Driving Supply Chain Improvement in the Concrete Industry

Martin Clarke
Chief Executive, British Precast

CONSTRUCTION PROCUREMENT GROUP CONFERENCE - LONDON APRIL 2009
"Delivering supply chain improvement is key not just for maintaining profitability but increasingly for many to ensure business survival. The supply chain remains critical to the capture of innovation; this conference affords us the opportunity to learn from others, to share better practice and to see ideas in action."

ANTHONY FAUGHNAN

The conference theme will be supply chain management and how it can be improved by performance management, leadership, innovation and better understanding of supply chains.
Who am I?
Main themes

- What is the concrete industry and its supply chain?
- Our sustainable construction forum and its objectives
- Responsible sourcing update
- Precast sector progress
- Readymix progress
- What extra benefits can be gained with concrete?
- The recession - what can we do?
Main themes

- What is the concrete industry and its supply chain?
- Our Sustainable Construction Forum and its objectives
  - Responsible sourcing update
  - Precast sector progress
  - Readymix progress
- What extra benefits can be gained with concrete?
- The recession - what can we do?
Balancing commercial and sustainability issues - a CIPS theme

We see the Concrete Industry Sustainable Construction Forum as our main channel for measurement and improvement of performance
Balancing commercial and sustainability issues - a CIPS theme

for concrete it's becoming one and the same

carbon accounting joins conventional accounting as of now
Balancing commercial and sustainability issues - a CIPS theme

We would be pleased to engage with the CIPS to help you achieve your objectives
Concrete Industry Sustainable Construction Forum

chair Andy Spencer - Cemex
mentor Martin Clarke - British Precast
secretariat - MPA The Concrete Centre
Sustainable Construction Strategy
FOR THE UK CONCRETE INDUSTRIES

We, the undersigned agree to contribute to the fulfillment of the UK Concrete industry vision to be recognised as leaders in sustainable construction to support the four strategic objectives and to deliver the eight commitments, as outlined in the Concrete Sustainable Construction Strategy dated 30 July 2008 and as summarised here.

We agree as companies to implement these fully, or as trade associations to encourage our members to do so. We will communicate the strategy both internally and externally to try and ensure the commitments become a reality.

As instruments of change, trade associations will facilitate the collection of performance data from members, establish performance benchmarks, agree performance targets with their membership, take part in periodic target setting and reviews at association and industry levels, and contribute to a published annual performance report for the UK concrete industry.

Vision
By 2012, the UK concrete industry will be recognised as the leader in sustainable construction, by taking a dynamic role in delivering a sustainable built environment in a manner that is profitable, socially responsible and prudent within environmental limits.

Strategic objectives
1. Agree and adopt a common framework.
2. Improve our environmental profiles.
3. Enable our clients to achieve a sustainable construction.
4. Communicate our progress and solutions.

Commitments
1. To launch an annual Sustainability Performance Report for the UK Concrete Industry commencing in March 2009.
2. To set targets for Performance Indicators by the end of 2009.
3. To design an industry R&D Programme to reduce CO2 and other impacts.
4. To design an industry Skills Transformation Programme aimed at positioning the industry to play a leading role in meeting the challenge of sustainable construction.
5. To provide clients with industry data for LCA (Life Cycle Analysis) models.
6. To develop sustainable construction solutions.
7. To provide clients with the knowledge and tools to adopt new solutions.
8. To demonstrate the benefits of concrete in the built environment.

[Signatures]
30 July 2008
Strategy for the Concrete Industry

• 2012 Vision

• Strategic Objectives

• Concrete Commitments (2010)
The 2012 vision statement
“By 2012, the UK concrete industry will be recognised as a leader in sustainable construction, by taking a dynamic role in delivering a sustainable built environment in a manner that is profitable, socially responsible and functions within environmental limits”.
Need to replace this with the final version...

