	45
Sublimed, colloidal etc	675	577	1 297	1 073	1 186	419	408	1 001	832	1 268
<i>Exports</i>										
Sulphur-										
Crude	700	431	113	8 207	13 182	995	622	228	262	1 699
Sublimed, colloidal etc	1 387	1 458	1 312	624	1 144	460	533	392	265	744

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

(c) Sulphur content calculated at 29%.

Talc

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Talc										
<i>Production</i>	3 881	6 000	4 325	2 850	2 410					
<i>Imports</i>	66 722	65 496	55 200	54 812	53 864	11 205	10 816	10 815	11 176	12 468
<i>Exports</i>	3 317	5 244	4 626	2 389	3 129	1 154	1 415	1 501	878	1 140

Tantalum and Niobium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Tantalum and Niobium										
<i>Consumption in Iron and Steel Industry</i>										
Niobium (a)	420	410	430	480	540					
<i>Imports</i>										
Ores and concentrates	0	2	13	0	6	15	75	222	17	264
Ferro-niobium	1 236	1 175	1 098	1 490	1 189	6 132	6 884	7 427	12 836	13 659
Tantalum	243	97	119	96	161	60 170	9 895	9 501	6 572	8 443
Niobium (b)	103	123	143	140	154	2 917	2 250	7 953	2 972	6 975
<i>Exports</i>										
Ferro-niobium	47	79	74	49	58	373	607	513	944	1 148
Tantalum	77	131	83	77	55	19 840	21 641	11 569	4 706	2 255
Niobium (b)	23	26	9	124	148	788	357	315	2 012	3 021

(a) Metal content.

(b) Including rhenium.

Tellurium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Tellurium										
<i>Imports</i>	17	104	38	38	151	153	1 780	806	1 070	11 650
<i>Exports</i>	46	36	53	40	3	1 125	1 607	1 753	1 781	338

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 since the closure in 1998 of the South Crofty mine in Cornwall. Western United Mines Ltd (WUM), the owners of the mine, has continued to develop and explore the resource. The most recent phase of development has included decline and tunnel development in preparation for trackless infrastructure and an extensive diamond drilling programme. WUM plans to develop a polymetallic deposit producing copper, zinc and silver, in addition to tin, with production forecast to commence in 2011.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Tin										
<i>Consumption</i>										
Refined	5 301	3 203	4 080	4 080	3 000					
<i>Imports</i>										
Concentrates	2	...	0	0	0	12	...	43	39	25
Scrap	215	468	1 728	452	448	204	206	510	317	334
Ash and residues	—	...	...	...	0	—	...	...	...	1
Unwrought	5 861	4 812	3 558	13 630	7 181	27 342	21 677	17 917	32 618	55 479
Unwrought alloys	1 145	2 067	891	525	400	4 821	5 605	5 029	5 535	6 533
<i>Exports</i>										
Concentrates	0	2	4	373	254	1	10	21	2 012	1 158
Scrap	7 353	20 603	35 252	27 329	19 110	3 539	16 374	31 425	43 699	24 197
Ash and residues	243	97	165	124	...	412	210	474	199	...
Unwrought	524	1 608	8 395	4 085	1 264	2 872	7 899	43 259	29 224	11 781
Unwrought alloys	885	442	698	696	532	3 685	2 336	4 107	5 332	5 671

