

# The Concrete Industry Sustainable Construction Strategy

## Vision

The UK concrete industry will be recognised as a leader in sustainable construction, by taking a dynamic role in delivering a sustainable, zero carbon built environment in a socially, environmentally and economically responsible manner.

## Strategic objectives

1. Commit to our role in achieving a sustainable built environment and contribute to construction industry and government initiatives
2. Engage with the broader supply chain to inform good practice and continue to explore new ways of improving our sustainable production performance
3. Communicate with clients to provide knowledge of concrete solutions to enable the design and construction of a sustainable built environment

## Commitments

1. Contribute to the delivery of a **zero carbon** built environment
2. Provide **Life Cycle Assessment** data compliant with codes and standards
3. Develop a **Material and Resource Efficiency Programme** to inform best practice across the life cycle of concrete in the built environment
4. Develop a **Low Carbon Freight Initiative** to support improvement in transport performance through the concrete supply chain to construction sites
5. Develop a **Water Strategy** to support the measurement and reporting of sustainability performance and target setting
6. Target continuous improvement of sustainable **production performance** and report performance annually

[www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk)



Concrete provides solutions for all areas of the built environment, including vital infrastructure projects.

## Our vision for the future

The strategy represents progression, continuous improvement and an increase in scope.

The concrete industry will continue to develop performance indicators to ensure the relevance of our metrics. New targets for performance improvement will be set including:

- 90% reduction in waste to landfill by 2020 (from 2008 baseline)
- 30% reduction in CO<sub>2</sub> emissions from concrete production by 2020 (from 1990 baseline)
- 95% of production certified to responsible sourcing standard BES 6001 by 2020
- 100% of relevant production sites with action plans for site stewardship and biodiversity

The industry will facilitate further engagement with the broader supply chain for concrete, offering the opportunity to inform development of the strategy and supporting initiatives.

Collectively as an industry - and individually as manufacturers, sector trade associations and MPA The Concrete Centre - we are committed to supporting stakeholders in realising the potential, and understanding the sustainability credentials, of concrete and its constituents.

The online hub for more information is: [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk)

*“The overall theme of the extended strategy is a widening of focus from the sustainability of concrete production to the contribution concrete can make to a sustainable built environment.”*

**Andy Spencer,**  
Chairman, Sustainable Concrete Forum



Jonathon Porritt, speaking at the launch of the first *Concrete Industry Sustainability Performance Report*.

## The journey so far

In 2008, the UK concrete industry committed to the Concrete Industry Sustainable Construction Strategy. This commitment was made by manufacturers and sector associations from the aggregate, cement, GGBS, fly ash, admixtures, ready-mixed and precast sectors, with support from the industry body MPA The Concrete Centre.

Four performance reports have been published and are testament to achieving a common framework of industry-wide reporting and an ambition of continuous improvement. Communicating and educating our colleagues and customers was also a key strategic objective. The training, events and new guidance delivered are essential in enabling the design of a more sustainable built environment using concrete.

As the UK construction industry's approach to sustainability develops, our industry strategy needs to stay ahead of supply chain requirements. In 2012, we are delighted to announce the launch of an updated Concrete Industry Sustainable Construction Strategy.



All sectors have implemented a standard framework for the collection of performance data, and the UK industry report is available online at [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk).

The information is collected through survey responses from companies supplying an estimated 78% of UK concrete.

For an up-to-date listing of manufacturers and trade bodies committed to the strategy, please visit [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk).

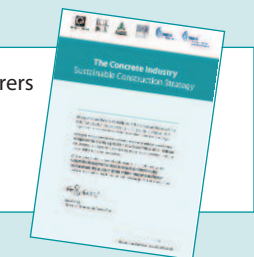
To ensure successful implementation of the concrete industry strategy, a Sustainable Concrete Forum was established to oversee delivery of the objectives and commitments.

As we reflect on our achievements to date, we acknowledge the founder members of the Forum. In addition, reference should be made to BAR (British Association of Reinforcement), which joined the process and contributed data from 2009.

