

# Concrete Summit on Sustainable Development Washington DC

## An EU Perspective

With a focus on the UK

29-30 March 2007

By

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British Cement Association

# CEMBUREAU WORKING GROUPS & TASK FORCES

## WG 1

Climate Change  
and CO<sub>2</sub> Reduction

### TASK FORCES

- CO<sub>2</sub> Monitoring, Reporting & Inventory
- ETS Review & Post-Kyoto\*
- Accounting Treatment of CO<sub>2</sub> Emission Rights

## WG 2

Energy and Materials  
Resources

### TASK FORCES

- Use of Waste
- Electricity
- Solid Fuels

## WG 3

State of the Art in  
Cement Manufacturing  
*(Including environmental  
performance)*

### TASK FORCES

- Revision of the BREF\*

\* *Advocacy at EU level via the SAG*

# CEMBUREAU WORKING GROUPS & TASK FORCES

## WG 4 Health and Safety

### TASK FORCES

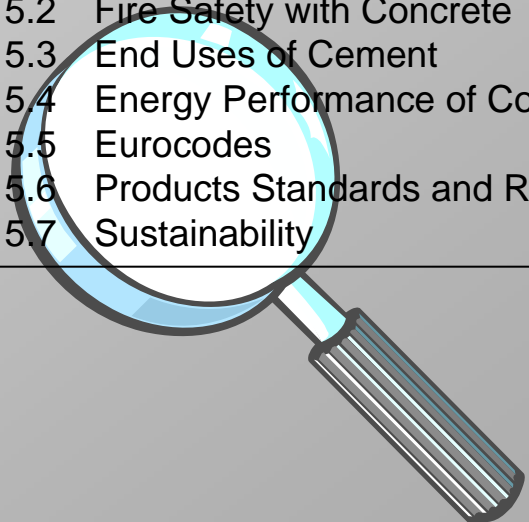
- REACH\*
- Comprehensive Health Risk Study
- Crystalline Silica
- SDS Harmonisation

\* *Advocacy at EU level via the SAG*

## WG 5 Markets and Products

### TASK FORCES

- 5.1 Environmental Product Declarations (EPDs) for Cements
- 5.2 Fire Safety with Concrete
- 5.3 End Uses of Cement
- 5.4 Energy Performance of Concrete Buildings
- 5.5 Eurocodes
- 5.6 Products Standards and Regulations
- 5.7 Sustainability



# CEMBUREAU TASK FORCE 5.7

- **Provide a focus** for sustainability and sustainable construction initiatives within CEMBUREAU, its members (national Associations), companies and partners.
- **Develop a CEMBUREAU strategy**
- **Work with partners** to promote these sustainability and sustainable construction strategies in their sector.

# CEMBUREAU TASK FORCE 5.7

## Action Plan

- **Establish a CEMBUREAU Workshop** to share the current sustainability and sustainable construction market and products issues
- **Propose a detailed Action Plan** with defined resources, responsibilities, outputs and measurements
- **Make recommendations on a Framework** to respond to ongoing sustainability and sustainable construction issues at EU level
- **Support the implementation of the Action Plan and Framework during 2007/8.**

# **CEMBUREAU TASK FORCE 5.7**

- **CEMBUREAU Workshop: 21<sup>st</sup>/22<sup>nd</sup> March 2007 key Outputs: Verbal report...**
- **Next Steps:**
- **Drafting an Action Plan**
- **Drafting a ‘Framework’**
- **Working with Partners**

# European Concrete Platform

## Joint Publications : Fire & Energy

Comprehensive fire protection and safety with concrete

8 February 2007  
EMBARGO 31 March 2007



EUROPEAN  
CONCRETE

Concrete for energy-efficient buildings  
The benefits of thermal mass



EUROPEAN  
CONCRETE

# Sustainable Development - a UK example

## UK legislative & government framework

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- **EU Emissions Trading; UK Climate Change Levy; UK Aggregates Tax**
- **EU Thermal Performance of Buildings Directive**
- UK Sector Strategies; Modern Methods of Construction
- UK Better Buildings Summit: Sustainable Buildings Task Group
  - **Code of Sustainable Homes published 2007**
  - Link to Green Guide – Specifiers guidance for materials; Eco-Homes – specifiers guide for housing
  - BREEAM; LEED
  - **Sustainable Procurement Task Force**
  - **Zero Carbon Homes target – 2016**
  - Sustainable and Secure Buildings Bill
  - Sustainable Construction Strategy
  - **Responsibly Sourced Materials Credit**
- **Climate Change Bill – 60% CO<sub>2</sub> reduction by 2050**

# Sustainable Development

## UK cement industry initiative

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### Responding to World, EU & UK government initiatives...

