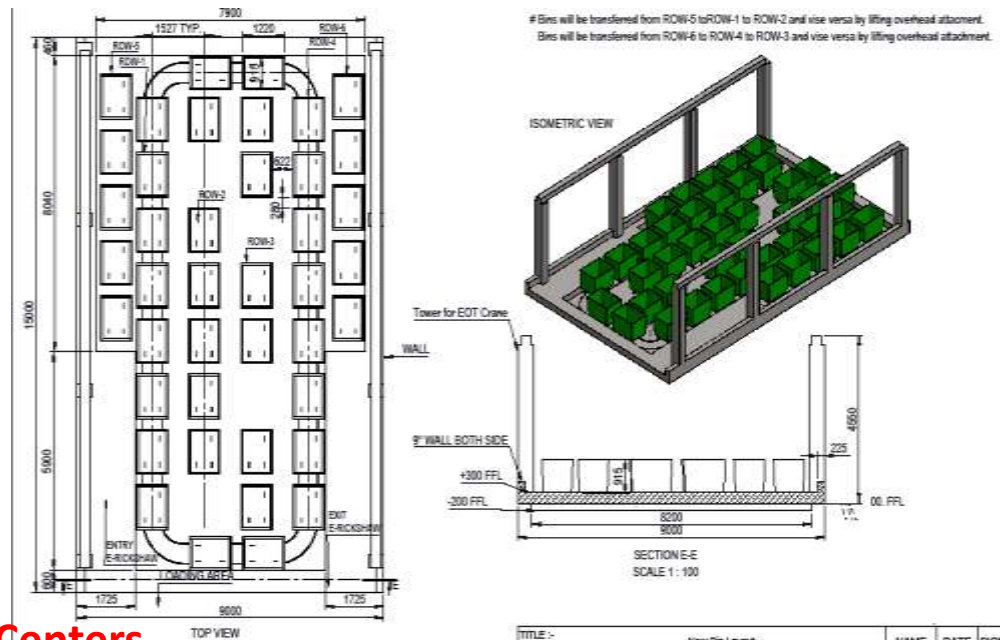


Mechanized Primary Collection Centers.. For the First time in India

Erickshaws/ auto tippers will bring Door to Door waste to 15 nearby Primary Collection Centers.

The Present Dhalao Ghars will be converted into a mechanized and modern Garbage Collection centers with a very efficient handling systems @ Rs. 40-50 Lakhs per Center. This Center will be closed house having multiple vertical layers with a capacity to hold multi coloured Bins for Dry, wet & Silt Waste respectively. EOT Cranes will be installed to handle Bin Movement

Hari Bhari has already submitted design and Nagar Nigam has promised to fund this project.



Existing Dhalao Ghar & Primary Collection Centers



TITLE :-		New Bin Layout		NAME	DATE	SIGN.
CONFIGURATION NAME :-	Default	DESIGN	K.Verma			
CLIENT :-		DRAWN	S.K.Poona	07-Oct-15		
ISSUE TO :-		CHECK	K.Verma			
MATERIAL	MS	QTY.	21 Nos.	WEIGHT	19.04-15	- Kg.Pcs
SCALE :-	NTS	DWG. NO. :-	HEW-1073	APPR.	A.Jain	
CHANGE	NAME	DATE		SHEET No. :-	OF	REV. 0

Proposed Mechanized Primary Collection Centers

4. Condition of Plant as on 7th
July 2015..The date of takeover

Sanitary Land Fill

SLF has been designed for 5 years and has **maximum capacity to handle 2.19 Lakh tons** of waste rejects. Since the inception of SLF only about 5000 MT of rejects were put in SLF. SLF is filled with water. There is no way for vehicles. Total capacity of SLF is 2.19 lakh MT against which **3.39 lakhs of Waste is already lying around SLF.**

Plant Performance by Previous Concessionaire	
Total Waste Received by Previous Operator	297000
Total Waste processed for compost	80000
Total Reject from Processed waste	40000
Total Waste for SLF by Previous Operator	257000
%age Processing	27%
%age Rejects	87%
Overall Performance till 7/06/2015	
Total Waste Received by Plant	369789
Total Waste Processed	80000
Total unprocessed/ Reject to SLF	329789
%age Processing	21.6
%age Rejects	89.2

Before



After



Tipping Floor CONDITION

Entire Tipping Floor was covered with 5000 MT reject garbage . There was no place for fresh material. This has been cleared and shifted to SLF.



Windrow conditions

Before



After



Passage to SLF

Before



After



Semi Finished Shed condition:

Before



After



PROCESSING PLANT

Chain Conveying System: Rollers are badly damaged and are just roughing against iron causing damage to the entire conveying system. We are replacing Chain conveyor with Roller Conveyor at our own cost.



Condition of Plant..contd.



Condition of Plant..contd.

Feeder was defective with multiple angles creating frequent bottlenecks for continuous feed. The same has been re-modelled.

