

A guide to minerals information in the central belt of Scotland

 The Scottish Government



British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL



What is a mineral resource?

A mineral resource is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.

Generally, a mineral resource is known to exist within the boundaries outlined by geological mapping. This may be supplemented by more detailed geological data. The British Geological Survey (BGS) mineral resource maps show the surface extent of mineral resources (Figure 2). These are mostly inferred from available geological information and they generally have not been evaluated by drilling or by other sampling methods on any systematic basis. The mineral resources defined show the areas within which potentially workable minerals may occur. What may be of economic interest can change over time, and is dependent upon a number of factors, such as mineral markets and extraction technology.

When does a mineral resource become a mineral reserve?

A mineral reserve is that part of a mineral resource which can be economically extracted.

A more detailed evaluation of a mineral resource (such as trenching and drilling) may result in the identification of an area where the volume and quality of mineral are such that they could be economically extracted. This would determine a mineral reserve. In the context of land-use planning the term 'mineral reserve' should only be applied to those minerals for which a valid planning permission for extraction exists (i.e. consented or permitted reserves). Without a valid planning consent, mineral working cannot take place. Consequently, the inherent economic value of the mineral resource cannot be released.

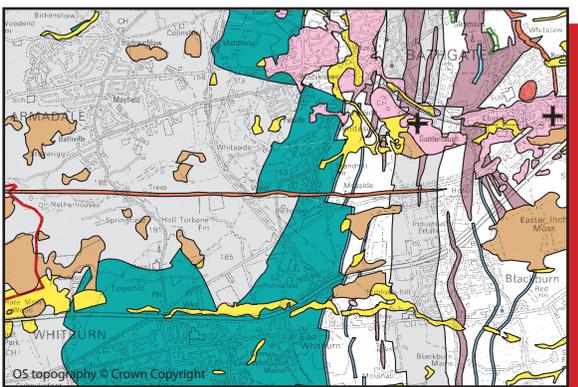
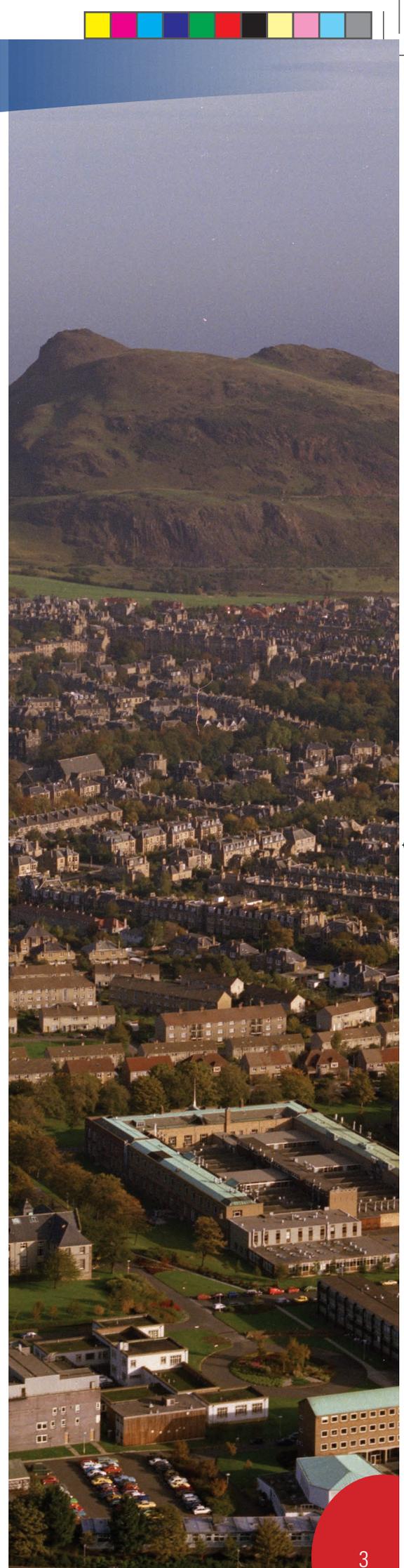


Figure 2 Extract from the 'Mineral resource map for Edinburgh and the Lothians' (OR/08/013) published by the British Geological Survey (BGS). Four map sheets covering the central belt of Scotland show the surface extent of mineral resources based on geological survey data. The maps include text information on each resource mineral.



Why do we need minerals?

“The availability of minerals is essential to support economic development and prosperity. The minerals industry provides the raw materials for construction, manufacturing, agriculture and other specialist sectors” (Scottish Planning Policy 4, para. 2).

Minerals are essential to maintaining our modern economy and lifestyle. They are the basic raw materials required for manufacturing, construction, energy and agriculture. They are also required to maintain heritage (see case study 1). Many aspects of our daily lives are underpinned by minerals. In the UK, each person uses an average of over 10 tonnes of minerals and metals annually.

Mineral resources in the central belt

Crushed rock aggregate is hard rock such as igneous rock or sandstone that is crushed for use in a variety of construction applications, such as foundations for roads and buildings. Some rock types have ‘non-slip’ properties (high Polished Stone Value) which make them extremely valuable for road surfacing. In Scotland, igneous rocks are the main source of crushed rock aggregate.