- Reputation Audit of Stakeholders (2003)
- Evaluation of current industry activities, indicators and targets (2004)
- Masterclass with Jonathon Porritt (May 2004)
- One-year Sustainable Development Task Force (Nov 2004-05)

#### Scope:

- Development of “Sustainable Development Strategy”
- Incorporate the strategy into “the DNA of the industry”
- Integrate sustainability initiatives into “business as usual”

# Sustainable Development

## SD Task Force major outputs

A Sustainability Strategy Launched 2005 including

- **Business Case**
- **Carbon Strategy**
- **Stakeholder Mapping and Dialogue**
- **Cement Makers' Code**
- **Environmental Sector Plan**
- **Corporate Responsibility Report**

Update to be published in 2007



# The Business Case: sustainability accounting

David Collins  
2 February 2005

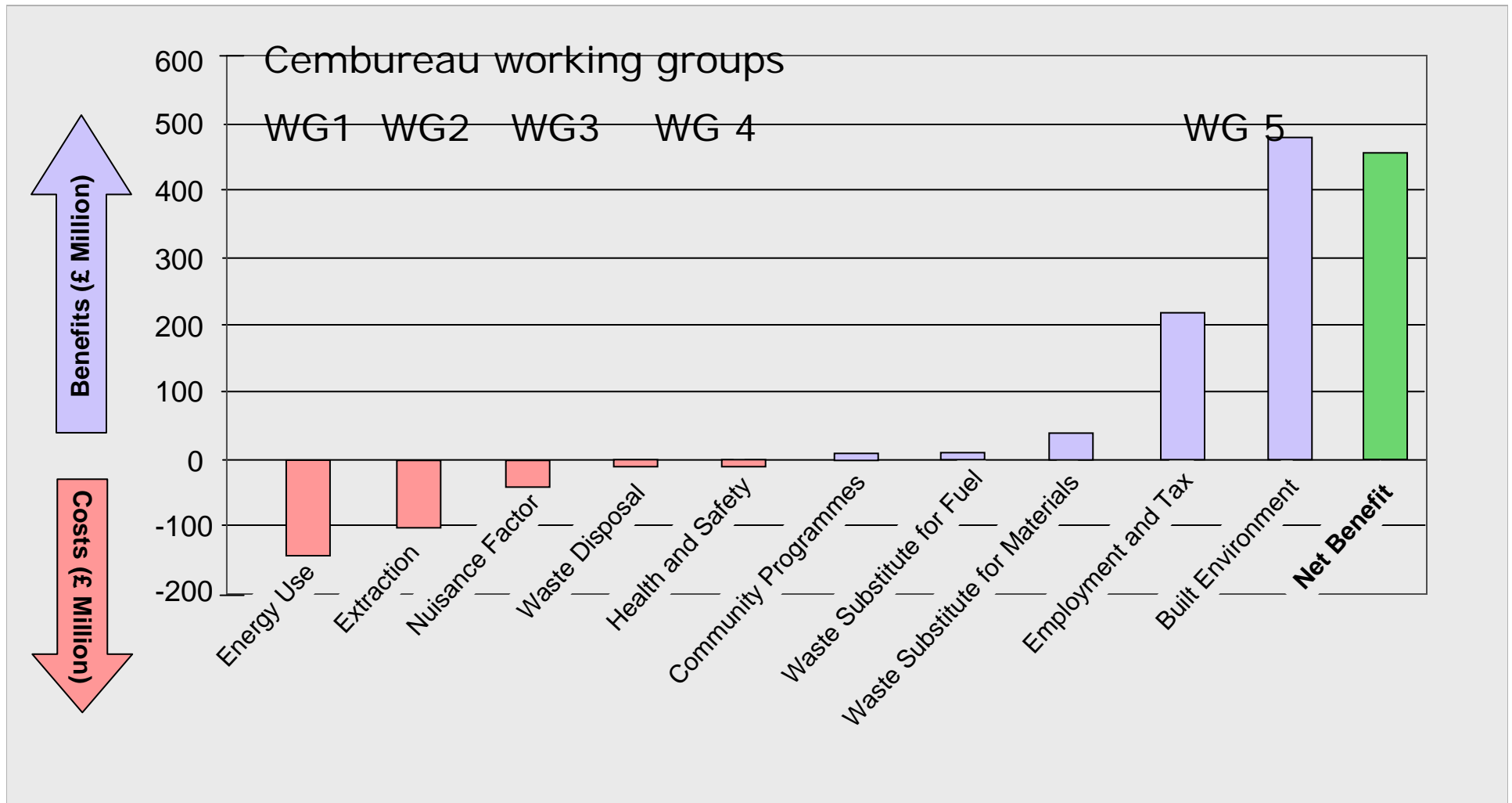
## Business case brainstorming: cement industry benefits and costs (for use in developing a sustainable development business case)



