



# Geocycle Bangladesh

LafargeHolcim Bangladesh Limited



**LafargeHolcim**

## Rethinking Waste through co-processing

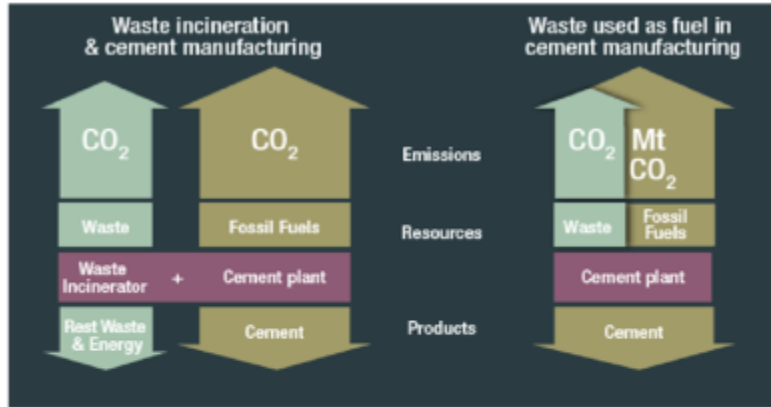
- We are a leading provider of industrial, agricultural and municipal waste management services worldwide. We provide customized, future oriented waste management solutions by leveraging our technological expertise, highly skilled employees, standardized systems and processes. We apply the proven technology of 'co-processing' and utilize existing facilities in the cement industry to resolve waste challenges sustainably. This enables us to dispose the waste leaving no residue.
- Co-processing is a globally recognized technology through which waste is treated in energy intensive industries such as cement. It helps in solving societal waste challenges responsibly and in an environmentally sustainable manner. Co-processing completely destroys waste materials through high temperatures and long residence time. The 3 Ts - Time, Temperature and Turbulence in cement kilns provide an extremely high destruction removal efficiency (DRE) for all waste types.

# Geocycle Introduces its Disposal Process “Co-Processing”



- Geocycle uses cement kiln technology (co-processing) to treat hazardous and non-hazardous waste in a sustainable manner ensuring regulatory compliance
- It is a sustainable development concept that offers significant potential for reducing pollution and landfill space caused by the waste disposal, thus contributing to reducing the environmental footprint
- Co-processing is a preferred solution in the waste management hierarchy
- It is ranked higher than incineration and landfill in waste management

# Benefits of “Co-Processing”



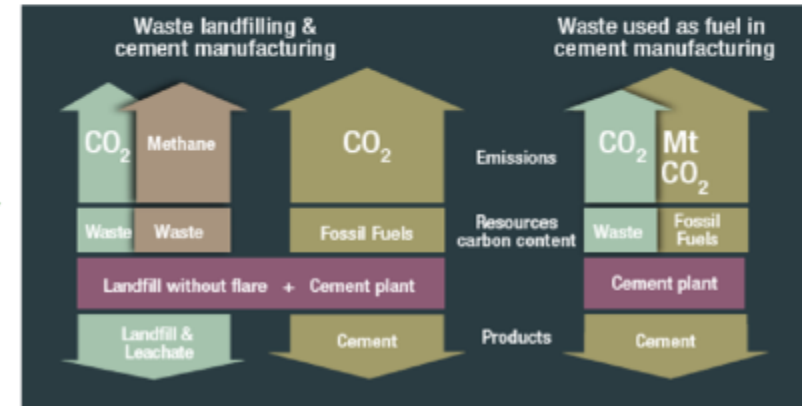
- Co-processing & Incineration
- Reduction in GHG Emissions



- Co-processing & Landfill
- Prevention of Methane Emissions



The same argument is valid for all other emissions too



# Geocycle Introduces its Disposal Process “Co-Processing”



- Promotes Circular Economy
- Reduces
  - pollution caused by dumping
  - required number of landfills
  - greenhouse-gas emissions
  - dependence on primary resource markets
- Mitigates Climate Change Impacts
- Conserves Energy and Material Resources
- Saves public funds which would otherwise have to be invested for waste management



