



A Sectoral Approach to Reducing Cement Industry GHG Emissions – The Australian Viewpoint

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Cement Australia is the leading integrated manufacturer of cementitious products in Australia

- Global Shareholders
 - Holcim 50% publicly listed, Zurich based, cement specialist
 - Hanson 25% publicly listed, UK based, building materials business
 - Rinker 25% publicly listed, Australia based, building materials business subject to takeover by Cemex of Mexico
- 47% market share
- A\$870m sales with 1,420 people
- 4.2 mtpa cement sales
- 1.1 mtpa fly ash and slag sales
- Aggressive capital expenditure programme (A\$73m.p.a.)
- Asset base in excess of A\$1 billion



The Australian cement industry comprises three integrated manufacturers which supply 90% of the cement market

Integrated Manufacturers

- Cement Australia
- Blue Circle Southern Cement – 100% owned by Boral Limited, Australian listed international building materials company with international operations
- Adelaide Brighton Limited – Australian listed construction materials company

Industry Statistics

- Annual revenue \$1.6 billion
- Cement and cement extender sales 10.1 mtpa

Industry Representation



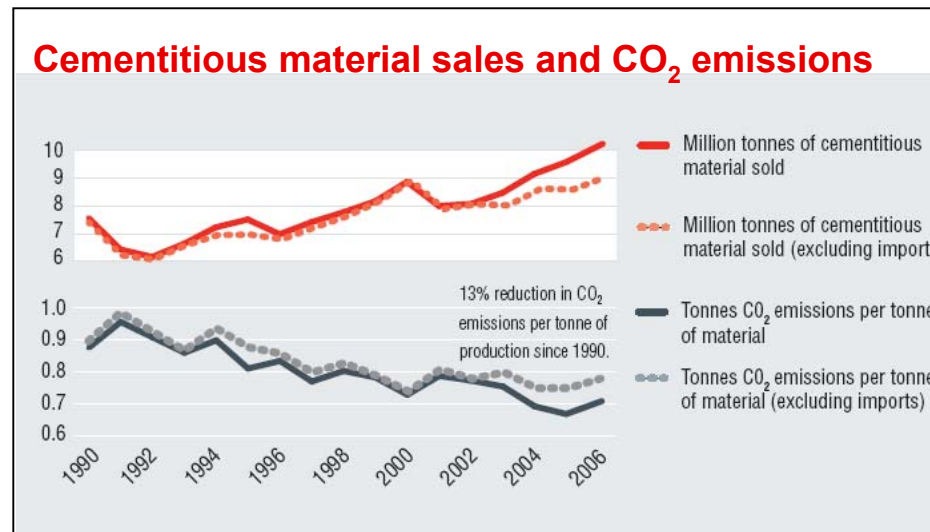
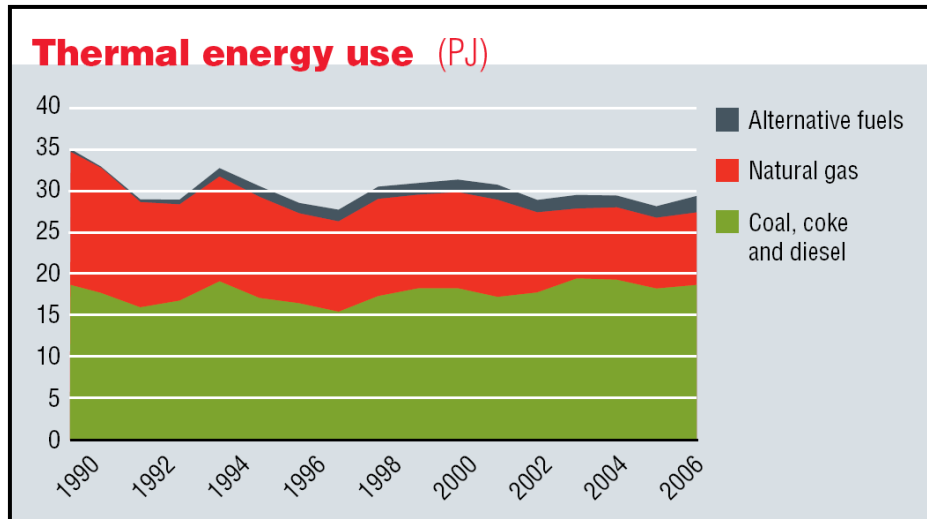
- Member WBCSD Cement Sustainability Initiative

