

1 The Clay Life Cycle - Quarrying and Reserves

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The clay brick and tile industry is an extractive industry relying on natural resources for its raw materials. The process can be handled in a sustainable manner with restoration following extraction.

It is vital for the industry that there is long term mineral planning to ensure security of supply and thereby encourage investment.



1.1 Social Progress

The location of brickworks, tileworks and their quarries in rural and semi-rural areas has allowed the industry to provide long-term, stable employment to small neighbourhoods and communities. An established relationship between manufacturer and community can fulfil many of the sustainability criteria considered under social progress.



1.2 Environmental aspects

The end product and its characteristics are determined by the raw material. The extraction of clay is in most cases directly connected to the production process. Little waste occurs because extraction is only economical where the ratio of usable to unusable material is high. Extraction is not a continuous process so the immediate impact and rate of change is not significant. Compared to other industrial minerals, volumes and rates of extraction are very low, while numerous socially and environmentally beneficial uses are found for exhausted clay pits, e.g. nature reserves, recreational facilities.



Clay is usually extracted in close proximity to the works. The volume required can be accurately assessed so there is little risk of waste. Therefore prudent use of resources is ensured.

1.2.1. Extraction and restoration

The clay brick and tile industry produces a wide range of products from a diverse range of natural resources. In order to maintain and enhance the quality of life for future generations we will:

- Conserve natural resources as far as possible ensuring that only that which is necessary is used to meet the demand;
- Minimise environmental impact of mineral operations and transport;
- Minimise waste and encourage efficient use of materials;
- Enhance environmental quality around clay pits once extraction has ceased;
- Protect areas of designated landscape or nature conservation from mineral development.



The extraction of clay for construction products is a small percentage of the total mineral extraction, typically about 5%. If deposits lie deep, land usages rates are modest, whilst in delta areas extraction is managed with minimal disruption.

Clay brick and tile manufacturing plants are frequently situated alongside clay deposits or sand quarries thereby minimising the energy expended in transporting material to the factory. Clay brick and tile companies have adopted voluntary codes of practice covering all aspects of extraction and restoration. Such good practices cover site appearance, prevention of pollution, reduction of ecological impact, restoration and aftercare.

Although the extraction of clays and sands has an environmental impact, it also has potential benefits, such as the creation of nature reserves, amenity lakes and the formation of repositories for various forms of waste. This is particularly useful as the impervious nature of exhausted clay pits provides an acceptable means of waste disposal.

Gas produced from landfill can be used in nearby clay brick and tile production plants or elsewhere, thereby reducing the reliance on non-renewable energy sources. Restored land over exhausted clay pits can provide useful social amenities or be converted to agriculture or forestry use.

1.2.2 Resource management

It must be remembered that access to mineral resources can be blocked by other forms of development. It is in societies interest that the extraction of raw materials is combined with other forms of development. Extraction is largely regulated by the mineral planning system, therefore we have to pay due regard to:

- Overall need to incorporate economic, environmental and social considerations in the planning process,
- Knowledge of the mineral resource base,
- Adequacy and quality of mineral supply,
- Development of an integrated approach to managing conservation of resources,
- Incorporation of long-term planning strategies, including security of supply,
- Incorporation of land use and other sustainable objectives in the planning process,
- Incorporation of influence and feedback of mineral issues within all levels of administration.

The management of resources is fundamental to a manufacturing industry. However, this responsibility is also shared by Government. Our industry is prepared to invest if there is certainty about the raw material supply. Ideally the planning process should allow for the consideration of three levels of projection:

- long-term possibilities (25 years and over),
- medium-term probabilities (12 – 25 years),
- and short-term confirmed (1-12 years).



Therefore it is important that specific clay brick and tile issues are addressed at the European and national level in order to:

- Ensure that development plans take account of specific issues related to clay bricks and tiles,
- Ensure that development plan policies provide a sustainable long-medium-short term security of clay supply and are informed by dialogue between the relevant parties,
- Take account of geographical changes in the economic importance of clay resources, manufacturing centres and markets,

- Ensure a diverse raw material supply to provide a range of products that reflect design requirements,
- Take account of the transport of raw materials and products and the growth in the import/export of clay and other materials across administrative boundaries.

If these issues are faced and resolved by both manufacturers and regulators, then there will be a sound basis on which to justify investment in this industry – itself a fundamental requirement of sustainability and in the interest of those that need housing in the future.

1.3. Economic issues

Clay is one of the oldest building materials known to man and its extraction has been tailored to suit the prevailing demands.

Today, it is possible to produce both conventional and innovative products that will keep demand levels high.

The development of new manufacturing techniques maintains clay brick and tile as competitive building materials that have good quality, long life and minimal maintenance requirements.