# Benefits of “Co-Processing”

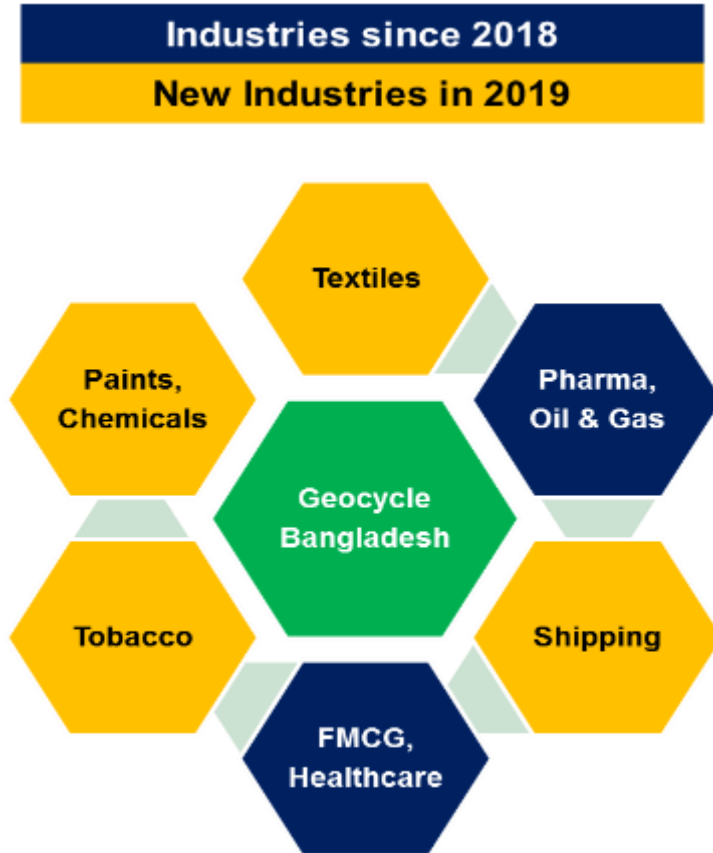
Characteristics	Description
Temperature	1400°C
Residence Time	4-6 sec
Turbulence	Induced in Kiln
Gas Cleaning	Alkaline rich environment in kiln
Residues	In Clinker Product
Further Processing	Not required as there are no residues or By-Product
Land space	Not required
Disposal Period	30 days
Emission	Negligible

## Acceptable Waste Types:

- ✓ Biomass, Waste Oil
- ✓ Oil Sludge And Drill Cutting
- ✓ Tar, Contaminated Soil, Spent Bleaching Media
- ✓ Used Tyres (Whole Or Shredded)
- ✓ Animal Meal And Fat
- ✓ Solvents, Waste Water
- ✓ Slurry/Sludge From Wastewater Treatment Plants
- ✓ Impregnated Solid Fuels
- ✓ Solid Non-hazardous Wastes (Plastic, Textile, Paper, Wood)
- ✓ Packaging Materials And Off-spec Products
- ✓ Drugs, Confiscated Goods, Obsolete Banknotes

# Customer & Industrial Expansion

- Top MNC's such as Chevron, Nestle, Unilever, Novartis, Perfetti and BAT actively utilizing Geocycle Services
- 60 Local companies have been on-boarded (mostly from textiles industry)
- Actively working on projects with Ministry of Industry (Ship Recycling in Chattogram & Leather Park in Savar)
- Actively working with Department of Environment & GiZ (German NGO) Bangladesh on "Sustainable Integrated Sludge Management" (SISM) project with local factories





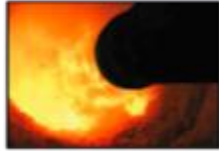
## PHYSICAL PROCESS DESCRIPTION OF CO-PROCESSING AT LHBL



1

### Waste assessment

We can provide a complete survey of your waste and a full assessment of its suitability for co-processing. This is only a physical process.



2

### Co-processing

Waste is then safely co-processed in cement kilns. Our cement kilns operate at temperatures of up to 2000°C – which leaves no residue or waste after co-processing is complete.

### Waste Storage



### Pre-Processing: Material Shredding Operations



### Co-Processing: Material Disposal Operations

#### • Mixing with LS



#### • Liquid Feeding



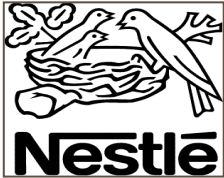
#### • Solid Feeding

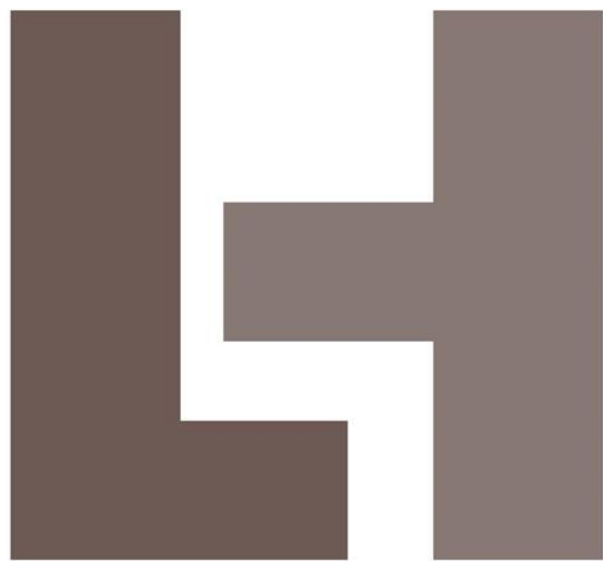




# Key Partners for Sustainable Waste Management

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