Sand and gravel has a variety of construction applications, such as concreting aggregate, or asphalt for road surfacing. In Scotland sand and gravel deposits lie on top of the bedrock geology and were mainly deposited by glaciers and rivers (glaciofluvial).



Case study 1: Reopening of dormant building stone quarries for heritage conservation and restoration

There are few remaining working building stone quarries in Scotland. Those that are in operation supply the growing need for restoration stone to help preserve the special characteristics of Scotland’s buildings and monuments.

- Of the many closed stone quarries in West Lothian, Binny quarry near Uphall was reopened on a temporary basis in 1997 to supply stone for the restoration of the Scott Monument, Edinburgh. The distinctive pale brown sandstone from Binny can be seen elsewhere in Edinburgh including the National Gallery, the former General Post Office and the City Observatory on Calton Hill.
- The Cullaloe quarry, near Burntisland in Fife, reopened in 2004 to supply conservation needs in Edinburgh after having been closed for nearly 60 years. It extracts a high-quality, pale sandstone of the Strathclyde Group, originally used in the development of Edinburgh, Dundee and Glasgow during the nineteenth century.

Coal is a combustible sedimentary rock made from plant remains. Its main use is to generate electricity in coal-fired power stations. In Scotland, coal is extracted by opencast mining from sedimentary rocks of Carboniferous age. Although coal accounts for only 15% of Scottish minerals by weight, it accounts for half the total value of all minerals produced in Scotland. Production from this area makes up 45% of the total UK coal production (2006, calendar year).

Limestone is a sedimentary rock consisting principally of calcium carbonate (CaCO₃). It can be crushed, ground or calcined (burnt to make lime) for different applications. Major uses include cement manufacture, lime for agricultural or water treatment purposes, and also as an industrial filler in paints and plastics. Limestone in the central belt is generally too soft for use as a building stone or to be crushed for aggregate.

Building stone describes rocks used for masonry, walls, pavements and roofing material. Desirable properties include being hard enough to resist years of weathering, but also soft enough to be cut or carved. Most building stones are used locally, so differences in aesthetic properties such as colour or texture impart distinctive local character. Many building stones are of such high quality that they have also been exported. Sandstones of Carboniferous, Permian and Upper Devonian age have been used extensively in Scotland as building stone in the past.

Peat is formed by decaying organic matter which accumulates in bogs and fens. It is cut locally for fuel, but is mainly extracted for use as a horticultural growing medium. Half the peat extracted in the UK currently comes from Scotland. In the central belt it is currently extracted in South Lanarkshire, Falkirk and Clackmannanshire.

Silica sand is very pure quartz sands (up to 99% SiO₂). It has specialised industrial uses because of its physical and chemical properties and therefore it commands a higher price than sands used for construction purposes. The main use of silica sand in Scotland is for making glass containers. Important deposits exist in the Carboniferous Passage Formation, which are worked at Levenseat in West Lothian and at two locations in Fife.

Brick clay is clay and shale used in structural clay products such as bricks, tiles and pipes. In Scotland, the principal sources of brick clay include Carboniferous mudstone extracted in conjunction with coal seams. These clays generally have a high carbon content, which aids the firing process as less additional fuel is required. Until recently South Lanarkshire produced 70% of clay for brick making in central Scotland.

Fireclays are fossil soil horizons found beneath coal seams and are commonly 1–3 m thick. Typically extracted in association with opencast coal, they fire to a buff–brown colour because they contain less iron than brickclays. Fireclay products have a higher resistance to heat and have been used in the past to line refractory furnaces. They are now mostly used to make high quality buff and yellow bricks.

Other minerals which have been historically extracted in the central belt include onshore oil and gas, oil shales, metals and barytes. Oil, gas and oil shale were produced from the eastern counties. Metals, particularly lead and silver were produced in South Lanarkshire. Barytes (a heavy mineral containing barium) was extracted from East Ayrshire and Renfrewshire.

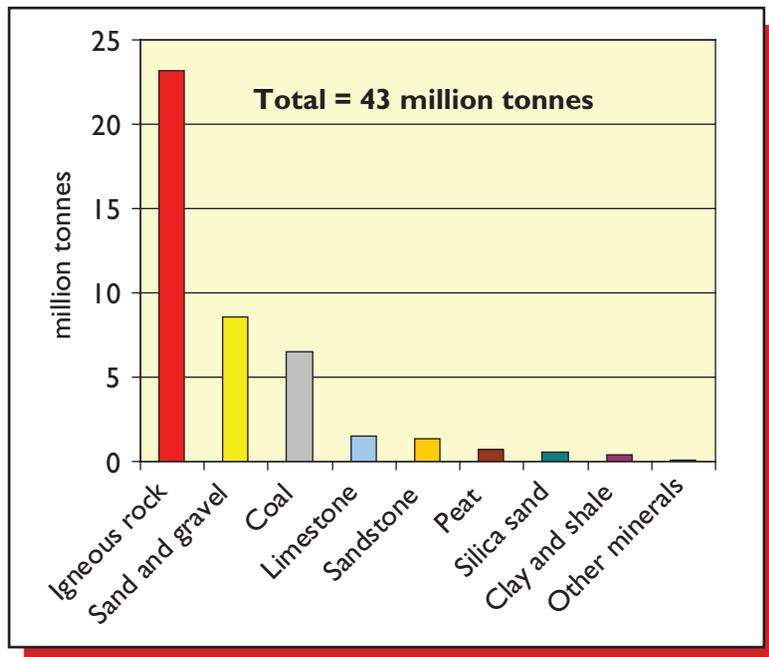


Figure 3 Minerals produced in Scotland in 2006.
 Derived from: Office for National Statistics, British Geological Survey, The Coal Authority.