David Collins, 10/07/2008
The four strategic objectives
Four Strategic Objectives

1. Agree and adopt a common framework
2. Improve environmental profiles
3. Enable clients to achieve sustainable construction
4. Communicate progress and solutions
1. Agree and adopt a common framework

- Same ‘hymn sheet’ for 10 concrete industries
- Develop sustainable production performance indicators
- Annual review of sustainability strategy and targets
SUSTAINABLE CONSUMPTION & PRODUCTION
1. Management systems
2. Waste minimisation
3. Emissions (excluding CO₂)
4. Stakeholder engagement
5. Quality & performance

CLIMATE CHANGE & ENERGY
6. Energy efficiency
7. CO₂ emissions (Production)
8. CO₂ emissions (Transport)

NATURAL RESOURCES & ENHANCING THE ENVIRONMENT
9. Materials efficiency
10. Water
11. Site stewardship

CREATING SUSTAINABLE COMMUNITIES
12. Health & safety
13. Employment & skills
14. Local community
2. Improve environmental profiles

- Standard procedures for measuring embodied CO₂
- Investigate renewable and alternative fuel options
- Good practice guides for industry based on data gathered and benchmarked
3. Enable clients to achieve sustainable construction

- Client consultative forum
- Concrete industry responsible sourcing scheme
- Concrete industry R&D programme
Communicate progress and solutions

- PR campaign of positive developments – Building this week
- Consolidated annual report
- More technical / economic evidence through media and events
Four Strategic Objectives

1. Agree and adopt a common framework
2. Improve environmental profiles
3. Enable clients to achieve sustainable construction
4. Communicate progress and solutions
The eight concrete commitments
## Eight Concrete Commitments to 2010 mapped against our objectives

| 1 | To launch an Annual Sustainability Performance Report for the UK Concrete Industries commencing in March 2009 |
| 2 | To set targets for Performance Indicators (PIs) by the end of 2009 |
| 3 | To establish a Joint R&D Programme to reduce CO₂ and other impacts |
| 4 | To establish a Joint Skills Transformation Programme aimed at positioning the industry to play a leading role in the challenge of sustainable construction |
| 5 | To provide clients with industry data for LCA (life cycle analysis) models |
| 6 | To develop ‘Sustainable Construction’ solutions |
| 7 | To provide clients with the knowledge and tools to adopt new solutions |
| 8 | To demonstrate the benefits of concrete in the built environment |
Main themes

- What is the concrete industry and its supply chain?
- Our sustainable construction forum and its objectives
- Responsible sourcing update
- Precast sector progress
- Readymix progress
- What extra benefits can be gained with concrete?
- The recession - what can we do?
Responsible sourcing drivers for concrete

FSC status
CSH credits
Responsible sourcing drivers for concrete

FSC status
CSH credits
London 2012 policy
Government Strategy
Strategic Forum targets
Bovis Lend Lease
BRE BES 6001+BSI entry
Now embedded strategy and pledge
What is Responsible Sourcing of Materials for Concrete Producers

• Demonstrate that **operations** are run responsibly so that downstream customers for our products and materials can meet their obligations to source responsibly.

• Demonstrate that the **upstream supply** chain is managed to ensure that suppliers operate responsibly.

• Ensure that the interpretation of what it means to operate and to source responsibly is acceptable to a range of **stakeholders**.

• Demonstrate **product stewardship** i.e. developing sustainable products, advising on correct usage and assisting with reuse/recycling/disposal through their life cycle.
2.6.2 RESPONSIBLE SOURCING OF MATERIALS

(RSM) CERTIFICATION SCHEME

“Responsible sourcing is demonstrated through an ethos of supply chain management and product stewardship. The scope of RSM is broad and encompasses the social and economic aspects of sustainability as well as the environmental. RSM addresses aspects such as stakeholder engagement, labour practices and the management of supply chains serving materials sectors upstream of the manufacturer. Product stewardship is demonstrated by continued engagement with the use of the product beyond the factory gate and a commitment to improve its life cycle performance. The idea behind RSM is that it provides a holistic approach to managing these criteria from the point at which a material is mined or harvested in its raw state, through manufacture and processing, through use, reuse and recycling, until its final disposal as waste with no further value.”
BES 6001 : Responsible Sourcing of Materials

