



World Business Council for
Sustainable Development



IEA/WBCSD Workshop

Energy Efficiency and CO₂ Emission Reduction Potentials and Policies in the Cement Industry

Monday 4th-Tuesday 5th September 2006

IEA Headquarters
9 Rue de la Fédération, 75015 Paris
Métro Bir-Hakeim (Line 6), RER C - Champ de Mars – Tour Eiffel
<http://www.iea.org/textbase/about/map.asp>

Questions to be addressed:

What is the current energy use and CO₂ emissions in the cement industry?

Which countries/regions and which processes are the most important emission sources today?

What is the production, energy use and emission trends in a business-as-usual scenario until 2050?

What is the technological potential to reduce emissions and the estimated costs of such reductions?

What are other limits to reducing emissions? (e.g. availability of alternative materials)

What technical and policy options can play a key role for emissions reduction in cement?

What is the economic potential to reduce emission?

What are the regional perspectives?

How serious is the carbon leakage threat in the cement sector? (Under the Kyoto scheme, limited number of countries have only absolute cap.)

What policy approaches could be applied to reduce emissions:

- a) What are the industry experiences with the EU ETS?
- b) Could global sectoral approaches for the cement or non-metallic mineral industry play a role?
- c) How could energy indicators help in formulating CO₂ policy in cement?
- d) What is the effectiveness and efficiency of various policy approaches?
- e) Is there a need for more RD&D? If so, where should it focus?

What should the G8 countries and the IEA do to facilitate emissions reduction in the cement industry?

How to co-ordinate better various international initiatives focusing on cement and CO₂?

DRAFT AGENDA

Day 1: Monday 4th September 2006

Chair: Bob Dixon, Head of Energy Technology Policy Division, IEA

Opening session

9:00-9:10 Opening Address and Presentation of the G8 Programme of Action,
Bob Dixon, IEA

9:10-9:20 Cement Industry in the G8 Industry Task, *Dolf Gielen, IEA*

Session 1

9:20-10:30 Status and Global Trends

- Worldwide Cement Production: Market Structure and Demand Trends, *Arnaud Pinatel, Exane BNPParibas*
- Global Energy Use, CO₂ Emissions, and the Potential for Reduction in the Cement Industry, *Lynn Price, LBNL, Ernst Worrell, Ecofys*
- IEA Cement Scenarios for 2030-2050: Energy Technology Perspectives, *Michael Taylor, IEA*

Discussion

10:30-11:00 Coffee Break

Session 2

11:00-13:00 Regional Perspectives and Trend for Cement Production, Energy Use and CO₂ Emissions

- Europe, *Claude Loréa, CEMBUREAU*
- US and Canada, *Andy O'Hare, PCA*
- Japan, *Toshio Hosoya, Japan Cement Association*
- China, *Cui Yuansheng, Institute for Technical Information of the Building Materials Industry of China*
- Middle East, *Ahmad Al-Rousan, Arab Union for Cement and Building Materials (AUCBM) (No presentation, only material submitted)*
- Russia, *Arnaud Pinatel, Exane BNPParibas*
- India, and Latin America, *Ken Rumph, SBS*

Discussion

13:00-14:30 Lunch

Day 1 cont/d:

Session 3

Chair: Dolf Gielen, IEA

- 14:30-15:45 Energy Efficiency and CO₂ Reduction Technology Potentials
- Rotary Kiln Technology: Preheaters, Precalciners, Waste Fuel Co-combustion, New Kiln Design, *Palle Erik Grydgaard, FLSmidth*
 - Prospects for Efficiency Improvements in China, *Lynn Price, LBNL*
 - Electrical Consumption and Generation, *Toshio Hosoya, Japan Cement Association*
 - Technology Diffusion – Concepts and Future, *Kanako Tanaka, IEA*

Discussion

15:45-16:15 Coffee Break

Session 4

- 16:15-17:45 Alternative Fuels, Feedstocks and Processes
- Potential and Opportunities for increased Waste Use and the Technical Consequences: Waste Tyres and Plastics, Waste Wood, Hazardous Waste, etc., *Patrick Verhagen, Holcim*
 - Input of Municipal Wastes to Kiln, *John Saunders, Taiheiyo Cement*
 - Alternative Fuels and Materials, Slag and Fly Ashes, *Claude Loréa, CEMBUREAU*
 - CO₂ Capture at Kiln, *John Davison, IEA GHG R&D Programme*
 - Low CO₂ Cement, *Ellis Gartner, Lafarge*

Discussion

17:45 Cocktail Reception hosted by WBCSD



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Day 2: Tuesday, 5th September 2006

Session 5

Chair: Richard Bradley, Division Head for Energy Efficiency and Environment Division, International Energy Agency

- 9:00-10:45 Barriers and Opportunities: by Policy and other Market Mechanisms
- The Cement Industry in the EUETS, *Bruno Vanderborght, Holcim*
 - UK ETS and CCL, *David Pocklington, BCA*
 - US Discussion related to Energy Star: Energy Efficiency Improvement and Cost Saving Opportunities, *Andy O'Hare, PCA*
 - Voluntary Action --- Japanese Experiences, *Toshio Hosoya, Japan Cement Association*
 - Public Acceptance, Regulations and Standards and their impact on Alternative Fuel and Materials Use, *Howard Klee, WBCSD*
 - Carbon Leakage and Industry Relocation: Myth or Reality, *Philippe Quirion, Damien Demailly, CIRED*

Discussion

10:45-11:15 Coffee Break

Session 6

- 11:15-12:30 Existing and Planned Activities and the need for Co-ordination
- WBCSD Cement Sustainability Initiative, *Howard Klee, WBCSD*
 - Cement Sector Energy Efficiency Activities in the Asia Pacific Partnership, *Yoshito Izumi, Taiheyo Cement*
 - Sectoral Approaches: A New Approach, *Richard Baron, IEA*
 - Benchmarking and Best Practice, *Ernst Worrell, Ecofys*

Discussion: Co-ordination of International Activities

12:30-14:00 Lunch

Day 2 cont/d:

Roundtable 1

Chair: Richard Bradley, Head of Energy Efficiency and Environment Division

14:00-15:30 Recommendations for G8 Activities: What are Future Policies which facilitate Energy Efficiency Improvements and CO₂ Reduction in the Cement Industry?

- RD&D Needs and Framework for Co-operation (Cross industry and sector)
- Technology/Environment Standards (related to energy efficiency)
- Voluntary Agreements and Benchmarking
- Energy Efficiency Indicators
- Role of Policy and Standards
- Concrete Applications

15:30-16:00 Coffee Break

Roundtable 2

16:00-17:15 Recommendations for G8 activities: What can be done on a Global Scale?

- International Co-operation through Sectoral Approaches
- Co-ordination of WBCSD, IPCC, APP and IEA activities
- Involvement of Cement Producers from Developing Countries
- Proposals for further IEA Analysis, Publications and Outreach Activities

17:15 Closing Remarks