

United Kingdom – extensive potential and a positive outlook

By Paul Lusty, British Geological Survey

Introduction

In relation to its size the United Kingdom (UK) is remarkably well-endowed with mineral resources as a result of its complex geological history. Their extraction and use have played an important role in the development of the UK economy over many years and minerals are currently worked at some 2100 mine and quarry sites. Production is now largely confined to construction minerals, primarily aggregates, energy minerals and industrial minerals including salt, potash, kaolin and fluorspar, although renewed interest in metals is an important development in recent years.

With surging global demand for minerals the UK is seen by explorers as an attractive location to develop projects. With low political risk and excellent infrastructure a survey conducted by Resources Stocks (2009) ranked the UK twelfth in a global assessment of countries' risk profiles for resource sector investment. Northern Ireland is notable in terms of the extensive licence coverage for gold and base metal exploration and in having the UK's only operational metalliferous mine. The most advanced projects elsewhere include the Hemerdon tin-tungsten deposit in Devon, the South Crofty tin deposit in Cornwall and the Cononish gold deposit in central Scotland.

UK coal has seen a resurgence during the last three years driven largely by higher global prices, making it more competitive with imports. Coal is also viewed as having a key role in the future UK energy mix. This has led to greater investment in UK operations resulting in increased numbers of new opencast sites commencing production and more permit applications for further sites. Re-opening of closed collieries and improving infrastructure at other operations with the aim of extending mine life and increasing their production is also underway.

The world's leading financial centre

The UK is one of the world's most developed economies with a heavy reliance on services, including banking and insurance. The UK is a globally significant trading nation, with the sixth largest economy in the world and a GDP of US\$2,646 billion.

Until the latter half of 2008 the UK had experienced a number of years of steady economic growth, outpacing many European countries. However, the UK has been one of the countries most severely affected by the global economic crisis, linked to its heavy reliance on the financial services sector. Since the start of the recession in the second quarter of 2008 the UK economy has shrunk by about 6%. However, the economic outlook is improving with equity markets recovering in the second half of 2009 and GDP increasing 0.3% in the fourth quarter of the year.

Despite the financial turmoil London remains the world's leading financial centre, with many of the world's major mining companies either based in London or having a substantial presence in the UK. The London Stock Exchange (LSE) lists a number of mining companies in the FTSE top 100 companies. The LSE's Alternative Investment Market (AIM) provides a thriving source of capital to help smaller and growing companies, many of them in mining and exploration. London is also home to the London Metal Exchange, the world's principal non-ferrous metals markets, offering futures and options contracts for a wide range of metals.

The UK's substantial oil and natural gas reserves have made a significant contribution to its prosperity over the last three decades. However, North Sea reserves are declining and the UK became a net importer of energy in 2004, after many years of self-sufficiency. The

estimated total value of minerals produced in the UK, expressed as sales on an ex-works basis is about £34 billion. Oil and natural gas production still dominate UK mineral production by value, accounting for almost 90% of the total. The second most important group from an economic perspective is aggregates, followed by coal and industrial minerals.

Thousand tonnes

Mineral	2008	2009
Coal:		
Deep-mined	7,927	7,495
Open cast	9,449	9,772
Iron ore	0.1	0
Lead	0.3	0.3
Gold (oz)	5,230*	6,060*
Silver (oz)	12,780*	16,250*
Ball clay (sales)	1,020	1,020*
Barytes	43	36
Kaolin (sales) (a)	1,355	1,350*
Fireclay (b)	180	180*
Fluorspar	37	19
Gypsum (natural)	1,700*	1,700*
Peat (000 m ³)	760	800*
Potash (KCl)	673	700*
Rock salt	1,900*	2,000*
Salt from brine	1,000*	1,000*
Salt in brine (c)	2,800*	2,800*
Silica sand	4,777	5,000*
Talc	2	2*
Chalk (b)	5,874	6,000*
Clay and shale (b)	8,459	8,000*
Igneous rock (d)	53,489	40,100*
Limestone and dolomite	79,652	59,700*
Sand and gravel (e)	85,471	65,800*
Sandstone	12,255	9,200*
Slate (f)	1,058	1100*

Source: United Kingdom Minerals Yearbook, British Geological Survey.