“The scope of Responsible Sourcing of Materials (RSM) and the criteria it covers are details in a BRE Global Certification Standard BES 6001{18}. The aim of BES 6001 is to provide a platform from which industry sectors and companies can seek to determine performance against RSM. Assessment against the standard is to be realised through the establishment of certification scheme through BRE Global, or other licensed certification bodies. Direct certification of produce and material manufacture against BES 6001 will be possible.

The standard considers a number of environmental issues such as global warming emissions, resource efficiency and minimisation of raw material usage, transport and biodiversity. It also takes account of embodied environmental impact as assessed in The Green Guide to Specification. Good RSM with regard to embodied impact can be demonstrated through a commitment to identify the significant environmental impacts of a supply chain and manufacturing process through the use of LCA methods such as the Environmental Profiles Certification scheme.

Building designers and specifiers should look for responsibly supplied products as well as ensuring that they have a low embodied environmental impact.”
Progress

- Concrete Guidance to BES6001 launched in December
- Al received first BRE certificate at Ecobuild
- 7 or 8 precast companies looking at it seriously
- We need a market to develop - BERR strategy aims for 25% of construction to be responsibly sourced by 2012
- Great opportunity for competitive advantage for the sector and for companies
- That is providing FSC preferential status is scrapped in CSH review!!
- BSI draft standard BS8902 out for comment until end July
- Hope BRE and BSI will converge and keep costs down
Draft for Public Comment

Latest date for receipt of comments: 31 July 2009

Responsible committee: SDS/1/6 Responsible sourcing of construction products

Interested committees: SDS/1

Title: Draft BS 8902 Responsible sourcing sector certification schemes for construction products - Specification
rsmc - real case study

Stone imports – tonnes per month

India/China/Rest of the World
Main themes

- What is the concrete industry and its supply chain?
- Our sustainable construction forum and its objectives
- Responsible sourcing update

**Precast sector progress**

- Readymix progress
- What extra benefits can be gained with concrete?
- The recession - what can we do?
• In business for 80 years

• 12 active product groups in federal structure

• Not dominated by a few - one member one vote, we want all producers in plus supply chain

• Represents 85% of market by value

• Many smaller producers not members even for £500 lowest level fee

• CIPS members can help by asking for British Precast membership - safety and sustainability charters

• Priority themes - safety, innovation, sustainability
• Set of industry based sustainability principles

• Charter status demonstrates that a company is going beyond legislation and undertaking voluntary actions to improve its performance
Implementation

• 2007
  – KPIs
  – Sustainability Charter

• 2008
  – Audits against Charter commitments
  – Certification Scheme

• 2009
  – 4th Sustainability Matters annual report published with KPIs
  – Best Practice Forum
  – Objectives and targets for improvement
Health and Safety

• 4.8m tonnes or 26.7% of reported production was covered by an OHSAS 18001 certified health and safety management system, which is a slight increase over 2006.

• Health and safety data is collected separately through the Concrete Targets 2010 Scheme operated by British Precast; this HSE recognised scheme promotes improvement activities and sharing of information, both within companies and across the industry.

• Over 13,000 employees in the industry were covered by the scheme in 2008.

