



中国建材

中材国际赋能水泥工业高质量发展

--绿色智能系统解决方案

Sinoma International Empowering High-Quality Development of Cement Industry

-- Solutions for Green & Intelligent System

中材国际
Sinoma International

印志松
Yin Zhisong

sinoma
CNBM

绿色智能·合作共赢
Green Intelligence · Empowers Cooperation

SGIS **中材国际第二届水泥绿色智能发展大会**
THE 2nd SINOMA CEMENT GREEN & INTELLIGENCE SUMMIT

Nanjing, China | May 17, 2024

主办单位: 中国中材国际工程股份有限公司
 承办单位: 中国中材国际工程股份有限公司(南京) | 中材国际智能科技有限公司 | 苏州中材建设有限公司
 邯郸中材建设有限责任公司 | 中材宁悦(南京)国际物流有限公司 | 江苏水泥工程杂志社

Sponsor: Sinoma International Engineering Co., Ltd.
 Organizer: Sinoma International (Nanjing) Engineering Co., Ltd. / Sinoma International Intelligent Technology Co., Ltd. / Sinoma (Suzhou) Construction Co., Ltd.
 Sinoma (Handan) Construction Co., Ltd. / Sinoma Cargo (Nanjing) International Logistics Co., Ltd. / Cement Engineering Press





中材国际坚持科技创新，始终为客户量身打造最优解决方案

SINOMA adheres to scientific and technological innovation, always creates the best solutions for customers

为水泥行业绿色智能发展提供SINOMA的智慧
provides SINOMA's wisdom for the green and intelligent development of the cement industry

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Innovation and Application

总体情况

General Introduction



—埃及GOE6 ×6000t/d熟料水泥生产线项目
—Egypt GOE 6 ×6000t/d Production Line Project

全球最大的水泥技术装备与工程服务系统集成商
World' s leading integrated service provider of cement technology, equipment and engineering

➤ 在国内

研发建设了**1400**余条水泥生产线

Projects in China **1400+**

➤ 在国外

承建了**430**余条水泥生产线和粉磨站

Projects overseas **430+**

总体情况

General Introduction



中国建材

为客户提供“一站式”综合解决方案

Provide “One-Stop” integrated solutions to customers

全球唯一完整产业链系统集成服务商

COMPLETE INDUSTRIAL CHAIN PROVIDER OF INTEGRATED SOLUTIONS

矿山
服务

Mining
Service



科技
研发

Technical
R&D



设计
咨询

Engineering
Consultancy



装备
制造

Equipment
Manufacturing



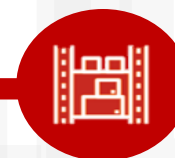
建设
安装

Construction
Installation



生产
运维

O&M



绿智
改造

Green & Intelligent
Upgrading



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Innovation and Application

面向全球可持续发展，谋划赋能水泥工业“绿色、低碳、数字、智能”转型

Endowing cement industry with **Green, Low-Carbon, Digital and Intelligent** transformation for global sustainable development



1 显著提高能源利用效率，能耗排放指标国际领先

Improving energy efficiency with world leading energy consumption and emission performance

荣获“国家绿色工厂”称号
Won the laurel of 'National Green Factory'



槐坎南方日产7500吨熟料生产线（案例）
Huaikan South Cement 7500tpd Production Line Project

- 标准煤 Standard Coal 节省约**4万**吨/年 saving appr. **40,000** tons per year
- 工业用电 Power Consumption 节省约**5400万**千瓦时/年 saving appr. **54m** Kwh per year
- CO₂排放 CO₂ Emission 减少约**16万**吨/年 reducing by appr. **160,000** ton per year
- 综合管理效率 Management efficiency 提高**50%**以上 increasing by over **50%**
- 劳动生产率 Labor productivity 提高**200%** increasing by **200%**