Before



After





5. Major Initiatives taken in plant

Tipping Platform Management

We have introduced Tipping Platform Management System where every truck load of acceptable garbage is tagged with Truck No./ weight/ date/ Time. Tipping Floor Manager maintains a record of every such truck load till it is pre sorted



Windrow Management

Every Windrow is managed with proper tagging which consists data like date of windrow formation, date of culture spray, date of turnings



Compost Finishing

- Compost Finishing Section was refurbished and started operations in November 2015.
- It is producing 90 MT/day high quality Organic Compost.
- Awaiting Pollution Clearance & Manufacturing License to start commercial sales.



Plastic Granules

- Plastic Granule section was refurbished and started operations on 1/11/2016.
- It is successfully producing various types of Plastic Granules.





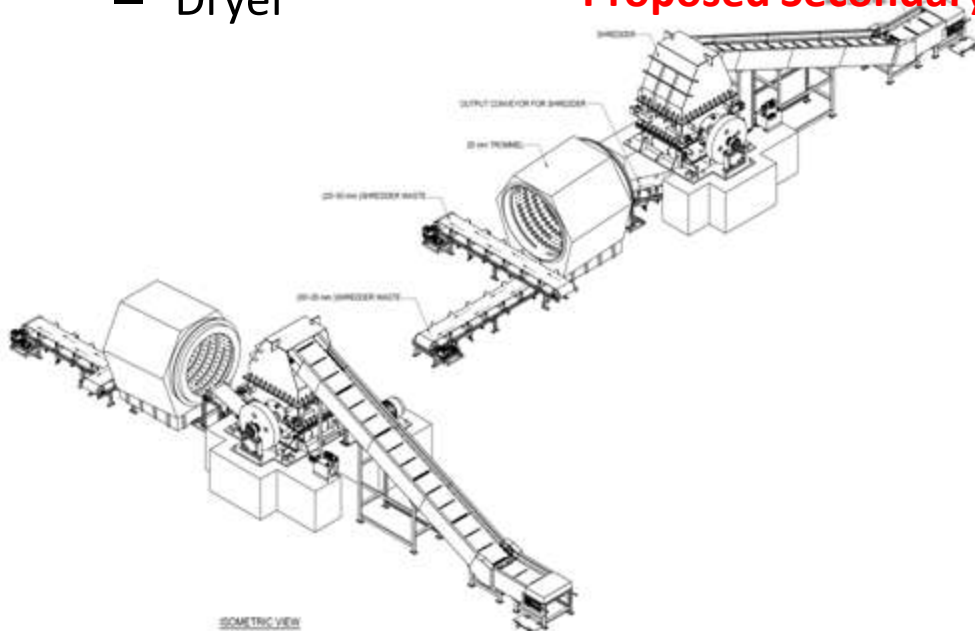
6. Major Planned Initiatives in Next 6-12 Months at Allahabad

Refuse derive Fuel

- Refurbished Primary Shredder is producing 100 MT RDF per day.
- Have Ordered for following additional equipments for better RDF quality:
 - Secondary Shredder
 - Ballistic Separator
 - Dryer



Proposed Secondary shredder



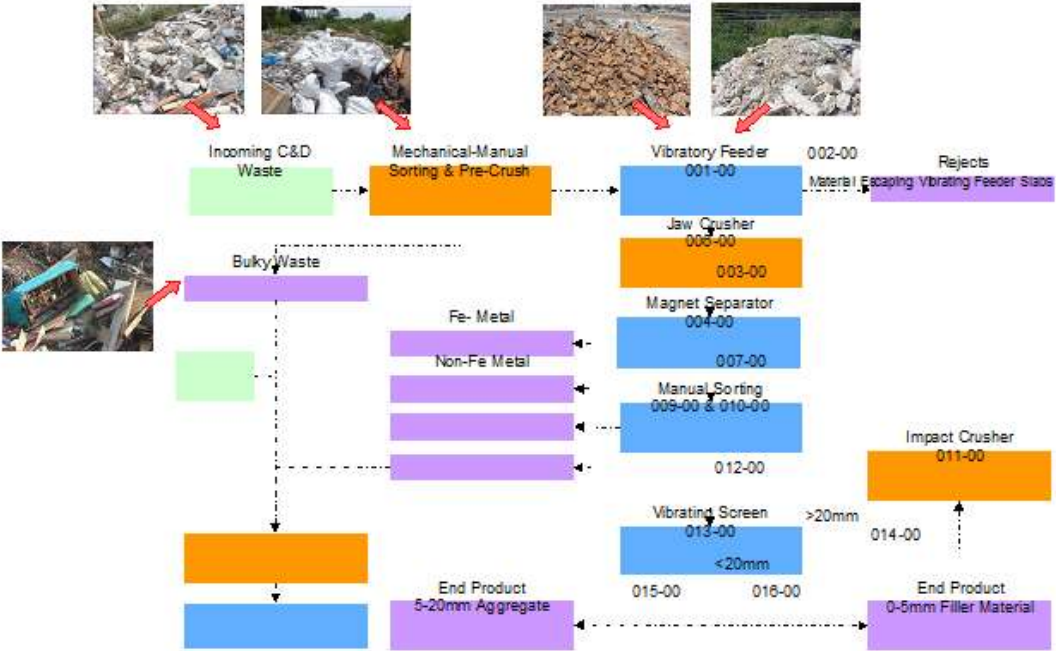
Proposed Ballistic separator



Proposed Concrete & Debris Waste to Eco Brick Plant.. First in Uttar Pradesh

- Hari Bhari is in process of installing 150 MT/day Concrete & Debris waste to Eco Brick Plant in another 6 months.
- Allahabad Nagar Nigam has already identified 3 acres of Land for this purpose and will be signing a lease agreement for the same with Hari Bhari