Industry Characteristics

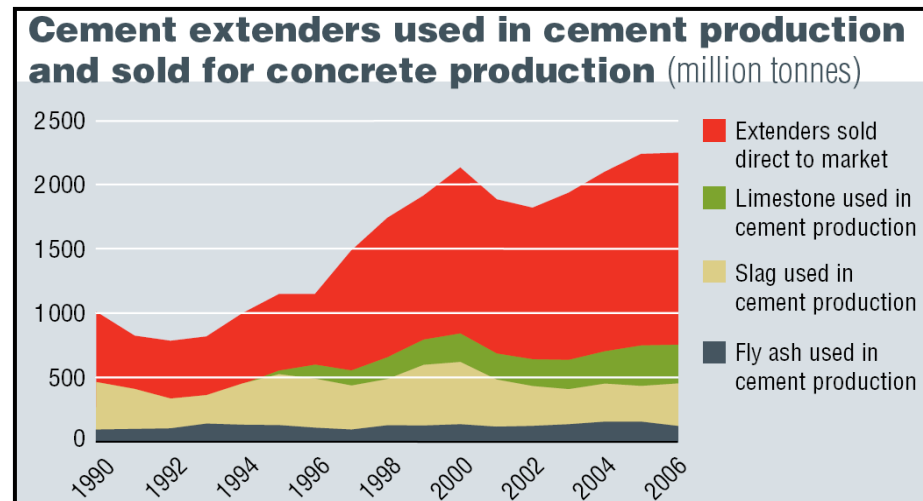
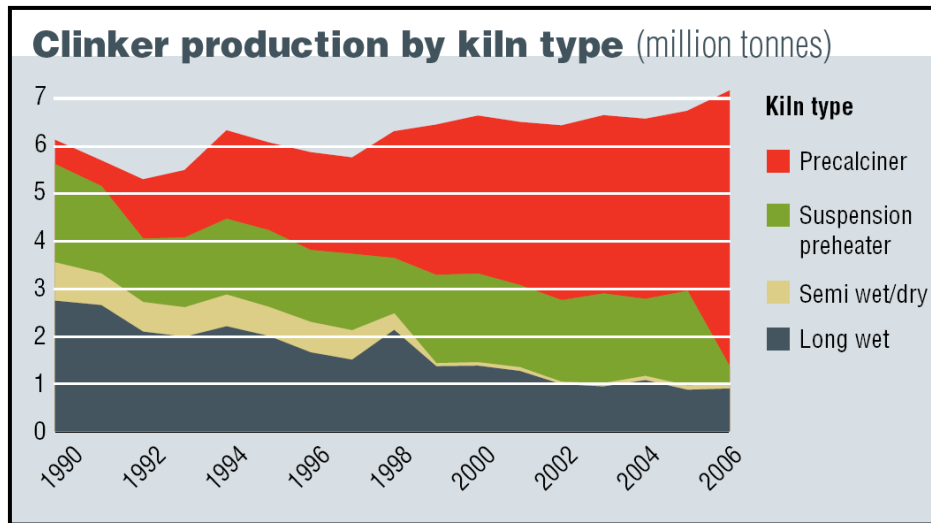
- Cement manufacturing is GHG intensive
- Half the emissions are Chemical (Calcination of Limestone)
- Half the emissions are Electricity and Combustion
- GHG abatement must focus on **both** these sources