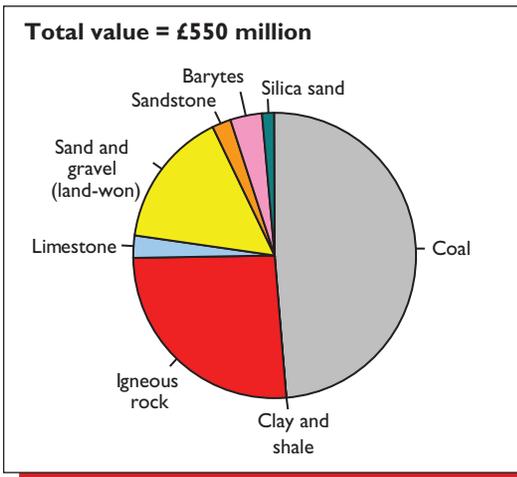


Figure 4 Value of minerals produced in Scotland in 2005. Derived from: Office for National Statistics, British Geological Survey, The Coal Authority.

Minerals in the economy

In 2005 the total value of minerals produced in Scotland was approximately £550 million. This represents 15% of the value of land-won minerals produced in the whole of the UK. Coal amounts to half the total value of all minerals produced in Scotland (Figure 4).

The construction industry is heavily dependent on locally-sourced raw materials to reduce transport costs and maintain competitiveness. Electricity generation and to a lesser extent, manufacturing, are also dependent on locally produced minerals. The economy gains not only from the value of the indigenous mineral production itself but also from the much greater value of the downstream industries which consume these raw materials.

Key

Minerals are classified into groups based on their end-use in the downstream industries in which they are consumed.

Industrial minerals are non-metallic minerals used in industrial applications such as manufacture of chemicals, fertiliser, glass and paper.

Construction minerals are used for roads, houses, other buildings and infrastructure.

Energy minerals are used for electricity generation, transport and heating.

