National Policy Workshop Webinar Series

On

Countermeasures for Riverine and Marine Plastic Litter in

India

12-22 May 2020

Session 3: Activities and Best practices to counter plastics litter by sustainable waste management and circularity

Co-processing: Bringing Circularity to waste management
Pre & Co-processing Network of Geocycle across India

- Geocycle is global brand of Lafarge-Holcim represented in India by ACC Limited and Ambuja Cement Ltd.

- Geocycle has 14 facilities across India.

- We have 7 pre-processing facilities with a capacity of 900,000T per annum

- Co-processed 120,000T of SCF & Plastics in 2019; Co-process 200,000T+ in 2020

- Co-processed 940,000T of waste in 2019 in India; Globally 11.2Million T of waste
Geocycle Solution: Co-processing & its description

- Legally Co-processing is a preferred technology for the disposal of waste
- It leaves no residue and hence facilitates zero landfill option
- HOWM, SWM and PWM Rules, 2016 prefer co-processing over disposal technology
Pre-processing and Co-processing

At 1400°C inside the cement kiln, the processed waste cease to exist.

- Shredding
- Blending
- Treatment

Waste the we Co-process
- SCF
- HAZARDOUS WASTE
- NON-HAZARDOUS WASTE
- BIOMASS
Development of Bio-mining Projects in Goa, India

New MSW processing facility set up by 3rd party, located next to the old MSW dump site. NGT ordered dump remediation.

Geocycle India stepped up to the challenge of managing SCF (Segregated combustible Fraction) from the dumpsite.

Successful pre & co-processing of 5000 T SCF in Wadi winning trust of authorities and municipalities.

Four more dump sites identified for remediation in Goa (250,000T).

Based on success in Goa, municipalities of Bangalore, Chennai (suburbs), Mumbai, Nagpur, Vizag and many others have come onboard with similar projects.

Interaction with Goa CM, Mr. Manohar Parrikar.
## Gap identification

<table>
<thead>
<tr>
<th>Gap</th>
<th>Rationale</th>
<th>Action</th>
<th>Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical and Admin challenges to MSW projects</td>
<td>Lack of level playing field for various technologies</td>
<td>Legacy MSW Bio-mining guidelines; similar needed for MSW treatment &amp; disposal</td>
<td>CPCB &amp; MoEF&amp;CC</td>
</tr>
<tr>
<td>Awareness on co-processing as end of life solution</td>
<td>Perception of co-incineration in cement plants; however co-processing is concurrent with cement manufacturing and takes places in calciners and cement kilns</td>
<td>Technical &amp; legal recognition of co-processing in SWM and HOWM rules, 2016</td>
<td>MoEF&amp;CC/CPCB</td>
</tr>
<tr>
<td>Economic model</td>
<td>Lack of proper gates fees discourage cement industry in establishing pre-processing infrastructure</td>
<td>Polluter pays principle implementation</td>
<td>SPCB/CPCB/ULB’s</td>
</tr>
<tr>
<td>Permits</td>
<td>Monitoring for regulators in absence of guideline and emissions; a challenge</td>
<td>Co-processing emission norms</td>
<td>SPCB</td>
</tr>
</tbody>
</table>
Bio-mining of MSW Dump site: Impact of our work

NOIDA: 4 acres land reclaimed

Vijaywada: 25 acres land reclaimed
Extended Producers Responsibility: Plastic Waste Management

- Collection to Co-processing of plastics under the program promotes new techniques and technologies

Positive impact on river ecosystem

Air injected in water
Fish can pass through
No hindrance of surface traffic

Geocycle Bubble Barrier Project at Agra with UNEP and Agra Authorities
Recommendations for increasing plastic & RDF co-processing

- **Strict Implementation of Polluter Pays Principle;** SCF & plastic waste management, encourage infrastructure development

- **Introduction of Landfill Tax** as proposed in resource efficiency draft policy by 2021;

- Notification & implementation of EPR guidelines imperative; encourage more plastic collection; strict monitoring

- **RDF Grade I,II & III** to be considered as standards from MoHUA report;

- **SCF management** be part of MSW tenders with SCF management cost to be compensated from gate fees;

- **Pre-processing infrastructure** in cement plant extension to ULB MSW infrastructure; hence tax exemptions similar to MSW projects;

- Cementitious & calcined dust extraction from cement kilns; with mixing in final product should be allowed

- **Blanket permits for waste co-processing** in cement kilns; SPCB’s to be sensitised

---

**Sustainability**
At the core of Geocycle’s activities; zero residue to landfill

**Cement plants**
Already exist & are an integral part of the legislation

**Full circular economy solution**
Waste collection and treatment into one integrated solution

**Local Treatment**
Waste treatment in local cement plants