*estimated; (a) dry weight; (b) excluding a small amount of production in Northern Ireland; (c) used for purposes other than salt making; (d) excluding a small amount of granite produced in Northern Ireland and igneous rock produced in Guernsey; (e) including marine-dredged landings at foreign ports; (f) includes waste used for constructional fill and powder and granules used in industry.

Minor metal production

Metal production from indigenous sources in the UK is currently confined to a single small gold mine, the Omagh Mine in County Tyrone, Northern Ireland, and Glebe Mines' Cavendish Mill in the Southern Pennine Orefield in Derbyshire which produces about 100t of lead concentrate per year as a minor by-product of fluorspar production.

The open pit Omagh gold mine, operated by Omagh Minerals Ltd, a subsidiary of the Galantas Gold Corporation, is located near Omagh in County Tyrone. Production commenced in mid 2007. The operation, working a mesothermal quartz-sulphide vein produces a flotation concentrate which is sent to an Xstrata smelter in Canada under a life of mine off-take agreement. Additionally some concentrate is processed separately to produce gold for the company's Irish gold jewellery business. Concentrate production during April 2009 was affected by a plant breakdown, whilst the company demonstrated significant improvements in production levels during May and June. The increases in production are

attributed to improved equipment and encountering higher ore grades. In the first nine months of 2009 reported production was 4492 oz gold, 13019 oz silver and 167.9t of lead. This represents a 16% increase in gold production and a 44% increase in silver output compared with the same period in 2008. Despite this Galant continued to make a financial loss during the first nine months of 2009, as it continues to repay the capital start up costs of the project. Never the less this was an improvement compared with the same period in 2008.

Some of the major ferrous and non-ferrous metals are smelted in the UK from imported ore or partly refined matte. They include iron, lead, nickel and aluminium. The dominant primary production of metal in the UK is of pig iron from imported iron ore (12.8Mt in 2008) and coking coal. This is used to make a wide range of steel products. Until recently there were three primary aluminium smelters in the UK. However, the Rio Tinto Anglesey Aluminium smelter closed at the end of September 2009 reducing domestic output by about 140,000t per year. Xstrata owns Britannia Refined Metals at Northfleet in Kent which refines lead bullion from the company's Mount Isa mine in Australia and also secondary lead sources. The Vale Inco Ltd plant at Clydach in south Wales produces nickel metal and other products from imported nickel matte. A number of companies produce refined platinum-group metals (PGM) in Britain, mostly by recycling spent catalysts and other secondary sources. Johnson Matthey Plc is a global leader in this sector but it is also prominent in the refining of precious metals from primary sources, with refineries at Royston in Hertfordshire and at Brimsdown, London Borough of Enfield. Vale Inco Ltd also operates a refinery at Acton near London where it refines PGM, gold and silver.

Important industrial minerals producer

The UK produces a diverse range of industrial minerals, ranging from relatively minor quantities of minerals such as talc, through to its position as the world's third largest producer and exporter of kaolin, after the USA and Brazil.

The kaolin deposits of south-west England are world famous for their size and quality and have provided over 165Mt of china clay since production records began in the late 19th century. China clay sales have been on a declining trend since peak output of 3.28Mt in 1988. Since then the industry has faced difficult market conditions as a result of increasing competition in Western European paper markets from imports of kaolin from the Amazon Basin in Brazil which is now the major supplier of coating kaolin into European markets. Sales were 1.4Mt in 2008 compared with 1.7Mt in 2007. A significant development in the kaolin industry was Imerys' reorganisation of its UK kaolin business with the transfer of some production to Brazil. The UK is a major exporter of kaolin and in 2008 1.2Mt (88%) of sales were destined for export, including 756,000t to the EU. The total annual value of UK kaolin sales is about £155 million. The UK is also a leading world producer and exporter of high-quality ball clays. Annual ball clay production is typically in excess of 1Mt. In 2008, 859,000t (84%) of sales were destined for export, including 560,000t to the EU.