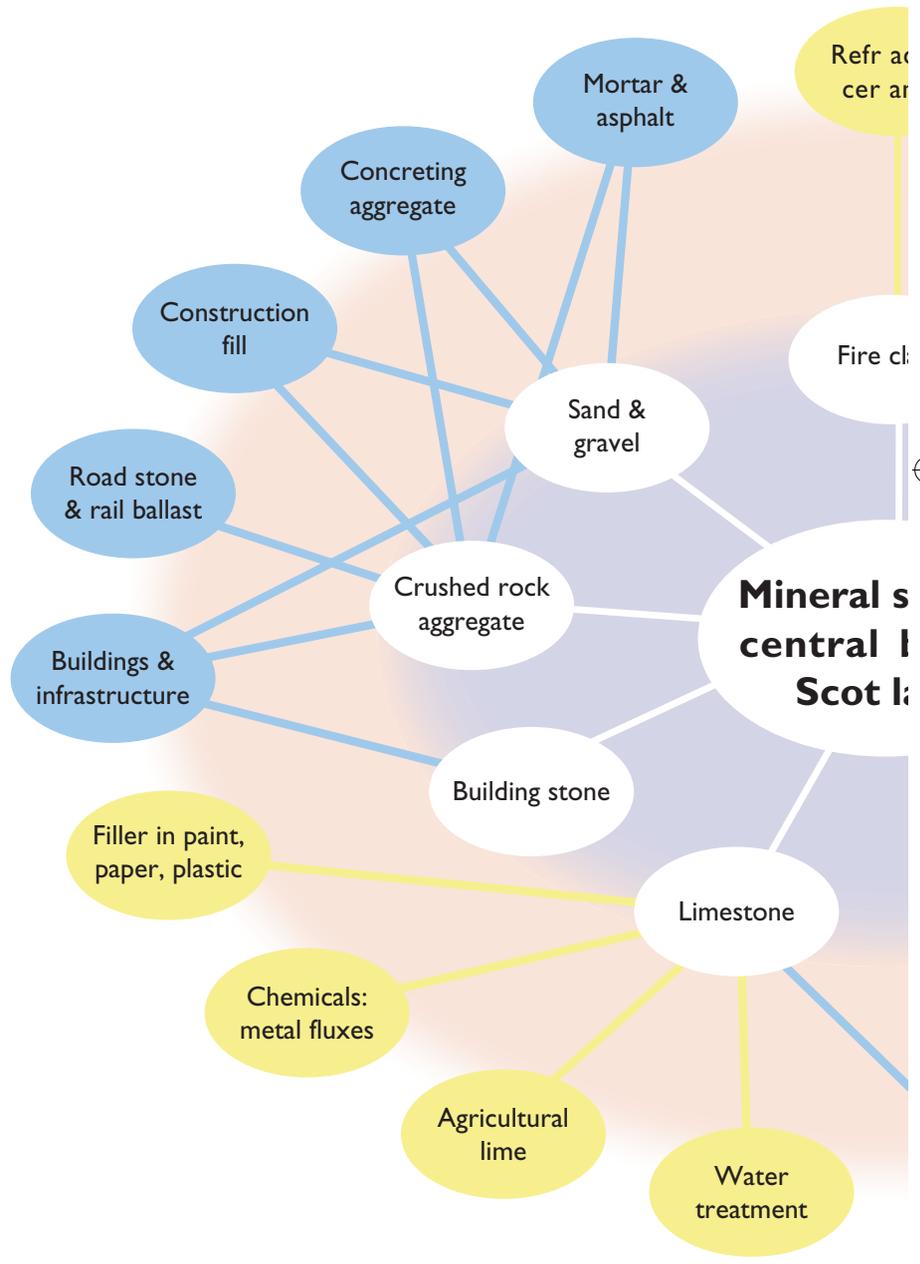


Figure 6 Scottish central belt minerals and their uses.

Gross Value Added (GVA) is an important economic indicator as it shows the contribution of individual industries to the economy (Figure 5). In Scotland in 2005, the GVA for mining and quarrying was only 0.3% of total GVA. However, minerals serve as essential raw materials for the construction industry and to a lesser extent, manufacturing, where the value added may be many times the cost of the raw mineral. These sectors contributed approximately 23% to the Scottish GVA.

Employment is another economic indication of the importance of minerals. According to the Scottish Annual Business Statistics 2005, mineral extraction directly generates 3000 jobs, many of which are in rural areas. Downstream industries, which partly depend on locally sourced minerals, employ a further 359 000 people.

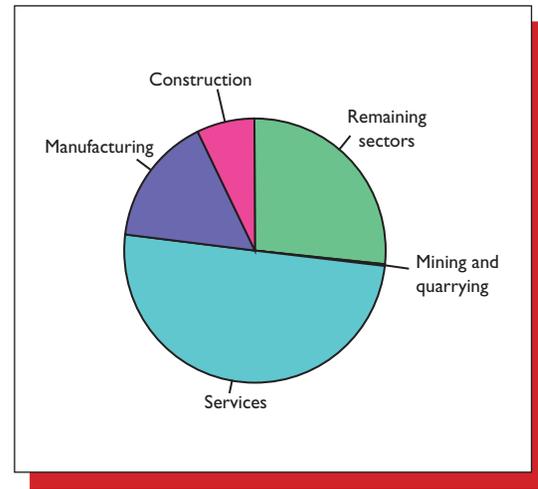
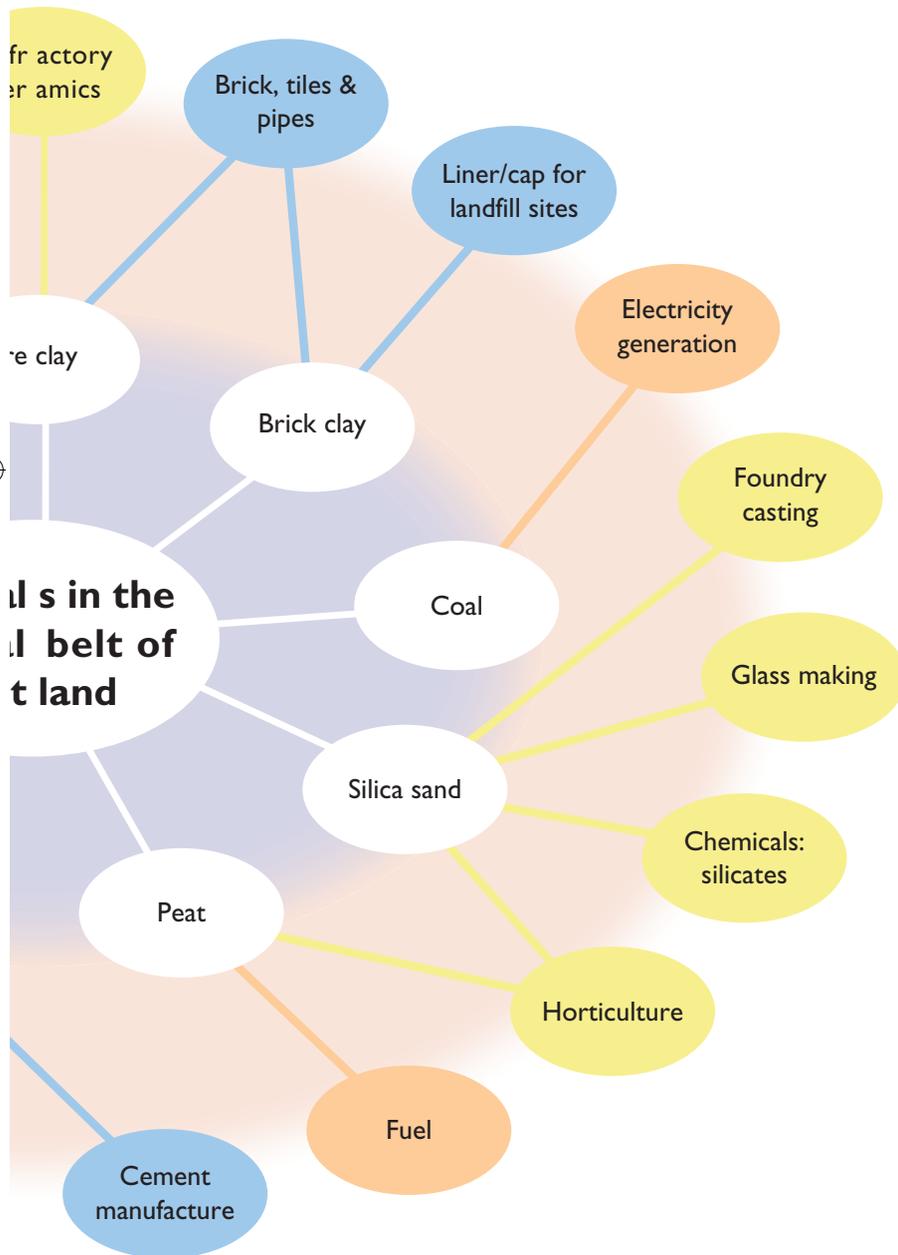


