

# Workshop Report

---

## *Promoting Resource Efficiency & Waste exchange platform*

---

**27 November 2019**

**HICC, Hyderabad**



Confederation of Indian Industry



European Union



**EU-REI**  
Creating a Resource  
Efficient India



Confederation of Indian Industry



European Union



## **Project Background**

EU's Resource Efficiency Initiative (EU-REI) aims to support India in the implementation of the United Nations global sustainable consumption and production (SCP) agenda to foster the efficient and sustainable use of natural resources by way of adapting international standards and best practices in business on resource efficiency.

There are various means of promoting resource efficiency among stakeholders. One such way is to encourage the utilisation of waste as resource either through energy/ material recovery. This would create significant synergies among large industries and SMEs in clusters, where the waste/ by-product of one unit may be used as a resource in another, creating circular loop. This will reduce the waste generation & utilisation of natural resources.

EU-REI & CII is working on project to develop waste material exchange platform as a tool to enable exchange of waste, thereby converting waste to resource.

## **Workshop Record**

As a part of the initiative, CII-Godrej Green Business Centre (GBC) with the support of EU-REI, organized the first workshop on promoting Resource efficiency & waste material exchange platform.

The workshop was organized successfully on 27th November 2019 at Hyderabad International Convention Centre (HICC) as a part of Conference on Alternative Fuel & Raw material. The program was well received by all stakeholders with more than 40 participants, including policymakers, waste generators, users, alternative fuel suppliers, facility providers for alternative fuel handling, and other organizations (participants list in enclosed as Annexure-1).

The workshop was organized with the objective of promoting the exchange of waste material among Indian industries and to create a WIN-WIN situation for all stakeholders. The sessions were designed with concept of promoting Resource efficiency & circular Economy. (Workshop agenda enclosed in Annexure-2).



Confederation of Indian Industry



European Union



## Session 1: Resource efficiency initiative & waste exchange web platform



Opening section Panel- Mr Ulhas Parlikar, Global Consultant, (waste management, Circular Economy, Policy advocacy & Co-processing), Dr. Rachna Arora, Deputy Team Leader & Coordinator; EU-REI, India and Mr K Muralikrishnan, Senior Counsellor CII- Godrej

Mr Ulhas Parlikar, Global Consultant, (Waste Management, Circular Economy, Policy Advocacy & Co-processing) moderated the opening session.

In the session, Mr Ulhas Parlikar, Dr. Rachna Arora, Deputy Team Leader & Coordinator, EU-REI, India, and Mr K Muralikrishnan, Senior Counsellor, CII-Godrej GBC, discussed the different approaches to accelerate

resource recovery from waste, enhance the sustainable and efficient use of resources, policy framework, material exchange platform & Circular economy concepts.

**Dr. Rachna Arora**, Deputy Team Leader & Coordinator; EU-REI, India shared a presentation on Promoting resource efficiency and circular economy for sustainable development.

Dr Rachna Arora highlighted the various Resource Efficiency Initiatives taken by EU-REI in India. She elaborated upon the need of resource efficiency and circular economy in India. Highlighted key interventions & strategy for Resource efficient India.



Dr Rachna Arora, Deputy Team Leader & Coordinator; EU-REI, India - Discussion on Resource Efficiency Initiatives



Confederation of Indian Industry



European Union



**Mr K Muralikrishnan**, Senior Counsellor CII- Godrej GBC, shared the joint initiative of CII-GBC & EU-REI on developing waste exchange platform.

He shared details about Waste exchange platform, a web-based platform which facilitate the waste exchange between industries and promote sustainable waste management practices.

He briefed on the registration process and benefits of registration. Also explained about the future activities envisaged under waste exchange platform like developing business model, Case study on waste exchange, Waste inventorization, development of innovative models, facilitate waste exchange etc.



*Mr K Muralikrishnan, Senior Counsellor CII- Godrej GBC – Discussion on facilitating waste exchange*

## **Session 2: Panel discussion on Promoting Resource Efficiency & Circular Economy for Sustainable Development**

| Name               | Designation                  | Organization              |
|--------------------|------------------------------|---------------------------|
| Mr Ulhas Parlikar  | Session Moderator            |                           |
| Mr Sanjay Jain     | Deputy Executive Director    | Dalmia Cement Bharat Ltd. |
| Dr. Dieter Mutz    | Team Leader                  | EU-REI, India             |
| Mr Rishi Shukla,   | Executive Director           | EverSource Capital        |
| Ms Kopal Agrawal   | VP – Business Transformation | Hindalco                  |
| Mr Abhay Deshpande | Founder                      | Recykal                   |

**Mr Ulhas Parlikar**, moderated the session. The panellist includes different backgrounds like waste generator, Co-processing unit, Financial institution working on converting waste to resource, Resource efficiency Expert, start-ups & facilitators who are working towards converting waste to Resource. The panel was a mix of representation from all stakeholders.





