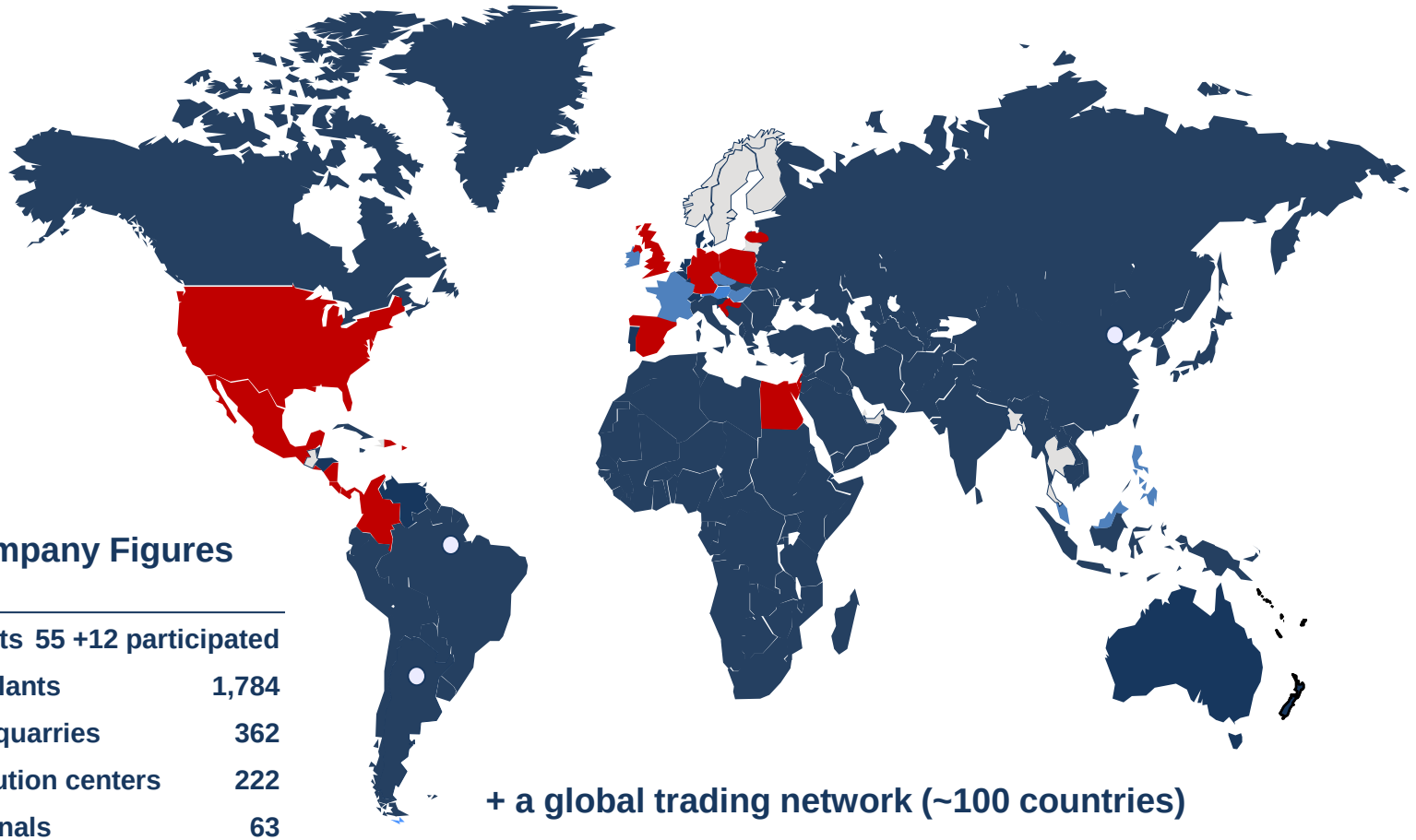
Addressing competitiveness and carbon leakage in the design of emissions trading policies
Cement case

IEA- IETA – EPRI Annual Workshop on Greenhouse Gas Emission Trading

Javier Merle
CEMEX Corporate Environmental Director

CEMEX a global leader in each of our core businesses: cement, aggregates, and ready-mix concrete



Key Company Figures

Cement plants	55 +12 participated
Ready-mix plants	1,784
Aggregates quarries	362
Land distribution centers	222
Marine terminals	63
Employees	43,087

+ a global trading network (~100 countries)