Figure 5 Gross Value Added (GVA) contribution of different industry sectors in Scotland. Value Added is the difference between the value of an output (e.g. sales revenue) and the cost of the brought-in inputs used to produce it (e.g. fuel and other raw materials).
Derived from: Office for National Statistics.



Key publications:

- Building with Scottish stone (SSLG)
- Central Scotland Mineral Portfolios (BGS)
- Geology and mineral planning factsheets for Scotland (BGS and Scottish Government)
- Mineral Commodity Profiles (BGS)
- Mineral Extraction in Great Britain Business Monitor PA1007, 2006 (ONS)
- Mineral Matters #3: Minerals in the economy (BGS)
- Mineral Planning Factsheets (BGS)
- PAN 60: Planning for natural heritage (Scottish Government)
- Scottish Aggregates Survey 2005 (Scottish Government)
- Scottish Annual Business Statistics 2005 (Scottish Government)
- Stone in Scotland (UNESCO, IAEG)
- United Kingdom Minerals Yearbook 2006 (BGS)

Maintaining mineral supply

*“Minerals are an important primary resource. There is a continuing need for an adequate and steady supply of minerals for a variety of purposes”
(Scottish Planning Policy 4, para. 1).*

Our economy and lifestyle depend on being able to maintain a continued and steady supply of minerals. This must be achieved in a way which minimises negative impacts on people and environment. Mineral resources, and the land under which they occur, should be used wisely in order to conserve as much as possible for the future.

Mineral supply

Availability of minerals depends on:

- **Existence of resources:** The location, size and quality of a resource is a result of geological activity. Resources can only be worked where they are found, and they can only be worked once. A proportion of demand for some primary minerals can be met by recycling.
- **Proximity of resources:** Bulky minerals such as construction aggregates and brick clay are generally worked as close as possible to the place where they are required. Transport costs mean that the average haul distance for aggregate is only about 50km. Localised supply of minerals reduces costs to the customer, lowers the ‘carbon footprint’ associated with transport and avoids transferring potential environmental impact to other places.
- **Access to resources:** Minerals have no value unless they are legally accessible. The planning process attempts to balance the economic need for minerals with the need to protect the environment by controlling legal access. Good quality baseline information is critical in encouraging informed debate and decision-making by planning authorities. Key sources of information on minerals and their relationship to the permitting process in Scotland are set out in Table 1.

Key publications:

- Mineral Matters #13: Safeguarding our minerals supply (BGS)
- NPPG 5: Archeology and planning (Scottish Government)
- NPPG 18: Planning and the historic environment (Scottish Government)
- PAN 81: Community Engagement, Planning with People (Scottish Government)
- SPP 4: Planning for minerals (Scottish Government)
- SPP 15: Planning for rural development (Scottish Government)
- SPP 16: Opencast coal (Scottish Government)



Table 1 Information sources and their relationship to mineral supply in Scotland.

Mineral supply issue	Possible action	Key sources of information
<p>Competing pressure on land use means that the location of many mineral resources coincide with designations which may prohibit access to the resource. Competing land uses include settlements, forests, agricultural land, environmental and cultural designations. Planning permission is required to allow legal access to the mineral-bearing land. The planning authority is responsible for examining all aspects of the proposed development, weighing up potential impacts before a planning decision is made.</p>	<p>Planning for minerals and adhering to the policies set out in government guidance helps planning authorities balance the different priorities of social, environmental and economic impacts through their development plans. Mineral safeguarding is the mechanism by which mineral resources can be 'protected' (in a similar way to the protection afforded to environmental and cultural assets or prime agricultural land) to ensure supplies for the future.</p>	<p>The BGS mineral resource maps also show environmental designations. Land-use designation information may also be available through the Scottish Natural Heritage, and Scottish Government websites. Planning authorities' development plans contain policies and proposals for the future development and land use in an area.</p>
<p>Security (continuity) of supply is required to maintain economic growth and ensure that the minerals industry is able to invest in new plant and environmental improvements.</p>	<p>Granting planning permissions in advance allows for the creation of a 'landbank' of consented reserves. Detailed mineral production surveys can be used to estimate current and predicted market requirements and hence calculate suitable landbank sizes to ensure continuity of supply.</p>	<p>SPPI discusses how social, environmental and economic impacts can be balanced. The Scottish Aggregates Survey 2005 includes a survey of consented reserves of aggregates in each region of Scotland.</p>
<p>Minerals related developments are often contentious and may not be welcomed by local communities.</p>	<p>Access to high quality, impartial minerals information aids effective community engagement and stakeholder participation in the decision-making process. An environmental impact assessment (EIA) and transport assessment will identify and help mitigate problems by instigating control measures and conditions. An appropriate post-operation restoration and aftercare plan can benefit the local community.</p>	<p>PAN 81 offers guidance to planners and developers in how to keep the community actively involved throughout the plan process. PAN 64 suggests methods for reclaiming surface mineral workings. Geology and mineral planning factsheets for Scotland offer detailed impartial information on specific mineral resources. BGS mineral resource maps show the spatial distribution of minerals in the central belt.</p>