Confederation of Indian Industry



European Union



Panel for the discussion topic “Promoting Resource Efficiency & Circular Economy for Sustainable Development”

**Dr Dieter Mutz** shared his views on the progress of waste management and resource efficiency activities in India. He also explained about various business models suitable for Indian scenario.



Dr Dieter Mutz sharing his views on progress of waste management and resource efficiency activities in India



Ms Kopal Agrawal sharing her views on “sustainable waste management in alumina refinery”

**Ms Kopal Agrawal**, VP – Business Transformation, Hindalco, shared her views on “sustainable waste management in alumina refinery”. She said that only a few companies accept the use of red mud, and that the major barriers were moisture content and transportation costs.

Red mud has a good scope where limestone quantity is poor and where pet coke is used as fuel for neutralizing sulphur. She also spoke about the activities of Hindalco for overcoming the barriers in



Confederation of Indian Industry



European Union



red mud usage, such as the installation of a pressing and drying system to reduce the moisture content.

She pointed out major environmental concerns of red mud storage and handling, as the generation of red mud is huge, with 3 tons of red mud generated for every 1 ton of alumina production.



*Mr Sanjay Jain, explaining initiatives, barriers and opportunities of Indian cement plants in maximizing alternative fuel consumption*

**Mr Sanjay Jain**, Deputy Executive Director, Dalmia Cement Bharat Ltd, explained the activities and commitments of Indian cement plants in maximizing alternative fuel consumption. He also explained the barriers in utilization of red mud in cement plant.

He mentioned red mud utilization depends on raw meal chemistry (i.e., Alumina and Alkali content), moisture level and type of fuel usage. Two plants in Dalmia group are presently using red mud as alternative raw material, as their plant chemistry needs & allows use of red mud.

He concluded his session with the quote: “There is no waste in the world, all are resources in one or in another way”.

**Mr Rishi Shukla**, Executive Director, EverSource Capital, explained about the various funds and schemes available for energy efficiency and resource management.

He pointed out a concern that the networks between alternative fuel co-processing/generating industries and private funding agencies need to be improved.

He concluded his views by saying, “Collection and distribution of AFR funded by third party will have a great future in cement plant.”



*Mr Rishi Shukla explaining about the various funds and schemes available for energy efficiency and resource management.*



Confederation of Indian Industry



European Union



**Mr Abhay Deshpande**, Founder, Recykal, spoke about digitalization and latest technological development in connecting waste generators and co-processors/recyclers.

He said that a technology platform is not just about building mobile apps or reports or providing web solutions, but about digitization of the closed loop system to bring about a systematic change in India's recycling challenges.

Every plant has a specific AF requirement, and digitalization of waste management can fulfil the specific alternative fuel requirement in a better way, he said.



*Mr Abhay Deshpande, Founder, Recykal presenting on digitalization and latest technological development in connecting waste generators and co-processors/recyclers.*

After panel discussion, the participants were requested to share their feedback and queries on Promoting Resource Efficiency & Circular Economy for Sustainable Development.



*Participants sharing feedback and queries.*



Confederation of Indian Industry



European Union



### **Session 3: Case studies from Industries on Sustainable waste management practices**

In this session, key speakers from various industries shared their successful case studies on converting waste to resource and best practices on waste management through Co-processing. The session was moderated by Mr S K Pandey, President, Orient Cement Ltd.

|                         |   |
|-------------------------|---|
| <b>Session Chairman</b> | <b>Mr S K Pandey, President Orient Cement Ltd</b> |
|-------------------------|---|

| S No | Name              | Designation                    | Organization                         |
|------|-------------------|--------------------------------|--------------------------------------|
| 1    | Mr Amit Mehta     | Vice President – Manufacturing | Kalburgi Cement , Vicat India        |
| 2    | Mr Mohan Raj      | Plant representative           | Dalmia Cement Bharat Limited, Kadapa |
| 3    | Mr Neerav Panchal | Plant representative           | J K Lakshmi Cement, Sirohi           |
| 4    | Mr Manish Vijay   | Plant representative           | J K Lakshmi Cement, Sirohi           |



*Technical session: “Case studies on sustainable waste management practices”*



Confederation of Indian Industry



European Union



**Mr S K Pandey**, President at Orient Cement Limited moderated the session on “Case studies on Sustainable Waste Management Practices”. Representatives from Dalmia Cement Bharat Ltd- Kadapa unit, Kalburgi Cement (Vicat group), and J K Lakshmi Cement, Sirohi gave a presentation on co-processing systems in their cement plants for alternative fuels.



