Implemented by

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

On behalf of:

Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

of the Federal Republic of Germany

LiFE Lifestyle for Environment

RACE Reduction Awareness Circular Engagement For SUP* Free UP #RACE4SUPFreeUP *Single-Use Plastic

EPR BASED BUSINESS MODEL

for

LEGACY WASTE MANAGEMENT PRAYAGRAJ, UTTAR PRADESH

Case Example

Implemented By:

Department of Environment, Forest & Climate Change (DoEFCC); Prayagraj Municipal Coporation (PMC); GIZ-Circular Economy Solutions Preventing Marine Litter in Ecosystems (CES) Project

BACKGROUND & SCOPE OF WORK

Legacy Waste Challenge

Effective legacy waste management is crucial for climate change mitigation. Legacy waste at landfills emits methane, which is a potent greenhouse gas. Recovering resources through recovery processes reduces the need for extracting the virgin materials, conserves resources and reduces energy consumption. This also aligns with the circular economy approach to minimise waste generation and maximise resource utilisation. Legacy waste is a cause of concern for pollution because the plastic waste present in it tends to leak into the water bodies and finally into the oceans. Treatment & management of legacy waste is an important consideration for local authorities. However, the management of legacy waste needs reasonable funds. Prayagraj Municipal Corporation (PMC) has one of the prime tasks to deal with legacy waste accumulated at their dump site (Naini Baswar).

Legacy Waste Transformation

The model aims that with a systematic structure, the cost of transporting the treated legacy waste (RDF) from PMC's dump site (Baswar) to the coprocessing facility (Dalmia cement plant at Banjari, Bihar) can be taken up by Producers, Importers and Brand Owners (PIBOs) particularly Brand Owners (BOs) under EPR. The model engages an agency Circular Sustainability Solutions Private Limited (Karo Sambhav), to take care of logistics & facilitate EPR certificates, and in return, the cement plant transfers the end-of-life EPR certificates to the BO, which funds the logistics of RDF, thus helping them meet their EPR compliance.

A Win-Win Solution for Urban Local Bodies (ULBs), Producers, Importers & Brand Owners (PIBOs) and Cement Plants