Sustainable mineral development

“A sustainable approach to mineral extraction should reconcile the need for minerals with concern for the natural and built environment and communities” (Scottish Planning Policy 4, para. 8).

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. The key aim with respect to minerals is to decrease the quantity used by society without slowing economic growth. This can be done by increasing the efficiency of use, safeguarding supply, maximising recycling and using alternative materials wherever possible.

Recycling, alternatives and efficient use of minerals

As part of the Sustainable Development agenda, the Scottish Government has set targets for raw material consumption by construction projects. Developments over £1 million should have at least 10% of the value of minerals used derived from recycled and re-used content. According to the Scottish Aggregate Survey in 2005 the overall contribution from recycled aggregates reached 18%, with the potential for this to increase over time.

Recycling is the collection and separation of materials that have reached the end of their useful life, and their subsequent reprocessing to create usable products. Using recycled materials helps to protect the environment and ensures sustainable use of resources through:

- **Waste reduction:** If material can be re-used rather than disposed of, it reduces pressure for space in landfill sites.
- **Resource conservation:** Minimising consumption ensures that mineral resources in the ground can be safeguarded for the future and reduce environmental and social effects of extraction.
- **Energy conservation:** Recycling commodities such as metals and glass can be more energy efficient than using primary materials.

Alternative materials can sometimes be used in place of primary raw materials. High quality minerals should not be used where a low quality or recycled material would suffice.

Optimum utilisation of minerals allows for more efficient extraction, minimising waste and increasing opportunities for using recycled or alternative minerals (see case study 2) where possible to ensure a continuous supply into the future.



Environmental impact of mineral extraction

The minerals industry, local authorities and environmental regulatory bodies collaborate in the task of protecting the environment at local, regional, national and international levels in regard to mineral extraction. Depending on the size and/or nature of proposed mineral development, the submission of an Environmental Statement (ES), which is the output of an Environmental Impact Assessment (EIA) may be required. The EIA is a systematic process which collates information about environment effects of a development proposal. These effects are evaluated and presented in the assessment. A transport assessment can help guide new sites to locations close to market thereby reducing energy consumption and pollution.

Environmental impacts can be minimised throughout the life-span of an operation by:

- **Planning for an operation with minimum environmental impact:** Knowledge of where minerals exist can help identify the most appropriate location for extraction, according to the environmental, social and economic considerations.
- **Monitoring and enforcement of conditions during operations:** Following planning consent conditions can help reduce, control, and alleviate negative impacts on the environment. Conditions may relate to dust and air quality, noise, ground and surface water contamination, waste disposal, and transport levels. Conditions should be subject to review to ensure that they are fit for purpose.
- **Restoration, after-care and after-use:** A well thought-out and funded post-extraction plan for a quarry can increase biodiversity and geodiversity of an area. A restored quarry can create new habitats for plants and animals or new amenities for local residents.



Case study 2: Fife council re-used material from footways, excavated during routine pavement renewal, as sub-base for new footways. £11 700 was saved on the cost of materials, disposal costs of £108 000 were avoided, and 9000 tonnes of waste were diverted from landfill.

Source: "Procurement and the efficient use of material resources" WRAP.

Key publications:

- Mineral Matters # 6: Recycling our minerals (BGS)
- Mineral Matters #12: Future issues for sustainable mineral extraction (BGS)
- PAN 50: Controlling the environmental effects of surface mineral workings (Scottish Government)
- PAN 51: Planning, environmental protection and regulation (Scottish Government)
- PAN 58: Environmental Impact Assessment (Scottish Government)
- PAN 64: Reclamation of surface mineral workings (Scottish Government)
- Procurement and the efficient use of material resources (WRAP)
- Quarrying in depth: Recycling (QPA)
- Sustainable Development Report 2007 (QPA)

Using mineral resource information

Information referred to in this guide can be obtained from the web addresses provided or by contacting the relevant organisations listed here. This list acts as a summary of useful organisations and publications and is not exhaustive. Contact details are correct at time of publication.