The Boulby potash mine, in the North York Moors National Park, is the single most important non-hydrocarbon mineral operation in Britain generating total sales approaching £100 million, including by-product rock salt. Boulby Mine is operated by Cleveland Potash Ltd, a wholly owned subsidiary of Israel Chemicals Ltd. Production of potash decreased during 2008, to 673,000t KCl compared with 712,000t in 2007. This decrease reflects the global downturn in potash production during the final quarter of 2008. A large proportion of this was exported through the company's deepwater terminal on the River Tees. Cleveland Potash has recently announced a £20 million expansion plan for its Boulby mine. The funding will allow Cleveland Potash to further explore the resource and develop new reserves.

UK annual salt production is about 5.8Mt, mainly in the form of salt-in-brine from solution mining which is used as a feedstock for the chemical industry. 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 following particularly cold starts to both years, 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 (90% of rock salt production), but large tonnages are also produced at the Cleveland Potash Boulby potash mine in the North York Moors National Park. The Winsford Mine was working at full capacity at the end of 2009 to meet the demand for de-icing salt. The third producer, Irish Salt Mining and Exploration Co. Ltd, operates the Kilroot mine at Carrickfergus in Northern Ireland which can produce around 500,000t annually. A proportion of the rock salt from this mine is exported to the eastern seaboard of the USA. The UK is largely self sufficient in de-icing salt but Cleveland Potash imported 40,000t of salt from Spain to meet increased demand in early 2009.

Glebe Mines Ltd is the only producer of marketable fluorspar in the UK. Almost all the ore is derived from the South Pennine Orefield in the Peak District National Park. Sales of acid-grade fluorspar have been on a downward trend in recent years falling to 18,536t in 2009, a 49% decline over the previous year and 67% decrease compared with 2005. A significant development in the UK fluorspar industry was the acquisition of Glebe Mines Ltd by INEOS Fluor in 2007. This strategic move secured supply to the UK's only viable source of acid-grade fluorspar, vital to the chemicals industry. During 2009 Glebe Mines obtained consent for extraction of about 660,000t of new resources from its Tearsall site in Derbyshire. Extraction is likely to commence in 2010 for a duration of six years. Glebe's underground Milldam Mine is currently on care and maintenance but the company was implementing plans to re-develop the mine during 2009. As of October 2009 Glebe Mines ore reserves were estimated to be 1,215,000t, accessible by open-pit working at Tearsall, Peak Pasture and High Rake. Significantly the UK is one of only three EU producers of fluorspar, a critical raw material to the chemicals industry.

UK barytes production is dominated by M-I Drilling Fluids UK from its Foss Mine, near Aberfeldy in Scotland, which accounted for more than 93% of total production in 2009, with 33,684t. Production has decreased during the last couple of years. The output is mainly used in drilling fluids. Remaining production is confined to the South Pennine Orefield where barytes is derived as a by-product of processing fluorspar ore at Glebe Mines' fluorspar operation. Output is essentially dependent on fluorspar production and on the barytes content of the fluorspar ore. Production declined in line with fluorspar production to 2,458t in 2009.

UK gypsum production is derived from two sources: the production of natural gypsum, mainly by underground mining, but with some surface extraction in Nottinghamshire; and the recovery of synthetic gypsum a by-product of certain industrial processes. The most important synthetic source is desulphogypsum, which is produced by flue gas desulphurisation, a process that removes sulphur dioxide from the flue gases at coal-fired power stations. Natural gypsum, of which British Gypsum Ltd is the sole producer, is extracted in Leicestershire, Nottinghamshire, Staffordshire, Cumbria and East Sussex. Total UK gypsum production has not been disclosed in official statistics for some years but is thought to be about 1.7Mt per year. The production of desulphogypsum at five sites in Britain was 1.6Mt in 2008.

Silica sand production in 2008 decreased slightly to 4.8Mt compared with 4.9Mt in 2007. As a percentage of total output in 2008, about 88% 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. The underground mine at Lochaline on the west coast of Scotland was closed in December 2008, having been in production since the 1940s. The operation which worked some of the highest purity silica sand in the UK was considered commercially unviable by Tarmac due to external market conditions.

Coal resurgence

Despite a long history of extraction remaining UK coal resources are extensive and there is still a sizeable domestic demand for coal. Resurgence in global coal prices has driven renewed interest in UK coal development. The decline in planning applications for opencast extraction of coal has been reversed, while investment in new underground developments at several deep mines in England and Wales is growing.