Process Flow Diagram *

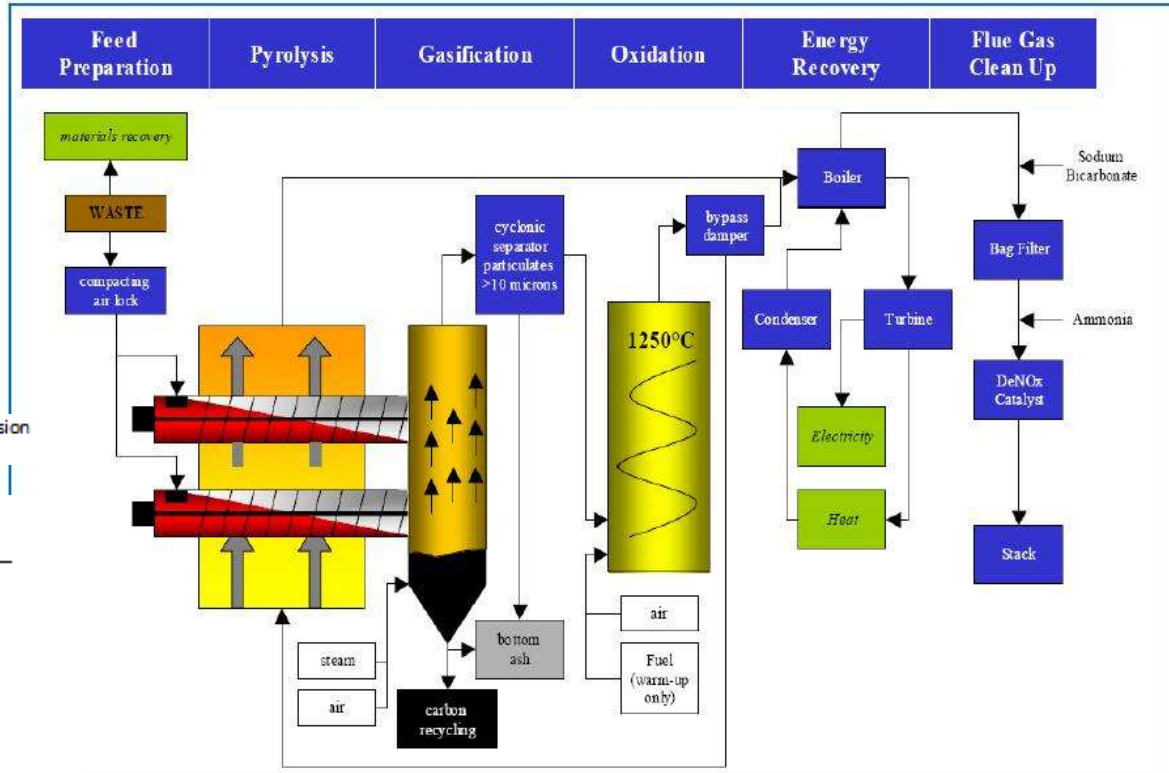


Proposed 150 MT/day RDF to Energy Non Incineration based Plant...

Ist time in India

Project Parameters	Description
Project Location	Baswar, Allahabad
Project Developer	HBR
RDF Quantity	150 tpd
Expected Gas Generation	45 TPD
Electricity Generation	2 MW/hr
Expected Carbon Black generation	65 TPD
Expected Diesel Generation	11 TPD
PPP Model	Design, Build, Commission and Operate
Expected Concession period	30 years
Technology	IEPL - Pyrolysis+ Gassifier
Land Requirement	5 Acres
Estimated Project Cost	INR 78.7 Cr
Estimated Construction/Installation Period	09-12 Months
Estimated Period for Commissioning	3 Months for Full Capacity
Conversion Ratio	100%

Pyrolysis is the thermal decomposition of feedstock at a range of temperatures from 650 to 1,200°C in the absence of oxygen. The products can vary from solids (char), liquids (oxygenated oils), to syngas depending on the temperature of the system. The pyrolytic oils and syngas can be used directly as boiler fuel or refined for higher quality uses such as engine fuels, chemicals, adhesives, and other products.



As per the study conducted by UC Berkeley School of Engineering, Data for net conversion efficiency were collected for pyrolysis and gasification & Plasma Arc.

Net conversion efficiency

Company	Technology	Net Conversion Efficiency
Agilyx	Pyrolysis	72.97%
Envion	Pyrolysis	53.55%
Climax	Pyrolysis	58.58%
JB1	Pyrolysis	85.72%
Energem	Conventional Gasification	22.65%
Plasco	Plasma Arc Gasification	26.98%

THANKS
THANKS