## Founder members of the Forum:

- Aggregate Industries
- British Precast [www.britishprecast.org](http://www.britishprecast.org)
- Brett Group
- Cement Admixtures Association [www.admixtures.org.uk](http://www.admixtures.org.uk)
- CEMEX
- Cementitious Slag Makers Association [www.ukcsma.co.uk](http://www.ukcsma.co.uk)
- Hanson UK
- Lafarge Aggregates
- Lafarge Cement
- Mineral Products Association [www.mineralproducts.org](http://www.mineralproducts.org)
- MPA British Ready-Mixed Concrete Association [www.brmca.org.uk](http://www.brmca.org.uk)
- MPA Cement <http://cement.mineralproducts.org>
- MPA The Concrete Centre [www.concretecentre.com](http://www.concretecentre.com)
- Marshalls plc
- Tarmac
- UK Quality Ash Association [www.ukqaa.org.uk](http://www.ukqaa.org.uk)

An up-to-date listing of the manufacturers and trade bodies signed up to the strategy can be found at [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk).



Published by MPA The Concrete Centre, on behalf of the Sustainable Concrete Forum  
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**Responsibly sourced**



**Low carbon**



**Recycled**

**this is concrete**

**A leader in sustainable construction**

**Proven reductions in carbon**

**Net consumer of waste**

**Leading responsibly sourced material**

**Local material supporting local economy**

**Annual reporting of UK industry performance data**

**Supporting a zero carbon built environment**

**Concrete is a local, responsibly sourced building material**

88% of UK concrete is already responsibly sourced to BES 6001, the Building Research Establishment (BRE) Framework Standard for the Responsible Sourcing of Construction Products. The target set for 2020 will increase this further.

The local nature of concrete production, and its well-integrated supply chain, has resulted in industry gaining a high level of accreditation to what is currently the optimum benchmark for responsible sourcing.

Designers may now easily source accredited material, and gain the maximum credits currently achievable, in sustainability assessment tools such as the Code for Sustainable Homes and BREEAM.

Concrete is a local material and its usage leads to social, economic and environmental benefits; including local skills development, local employment and local accountability for environmental impacts.

The average delivery distance for all concrete from source to construction sites in 2010 was 36km (22 miles).

**Source building materials locally, ethically and sustainably**

**Specifying Sustainable Concrete**

Concrete's flexibility offers many opportunities for designers to influence the environmental, economic and social credentials of their projects, including performance credentials such as fire, durability, acoustics and adaptability. This publication is intended to assist designers in optimising the sustainable credentials of concrete through specification.



Download free from [www.concretecentre.com/publications](http://www.concretecentre.com/publications)

**Concrete is essential to deliver thermal mass and energy efficiency**

The superior thermal performance properties of concrete can provide considerable in-use energy savings over the lifetime of buildings.

The energy used in the operation of our homes and buildings is greater than the energy locked in the building fabric.

Residential buildings alone are responsible for 25% of UK greenhouse gas emissions. Using housing as an example, the operational CO<sub>2</sub> saving associated with concrete and masonry homes can offset their slightly higher embodied CO<sub>2</sub> in just over a decade of use.

CO<sub>2</sub> emissions from the manufacture of concrete are reducing. Based on 2010 data, CO<sub>2</sub> associated with the production of comparable concrete mixes is 16% less than the 1990 baseline. Put in other terms, 86kg of CO<sub>2</sub> emissions are associated with the production of a tonne of 'average' concrete.

For data associated with an 'average' tonne of concrete, suitable for use in a carbon calculator, visit [www.sustainableconcrete.org.uk](http://www.sustainableconcrete.org.uk).

**Select a building material which saves carbon over its lifetime**

**Horizon House, Bristol, achieved an 'Excellent' BREEAM rating – it uses 37% less energy than the office it replaced.**



**Concrete is the ultimate solution for material efficiency**

The UK concrete industry currently uses 47 times more waste than it sends to landfill. The target set for 2012 was a reduction in waste to landfill, as a proportion of production output, to 4kg/tonne. In 2010, this target was exceeded with a performance of 2kg/tonne achieved.

The industry diverts over five million tonnes of material from external waste streams, and uses them in place of primary materials.

Waste is used as a source of fuel and this reduces the embodied CO<sub>2</sub> of concrete. In concrete manufacture, by-products from other industries, such as fly ash from power stations and ggbs from the iron industry reduce demand on primary materials and the embodied CO<sub>2</sub> of concrete.

Research shows that virtually all the recycled aggregates in the waste stream are already being re-used; replacing 28% of virgin aggregates. This is the highest level achieved in Europe.

Generally, when transported by road, the use of recycled aggregates is only a lower carbon option than virgin aggregates when used within 15 km (10 miles) of their source.

**Save materials by designing structures for a long service life**

**Concrete blocks with recycled content including fly ash and crushed demolition waste.**



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