Coal is produced by both deep and surface mining in England and Wales but only by surface mining in Scotland. Coal production in the UK rose slightly during 2008, against the long-term trend of production decreases. Production during 2009 decreased marginally (0.6%) to 17.3Mt, with a decline in underground production offset by a 3.4% rise in production from surface sources. Of the total production, opencast mines contributed 9.8Mt (57%) and underground mines 7.5Mt.

There were 13 opencast operators in the UK in March 2009. The Scottish Coal Company Ltd, the largest opencast coal mining company in the UK, and the second largest coal producer, held the greatest number of licences with twelve producing sites, all in Scotland. UK Coal Mining Ltd held four opencast licences for producing sites in England and ATH Resources Plc had five producing sites in Scotland.

In England there was production from six major deep mines: Wellbeck, Daw Mill, Kellingley and Thoresby all operated by UK Coal Plc; Hatfield, which is operated by Powefuel Mining Ltd; and Maltby operated by the Hargreaves Group. UK Coal has an additional deep mine Harworth, which is on 'care and maintainance'. UK Coal Plc is currently seeking funding to re-open Harworth and access reserves in a new area of the mine. Production from UK Coal Plc deep mining operations was adversely affected in the final quarter of 2009 following a fatal accident at Kellingley and difficult geological conditions at other mines including Thoresby (mining through a seam-split) and Welbeck. UK Coal Plc, the largest UK coal producer, expects to make an operating loss during 2009 of around £65 million. The company has announced plans to invest around £55 million over three years in the Thoresby Colliery and a similar amount at Kellingley to extend the life of both mines by around 10 years and increase production. UK Coal Plc indicate they have the potential to open five new surface mines in 2010 and Welbeck, originally due to close during 2007, is expected to close in the first quarter of 2010. In 2009 UK Coal negotiated new or amended long-term supply contracts with key electricity generators: DRAX, EON and EDF Energy and gained a new customer – Scottish and Southern Energy. This development increases the Company's long-term contract coal prices and provides immediate cash flow benefits, which will facilitate investment in developing new reserves.

Recent investment in deep mine development has seen the reopening of abandoned operations in South Wales. The Aberpergwm Colliery, owned by Energybuild Mining Ltd, is in commercial production and on schedule to increase annual coal production to 750,000t by 2013. The Unity Mine, owned by Unity Mining Ltd, located in the Neath Valley, is also producing coal. Output from individual deep mines in the UK is typically between 0.6Mt and 3Mt a year. Two further mines, Johnston and Gleison Collieries are under development in South Wales.

Coal remains a vital element in the UK's energy mix, with about a third of the electricity generated in the UK being derived from coal-fired power stations. However, about two thirds of the coal used is supplied by imports. In November 2009 the UK Government confirmed its policies in relation to the future of coal-fired power stations, indicating that no new coal-fired power stations would be constructed in the UK without carbon capture storage (CCS) and that the Government is seeking a long-term transition to clean coal. The Coal Authority's view is that indigenous coal should be part of a secure, diverse and sustainable energy supply.

Participation in the European Emissions Trading Scheme (ETS) is mandatory for all UK electricity generators who use fossil fuel, including coal. The price of carbon within the ETS is likely to be a major influence on future demand for coal by UK generators. In addition, the UK Climate Change Act 2008 sets legally binding emission reduction targets for 2020 and for 2050, and introduces five-yearly carbon budgets to help ensure those targets are met. Carbon reduction targets implemented through these schemes will have major implications for the long-term use of coal for electricity generation.

Gold dominates exploration

The increasing price of gold has contributed to a revival of interest in UK gold over the last five years, with a particular focus on Scotland and Northern Ireland. In Scotland the Cononish deposit near Tyndrum in Perthshire, 90 km north-west of Glasgow, is being re-evaluated by Scotgold Resources Ltd who acquired the project in May 2007. The deposit, discovered in 1984 comprises a single, near-vertical quartz vein up to 6 m in width. Full planning approval for the development of a small underground mine was granted in 1996 for a ten-year period, but, due to low gold prices, the project did not proceed. Since early 2008 Scotgold Resources Ltd has reviewed historical records for the deposit and undertaken additional resource drilling. The current JORC-compliant total Measured, Indicated and Inferred Mineral Resource is 163,000oz of gold and 596,000oz of silver (using 3.5 g/t gold cut-off). In early 2009 AMC Consultants announced the results of a scoping study at the Cononish project; this confirmed the economic viability of the project. Drilling to infill the existing resource and target extensions was undertaken during 2009.