• The RIDDOR incident rate was its lowest ever in 2008 having decreased 66% compared with the base figures from the year 2000.
British Precast is committed to the development of a more sustainable precast concrete industry – one that offers products and solutions that meet our present and future social environmental and economic needs, whilst being more profitable, safer and competitive in the way it operates. This objective is being achieved through;

✓ **Our committees**
✓ **Best Practice Awards and**
✓ **Most importantly the efforts of our member companies.**
British Precast holds annual award schemes to recognise the excellent work carried out by our members and provides another way of sharing best practice within the membership. The awards are types are on:

- **Innovation**,  
- **Sustainability**,  
- **Health and Safety**,  
- **CT 2010 Award**,  
- **Construction Project**,  
- **Creativity in Concrete**.
MARSHALLS PLC
Project: Marshalls and Carbon Labelling
✓ In 2008, Marshalls carbon labelled all 503 of its domestic products – the largest number of officially carbon labelled products in the world.
✓ Energy commitment to reduce emission of greenhouse gases (GHG) by 60% by 2050 in line with government targets.

AGGREGATE INDUSTRIES
Project: 10 Years of Improvement 1997-2007
✓ 365% Improvement in turnover
✓ 122% Increase in total production
✓ 77% Increase in Employee headcount
✓ 63% Reduction in lost time injury
✓ 58% Reduction in community complaints
✓ 21% Reduction in process energy consumption per tonne of production.
Project: One Coleman Street, London

- The exterior appearance of the scheme aims to exploit the unique characteristics of the building’s form.
- The scheme utilises polished pre-cast concrete cladding panels configured in a geometric arrangement derived from the curvature of the building’s floor plate but expressed through a series of interlocking and alternating triangulated surfaces.
- The fenestration is set at an angle to the edge of the floor plate, enhancing tangential views from the building while creating a robustly modelled surface to the external building face.
Project Case Study

One Coleman Street, London
The development forms an important edge and landmark to Argent’s Street Piccadilly development.

It was designed to take full advantage of its corner site, providing an elegant sweep of facade to the junction of Whitworth Street and Aytoun Street.

A plinth of grey granite precast concrete is provided at the pavement and piazza level, both to accommodate the variance in pavement levels to Whitworth and Aytoun streets.

The design was based on using the whole structure to form stability rather than adopting traditional lifts and stair cores.
PROJECT CASE STUDY

Project: 5 Piccadilly Place, Manchester
AGGREGATE INDUSTRIES

Project: Charcon Stone Master with Urban Surface Protection (USP)

- High quality landscaping product from Charcon. Premium landscaping products are pre-treated with Charcon USP for complete urban surface protection.
- Charcon USP self cleaning sealant protects against day-to-day surface contamination within normal cleaning operations without the need and added cost of specialist cleaning companies.
- Also protects against gum, moss and bird droppings.

Anti-dirt. Antidote.

Urban Surface Protection.

For more information about Charcon USP visit www.charcon.com or call 01335 372222.
AGGREGATE INDUSTRIES

Project: Charcon Stone Master with Urban Surface Protection (USP)

✓ StoneMaster is a revolutionary new range of flag paving and setts from Charcon. It has an inherent beauty of indigenous Yorkstone. It is a natural choice for any prestigious landscape.

✓ The most sustainable alternative to natural sandstone on the market, StoneMaster contains up to 50% recycled content as well as Charcon's USP self cleaning sealant protecting against stains, surface contaminations, gum, moss and bird droppings.
ECORATIO
Project: Betopro® emulsions
✓ Betopro® is a water-based emulsion and thus not flammable. For this reason, it is very simple, safe and pleasant to use and to improve the working conditions in precast plants.
✓ No risk of over-application: because of its inherent white colour it is clearly visible and areas where it has already been applied are therefore not sprayed again.
✓ Betopro® has no smell and so improves working conditions.
✓ Betopro® concrete mould release agent is solvent-free. Using it does not release harmful vapours which have been shown to cause lung cancer and nerve and liver damage. Betopro® does not cause any skin irritations. Independent tests prove this.
✓ Betopro® concrete mould release agent ensures high-quality surfaces for visible concrete.
MARSHALLS PLC

