

Architecture of the CMA-IIP initiative: Increasing the use of Alternate Fuels & Raw materials (AFRs) in Indian Cement Industry

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IIP at a glance

MISSION

Improve energy efficiency in industry, enhance productivity, and reduce GHG emissions by providing industry and governments access to best practice information.

STRATEGY

3 X 3: We position ourselves where we can make the most impact:

- Main regions of focus in the near term are **China, India, and the USA**
- Emphasis on 3 energy-intensive industries: **cement, iron & steel and chemicals.**
- An integrated **technology, policy and financing** model

OFFICES: Beijing, New Delhi, Paris and Washington DC



5 Main Guiding Principles

1. Do not reinvent the wheel: benefit from learning of past and ongoing projects
2. Focus actions: To achieve tangible outcomes
3. Anchor the project at CMA and take advantage of proactive industry participation
4. Involve stakeholders in a meaningful dialogue process
5. Think big: Phase-I to set the stage for a long-term engagement to achieve goals

Scope of Work

- Prioritization of potential alternate fuels & raw materials (Select most promising 5+2)
- Developing an action plan for the chosen AFRs
 - ✓ Inventory, long-term supply, characterization, effect on quality, industry best practices, trial run results, pre-processing, co-processing, safety and hygiene, regulatory framework
- Carrying out Techno Economic Feasibility Studies (TEFS)
 - ✓ Development of flow sheets, project block cost estimation, energy savings/CO2 mitigation, IRR/break even point, other co-benefits etc Identification of plants

Scope of Work (continued)

- Finalization of action plan for the chosen AFRs
 - ✓ Blue print of specific actions/ agencies to be influenced and time line
 - ✓ Finalized through intense stakeholder consultative process
- Create a platform for knowledge exchange
- Developing action plan for Phase-II

List of Attributes for Short listing alternate Fuels

Sl. No.	Chosen Attributes
I	Energy Content (Calorific Value)
II	Availability
III	CO2 Mitigation Potential
IV	Ease of Processing
V	Addressing Environmental Concerns

List of Shortlisted Alternate Fuels

Sl. No.	Alternate Fuels
1	RDF from Municipal Solid Waste (MSW)
2	Used Tyres
3	Hazardous Waste
4	Industrial Plastic waste
5	Biomass
6	Poultry litter
7	Slaughter House and Dead Animals
8	Dried sewage sludge

List of Attributes for Short listing alternate blending materials

Sl. No.	Chosen Attributes
I	Availability
II	Addressing Environmental Concern
III	CO2 Mitigation Potential
IV	Ease of Processing

List of Identified Alternate Blending Material

Sl. No.	Alternate Blending Material
1	Fly ash (cement blending material)
2	Steel Slag
3	Lime Sludge's (Paper, Carbide, Sugar Sludge's)
4	Red Mud
5	Foundry Sludge/ Sand
6	Chrome Sludge as mineraliser
7	Lead Zinc Slag
8	Phosphate Chalk

Our Vision

To raise the Thermal Substitution Rate (TSR) in Indian cement industry from less than 1% (presently) to 15% by 2020, while simultaneously addressing some pressing environmental problems being faced by the country



THANK YOU