Scotgold has commissioned studies on the tailings facility and advanced metallurgical test work. The company holds rights over the previously-expired planning permission for development of the deposit and has submitted an application to the planning authority to extend and revise the original permission. The company aims to have all planning and environmental approvals for the operation in place by the second quarter of 2010. Scotgold Resources Ltd currently plans for an operation, producing around 20,000oz of gold per annum, to be in production by 2011. Snowdon Mining Industry Consultants Ltd indicate that Cononish has "the potential for the definition of further resources immediately adjacent to the current resource and close by". Scotgold Resources Ltd has three Crown licences covering about 2200 km² of central Scotland. Regional outcrop sampling during 2009 identified a significant number of high grade gold values in outcrop samples from an extensive zone surrounding the Cononish deposit. Scotgold Resources Ltd plan to invest about a £1 million in exploration during 2010 and it is estimated that about £12 million will be required to bring Cononish into production. Scotgold Resources Ltd which have been listed on the ASX since January 2008, were admitted to the AIM in February 2010. In conjunction with the AIM admission, the Company has raised about £704,000 before expenses. Commenting on the admission, John Bentley, the Chairman of Scotgold Resources Ltd said "The dual listing has broadened the Company's shareholder base, particularly in the UK and we believe that the AIM admission will better enable UK and European investors to participate in the Company. We look forward to building shareholder value as we progress the Cononish project and increase definition of the mineral resources through our exploration programme."

Also in Scotland Alba Mineral Resources who have recently been exploring for gold and nickel has relinquished its four exploration licences covering the Aberfeldy area, part of the Ochil Hills, Kilmelford and Arthra.

The Dalradian terrane being explored by Scotgold Resources is a continuation of the highly prospective Dalradian rocks which host the Curraghinalt project and the Omagh Mine in Northern Ireland. Since its release in 2007 high resolution geophysical and geochemical data from the Tellus project for Northern Ireland, funded by the Northern Ireland Department for Enterprise, Trade and Investment has underpinned a marked increase in mineral

exploration in the province. Currently, more than 50% of the land area is under licence, with several companies exploring for precious and base metal deposits in a variety of geological settings.

Exploration continues at the Curraghinalt deposit, a mesothermal quartz-sulphide vein deposit, 15 km north-east of Omagh in County Tyrone. The resource at Curraghinalt comprises an indicated resource of 250,000oz of gold, contained in 570,000t of material, with an average grade of 13.95g/t gold. In 2009 Tournigan Energy Ltd sold Dalradian Gold Ltd, the company that holds the Curraghinalt licences to SA Resources Ltd. Further geological investigations and drilling are planned at Curraghinalt during 2010.

During 2008 Galantas released details of CNI 43-101 compliant resource review for the Kearney deposit and other named veins at its Omagh deposit in Northern Ireland. Measured resources stand at 78,000t at a grade of 6.35g/t, or 16,000oz of gold for the main Kearney structure with Indicated and Inferred categories for this and other named veins of 88,000 and 295,800oz of gold respectively. Omagh Minerals Ltd, the wholly owned subsidiary of Galantas Gold Corporation, has three licences covering an area of 653 km² in Counties Tyrone and Fermanagh. The company has identified targets on these licences as having good potential for bedrock gold mineralisation. This follows a GIS data compilation exercise carried out during 2008 and 2009. A 425m boulder train on one licence returned eight float samples over 0.5 g/t gold, peaking at 20.7 g/t gold and 79.6 g/t silver. Quartz veins in the area returned peak values of 3.5 g/t gold and 12 g/t silver. In the second quarter of 2009 the exploration programme was suspended to concentrate on improving grade control in the open pit.

Conroy Diamonds and Gold Plc is exploring the Longford-Down Massif in Northern Ireland and the Republic of Ireland. In November 2009 the company reported the discovery of an 18 m wide zone of gold mineralisation at the Clay Lake project on one licence area in South Armagh, Northern Ireland. Average gold grades were reported as 0.47g/t with individual samples as high as 1.69g/t and silver values of up to 1.4g/t. Clay Lake is along strike from the company's most advanced target, Clontibret, in County Monaghan in the Republic of Ireland.