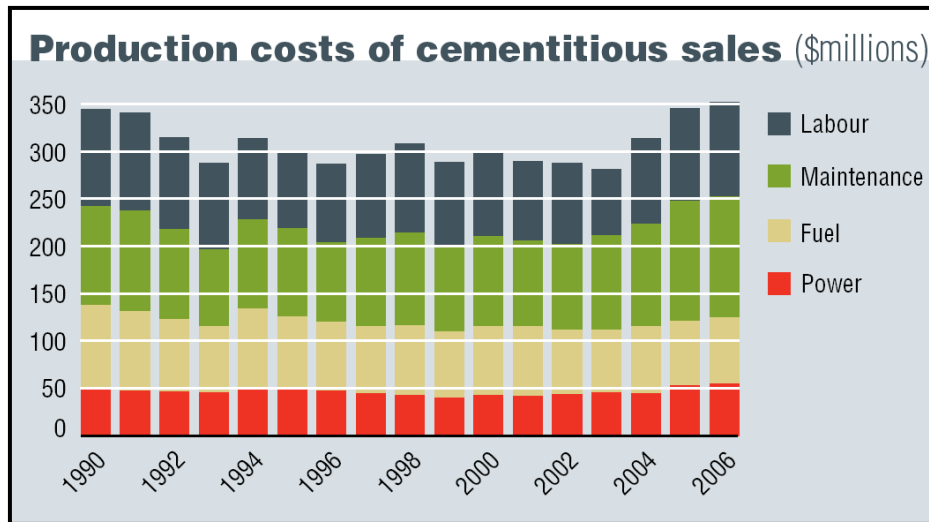
The Australian cement industry has made significant progress in reducing emissions intensity since 1990



Progress has predominantly come from more efficient clinker manufacturing technologies and marketing of cement extenders



Costs have remained constant, and profitability has continued to increase during this period



We believe emissions abatement strategies need to focus on three core activities which can add value

Operational excellence

- Achieving best practice productivity and availability
- Usually lowest cost improvement opportunity

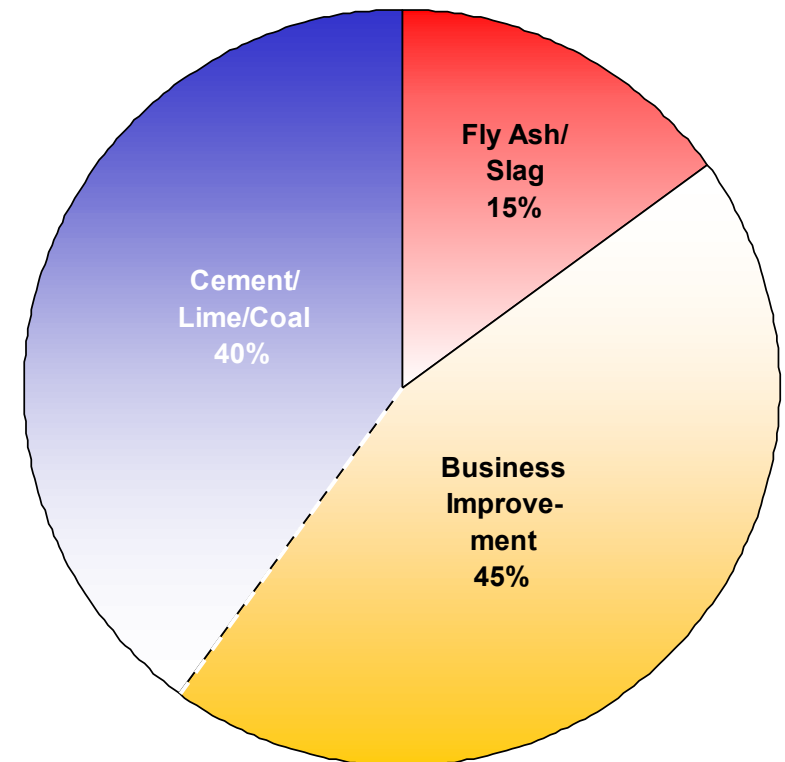
Adoption of best available technology

- Utilising the best available technology (e.g. precalciner kilns)
- Substitution with low energy products (e.g. flyash, slag)
- Substitution of waste derived fuels for fossil fuels and appropriate legislation
- Inevitably involves CAPEX