2

大力提升替代原燃料比例，可实现原燃料100%替代

Increase the ratio of alternative raw materials/fuels for clean energy coverage



创新实践 Innovation and Application

2 大力提升替代原燃料比例，可实现原燃料100%替代

Increase the ratio of alternative raw materials/fuels for clean energy coverage

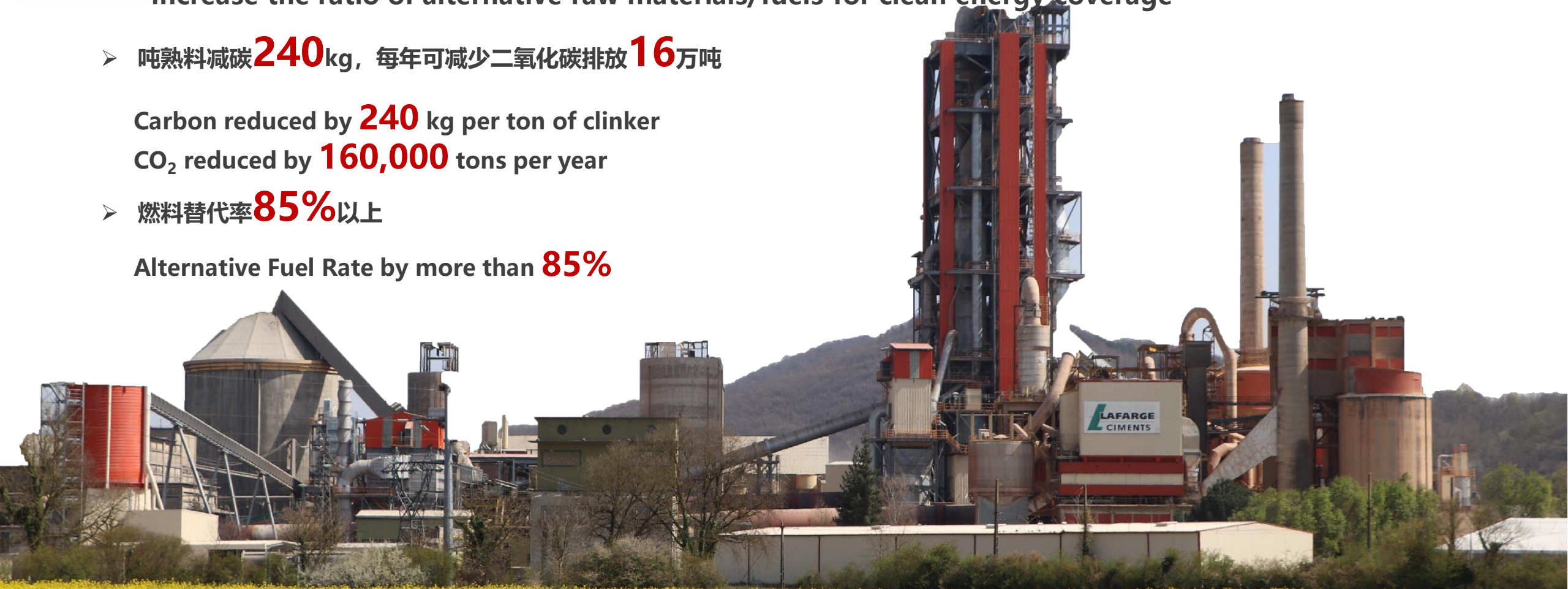
- 吨熟料减碳**240**kg，每年可减少二氧化碳排放**16**万吨

Carbon reduced by **240** kg per ton of clinker

CO₂ reduced by **160,000** tons per year

- 燃料替代率**85%**以上

Alternative Fuel Rate by more than **85%**



法国MK3日产水泥熟料2500吨项目（案例）/France MK3 2500TPD Clinker Production Line

3 开展低碳水泥技术研发，有效减低水泥碳排放强度 R&D of low-carbon cements for effective CO₂ emission

熟料替代
Clinker
alternative

提高熟料质量，粉磨技术优化
Improve clinker quality, and optimize
grinding technology

梯级料床粉磨、分选技术及装备、水泥精准调质技术、柔性多功能粉磨系统等
Step bed grinding, separation technology and equipment, Cement precision conditioning technology and flexible multi-functional grinding system