*Mr S K Pandey, President at Orient Cement Limited, on “Case studies on sustainable waste management practices”*



*Mr Amit Mehta speaking about the co-processing journey of Vicat India.*

**Mr Amit Mehta**, Vice President – Manufacturing, Kalburgi Cement, Vicat India, in his presentation spoke about the co-processing journey of Vicat India.

He spoke about the different types of alternative fuels used and the dedicated systems installed in the plant for handling hazardous and non-hazardous waste.

Vicat group holds the top position in alternative fuel utilisation in India, using more than 20% TSR AFR. Vicat group is using various alternative fuels, such as Refused Derived Fuels (RDF), Hazardous solids,

Hazardous liquids, Carbon black and Biomass.



Confederation of Indian Industry



European Union



**Mr Neerav Panchal & Mr Manish Vijay**, J K Lakshmi Cements, presented case studies on co-processing of alternative fuels in J K Lakshmi. They explained the main hurdles faced by the plant in using Biomass, RDF, solid hazardous waste and liquid hazardous waste, and how they p overcome these hurdles. They elaborated on the various safety measures that are to be considered during handling of hazardous waste.



*Mr Neerav Panchal & Mr Manish Vijay presented case studies on co-processing of alternative fuels in J K Lakshmi plant*

**Mr Mohan Raj V**, Dalmia Kadapa Cement, presented a case study of alternative fuel consumption. He spoke about the infrastructure created for alternative fuel co-processing.

Infrastructure at Dalmia Kadapa for AFR handling includes storage capacity of 60 kL, unloading pneumatic diaphragm pumps of capacity 10 kL/h, PC firing pumps of capacity 5 kL/h, foam-type fire hydrant system with sprinkling, and dedicated compressor system for carbon black.



*Mr Mohan Raj V & his collagenous presenting a case study of alternative fuel consumption.*

After the presentations, the participants had interaction with the speakers on their queries.



Confederation of Indian Industry



European Union



### **B2B Meeting**

After the detailed panel discussion & technical sessions, B2B meeting was organized to facilitate waste exchange between industries. Various waste generators, Technology



providers, waste processing companies, experts and waste users participated in the discussions.





Confederation of Indian Industry



European Union



## **Conclusion & Way Forward**

The workshop created a platform for understanding the opportunities & barriers in converting waste to resource. It created awareness on Resource efficiency concepts & best practices on waste management implemented in the Country.

It also provided the common platform for generators and users to discuss & understand others need, with latest technological advancements & financial schemes available for supporting sustainable waste management practices. This workshop also provided necessary concepts about online platform for waste exchange & how it facilitates waste exchange.

Looking forward, we request all stakeholders to register with the waste material exchange platform & facilitate them to fill the waste generation/ usage details online. This data on waste generation & success cases studies on waste utilisation will be made available online.

We are confident that, material exchange platform, being one of its kind in the Country, will facilitate waste exchange & offer a constructive medium for enhancing Resource efficiency in the Country.



Confederation of Indian Industry



European Union



EU-REI  
Creating a Resource  
Efficient India

## ANNEXURE -1: Participants List

| S. No |   | N/P | Participant Name     | Designation                | Organization                                   | Mobile No   | Signature |
|-------|---|-----|----------------------|----------------------------|--|-------------|-----------|
| 1     | N |     | Mr Marieta Buckle    | Process Technology Manager | AfriSam (South Africa) (Pty) Ltd               | 27835572832 |           |
| 2     | N |     | Mr Vishal Aniruth    | General Manager            | AfriSam (South Africa) (Pty) Ltd               | 27832646225 |           |
| 3     | N |     | Mr Jeetendra Singh   | Sr. Engineer               | Andhra Cement Limited                          | 9490400746  |           |
| 4     | N |     | Mr K.T Ram Prasad    | Sr. Manager - Quas         | Anjani Portland Cement Limited                 | 8683230164  |           |
| 5     | N |     | Mr Dhiraj Rama       | Executive Director         | Association of Cementitious Material Producers | 823737706   |           |
| 6     | P |     | Mr SIDDHARTHA KUMAR  | COO                        | COLLEAGUES CONSULTANTS PRIVATE LIMITED         | 9560522111  |           |
| 7     | P |     | Mr NABAJIT MAZUMDAR  | EXECUTIVE (BDC)            | COLLEAGUES CONSULTANTS PRIVATE LIMITED         | 7206282665  |           |
| 8     | N |     | Mr.DSVS Prasad Varma | Senior Enginee             | Dalmia Cement (Bharat) Ltd                     | 9989232782  |           |
| 9     | N |     | Mr.E Gurusvaiah      | Assistant Manager          | Dalmia Cement (Bharat) Ltd                     | 9000123633  |           |
| 10    | N |     | Mr G Surjith Reddy   | Director                   | Earthbox Ventures Pvt Ltd                      | 8106933636  |           |