**Project:** Behavioural Safety - Dynamic Risk Assessments

- A specific risk assessment introduced as a Positive Safety Programme initiative for Contractors and maintenance on site which has reduced reported accidents and near misses.
- The introduction of the site Dynamic Risk assessment has reduced engineering based accidents and incidents by 84% at Brookfoot site.
- The success of the Dynamic Risk Assessment has brought widespread organisational approval and is now a common best practice across the group.
- A rapid development from an initiative began only in 2008.
- Marshalls Brookfoot site has 5 manufacturing departments employing 170 people across a day and night shift.
The implementation of the DRA was introduced in stages starting with some regular contractors.
A flow chart was used as part of the introduction and the Contractor controller began helping contractors with the new DRA in the early stages.
**CORPORATE CASE STUDY:**

**TARMAC BUILDING PRODUCTS**

**Project:** Tarmac Improvement Plan 2008 - Safety, Health and Environment

- During 2008, Tarmac Building Product’s Safety Improvement plan focused particularly on People Management and Behavioural Safety. The Improvement Plan comprised of 5 individual elements as listed below:
  - Accountability
  - Communication
  - SHE Committees
  - SHE Management Systems
  - Contractors

- Progress with the implementation of the plan was summarised monthly and reviewed with the directors of the company and the line management responsible for each of the Tarmac Building Products businesses. Through this process there was a good buy in at the outset and transparency in the implementation which resulted in all actions being significantly achieved.
Main themes

• What is the concrete industry and its supply chain?
• Our sustainable construction forum and its objectives
• Responsible sourcing update
• Precast sector progress
• Readymix progress
• What extra benefits can be gained with concrete?
• The recession - what can we do?
BRMCA now part of the Mineral Products Association

Represent 90% of the industry - account for 50% of cement

100% of BRMCA members are certified against BS EN ISO 9001 by a third party UKAS accredited certification body

51% of BRMCA members are certified against BS EN ISO 14001 by a third party UKAS accredited certification body - remaining 49% currently operate internal systems compliant with the standard.

Excellence in customer service award - CIPS members welcome to make nominations

Contact: Director Martin.Hardwick@mineralproducts.org
Ready mixed concrete

- Ready-mixed concrete travels only 8.3km from production to site, with an average load size of 6m³.

- The industry is also looking at alternative fuels for ready-mixed concrete trucks to reduce our CO₂ emissions further.

- The use of High strength concrete is now widely available, from readymix plants and offers a more sustainable solution to concrete buildings in terms of reduced column width and slab thickness.

- www.brmca.org.uk
Main themes

• What is the concrete industry and its supply chain?
• Our sustainable construction forum and its objectives
• Responsible sourcing update
• Precast sector progress
• Readymix progress
• What extra benefits can be gained with concrete?
• The recession - what can we do?
The full package of benefits

- We recognise that unit price is primary
- But real cost has much more to it
The advantages of precast

Forget the concrete - it's the added value that counts and gives the profit
The result in 2006

Why precast concrete?
A guide to one hundred advantages
Belgian version out, Poland soon, Sweden ? Italy ?

Download at www.bibm.eu
**Withstands everyday use.**

All structures and buildings are subject to everyday wear and tear and this is where the use of precast concrete really makes sense. Its hard, tough surface is extremely resistant to everyday dents and punctures.

---

**Weather-proof.**

Precast concrete is resistant to rain penetration and wind-blown debris. It can also withstand many winters of freeze-thaw cycles, unlike other materials which can deteriorate quickly with such regular exposure to expansion and cracking.
Quiet...

As a dense material, precast elements in a building make for a peaceful lifestyle. Privacy and effective sound reduction are ensured, which makes precast and masonry an ideal choice for residential buildings in particular.

...yet acoustically versatile.

Because precast can be moulded to any shape, size and texture it can be used to deflect or absorb noise. This makes it a good acoustic host for music but also an effective sound barrier alongside busy roads.
Thermally efficient.

Concrete can be dense or lightweight and this choice affects its thermal behaviour. In either case, precast concrete can act as a thermal sink or as an insulator. In some buildings you can see precast doing both.

Comfortable.

