BRICK DEVELOPMENT ASSOCIATION

Clay Brick:

Building a sustainable Future for the UK

brick.org.uk

CEO's Summary

All industries are getting to grips with the impacts of the climate emergency. Without question reducing net CO2 emissions is the single most important task, but we also need to acknowledge how emissions link in with issues like biodiversity and human development. This document has been completed by the UK clay brick industry to set out our position on the diverse sustainability topics and the important role that brick has in building a sustainable future.

The UK has not built the required number of homes since the mid 1970's, which has resulted in a significant shortage, especially for the most vulnerable in our society. Residential construction is significant for brick as approximately 75% of housing is constructed from brick.

Brick construction is especially suitable for sustainable homes due to its longevity, durability, adaptability and beauty. Brick is a material that has proven its performance for thousands of years.

The UK has a target to achieve net zero emissions by 2050 and the brick industry is a key stakeholder when it comes to creating a roadmap to achieve this target. The 2050 target will require careful policy development and we need to be mindful that we utilise our UK supply chain and don't offshore heavy industry to parts of the world with less stringent environmental and social protection.

Keith Aldis
CEO of the Brick Development Association

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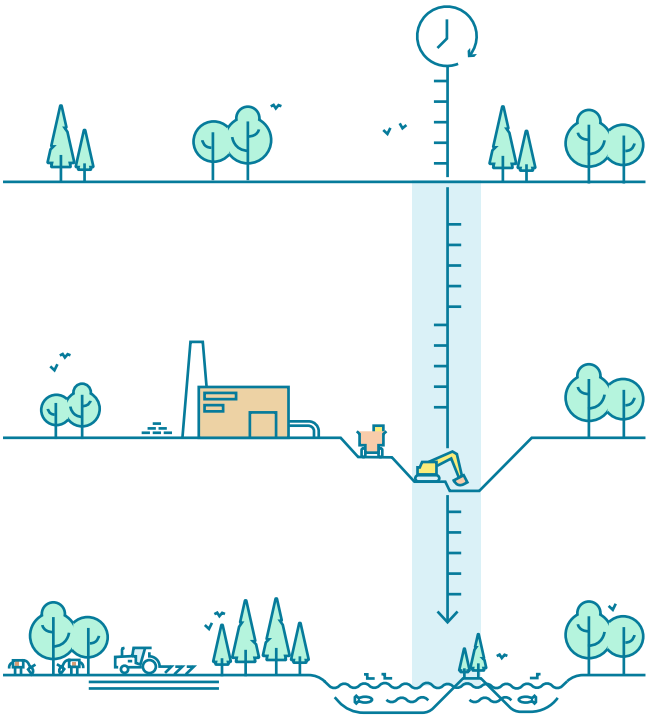
Natural capital & materials



Source REAP progress report. Quarry restoration.

KEY MESSAGES

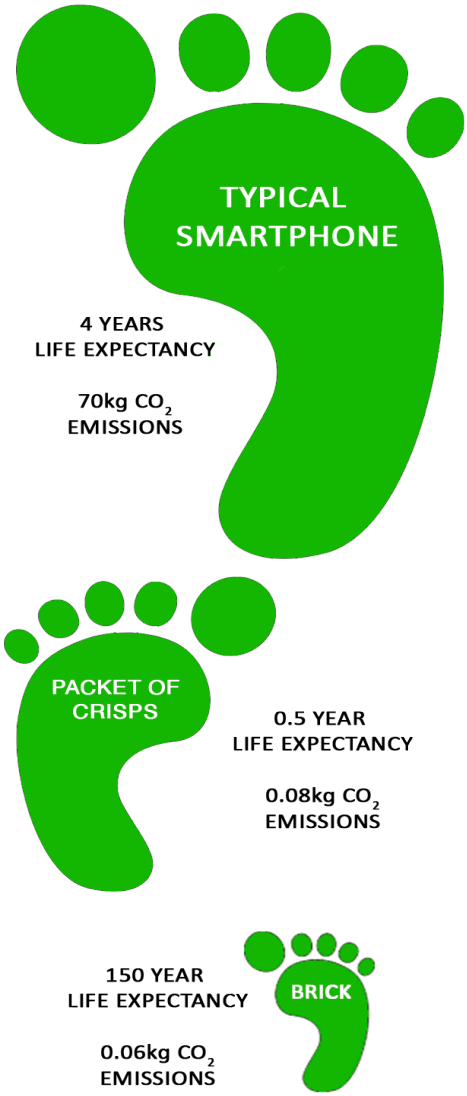
+ UK brick manufacturers are custodians for a large area of land and water.
+ UK brick manufacturers make a positive contribution to natural capital and biodiversity net gain.
+ UK brick manufacturers are responsible custodians. With schemes to improve the quality of the natural environment and restore quarries after use.
+ The primary materials for brick are clay and water.
+ Clay bricks are natural products and do not release harmful emissions that can impact indoor air quality.