transport accounted for in each stage separately

# The Business Case:

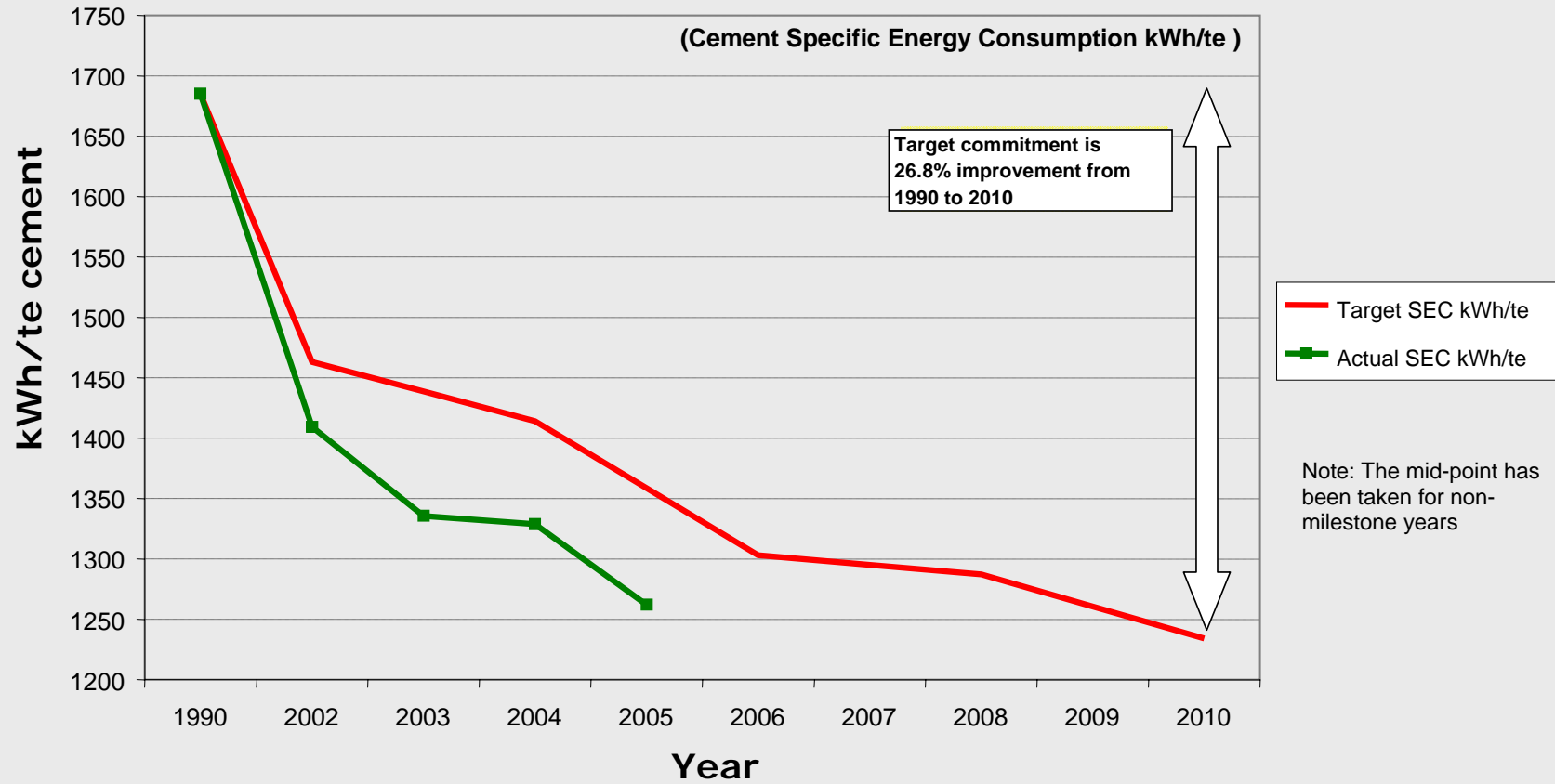
## Cement industry benefits and costs



# UK Cement Carbon Strategy

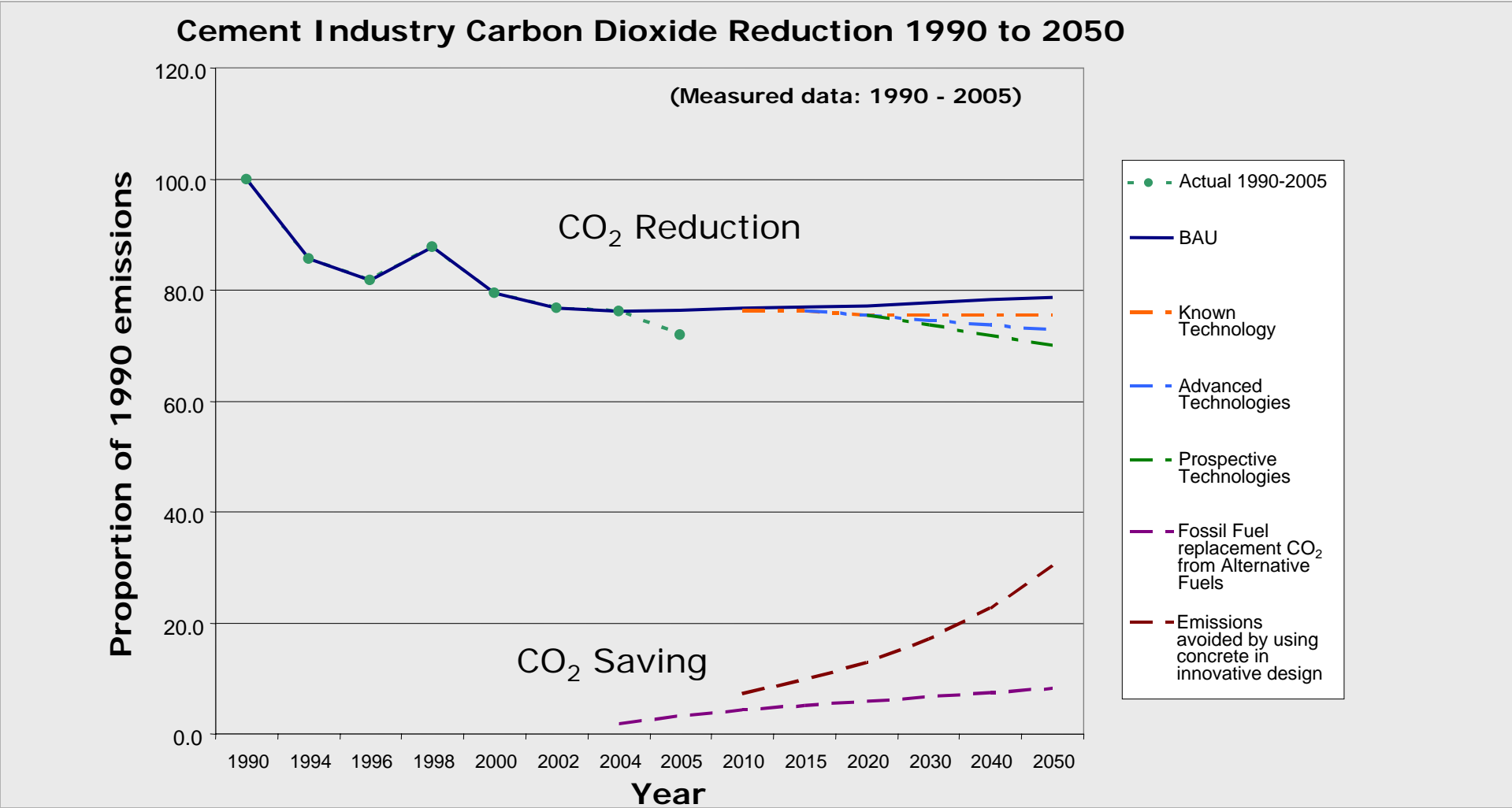
## - Energy

### Climate Change Agreement Performance and Targets 1990 to 2010



# UK Cement Carbon Strategy

## - CO<sub>2</sub>



Ref: BCA/intro/14/26 April, 2004



# The Business Case:

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## Carbon Journey