| S. No | N/P | Participant Name         | Designation                     | Organization                              | Mobile No  | Signature |
|-------|-----|--------------------------|---------------------------------|---|------------|-----------|
| 11    | N   | Mr David Motupalli       | Director                        | Earthbox Ventures Pvt Ltd                 | 9948366206 |           |
| 12    | N   | Mr. Vaibhav Pratap Singh | Deputy Manager                  | J K Cement Works                          | 8894222088 |           |
| 13    | N   | Mr. Sumit Kumar Singh    | Asst. Manager                   | J K Cement Works                          | 9611199407 |           |
| 14    | I   | Mr. Manish Vijay         | Dy. Manager                     | JK Lakshmi Cement                         | 8426025222 |           |
| 15    | I   | Mr. Neerav Panchal       | Sr. Manager (Process)           | JK Lakshmi Cement                         | 7728886140 |           |
| 16    | N   | Mr Krishan Choudhary     | Sr. Manager (Production)        | JK Lakshmi Cement Limited                 | 8966909204 |           |
| 17    | P   | Mr Madhubabu Kanakamed   | Deputy General Manager          | JSW Cement Limited                        | 8498055608 |           |
| 18    | P   | Mr Chandra Sekhar Jinka  | Assistant Manager               | JSW Cement Limited                        | 8498055629 |           |
| 19    | N   | Mr Dinesh Dhar Diwan     | Sr. Manager (Mechanical)        | Kesoram Industries Ltd. - Cement Division | 9449876793 |           |
| 20    | N   | Mr Mahesh Kalla          | Dy. Manager (Process)           | Kesoram Industries Ltd. - Cement Division | 944987623  |           |
| 21    | P   | Mr. Vijayan E Pillai     | Manager - Sales & Marketing     | Loesche India Pvt. Ltd                    | 9003200091 |           |
| 22    | P   | Mr. Sachin R Shetty      | Business Manager - MHC Products | Loesche India Pvt. Ltd                    | 9910049447 |           |
| 23    | N   | Mr N S Raj Kumar         | DGM                             | Luthra Group Llp                          | 7799909483 |           |
| 24    | N   | Mr Narasimha Rao         | Sr DGM                          | NCL Industries                            | 9390801054 |           |
| 25    | N   | Mr Sitaram               | DGM                             | NCL Industries                            | 9390801090 |           |



Confederation of Indian Industry



European Union



EU-REI  
Creating a Resource  
Efficient India

| S. No | N/P | Participant Name   | Designation                            | Organization                      | Mobile No                  | Signature |
|-------|-----|--|--|-----------------------------------|----------------------------|-----------|
| 26    | N   | Pavan Tyagi  |  | Orient Cement Limited             | 9071468428                 |           |
| 27    | N   | Ramesh Bshetty   |  | Orient Cement Limited             | 9164029555                 |           |
| 28    | N   | Mr Nagesh  | Project Engineer                       | PH1 Industries Pvt Ltd            | 9100227972                 |           |
| 29    | N   | Mr Nitin Kurse   | CEO                                    | Plastic Machinerics               | 9227127390                 |           |
| 30    | P   | Mr Ashik Kotharkar   | Asst. Manager –<br>Special Projects    | Prism Johnson Limited             | 9920591618 /<br>8097533324 |           |
| 31    | N   | Mr N RAMADOSS  | CEO-QUALITY BUSINESS<br>SYSTEMS        | Quality Business Systems          | 9840013695                 |           |
| 32    | N   | Mr M SRINIVASAN  | DIRECTOR                               | Quality Business Systems          | 7299952329                 |           |
| 33    | N   | Mr Uday Kumar M  | General Manager (Quality<br>& Process) | The Ramco Cements Limited         | 9652877211                 |           |
| 34    | N   | Mr Pulla Reddy Botta   | Regional Head                          | Ultratech Cement Limited          | 9743990839                 |           |
| 35    | N   | Mr A R K Prasad  | DIRECTOR                               | Volta impex P LTD                 | 9866317453                 |           |
| 36    | P   | Mr. Rajendra Sharma  | ASSISTANT VICE<br>PRESIDENT            | Wonder Cement                     | 7726007172                 |           |
| 37    | P   | Mr. Sandeep Kapoor   | General Manager                        | Wonder Cement                     | 9971465558                 |           |
| 38    |     | Mr. The Course Process Engineer  |  | Afrisan Cement                    | +27 940383300              |           |
| 39    |     | <del>Mr. The Course Process Engineer</del><br>Sr. Manager<br>(Singapore) |  | <del>The Lakshmi Cement Ltd</del> | <del>995526<br/>9545</del> |           |
| 40    |     | K.V.L. Parabhis<br>C.I.P.A.  |  | DeccanCemts. Lp                   | 9640011088                 |           |