FURTHER READING

+ brick.org.uk/admin/resources/reap-progress-report-1.pdf
+ brick.org.uk/admin/resources/g-the-uk-clay-brickmaking-process.pdf
+ kingsdykenaturereserve.com

Source UK Clay Brick making process. Clay and water are the main ingredients for brick.

2050 Net Zero roadmap



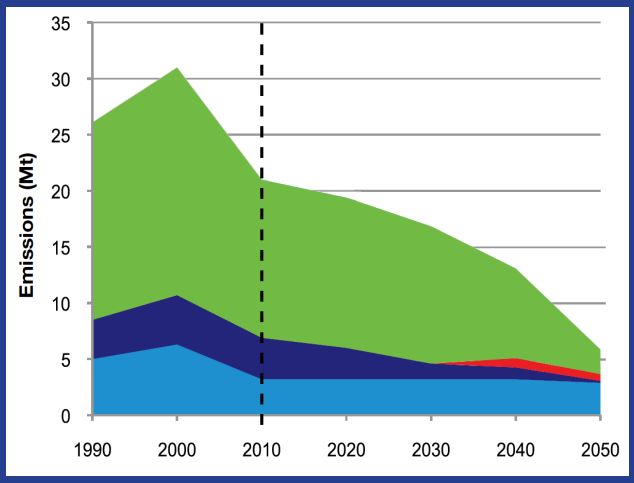
Source PAS 2050 & EPD

KEY MESSAGES

+ UK brick manufacturers are working to help the UK achieve net zero carbon dioxide emissions by 2050.
+ A number of technologies, including bio gas, syngas, hydrogen and electric kilns have been identified as potential solutions to reduce emissions from the firing process.
+ To support the net zero target designers should be mindful of specifying brick from parts of the world where environmental protections are weaker.

FURTHER READING

+ brick.org.uk/admin/resources/brick-epd.pdf
+ cerameunie.eu/topics/cerame-unie-sectors/cerame-unie/ceramic-industry-roadmap-paving-the-way-to-2050/



Source Roadmap to 2050

Source Forterra Claughton brick factory

UK industry

Source UK brick factory locations

KEY MESSAGES

+ Nearly 85% of bricks used in the UK are manufactured here, with factories located across the country.

+ Brick manufacturing has been established in the UK for thousands of years. Brick factories are mostly located in rural settings; creating employment and supporting local communities.

+ Brick has played an important role in creating the architectural style of many towns and cities, across the UK.

+ The average delivery distance from the factory to the building site is less than 68 miles.

FURTHER READING

+ brick.org.uk/admin/resources/uk-brickwork-locations.pdf
+ gov.uk/government/publications/national-design-guide
+ brick.org.uk/admin/resources/2019-bsr.pdf
+ Asian brick belt - projectbloodbricks.org

Source Ibstock brick. BDA annual sustainability report

Source Bureau de Change. The Interlock building

Investing in skills & training

Source Guild of Bricklayers national competition

CERAMIC INDUSTRY PLEDGE HEALTH & SAFETY

Source British Ceramic Confederation H&S pledge

KEY MESSAGES

+ UK brick manufacturers are committed to improve the Health and Safety culture of all their operations, through the British Ceramic Confederation health and safety pledge.