Scottish Government

The Scottish Government is responsible for the national planning system in Scotland. For local planning information (including development plans) please visit the planning pages on your local council's website: www.scotland.gov.uk/Topics/Business-Industry/support/15419/3483

Scottish Government	Planning Directorate 2H Victoria Quay Edinburgh, EH6 6QQ	Planning helpline: 0845 774 1741	www.scotland.gov.uk/ Planning
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Key publications:

- **Choosing our future: Scotland's sustainable development strategy** sets out Scottish action in-line with shared priorities of the UK Framework for sustainable development. www.scotland.gov.uk/Publications/2005/12/1493902/39032
- **Geology and mineral planning factsheets for Scotland** by the BGS and the Scottish Government. Published in 2006, these are currently available for silica sand; natural building, paving and roofing stone; brick clay; and igneous rock. www.scotland.gov.uk/Publications/Recent
- **National Planning Framework** is updated every 4 years. www.scotland.gov.uk/Publications/2004/04/19170/35317
- **Planning Advice Notes (PANs)** provide advice on good practice and other relevant information. www.scotland.gov.uk/Topics/Planning/AdviceGuidance/PANs
- **Scottish Aggregates Survey 2005**, released in 2007 includes tables and analysis of Scottish aggregate production, distribution and reserves. www.scotland.gov.uk/Publications/2007/11/26104244/0
- **Scottish Annual Business Statistics 2005**, provides data on individual industries in certain sectors of the Scottish economy. www.scotland.gov.uk/Topics/Statistics/16170/4363
- **Scottish Planning Policies (SPPs)** are replacing **National Planning Policy Guidance (NPPGs)**. They provide statements of Scottish Government policy on nationally important land use and other planning matters. www.scotland.gov.uk/Topics/Planning/PolicyLegislation/Policy

British Aggregates Association (BAA)

British Aggregates Association provides essential support to the independent quarrying sector through highly experienced quarrymen.

British Aggregates Association	PO Box 99 Lanark ML11 8WA	Tel: 0120 627 4057 Email: enquiries@british-aggregates.com	www.british-aggregates.co.uk
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Confederation of British Industry (CBI) – Scotland

Confederation of British Industry helps create and sustain the conditions in which businesses in the United Kingdom can compete and prosper.

Confederation of British Industry	16 Robertson Street Glasgow, G2 8DS	Tel: 0141 222 2184 Fax: 0141 222 2187	www.cbi.org.uk
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Confederation of UK Coal Producers (CoalPro)

Confederation of UK Coal Producers help the industry contribute to a secure, diverse and sustainable energy supply by promoting the highest operating and environmental standards.

Confederation of UK Coal Producers	Confederation House Thornes Office Park Denby Dale Road, Wakefield West Yorkshire, WF2 7AN	Tel: 0192 420 0802 Fax: 0192 420 0796 Email: admin@coalpro.co.uk	www.coalpro.co.uk
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Historic Scotland

Historic Scotland is an agency within the Scottish Government. It is directly responsible for safeguarding Scotland's historic environment and promoting its understanding and enjoyment.

Historic Scotland	Longmore House Salisbury Place Edinburgh, EH9 1SH	Enquiries: 0131 668 8600 Email: hs.conservation.bureau@scotland.gsi.gov.uk	www.historic-scotland.gov.uk
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Key publications:

- **Stone in Scotland (2006)** UNESCO, IAEG www.historic-scotland.gov.uk/product_detail.htm?productid=1280
- **Memorandum of Guidance on Listed Buildings and Conservation Areas (1998)** www.historic-scotland.gov.uk/memorandumofguidance_1998.pdf
- **Scottish Historic Environment Policies (SHEPs)** www.historic-scotland.gov.uk/index/policyandguidance/sheps.htm

Office for National Statistics (ONS)

Office for National Statistics is the UK government department responsible for collecting and publishing official statistics about the UK's society and economy.

Office for National Statistics	1 Drummond Gate London, SW1V 2QQ	Enquiries: 0845 601 3034	www.statistics.gov.uk
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Key publication:

- **Mineral Extraction in Great Britain Business Monitor PA1007** is an annual publication containing statistical data based on the Annual Minerals Raised Inquiry (AMRI). Search for 'PA1007' on www.statistics.gov.uk

Planning Aid for Scotland

Planning Aid for Scotland provide advice and training to aid understanding of the planning process by a network of fully qualified and experienced town planners. They provide a free and independent advice service. Useful documents may be downloaded from www.planning-aid-scotland.org.uk/index.php?cid=7

Planning Aid for Scotland	11a South Charlotte Street Edinburgh EH2 4AS	Tel: 0131 220 9730 Fax: 0131 220 9735 Email: office@planningaidscotland.org.uk	www.planning-aid-scotland.org.uk/
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Quarry Products Association (QPA)

Quarry Products Association represents the industry's major voice with government at local, national and European levels. It is also the medium through which operators share knowledge and best practice. Many of their publications are downloadable from www.qpa.org/news_publications01.htm

Quarry Products Association	Park Lane House 47 Broad Street Glasgow, G40 2QW	Tel: 0141 554 9584 Fax: 0141 554 9584 Email: info@qpa.org	www.QPA.org
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Key publications:

- **Quarrying in depth** are a series of short documents on **Archaeology, Biodiversity, Recycling and Restoration**.
- **Sustainable Development Report 2007** is a summary of performance and aspirations of the quarrying industry with regards to social, environmental and economic indicators. www.qpa.org/downloads/SD2007.pdf

Royal Town Planning Institute – Scotland (RTPI)

Royal Town Planning Institute–Scotland are a network of experienced town planners who promote good planning and develop policy affecting the built environment.