Titanium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Titanium										
<i>Production</i>										
Titanium dioxide pigment (a)	291 000	274 000	275 000	268 000	255 000					
<i>Apparent consumption (b)</i>										
	18 200	43 200	78 800	68 200	63 900					
<i>Consumption in Iron and Steel Industry</i>										
Ferro-titanium	960	970	1 020	1 050	990					
<i>Imports</i>										
Ores and concentrates										
Ilmenite	110 596	80 435	175 882	181 794	194 719	6 068	4 631	25 815	27 878	38 401
Other (rutile)	113 852	109 238	48 147	42	37	25 336	24 777	12 111	36	34
Scrap	13 324	12 685	14 375	12 585	12 367	43 071	81 768	88 437	45 141	32 945
Unwrought	10 633	10 490	10 736	11 966	13 868	41 027	78 936	75 833	70 708	78 778
Wrought	3 444	4 763	5 156	6 354	6 071	58 318	94 902	141 150	176 721	186 129
Ferro-titanium (c)	2 457	1 883	1 087	1 677	1 290	8 071	11 011	6 434	6 732	3 612
Oxides	10 276	8 316	10 769	6 981	6 925	12 360	11 095	11 521	8 884	10 053
Pigments based on titanium dioxide	64 511	58 786	60 759	67 727	51 822	82 979	79 997	82 835	113 787	71 395
Titanium slag	...	64 849	91 603	151 494	316 390	31 242	28 718	27 968	33 379	...
<i>Exports</i>										
Ores and concentrates										
Ilmenite	1	87	58	26	21	11	586	199	100	165
Other (rutile)	42	27	99	...	0	226	256	780	...	29
Scrap	1 797	3 057	4 280	4 476	3 973	5 762	19 696	28 935	20 964	12 714
Unwrought	5 438	5 443	2 952	3 263	2 754	25 261	49 550	31 888	17 402	13 252
Wrought	4 678	8 712	6 795	5 196	4 428	73 773	133 007	169 621	178 876	198 153
Ferro-titanium (c)	20 703	17 361	17 645	19 515	18 557	66 151	118 690	108 240	79 176	59 013
Oxides	1 221	1 549	1 224	1 130	1 104	2 493	3 506	3 792	2 392	3 536
Pigments based on titanium dioxide	233 370	214 192	181 023	210 938	221 399	264 630	257 482	220 091	247 463	276 503

(a) Artikol estimates.

(b) BGS estimates; see p.v.

(c) Including ferro-silico-titanium.

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. In September 2009, Wolf raised AU\$4 million (£2.3 million) to complete a feasibility study on the Hemerdon project with the intention of undertaking ground preparation work and plant installation by the end of 2011. Hemerdon is one of the largest tungsten and tin resources in the western world and can be developed by open-pit mining. The project has a total resource of 218.5 million tonnes at an average grade of 0.18% tungsten trioxide and 0.02% tin, in the indicated and inferred categories. The open pit mine reserve contains 34.53 million tonnes at 0.18% tungsten trioxide and 0.03% tin. Wolf aims to produce 350 000 million tonnes per year of tungsten trioxide over a mine life of 12 years.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Tungsten										
<i>Consumption in Iron and Steel</i>										
Industry (a)	40	40	40	40	50					
<i>Imports</i>										
Ores and concentrates	0	4 914	34	2	11	8	813	229	27	25
W content	0	2 530	177	...	6					
Scrap	1 106	1 978	1 841	1 823	1 291	4 453	12 339	16 240	18 787	15 129
Unwrought	413	705	2 766	389	430	3 550	9 615	22 773	5 953	6 903
Wrought	384	521	111	713	144	6 609	6 240	5 015	6 828	4 257
Ferro-tungsten (b)	10	36	134	33	27	45	344	948	397	487
Carbide	838	974	913	1 409	1 023	9 071	14 301	18 831	25 842	19 982
Ash and residues	—	...	...	...	...	—	...	...	...	...
Tungstates	125	43	39	51	31	422	287	379	590	348
Oxides and hydroxides	295	318	707	746	96	1 341	3 987	9 535	8 566	1 171
<i>Exports</i>										
Ores and concentrates	20	5	1	36	21	72	51	44	589	136
W content	10	3	0	...	11					
Scrap	793	1 130	1 161	1 991	1 399	3 232	5 815	8 062	17 528	14 390
Unwrought	177	242	845	373	182	1 519	3 285	6 659	4 232	2 979
Wrought	297	360	93	80	44	2 741	2 200	2 532	3 091	3 976
Ferro-tungsten	39	37	17	8	31	106	315	246	112	256
Carbide	92	83	251	303	51	1 697	1 637	3 937	7 874	1 704
Tungstates	41	33	12	11	5	130	77	181	182	85
Oxides and hydroxides	333	46	4	0	402	1 198	794	143	4	4 782

(a) Metal content.

(b) Including ferro-silico-tungsten.

