

# Sustainability in the UK construction minerals industry

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**British  
Geological Survey**  
NATURAL ENVIRONMENT RESEARCH COUNCIL



# Outline of presentation

- Minerals at the British Geological Survey
- People
- Consumption & production
- Climate
- Resources
- Conclusions



# British Geological Survey

- National geo-survey focusing on public-good science and geological research.
- Our understanding of the subsurface helps society :
  - Use its natural resources responsibly
  - Manage environmental change
  - Be resilient to environmental change
- Over 500 scientists working with other 40 universities & institutes
- More information: [www.bgs.ac.uk](http://www.bgs.ac.uk)



# Minerals and me



Clive at a silica sand quarry in Hampshire

<http://www.bgs.ac.uk/staff/profiles/1159.html>

- Compile mineral statistics for UK, Europe and World (only 2 in the world do this!)
- Provide of spatial mineral resource information
- Carry out research (metallogenesis, land-use impacts of mineral extraction & resource security)
- BGS minerals information available as FREE downloads via [www.mineralsUK.com](http://www.mineralsUK.com)
- Industrial Minerals Specialist, 26<sup>th</sup> year at the BGS, travelled far and wide for mineral evaluation, and based at the HQ of the BGS in Keyworth





[Planning](#)

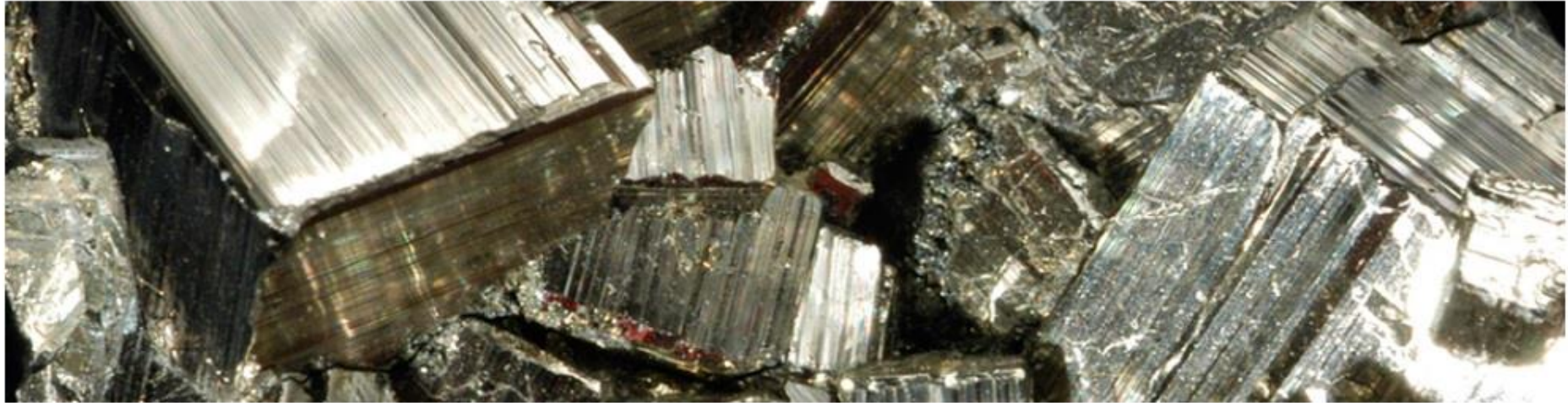
[Building stones](#)

[Mine & quarry](#)

[Commodities & statistics](#)

[Exploration](#)

[Sustainability](#)



## Welcome to MineralsUK

MineralsUK is the British Geological Survey's [Centre for Sustainable Mineral Development](#). This website has a wealth of information on mineral resources, mineral planning, policy and legislation, sustainable development, statistics and exploration.

### Minerals & you

Economic minerals – here you will find out what they are, where they come from and why they are important.

### What's new

- [Opencast coal statistics 2013](#)
- [The development and implementation of mineral safeguarding policies at national and local levels in the UK](#)

### //Digital maps

A web-based Geographical Information System (GIS) has been produced to provide access to a range of Minerals Information Online.

[more info](#)



### //What's new

#### [Directory of Mines and Quarries 2014](#)

The Directory of Mines and Quarries 2014 is now available directly from BGS both as a free pdf download and as a digitally printed book.

[more info](#)



### //Downloads

#### [World Mineral Production 2009-2013](#)

The latest edition of this long running series is now available.

[more info](#)





Welcome to

# Kingsley Quarry

**PLEASE COULD YOU ENSURE THAT YOU  
MEET THE MINIMUM PPE REQUIREMENTS  
AS SHOWN BELOW WHILST ON SITE**



VISITOR / EX WORKS



CONTRACTORS / EMPLOYEES

**Thank you for helping to keep  
Kingsley Quarry a safe place.**

## People

People are the main sustainability focus of the UK construction minerals industry

# People

- **Zero Harm** – significant reduction in the number of reportable injuries & Lost Time Incident Frequency Rate (LIFTR)
- **UK Health & Safety Awards 2015** – open to everyone in the construction minerals industry
- **Safequarry website** – the health & safety hub for the mineral products industry  
[www.safequarry.com](http://www.safequarry.com)



**safequarry.com**

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# Consumption & Production

The UK is well endowed with mineral resources & is virtually self-sufficient for its construction mineral needs.



# Consumption & Production

- High standards of environmental management
- Production in 2013:
  - 143 million tonnes of primary aggregate
  - 55 million tonnes of recycled aggregate
  - 19.2 million tonnes of asphalt
  - 19.8 million tonnes of cement/ cementitious products





# Climate

The need to address climate change increasingly affects the way the UK construction minerals industry operates.



# Climate

- Construction projects demand that the raw materials they use have the lowest environmental impact
- Embodied carbon is calculated from the the energy used, expressed as kg of CO<sub>2</sub> per tonne (2013 figures)
  - Crushed rock aggregate 3.7 kg/CO<sub>2</sub>/t
  - Sand & gravel 3.9 kg/CO<sub>2</sub>/t
  - Cement 694 kg/CO<sub>2</sub>/t





# Resources

The UK construction minerals industry aspires to make the most efficient use of its resources.



# Resources

- **Efficient resource use** - Maximising saleable product and minimising waste.
- **Recycling** – the proportion of previously used construction material has increased significantly.
- **Biodiversity/ Geodiversity/ Heritage** – excellent site management, *Nature After Minerals* & annual Restoration & Biodiversity Awards



# Conclusions

- Construction minerals are important but cannot be produced at any cost.
- The UK industry has made great strides in protecting & developing its workforce.
- It has improved its resource use efficiency, minimised its environmental impact and protects the biodiversity, geodiversity and archaeological heritage of the land that it occupies



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# Thank you for your attention!

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