+ Brick manufacturers support local construction colleges in training the next generation of bricklayers, by providing materials and assistance.

+ The brick industry has committed to an industry group to develop training material, share best practice and celebrate excellence in the industry.

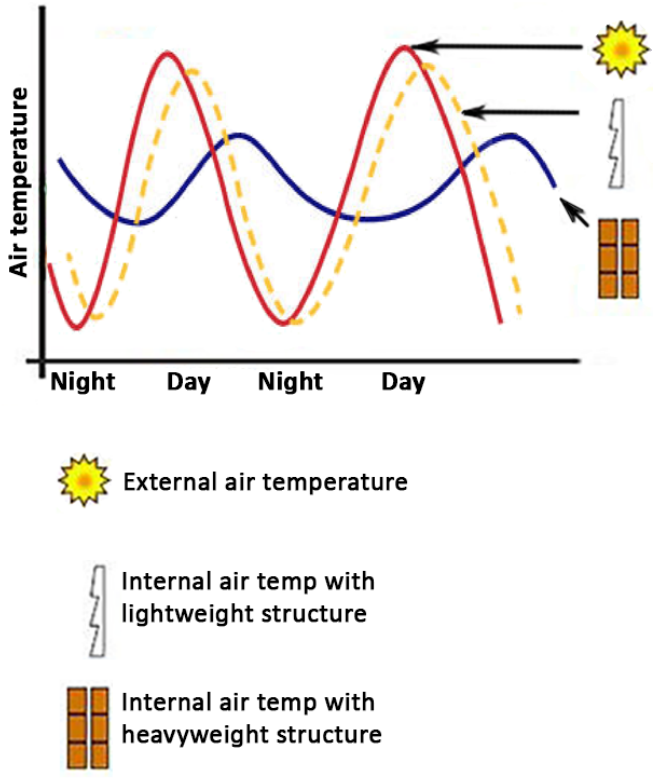
+ The brick industry has partnered with other industry groups to develop and promote training qualifications for bricklayers working in industry.

FURTHER READING

+ ceramfed.co.uk/key-topics/health-and-safety/
+ brick.org.uk/admin/resources/2019-bsr.pdf
+ aofbc.co.uk/about/
+ guildofbricklayers.org.uk

Source Ibstock Eclipse factory. Brick makers have invested heavily in new capacity and injury prevention systems

Comfort & safety



Source NHBC Overheating in new homes

KEY MESSAGES

+ All clay bricks are non-combustible and resist the spread of fire.
+ Bricks are dense, which means they provide effective acoustic insulation. This reduces the amount of external noise that can be heard inside a building.
+ Bricks have a high thermal mass, which means that they can delay and reduce temperature changes within a building. This reduces the risk of overheating during the day and slows the fall in temperature overnight.
+ The high-quality performance of brickwork has been proven in the UK for hundreds of years.

FURTHER READING

+ nhbcfoundation.org/publication/overheating-in-new-homes/
+ brick.org.uk/admin/resources/pdf403803-reaction-to-fire-classification-a1-1.pdf
+ robustdetails.com

Source Warrington Fire. All bricks are classified A1 non-combustible and have a proven history of safe construction

Robust & long lasting

Source Whole life performance of clay masonry research project confirms minimum 150 year life expectancy and minimal maintenance

KEY MESSAGES

+ Brickwork constructed today can be expected to last for a minimum of 150 years. Many bricks will last a lot longer.

+ Brickwork is robust and will require minimal maintenance over its lifetime. Re-pointing may be required after 60 years, compared to more regular maintenance requirements for rendering and timber.

+ Brick is resilient to extremes of weather, including flooding. Following flooding events brick properties can generally be reoccupied more quickly and with less remedial work.

+ Brick is durable, and a brick home can withstand the wear and tear of multiple generations of inhabitants.