低碳水泥 Low carbon cement

高贝利特水泥技术及成果应用

High Belite cement technology and its application



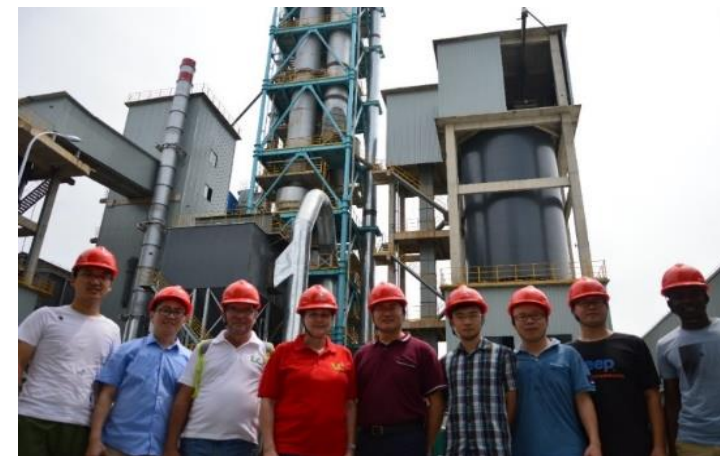
已在郑州建文项目应用
Applied in Jianwen project in Zhengzhou

LC³ (石灰石-煅烧粘土水泥)

(Limestone - calcined clay cement)

在法国SPL粘土煅烧EPC总承包项目、焦作亿水源净水剂项目、陕西德彰氧化钙项目等应用

Applied in SPL clay calcination EPC project in France, water purification agent project in Jiaozuo Yishuiyuan, Dezhang calcium oxide project in Shaanxi Province



研发团队在镇江苏博特项目现场
R&D team on site in Zhenjiang

4

全面攻克全氧燃烧技术，实现CO₂自富集

Building oxy-fuel combustion Technology and realizing CO₂ self-enrichment



青州中联年产20万吨全氧燃烧项目（案例）
Qingzhou CUCC 200,000 TPA Oxyfuel Project

全氧燃烧耦合低能耗碳捕集技术落地

Industrial application of oxyfuel technology with low energy consumption carbon capture technologies

- ◆ 投产点火时间: **2024年1月**
Time of completion: **Jan. 2024**
- ◆ 项目地址: **青州市, 山东省, 中国**
Project site: **Qingzhou, Shandong, China**
- ◆ 捕集规模: **20万吨CO₂/年, 全球最大**
Scale of capture: **200,000t/y, world' s largest**
- ◆ 单位CO₂制备能耗: **1.60~1.70GJ/t.CO₂**
Energy consumption per CO₂ unit



5 积极推进“零碳”矿山建设，守护大自然的绿水青山

Boost the construction of “zero carbon” mine for the protection of environment

20 座 数字化矿山建设
Digital mines

149 座 绿色矿山，其中 **47** 座 国家级绿色矿山
Green mines, incl. **47** national green mines

6 座 零电矿山（试运行）
Zero Electricity mines (pilot run)

19 个 新能源矿车运营项目 **204** 辆 新能源矿卡
New energy mining car operation projects
New energy mine trucks



滁州中联5G绿色矿山项目(案例)