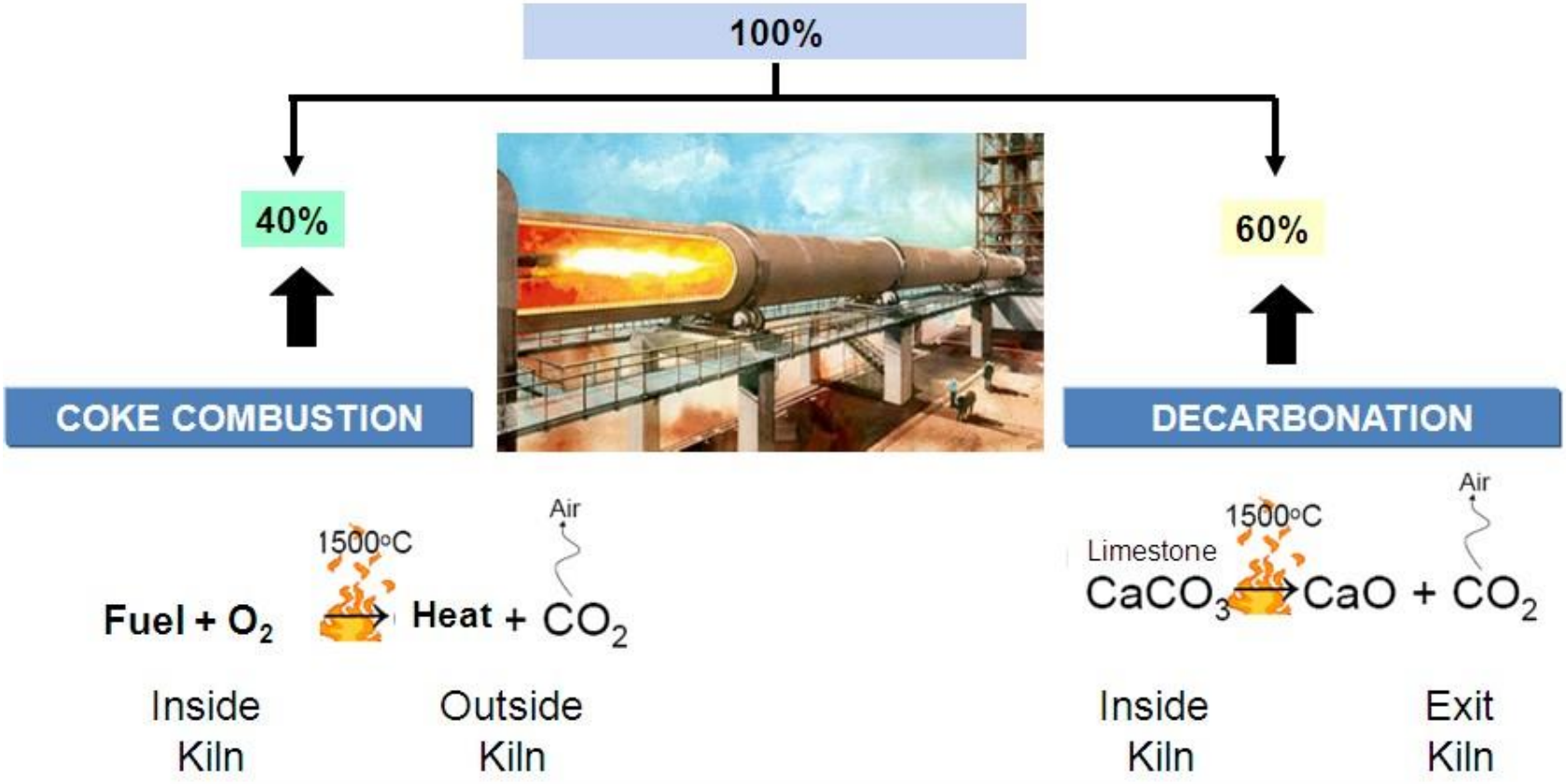
All 3 core businesses
(cement, ready-mix, aggregates)

In 2 businesses

In 1 business

Cement is an energy intensive industry with a high proportion of process emissions

The cement and lime industries are unique due to the fact that most of their greenhouse gas emissions are not caused by energy use from fuel combustion, but come from the raw materials themselves. Also the process involves a high energy consumption (thermal and electricity).



Near 60% of CO2 emissions come from inevitable chemical reactions in the process

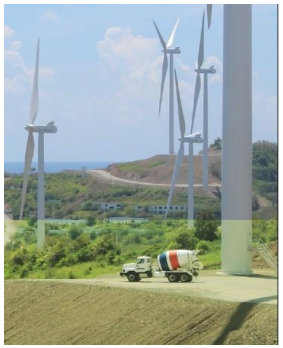
The routes for a low carbon cement sector

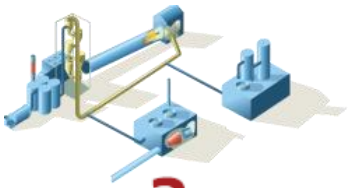
1 Resource efficiency

- Alternative fuels
- Raw material substitution
- Clinker substitution
- Novel cements
- Transport efficiency