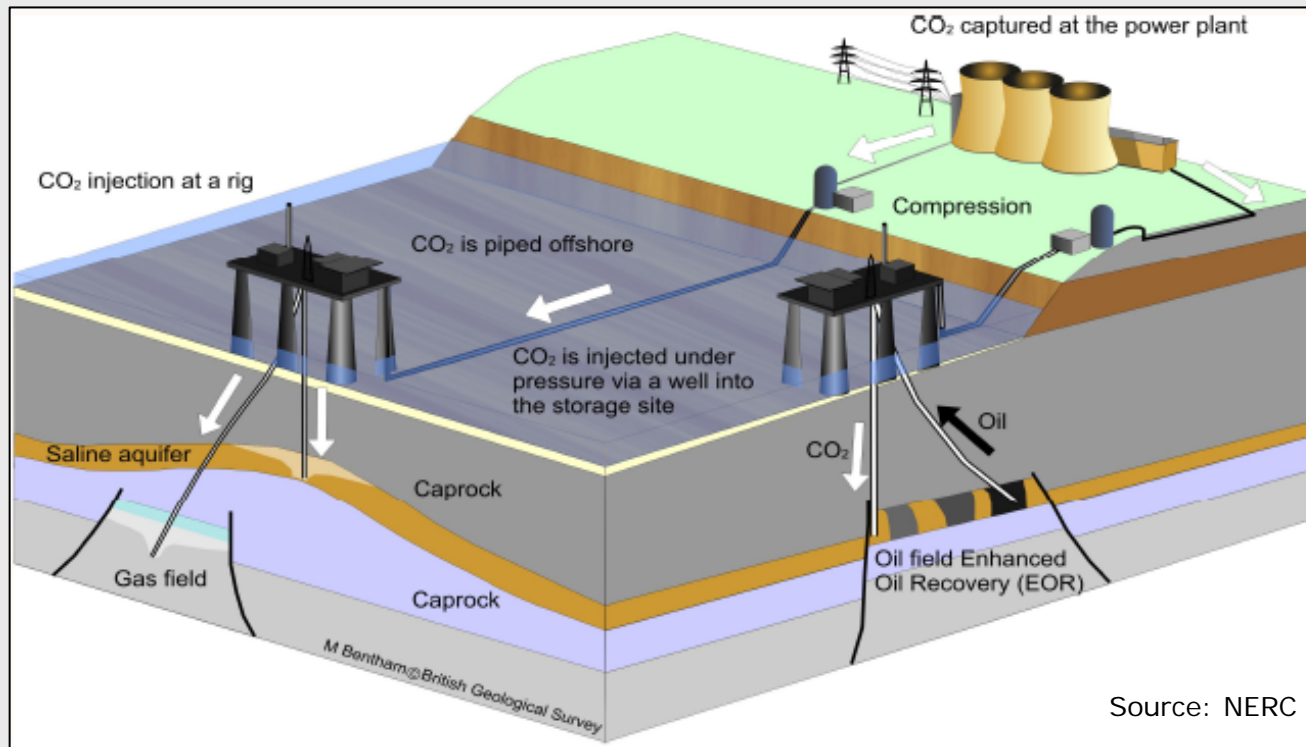
- **0.822 Kg/T** > **Alt fuels/efficiency**
- **0.4?** > **Blended cements**
- **0.2?** > **Carbon Capture/Storage**
- **Zero Carbon?** > **In use benefits?**
- **Carbon Capture Storage -**
  - Technical – post combustion capture
  - Costs – Euros 20/tonne
  - Efficiency – 20% energy penalty
- **Government funded projects**
- **CCS Association membership**

# UK Cement Carbon Strategy

## - Carbon Capture and Storage