Chuzhou CUCC 5G Green Mine Project

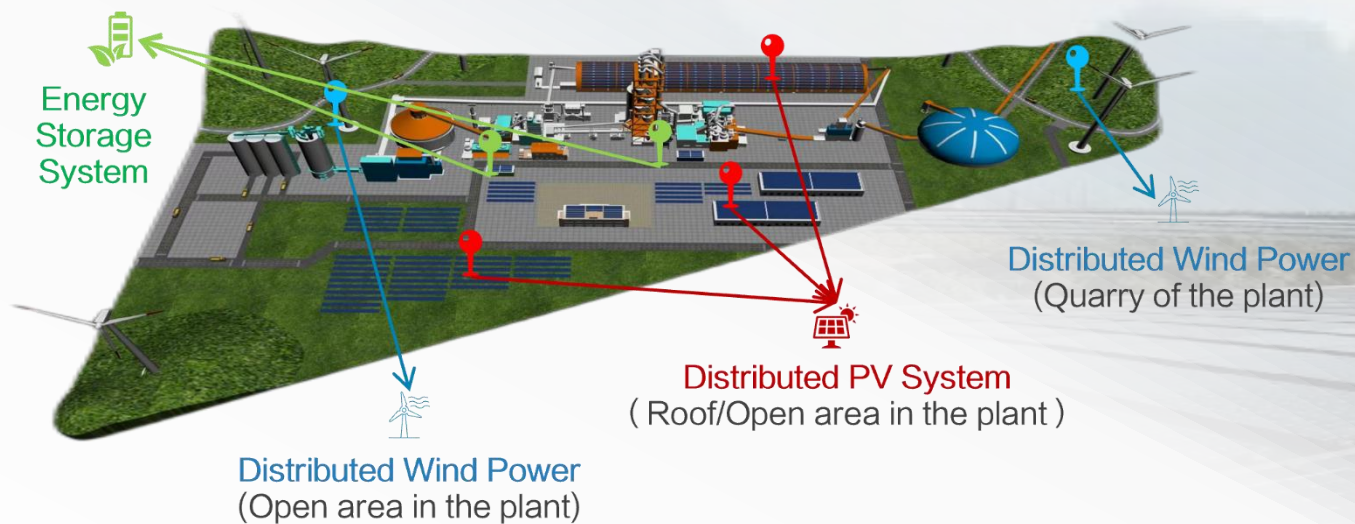
- 2019年7月投入建设，2021年1月纳入中国绿色矿山名录
- Put into operation in July 2019 and included in the list of National-Level Green Mine in Jan. 2021

生产成本 ↓ **20** %
Production cost

6

大力推动清洁能源，助力节能降碳绿色发展

Boost clean energy for energy conservation, carbon reduction and green development



水泥厂“风光储”一体化微电网示意图



Cement Plant “Wind Power + Solar Power + Energy Storage” Integrated Micro-grid Diagram

6

大力推动清洁能源，助力节能降碳绿色发展

Boost clean energy for energy conservation, carbon reduction and green development

土耳其Limak水泥集团36MW的光伏电站（案例）

Turkey LIMAK Cement Group 36MW photovoltaic power plant



预计每年发电量
Estimated annual
power generation

62.353 M kWh

预计每年减少CO2排放量
Estimated annual emission
of CO2

51600 Tons

建站设规模
Plant Scale

36 MW

预估每年电价收益
Estimated annual
electricity earnings

25.40 M Yuan

预估每年碳权收益
Estimated annual revenue
from carbon right

23.94 M Yuan



2023年11月巴西合资公司首支叶片成功下线
The first blade of the joint venture company in Brazil
was successfully produced in Nov. 2023

推动绿色智能，服务美好世界

Promoting Green and Intelligent Development, Serving a Better World



中国建材

打造全球水泥工业全新的增长方式和强大动能，为推动全球经济可持续发展、为人类更加幸福美好的生活贡献更大的智慧和力量！

Striving to promote new growth mode and momentum for global cement industry and making bigger contributions to the sustainable development of global economy and to ensuring a better life for mankind!



推动绿色智能 服务美好世界

Promoting Green and Intelligent Development Serving A Better World

Thanks