The versatility of precast can be seen in its application as a carrying medium for heating or cooling, whether this is via air or fluids. The hollow cores in precast floors can be used or pipes can be cast into slabs. The concrete surface radiates very effectively, enables space to be used without the hindrance of radiators and protects the heating or cooling system within.
Plug and play.

Precast concrete can carry pre-installed services and fixtures, whether these are communications, plumbing or even window! Services can be cast within a precast element or panels can include connection plates ready to receive heating and lighting fittings on site. This makes both construction and maintenance easy.

Wi-fi compatible.

With homes and offices increasingly designed for information technology, it is good news that precast concrete buildings do not interfere with radio signals, local wi-fi or internet networks. This makes precast the most technology friendly material for homes and places of work.
Offers a safe haven...

The structural strength and dense nature of precast concrete makes it an ideal choice for safe or panic rooms in houses.

...and keeps buildings secure.

Whether for homes, businesses or increasingly for prisons, precast is secure against break-ins and break-outs; it can’t be cut open and is extremely resistant to impact.
Durable...

Concrete buildings from hundred of years ago are still in use today. Some say concrete can last up to 2000 years and there are certainly many structures around that are well on their way to such a ripe old age...

...because it gets stronger every day.

Precast concrete goes on increasing its strength for hundreds of years after it is cast. What's more, during that time it won't shrink, warp, move or creep excessively so can be relied upon to perform consistently year after year.
The Little Green Book of Concrete

Sustainable construction with precast concrete
Main themes

- What is the concrete industry and its supply chain?
- Our sustainable construction forum and its objectives
- Responsible sourcing update
- Precast sector progress
- Readymix progress
- What extra benefits can be gained with concrete?
- The recession - what can we do?
Challenges in the recession

- Maintaining a UK supply industry that can deliver future needs - national security at stake
- Maintaining industry skills base
- Maintaining standards improvement [at very least] - safety, service, quality, environmental management
- Developing new opportunities, new markets
- Maintaining membership
- Getting paid! - collapse of credit insurance; role of credit circle
- Lobbying - what can we do?
THE TIME HAS COME

Building industry in steep decline

Tens of thousands of jobs are being lost. Factories are being closed. People are losing their homes. What sells we need for the future are disappearing.

It’s time to unite our fragmented industry to make our voice heard. We must articulate the most important things we need our Government to do, to ensure the return of liquidity and consumer confidence.

The time has come for individuals and organisations to join the biggest ever coalition of stakeholders in the built environment and make our voice heard. It’s time for action to save our industry...

Get Britain Building

Sign up now...

WWW.GETBRITAINBUILDING.ORG
Founders

FMB
BMF
British Precast
Modern Masonry Alliance
Sign up and support as CIPS and as organisations – it's free
Britain is in strategic danger. Our construction products industry is in severe decline, jobs are being lost daily and factories closed that may never reopen. Investments are suspended. When demand returns and we get back on track the 3 million new homes that are promised by 2020 Britain may not have the product manufacturing capacity to supply them – resulting in exported jobs, higher carbon emissions and major strategic risk not seen since WW2. The Nation needs a strong domestic building products and materials industry. Who can say whether countries we come to rely on for imports will wish, or be able, to supply us in the future? We call on the Government to Get Britain Building now. We need a crash programme of investment in new and upgraded housing, in hospitals and schools, in transport, and in surface water and sewerage systems. We call on the Government to recognize the strategic risk. We call for positive discrimination in favour of UK sourced materials and building products that will reduce carbon miles and support British manufacturing jobs. We call on the Government to make London 2012 a British-built Olympics using British products – a showcase for our industry.

Sign our British Precast petition on 10 Downing Street website
MOVE OVER DARLING

or

THANK YOU DARLING, THAT WAS GREAT

??
Questions/comments/observations

• Always welcome now or on telephone

• Always willing to provide speakers or arrange meetings

• Or by email martin.clarke@britishprecast.org
Thank you for the invitation