2 Energy efficiency

- Electrical energy efficiency
- Thermal energy efficiency





3 Carbon sequestration and reuse

- Carbon sequestration and reuse
- Biological carbon capture

4 Product efficiency

- Low carbon concrete

5 Downstream

- Smart buildings & infrastructure development
- Recycling concrete
- Recarbonation
- Sustainable construction

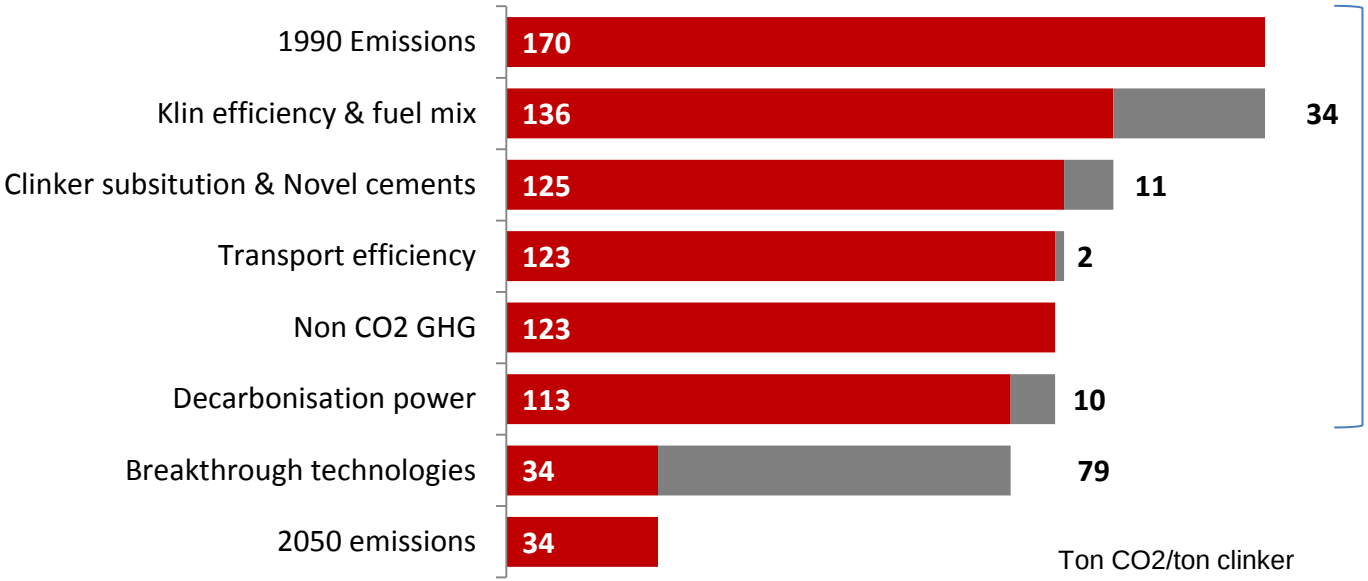
Source : CEMBUREAU : The role of cement in 2050 Low carbon Economy

The cement Road map

In September 2013, the European Cement Association (CEMBUREAU) presented its Roadmap "**The role of cement in 2050 Low carbon Economy**"

Without the application of breakthrough technologies, such as carbon capture and storage, the Roadmap estimated a maximum reduction of the CO_2 footprint by 32 % compared to 1990 levels using conventional means

Multiple paths to emissions reduction:



Source : CEMBUREAU : The role of cement in 2050 Low carbon Economy

Addressing Carbon Leakage

- EU ETS considers for 2030 a 43% reduction compared with 2005, as average for ETS sectors .
- Cement Sector shows in its Road Map for 2050 that it is impossible a higher reduction than 32% without breakthrough technologies.
- Most of the Intensive Energy Industries in Europe are publishing their own projections, far away from 43.
- If the consolidation of all industries shows a reduction capacity lower than 43%, only two possibilities:
  - New reduction technologies (not jet developed)
  - Reduction in production

⇩

Constrain in EU Economy

⇩

Imports to cover gap between demand and production

⇩

LEAKAGE

What cement sector needs

- A global level playing field, considering imports and exports.
- Predictability in carbon pricing. Safeguards against price fluctuations .
- Competitive energy costs. For cement manufacture energy costs represents more than 30% of operational costs, with European costs being substantially higher than in other regions.
- An innovation policy which provides clear incentives for breakthrough technologies for CO_2 reduction in a cost-effective way.

Ways for improving Carbon Market

- A performance based free allocation system for direct emissions, more closely aligned to recent production, with periodically updated benchmark and compensation granted for carbon cost impacts from indirect emissions.
- Consideration of importers and exports.
- Adjustment of the overall CAP, eliminating any Cross Sectoral Reduction factor. This could be compatible with an allocation reserve, on line with the proposed Allocation Supply Reserve from Ecofys.
- The possibility of not considering process emissions for the reduction target.

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