Royal Town Planning Institute in Scotland	57 Melville Street Edinburgh EH3 7HL	Tel : 0131 226 1959 Fax : 0131 226 1909 Email: scotland@rtpi.org.uk	www.rtpi.org.uk/rtpi_in_scotland
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Scottish Environment Protection Agency (SEPA)

Scottish Environment Protection Agency aim to provide an environmental protection system for Scotland that will both improve the environment and contribute to the Scottish Ministers' goal of sustainable development. SEPA is responsible for a wide range of strategic and operational matters.

Scottish Environment Protection Agency	Erskine Court Castle Business Park Stirling, FK9 4TR	Tel: 0178 645 7700 Fax: 0178 644 6885	www.sepa.org.uk
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Scottish Natural Heritage (SNH)

Scottish Natural Heritage look after the natural heritage, help people to enjoy and value it, and encourage people to use it sustainably. They are the statutory adviser to the Scottish Government on natural heritage matters.

Scottish Natural Heritage	Great Glen House Leachkin Road Inverness, IV3 8NW	Tel: 0146 372 5000 Fax: 0146 372 5067 Email: enquiries@snh.gov.uk	www.snh.org.uk
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Key publication:

- **Minerals and the natural heritage** focuses on coal and aggregates in the Midland Valley.
www.snh.org.uk/publications/on-line/minerals

Scottish Stone Liaison Group (SSLG)

Scottish Stone Liaison Group aim to enhance availability, promote utilisation and advance knowledge and skills in design, specification and use of indigenous Scottish stone in existing and new build projects.

Scottish Stone Liaison Group	16 Rocks Road Charlestown Dunfermline, KY11 3EN	Tel: 0138 387 2006	www.sslg.co.uk
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Key publication:

- **Building with Scottish stone (2005)** www.nsiuk.org/bwss/index.html

Waste & Resources Action Programme (WRAP)

Waste & Resources Action Programme is a partnership organisation which aims to encourage and enable businesses and consumers to be more efficient in their use of materials and recycle more things more often.

Waste & Resources Action Programme	The Old Academy 21 Horse Fair Banbury Oxon, OX16 0AH	Helpline: 0808 100 2040 Tel: 0129 581 9900 Fax: 0129 581 9911 Email: info@wrap.org.uk	www.wrap.org.uk/nations_and_english_regions/scotland/index.html
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Key publications:

- **Procurement and the efficient use of material resources (Scotland specific good practice guidance)**
http://www.wrap.org.uk/downloads/CBD_Scotland_A4_12pp.01d6ae88.pdf
- **AggRegain** is a sustainable aggregates information service. www.aggregain.org.uk/planning/planning_scotland/index.html

British Geological Survey (BGS)

British Geological Survey publishes a wide range of geological information. Mineral related information can be obtained from www.MineralsUK.com developed by the Minerals UK Centre for Sustainable Mineral Development. This site contains information on mineral resources, mineral planning, policy and legislation, sustainable development, statistics and exploration.

British Geological Survey	Murchison House West Mains Road Edinburgh, EH9 3LA	Tel: 0131 667 1000 Fax: 0131 668 2683 Enquiries: 0115 936 3143 Email: Enquiries@bgs.ac.uk	www.bgs.ac.uk www.MineralsUK.com
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Key publications:

- **Central Scotland Mineral Portfolios** are a series of reports by the British Geological Survey published between 1984 and 1986. Available for fireclay, hard rock aggregate, limestone, special sand, clay and mudstone for brickmaking.
- **Industrial Mineral Assessment Unit Reports (IMAU)** reports were written in the 1970s and 1980s. They focus on sand and gravel resources for specific areas of the UK and include details about resource volume and quality.
- **Mineral Commodity Profiles** provide background information on individual mineral commodities.
www.bgs.ac.uk/mineralsuk/free_downloads/home.html#CP
- **Mineral Matters** are short leaflets with key information on topical minerals issues.
www.bgs.ac.uk/mineralsuk/free_downloads/home.html#MM
- **Mineral Planning Factsheets** are available for a wide range of UK minerals and are primarily intended to inform spatial and land-use planning. www.bgs.ac.uk/mineralsuk/free_downloads/home.html#MPF
- **Mineral resource maps of the central belt**, produced in conjunction with this guide, show the surface extent of mineral resources based on geological survey data. (see Figures 1 and 2).
- **Planning 4 Minerals** is a web-based training site. It contains information on key mineral planning issues in England and Wales, (with parts that will be relevant to Scotland). www.bgs.ac.uk/planning4minerals
- **United Kingdom Minerals Yearbook 2006** includes data up to 2005 on minerals production, consumption and trade, and includes commentary on current developments in the minerals industry.
www.bgs.ac.uk/mineralsuk/free_downloads/home.html#UKMY

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This guide (OR/08/011) is also available for download from www.MineralsUK.com

For further information please contact the British Geological Survey.

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British Geological Survey

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