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- Eight research projects under development, which would provide an estimated storage capacity of 30Mt of CO<sub>2</sub> per year.
- UK cement industry is collaborating with the IEA and ECRA in a technical and economical feasibility study of carbon capture in the cement sector.



# Stakeholder Mapping

## Reputation Audit

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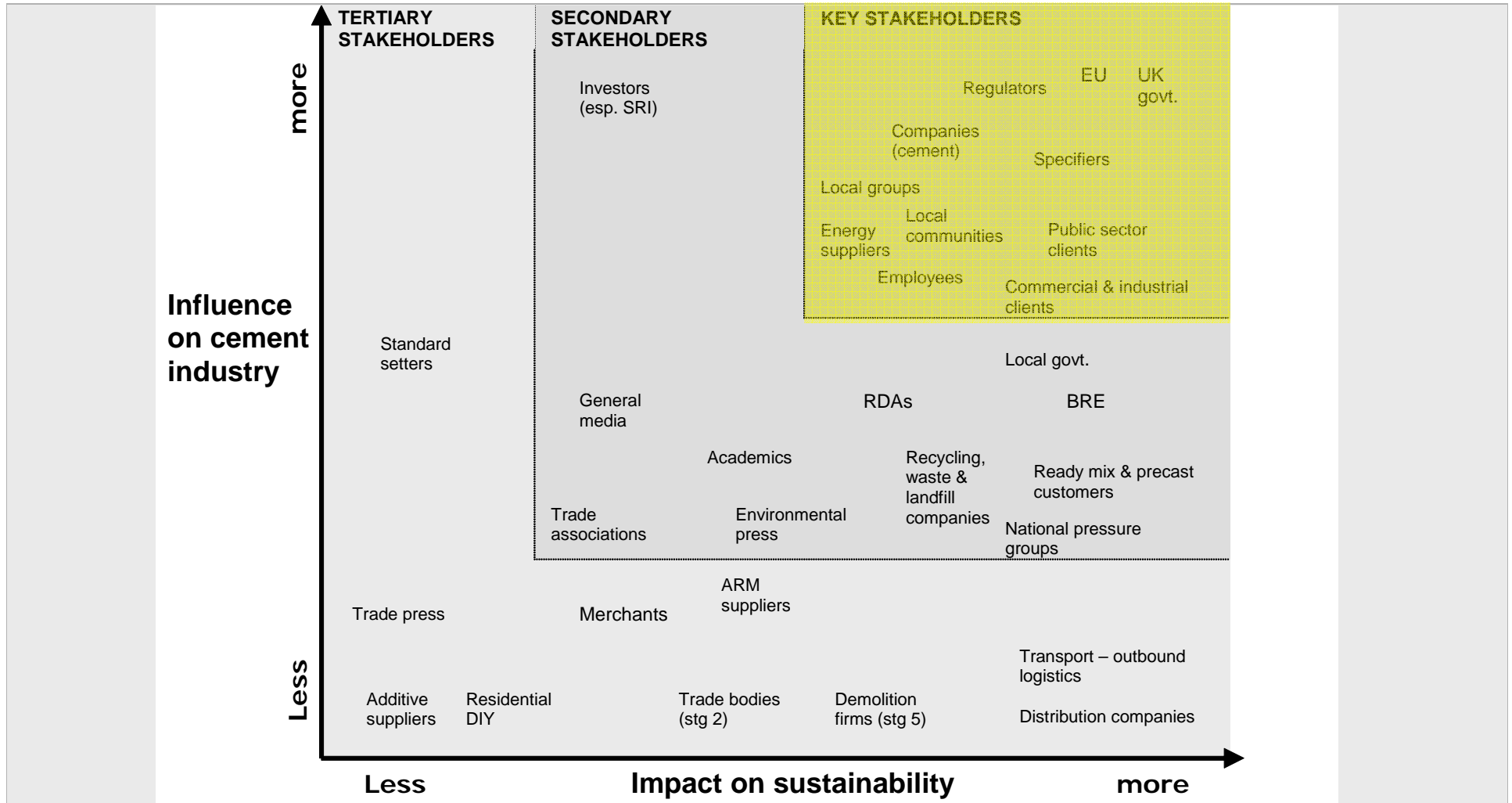
BCA Survey in 2003:

