Current Situation of AFR Application in China Cement Industry
1. The current situation of China cement industry

- Intensified overcapacity
- Stricter standards
- Extension of industrial chain
1）、Intensified overcapacity

- 1637 NSP production lines
- 2012’ cement production: 2.21 billion tons, increasing 5.74% year on year.
- Low increasing rate of market demand,
- Development bottleneck
2）、Stricter standards

◆ The cement unit product energy consumption quota (GB 16780-2012) will be put into execution since October 1, 2013, with stricter energy consumption index per unit product.

◆ GB4915-2013 that focuses on NOx index will be published soon this year, which also set the standard for particle matter emission below 30mg/m3.

◆ Environmental protection technical specification for co-processing of hazardous wastes in cement kilns, Standard for pollution control on co-processing of hazardous wastes in cement kilns, and Low carbon cement certification standards will to be published soon.
3）、Extension of Industrial Chain

- Investment in aggregates processing and acquisition of concrete business
- trinity product structure: aggregates + cement + cement products
- New expansion path of merger and reorganization
2、Current situation of AFR application

1）、可替代原材料的应用现状
Alternative raw materials

2）、可替代燃料的应用现状
Alternative fuels
1）、Alternative raw material

A、Research and Development

B、Current Situation

C、Future expectations
A、Research and Development

- started in early 1950s
- blast furnace slag---resource
- lead-zinc mine tailing-replacement of clay and blending materials
- red mud-raw materials
- fly ash-raw material and blending materials
- slag-raw material and blending materials
- acetylene sludge-raw materials
B、Current Situation

Application Range

Application Quantity

Standard and Specifications
C. 正在进一步拓展的领域 Future Expectations

- Construction wastes-waste classification - raw materials and blending materials
- Acetylene sludge - raw materials
- Slag - raw materials and blending materials
2) Alternative fuels

A、应用研究 Research

B、目前正在开展的工作 Ongoing work
A、应用研究  Research

◆ gangue
◆ leather offcuts
◆ flotages on Yangtze River
◆ MSW
◆ sewage sludge and waste organic matters
B、目前正在开展的工作 Ongoing work

城市垃圾 MSW

+ 

城市污泥 Municipal sludge
Strengths of cement kilns co-processing wastes

- High temperature
- Wastes staying long enough in the kiln
- Stable burning
- Alkaline burning environment
- Sufficient burning
- No waste residue
- Solidification of heavy metal ion
- Various co-processing sites along the kiln
- Good performance of waste gas processing
Beijing Cement Plant: co-processed 0.6 million tons of wastes such as hazardous wastes and polluted soil in 2005

Guangdong Yuebao Cement Plant: co-processed 0.3 million tons of municipal sludge in 2009

Conch Cement Group

Sinoma Liyang Plant

Huaxin Cement Company
Future China Cement Industry

- Basic standard for cement enterprises: environmental and ecological protection
- Role in circular economy of urbanization
- Extending industrial chain to both ends, more all-round products and services
Thank you!

Mr. WANG Yutao,
Deputy Secretary General, Director of Technology Center,
China Cement Association
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