| S. No | N/P | Participant Name    | Designation         | Organization             | Mobile No      | Signature |
|-------|-----|---------------------|---------------------|--------------------------|----------------|-----------|
| 41    |     | Mohd Ismail         | DGM-Pro.            | Kalburgi Cement          | 9100461062     |           |
| 42    |     | <del>Amit Meh</del> |                     |                          |                |           |
| 43    |     | Kalyan Mantha       | Proprietor          | Mantha Enrcc Enterprises | 9866834<br>627 |           |
| 44    |     | Dr. Sunil Pedgankar | Consulting Engineer | Consulting Engineer      | 9983368701     |           |
| 45    |     |                     |                     |                          |                |           |
| 46    |     |                     |                     |                          |                |           |
| 47    |     |                     |                     |                          |                |           |
| 48    |     |                     |                     |                          |                |           |
| 49    |     |                     |                     |                          |                |           |
| 50    |     |                     |                     |                          |                |           |
| 51    |     |                     |                     |                          |                |           |
| 52    |     |                     |                     |                          |                |           |
| 53    |     |                     |                     |                          |                |           |
| 54    |     |                     |                     |                          |                |           |
| 55    |     |                     |                     |                          |                |           |



## **ANNEXURE -2: Workshop Agenda**

### Workshop Agenda

#### **Panel discussion on Promoting Resource Efficiency & Circular Economy for Sustainable Development**

This panel discussion is proposed to deliberate on key approaches to accelerate resource recovery from waste, focused on primary sectors of interest. Recommendations to enhance sustainable and efficient use of resources, policy framework, key approaches to be adopted, policy and success case studies/ Best practices on converting waste to Resource

|   |   |
|---|---|
| <b>Welcome Address &amp; Resource Efficiency Initiative</b> | <b>Dr. Rachna Arora</b> Deputy Team Leader & Coordinator; EU-REI, India |
| <b>Facilitating Waste Exchange</b>                          | <b>Mr K Muralikrishnan</b> Senior Counsellor CII-Godrej GBC             |

Session Moderator:

Mr Ulhas Parlikar

**Global Consultant, (Waste Management, Circular Economy, Policy Advocacy & Co-processing)**

Suggested Panellists:

- Mr Sanjay Jain, **Deputy Executive Director, Dalmia Cement Bharat Ltd.**
- Dr. Dieter Mutz, **Team Leader,(EU-REI), India**
- Mr Rishi Shukla, **Executive Director, EverSource Capital**
- Ms Kopal Agrawal, **VP – Business Transformation, Hindalco**
- Mr Abhay Deshpande, **Founder, Recykal**



Confederation of Indian Industry



European Union



### Technical session: Case studies on Sustainable Waste Management Practices

With increasing resource utilization, sustainable waste management practices are key for development of the country. Waste of one industry becomes a resource for another, creating a WIN-WIN situation for both. This session will focus on successful case studies on waste management.

|                      |   |
|----------------------|---|
| <b>Session Chair</b> | <b>Mr S K Pandey, President Orient Cement Ltd</b> |
|----------------------|---|

#### Opening Remarks by Session Chairman

|   |  |
|---|--|
| <b>Best Practices/ Case study on waste management</b> | <b>Mr Amit Mehta</b><br>Vice President – Manufacturing, Kalburgi Cement Plant, Vicat India |
|---|--|

|   |   |
|---|---|
| <b>Best Practices/ Case study on waste management</b> | <b>Mr Mohan Raj</b><br>Dalmia Cement Bharat Limited |
|---|---|

|   |   |
|---|---|
| <b>Best Practices/ Case study on waste management</b> | <b>Mr Neerav Panchal</b><br>JK Lakshmi Cement |
|---|---|

**Session 3  
B2B Meeting**