- **the biggest concerns highlighted by key stakeholders were**
  - Sustainability & stakeholder engagement
  - emissions in general, especially emissions from alternative fuels,
- **Cement is vital for UK, but environmental issues must be resolved.**
- **Most information about the industry comes from outside the industry.**

New Industry Communication Plan established,  
includes responding to the EA Sector Plan...

# Stakeholder engagement:

## Key targets of sustainability dialogue



# Cement Makers' Code:

## Promotion of sustainability into business as usual



### Cement Makers' Code



Developed by the UK cement manufacturers  
Part of the company management systems  
Sets principles and priorities:

- **health and safety**
- **sustainability**
- **involvement with local communities**
- **quality of cement products**
- **reporting on performance**

First Report Due Summer 2007



# Stakeholder issues

## Health & Safety

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Member Companies are:

- active in WBCSD CSI
- active in Business In the Community/BIE.
- very active in local communities.
- publish excellent material on policies and practices.
- are leading the Cementing Best Practice programme

...but do we need a more coherent cement industry position on sustainable development in the UK?

- CEMBUREAU Health study
- UK Stakeholder dialogue
- Health & safety at work using cement mortars concrete

# Sector Corporate Reporting: Specific targets, facts and figures on performance

## The Plan's initial principal objectives are:

### **Objective 1**

To reduce the consumption of natural resources per tonne of cement (PCe<sup>10</sup>) manufactured.

### **Objective 2**

To reduce the amount of cement process waste residues disposed of per tonne of cement (PCe) manufactured.

### **Objective 3**

To reduce pollution from cement manufacturing.

### **Objective 4**

To reduce emissions of greenhouse gases per tonne of cement (PCe) manufactured.

### **Objective 5**

To optimise the appropriate use of wastes from other industries or sources

### **Objective 6**

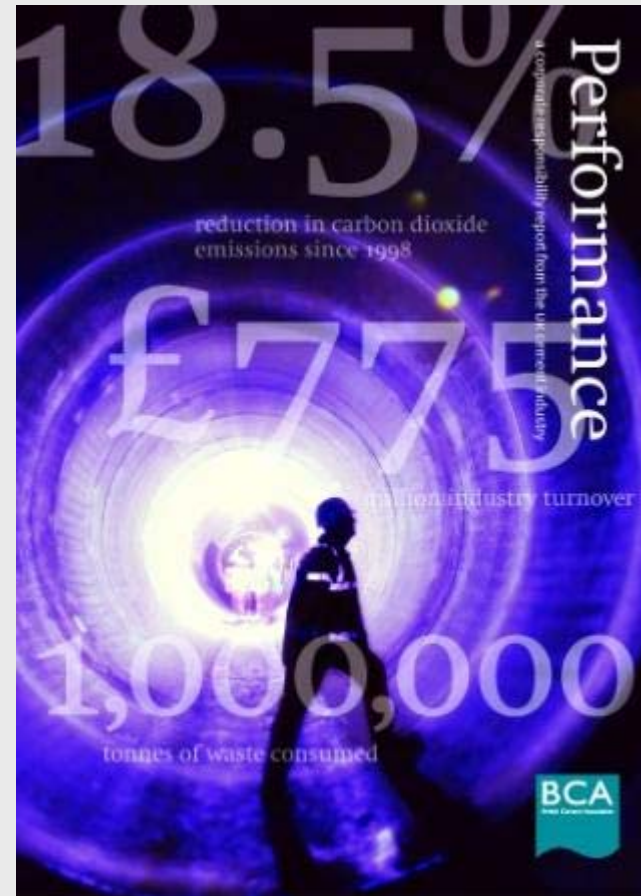
To develop site restoration plans and biodiversity action plans.