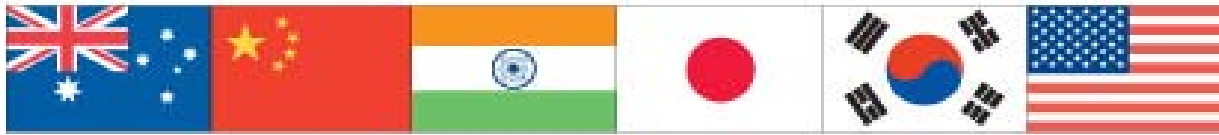
Development of new and emerging technologies

- Driving research, development and demonstration of emerging technologies (e.g. improved waste heat recovery, carbon capture)
- High risk, high cost

Cement Australia EBIT



Through the CIF and with the Australian Government, we participate in the Asia Pacific Partnership (AP6)



- **Sectors represented:** Coal Mining, Power, Steel, Aluminium, Cement, Buildings and Appliances, Renewable Energy, Cleaner Fossil Energy
- Three meetings since April 2006 inception
- Focus is on developing and sharing technology, knowledge and operational practices by close cooperation between task force members
- Large portfolio of projects being implemented and considered

Public Policies should be focused on removing impediments to the implementation of the Emissions Abatement Strategy

Typical Impediments

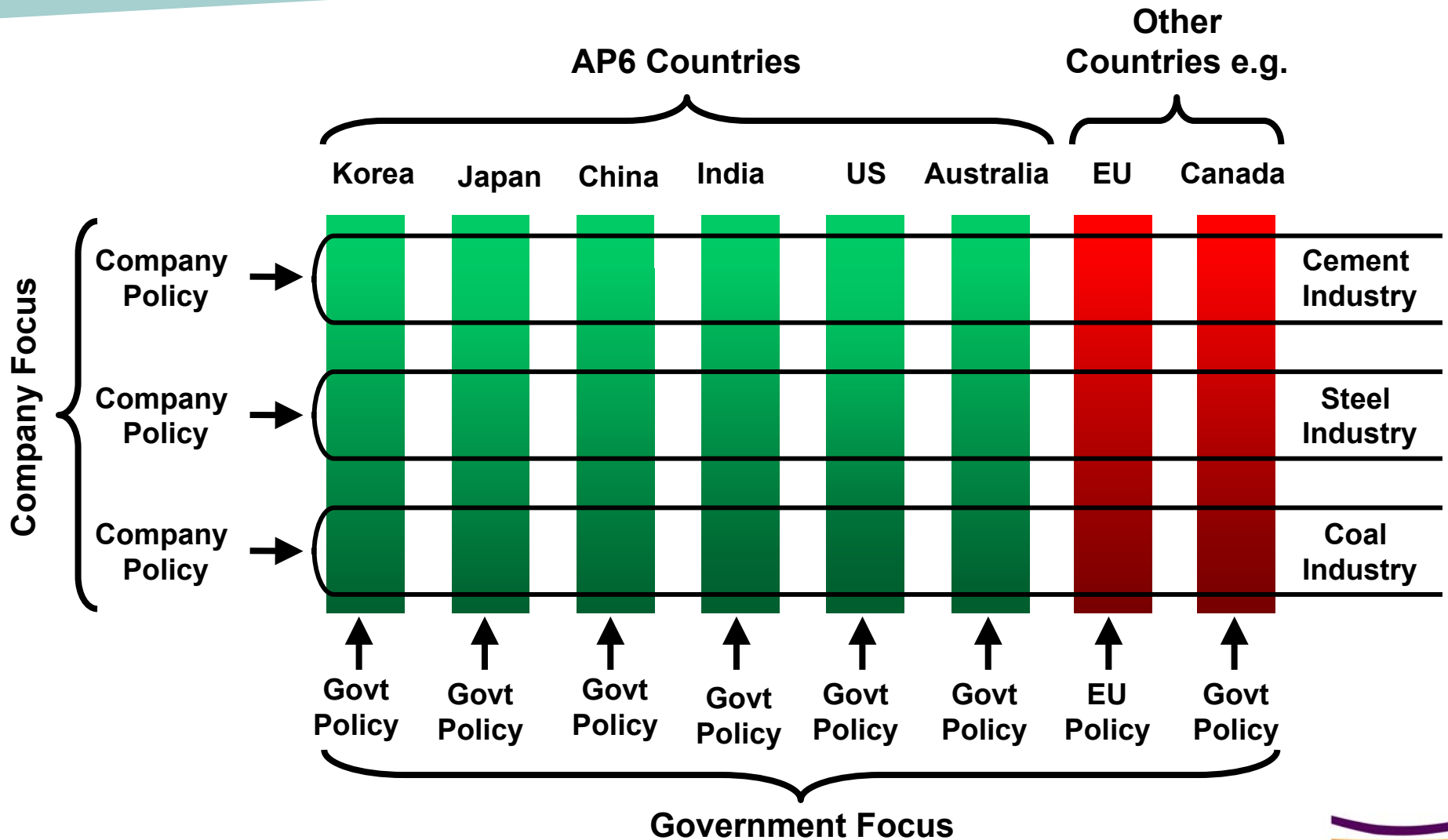
- Access to technology/knowledge
- Capital availability
- High risk and cost of new technologies
- Government policy
- Government coordination
- Workforce skills shortages
- Manufacturing capacity
- Regulatory approvals and permits
- High cost of new plant