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

In Northern Ireland Lonmin Plc continues 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 has 10 licences in Northern Ireland, having relinquished two during 2009.

Recent GIS-based prospectivity analysis funded by the Northern Ireland Department of Enterprise, Trade and Investment, based largely on the Tellus geophysical and geochemical datasets, indicates favourability for orogenic gold mineralisation throughout the Dalradian and Southern Upland-Down-Longford Lower Palaeozoic terrane of Northern Ireland. This complements previous studies on these terranes in Scotland.

Project development pushes ahead

Even with the effect of the global financial crisis the more advanced projects in the UK are pushing ahead with development. Wolf Minerals Ltd, the owners of the Hemerdon mine, in Devon, continued work to start tungsten production at the site. Planning permission for a 2.2 million tonne per year open pit was granted in 1986 to AMAX (UK) Ltd, valid until 2021. A drilling programme completed in November 2008 led to a large increase in estimates of both tonnage and grade of the deposit. This gave a global resource of 97.4Mt at 0.22% tungsten trioxide and 0.023% tin (Inferred and Indicated). This is a 20% rise on the previous tonnage estimate made in March 2008. The reserve for the open pit stands at 34.53Mt at 0.18% tungsten trioxide and 0.03% tin. The revision places Hemerdon among the largest tungsten resources in the western world. Work continues to define a JORC-compliant reserve at Hemerdon. In September 2009 Wolf raised AUS\$4 million to complete a bankable feasibility study on the Hemerdon project with the intention of undertaking ground preparation work and plant installation by the end of 2011. Planned annual production will be about 3Mt of ore per year for a period of 12 years.

Western United Mines Limited (WUM), the owners of the South Crofty tin mine in Cornwall, has continued to develop and explore the resource. The mine was bought in 2001 by Baseresult Holdings, now a shareholder of WUM. During 2008 WUM engaged in a drilling programme and negotiations with the local councils to enable the construction of new infrastructure. 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.

One casualty of the economic downturn was Anglesey Mining Plc which has suspended exploration and development work on the Parys Mountain polymetallic Cu-Pb-Zn-Ag-Au deposit on Anglesey in North Wales. This follows failure of the proposed sale of the project to Perth-based Western Metals Ltd. However, Anglesey Mining has recently announced proposals for further drilling and related work at the site and report “continuing third party interest in the project”. Anglesey Mining indicates that they continue to view Parys Mountain as a valuable asset for which prospects will improve with increasing prices and a positive market outlook for base metals.

Future prospects

The extensive licence coverage in Northern Ireland and developing interest in metals in other parts of the UK are testament to renewed interest in the UK’s metalliferous mineral sector. If the three main projects currently under development come to fruition these will be the first new commercial, non-energy or industrial mineral developments in Great Britain for more than 30 years. Notably, development of the Hemerdon project would make the UK one of the world’s largest tungsten producers, exceeded only by China and Russia. Given current interest in the highly prospective Dalradian rocks of Scotland and Northern Ireland this area has the potential for significant new discoveries and/or delineation of further resources at existing projects.

The outlook for coal in the UK is the most positive it has been for many years. After several years of contraction the industry is once again growing, with recovering production, development of reserves at existing mines and potential for a number of new operations. Although the global coal market remains volatile the positive long-term demand and price projections for coal are likely to support further investment in the UK coal sector. Around 75% of the UK coal market is supplied by imports but there are indications that domestic coal may be regaining market share. This is likely to persist if current global coal prices are sustained, along with increasing prices for other fuels such as natural gas. However, future decisions on investment in the development of UK coal resources will have to be made

against a background of growing regulatory control, emission reduction targets and uncertainties about the commercial-scale viability of CCS.

This review has been compiled with assistance from a large number of people and companies. Advice and assistance from Tom Bide, Mark Patton, Andrew Bloodworth, Gus Gunn and Tim Colman are gratefully acknowledged. British Geological Survey © NERC 2010.



Development works at Hemerdon tin-tungsten deposit. BGS©NERC



Exploration drilling at the Cononish project near Tyndrum in central Scotland. © Scotgold Resources Ltd.



Coal extraction at the Margam Mine, South Wales. BGS©NERC