### **Objective 7**

To improve transparency, understanding and engagement between the Agency, industry and other stakeholders.

### **Objective 8**

To work to risk-based regulatory and environmental management systems.



a new reporting regime...

## Benefits

### What does cement and concrete bring to sustainable development?

- Durability
- Robustness
- Fire Resistance
- Acoustic insulation
- Sustainable drainage
- Flood presentation
- Roads – rolling resistance; barrier safety
- Housing thermal mass
- Housing basements
- Speed of construction
- Brownfield land use

Working with our partners through the UK Concrete Platform: The Concrete Centre; British Precast; Quarry Products; Ready Mixed & Concrete Society

# INNOVATION IN KNOWLEDGE DISSEMINATION

- A central 'focus' organisation was needed to promote concrete in the UK to those who specify or choose which materials are used in construction...

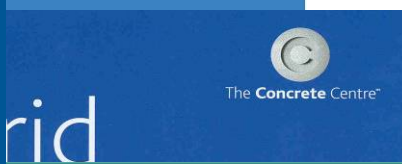


The **Concrete** Centre™



The **Concrete** Centre™

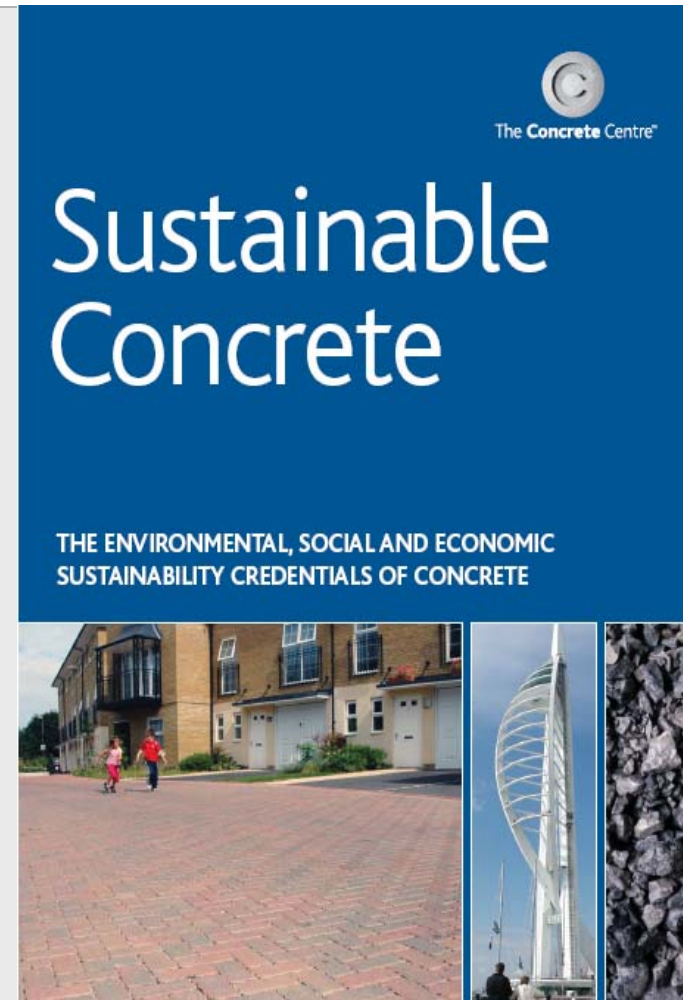
# Innovation in Knowledge



# Sustainable Development: UK cement industry Future Work

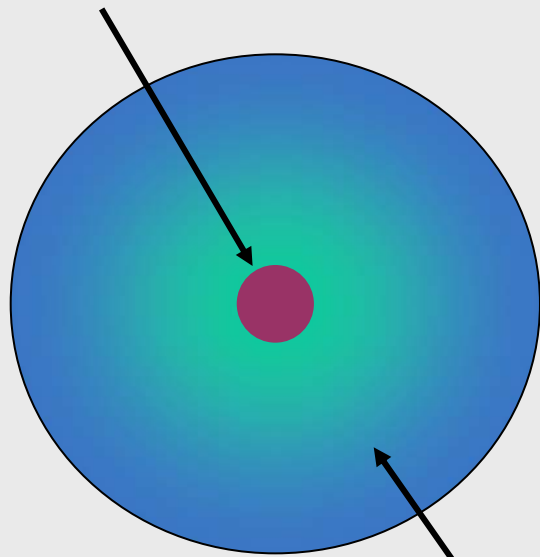
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- Carbon Strategy
  - Carbon Capture & Storage (CCS)
  - CO<sub>2</sub> take-up in concrete
- Continuing stakeholder dialogue:
  - Annual national open forums
  - Regular liaisons with local groups
  - Workshops on sustainable issues,
  - e.g. health impact
- Collaborative work with concrete sector organisations:
  - UK Cement and Concrete Platform: Sustainable Development Strategy