FURTHER READING

+ brick.org.uk/admin/resources/whole-life-performance-of-clay-masonry-adrian-bown-2007.pdf

+ bre.co.uk/floodhouse

Source BRE Flood resilience. Masonry construction suffers less damage

Source K Rend. Regular maintenance needed to stop algae growth

Adaptable & attractive

Source Brick Bulletin. Conversion of industrial brick buildings

Source Tim Crocker. Goldsmith St development

KEY MESSAGES

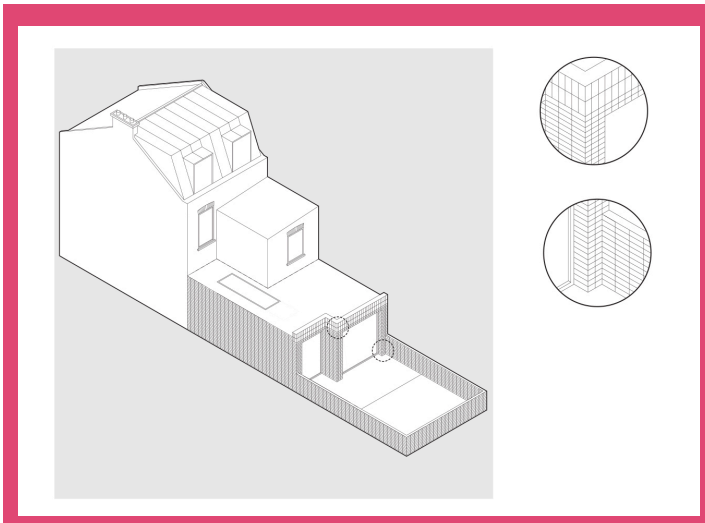
+ Brickwork weathers well and buildings can become more attractive with age. This means that a brick home retains value for multiple periods of ownership.

+ Brick buildings are an easily adaptable form of construction. When needed they can be extended to make them bigger, or sub divided to make them smaller. Adapting the use from commercial to residential and vice versa is also easier than modular forms of construction.

+ To specify sustainable construction products, designers should ensure that they focus on high quality and long-lasting materials.

FURTHER READING

+ newlondonarchitecture.org/whats-on/dont-move-improve
+ brick.org.uk/bulletin/
+ england.shelter.org.uk/support_us/campaigns/a_vision_for_social_housing



Source Magri Williams Architects, Roslyn Road

Reuse, recycling & waste

Source The use of reclaimed clay bricks

KEY MESSAGES

+ When a building is to be demolished it is possible to reclaim the bricks and give them a second life.
+ Robotic techniques for automating the process of reclaiming bricks are being investigated.
+ Compared to alternative cladding materials, such as render or timber, bricks are more easily reused for a higher value purpose.
+ Per tonne of material, brick use very little packaging compared to equivalent cladding systems, such as render and timber.
+ The most important function of brick packaging is to ensure that they can be safely transported from the factory to the site. As well as minimising damage to the bricks.

FURTHER READING

+ brick.org.uk/admin/resources/2019-bsr.pdf
+ brick.org.uk/admin/resources/g-reclaimed-brickwork.pdf
+ ellenmacarthurfoundation.org
+ ukgbc.org

Source Green Building Council. Circular economy

Source Per tonne of material brick uses very little packaging

MEMBERS OF THE BRICK DEVELOPMENT ASSOCIATION

Bulmer Brick & Tile Co Ltd www.bulmerbrickandtile.co.uk
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H.G. Matthews www.hgmatthews.com
Ibstock Brick Ltd www.ibstockbrick.co.uk
Ketley Brick Company Ltd www.ketley-brick.co.uk
Matclad Ltd www.matclad.co.uk
Michelmersh Brick Holdings Plc www.mbhplc.co.uk
Northcot Brick Ltd www.northcotbrick.co.uk
Raeburn Brick www.raeburnbrick.co.uk
W H Collier Ltd www.whcollier.co.uk
Wienerberger Ltd www.wienerberger.co.uk
York Handmade Brick Company Ltd www.yorkhandmade.co.uk

More detailed information on the sustainability policy and reporting can be found on the Brick Development Association website.

Please send questions or comments to:
The Brick Development Association

The Building Centre
26 Store Street
London
WC1E 7BT

brick@brick.org.uk
020 7323 7030

www.brick.org.uk