Some Potential solutions

- International technology partnerships (e.g. AP6)
- Joint industry/government industry development programs (e.g. CIAA)
- Emissions trading schemes
- Efficiency and energy standards
- Improved tax treatment
- Sectoral agreements and targets
- Improved planning and regulation
- Voluntary abatement programs (e.g. GHC+)

An Emissions Trading Scheme has a role to play as a device to abate GHG emissions but it needs to be well designed

Due to the globalisation of many industries, a global sectoral approach to emissions trading is likely



Sectoral Approach: “Managing emissions across industrial sectors, rather than within normal geopolitical boundaries”

- Drivers
 - Move fast, cost efficiently, equitably towards reducing GHG
 - Propose pragmatic options to Governments
- Candidate industries include Cement, Power, Steel, Aluminium, key principles for the WBCSD Cement Sustainable Initiative
 - Integrated approach – national and international
 - Inclusive – all countries encouraged/incentives
 - Voluntary moving to binding regulation
 - Dynamic – adapt to change in time
 - Simple – one system
 - Cost effective, with or without emission trading
 - Technology transfer recognised, including know how
- Two cement sectoral approaches have been identified
 - Technology based – AP6
 - Emissions based – WBCSD Cement Sustainability Initiative

There are two emerging options for emissions trading sectoral approaches, each with two possible models

Technology based approaches

- Technology standards model
 - Equipment standards set for best available technology
- Technology cooperation model
 - Countries or organizations exchange technology, BAP and training

Emissions based approaches

- Absolute emissions cap model
 - Overall cap set for sector, either global or regional
- Emissions intensity model
 - Emission standard per unit of output, may adopt regional differentiation

Prerequisite for a sectoral approach

- An emission data base using a global standard (based on WBCSD/WRI Cement CO₂ Protocol)

Conclusion

- The sectoral approach is presently a **promising option** to contribute to the GHG management by the reduction of specific CO₂ emission, notably from the cement industry*
- We need a combination of the technology-based and the emissions-based approaches
- Global business can bind these approaches together across countries/regions within a sector
- International Organizations and Governments have to develop workable solutions to overcome the impediments to GHG abatement; leading business organizations are willing to support finding and implementing
- Public policy makers and industry should together recognise, work with and encourage this trend

* See also the Stern Review and the OECD SD Roundtable Sectoral Report