## Carbon strategy: the holistic view

Embodied impacts



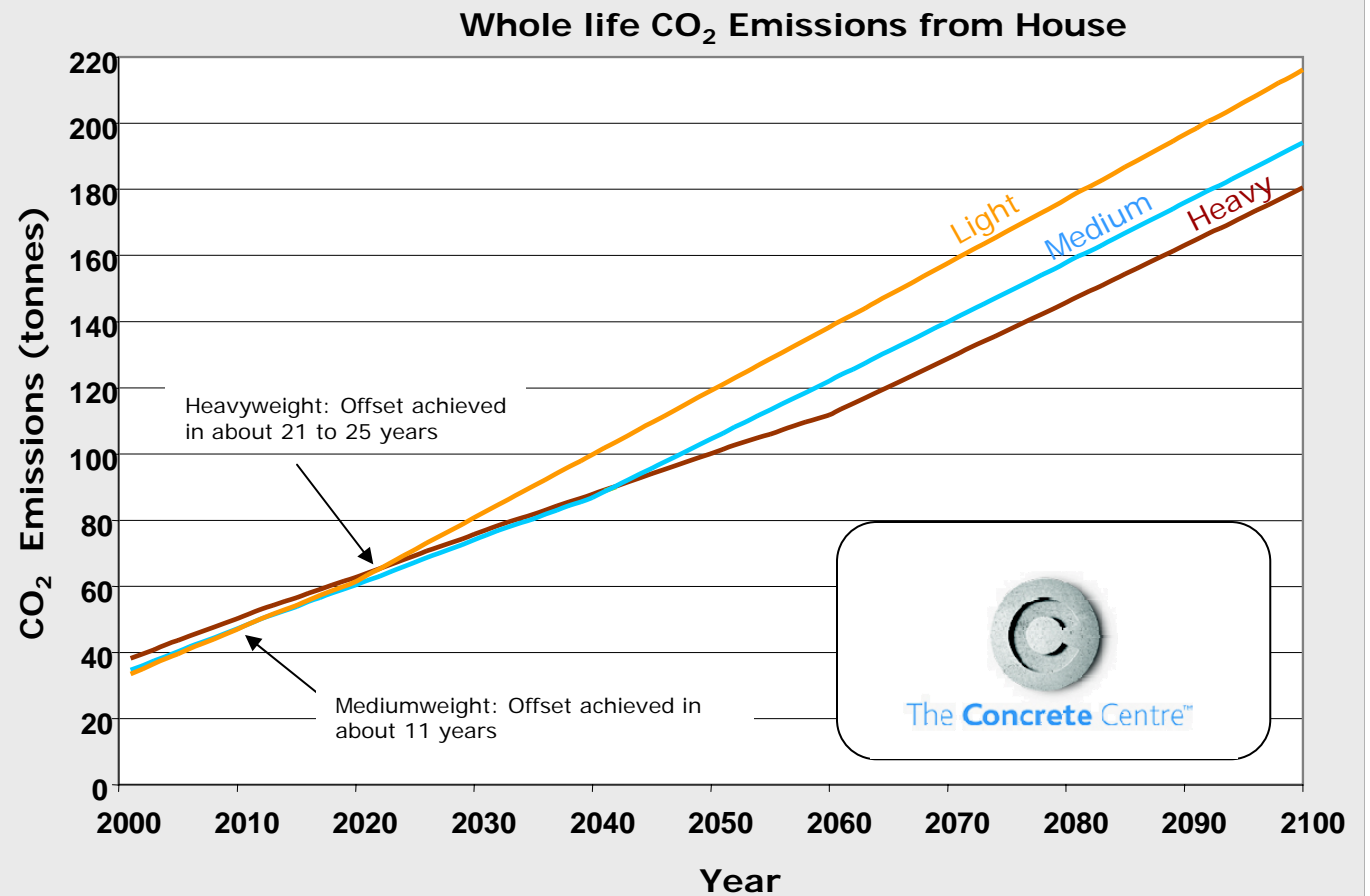
In-use impacts

90% of the environmental impact occurs during the in-use phase (from heating, cooling and lighting)

10% is from the 'embodied energy' used to produce the fabric of the building itself (taken over a 60 year life-cycle).

# Adaptation/Mitigation of Climate Change

## - The Case for Thermal Mass



**Vision: Cement & Concrete  
Sustainable Construction Material of Choice:**

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- CO2 reduction
- Energy reduction
- Carbon Capture & storage
- Re-carbonisation
- Construction benefits: Thermal mass; durability; flood defence; transport; safety; societal

**= Zero Carbon future**

**Route map – research; aligned strategy; investment**