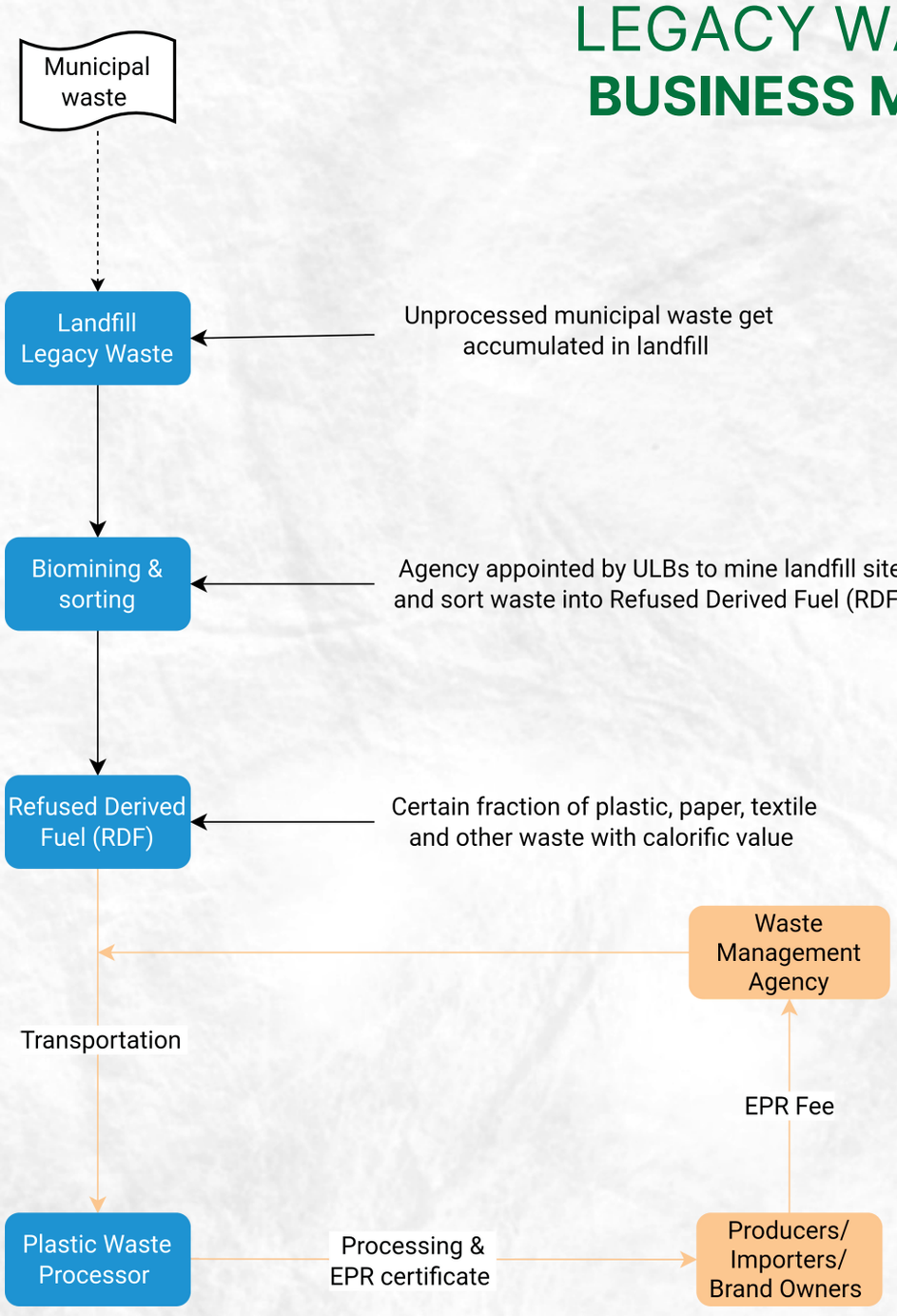
From a business model perspective, the key elements of interest are the non-recyclable plastic waste and other combustible materials in Legacy waste. The model is based on the mandates provided in the PWM (Amendment) Rules 2022. Non-recyclable plastic waste is examined in terms of Extended Producer Responsibility (EPR), while combustible materials were considered for end-of-life disposal through co-processing in cement kilns. This approach creates a win-win situation for all parties involved: the Prayagraj Municipal Corporation (PMC), Producers, Importers, and Brand Owners (PIBOs), and the Cement Plant.

Memorandum of Understanding (MoU)

A tri-partite agreement between the Prayagraj Municipal Corporation (PMC), Circular Sustainability Solutions Private Limited (CSSPL) and Dalmia Cement has already been signed. GeoStone Corporation (an agency engaged by GIZ) has been deployed to implement the model and provide technical support to PMC further to strengthen the model and make it replicable.

PMC has engaged three Biomining agencies (Ecostan Infra Pvt Ltd, BVG India Ltd and Hari Bhari Waste Management Pvt Ltd) to process this waste and another agency Ecogateway Pvt Ltd manages the logistics of recovered RDF. Through the scientific biomining process of excavation, treatment, segregation and utilisation of aged municipal solid waste accumulated at the landfill (typically legacy waste), these agencies process the waste continuously.