Vanadium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Vanadium										
<i>Consumption in Iron and Steel</i>										
Industry (a)	70	70	80	90	100					
<i>Imports</i>										
Scrap	—	...	...	...	...	...	...	...	...	...
Unwrought	196	458	(b) 174	(b) 583	314	1 629	5 598	3 133	5 232	6 277
Wrought	141	354	233	...	...	1 032	3 893	4 944	...	...
Ferro-vanadium	1 262	609	1 623	755	543	6 073	14 660	10 669	11 036	12 812
Oxides	306	339	472	425	344	806	3 804	4 063	3 053	4 813
<i>Exports</i>										
Ash and residues	...	...	...	...	...	...	...	...	...	...
Scrap	...	...	...	...	...	...	...	...	...	...
Unwrought	(b) 14	(b) 18	(b) 0	(b) 2 182	2	(b) 194	(b) 468	(b) 47	(b) 902	43
Wrought	1 061	415	69	...	...	4 148	8 253	127	...	...
Ferro-vanadium	17	157	151	96	79	125	...	2 728	1 400	922
Oxides	2	20	23	697	589	14	241	80	10 420	8 870

(a) Vanadium content of ferro-vanadium.

(b) Including scrap.

Vermiculite

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Vermiculite										
<i>Imports</i>	32 778	32 063	34 772	34 072	29 200	3 780	4 073	4 484	4 182	4 319
<i>Exports</i>	148	31	101	5	24	249	112	69	52	109

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.

In Great Britain no activity has been undertaken to develop zinc deposits since Anglesey Mining plc halted exploration and development work on the Parys Mountain polymetallic Cu-Pb-Zn-Ag-Au deposit on Anglesey in North Wales in 2008.

In Northern Ireland Metallum Resources plc has continued to investigate Irish-style lead–zinc deposits in the Clogher Valley and has been exploring for volcanogenic massive sulphide mineralisation in the Sperrin Mountains for which it holds licences.

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Zinc										
<i>Production</i>										
Slab	—	—	—	—	—					
<i>Consumption</i>										
Slab	150 100	161 676	161 676	172 000	151 500					
Scrap (Zn content)	88 782	...	...	...	...	
Total	238 882	...	...	...	...	
<i>Imports</i>										
Ores and concentrates (a)	260	903	603	164	257	435	866	881	418	424
Ash and residues	26 221	6 838	5 632	4 918	4 632	64 298	2 106	3 863	3 553	2 122
Scrap	228	188	334	30	103	69	57	243	41	54
Unwrought	139 477	135 840	119 676	122 458	119 911	86 214	103 949	215 030	222 907	134 468
Unwrought alloys	15 960	16 128	15 666	13 201	8 524	9 668	10 207	29 565	28 338	9 611
<i>Exports</i>										
Ores and concentrates	326	141	468	82	246	200	90	1 237	301	209
Ash and residues	20 699	28 472	7 009	7 068	13 786	4 847	24 231	5 807	6 677	8 597
Scrap	9 710	9 881	4 571	7 543	5 699	4 974	6 673	4 948	9 610	4 973
Unwrought	1 581	1 661	5 325	5 932	3 883	1 055	1 406	8 776	10 236	4 639
Unwrought alloys	26 260	38 267	37 120	33 799	28 408	17 629	32 540	61 587	63 495	38 083

(a) Zinc and mixed zinc-lead concentrates.

Zirconium

United Kingdom summary 2004–2008

Commodity	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
	Tonnes					£ thousand				
Zirconium										
<i>Consumption in Iron and Steel Industry</i>										
Ferro-silico-zirconium	60	60	60	70	70					
<i>Apparent consumption (a)</i>	18 200	11 000	8 000	7 000	7 000					
<i>Imports</i>										
Ores and Concentrates (b)	32 917	19 519	13 729	11 007	13 092	11 482	9 012	8 769	7 296	8 145
Scrap	156	129	114	62	65	408	695	465	278	263
Unwrought	79	65	175	150	403	882	1 252	2 346	1 071	4 490
Wrought	209	144	178	235	53	3 757	1 758	4 131	3 411	1 745
<i>Exports</i>										
Ores and concentrates	505	699	902	1 096	716	357	534	847	1 022	746
Scrap	22	20	25	41	2	105	153	111	104	33
Unwrought	75	46	5	0	54	161	73	22	6	72
Wrought	86	61	60	13	5	1 358	411	1 934	779	715

(a) BGS estimates; see p.v.

(b) Mainly zircon.

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