LEGACY WASTE
BUSINESS MODEL



Expected Outcome

- Demonstrating EPR based legacy waste business model at PMC
- Monitoring & Evaluation of Results/data with the perspective of EPR targets
- Demonstrating climate change benefits and EPR compliance through generation of plastic credits
- Developing a Techno-Commercial Model for replication of the business model
- Establishing a sustainable ecosystem for implementing circular economy led model in other ULBs

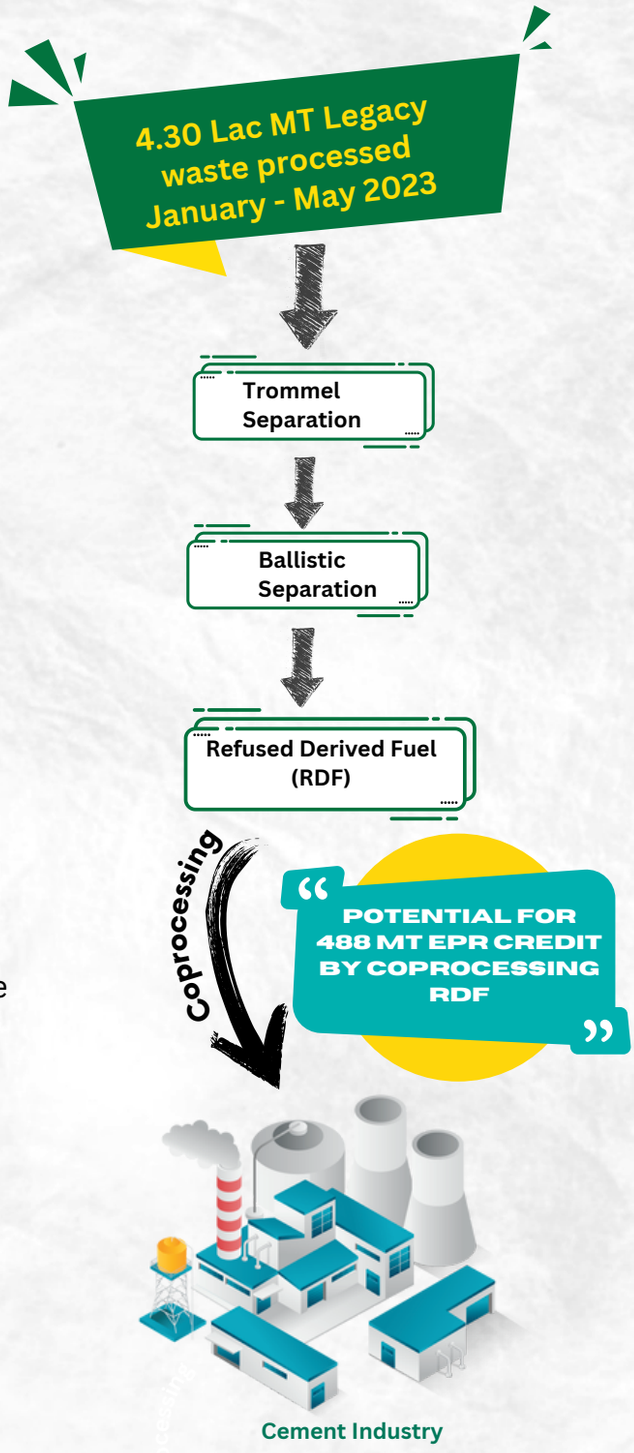
Work Progress

The total estimated quantity of legacy waste accumulated altogether was approximately 14 Lac MT (source: PMC). After excavation and segregation, the legacy waste is processed through trommel separation, and recently, a ballistic separation process is also added, which improves the RDF quality. Under the current model (from January to May 2023), around 4.30 lac MT of legacy waste is processed at the site, and **488 metric tons of RDF has been sent to the cement plant** under the current model. Also, waste characterisation from NABL accredited lab has been conducted to keep regular checks on the quality parameters.

Way Forward

To further strengthen the business model, additional measures have been identified which will ensure better legacy waste processing and handling of RDF at the landfill in a sustainable manner. Also, efforts have been made to engage additional stakeholders (particularly Cement industries) to scale up the model.

Waste Processing at landfill site (Naini Baswar, Prayagraj, UP)



For further information : doeuplko@yahoo.com, osnagarnigam@rediffmail.com, rachna.arora@giz.de