



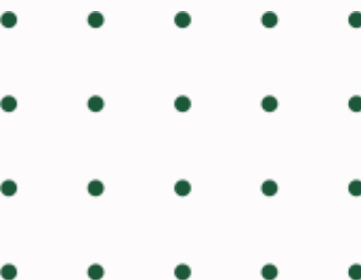
Humanity Ahead

TRANSFORMING LEGACY WASTE MANAGEMENT AND RECLAIMING LAND at Yamunanagar, Jagadhri Municipality

NAME OF THE ORGANIZATION- BVG INDIA LTD

CATEGORY- INNOVATIVE ENVIRONMENTAL PROJECT

ADOPTION OF CIRCULAR ECONOMY PRINCIPLES



Operating Asset Management



80,000+ Employees

1200+ Operating sites

618 mn sqft Self performed services – Static site to Compound, City Common Areas

Pan India presence

Specialised Services



1400+ EV Buses Depot Mgt ; operate & maintain, Route Planning

Metro Coaches Depot Maintenance PPP

Nuclear Technology for leakages, blockage in pipelines, refineries, Heat exchanges & Dams

7,87,30,554 calls received

100+ seater Emergency Response Centre (ERC) Built, Operate & Maintain

1000+ First Response Vehicles

1,66,26,629 emergency cases attended

Emergency Response Services



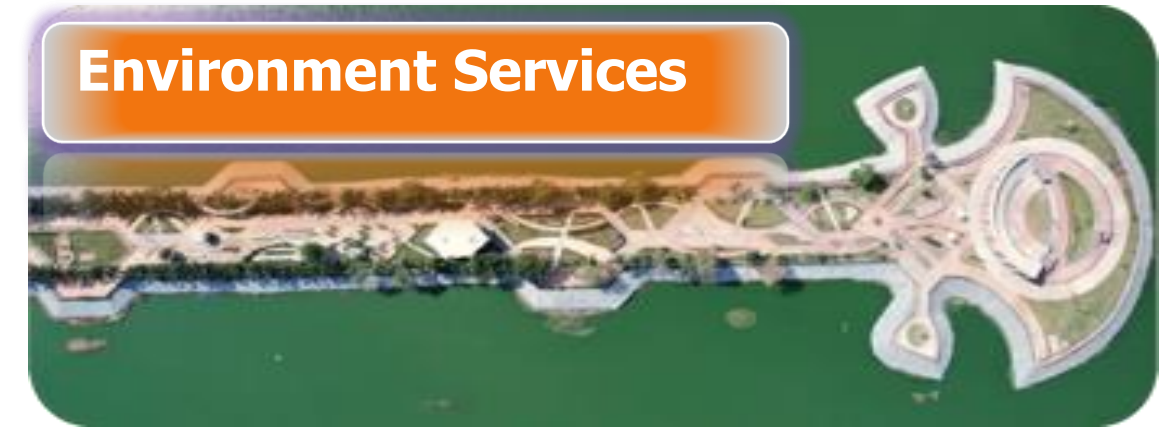
2,87,00,000+ calls received

100+ seater Emergency Response Centre (ERC) Built, Operate & Maintain

1500+ ambulances medical care provided to 97,29,243 patients.

40,727+ in-ambulance child births assisted.

Environment Services



2 mn Sq Mt Greenery Maintained

600,000+ Tree planted

3000+ MT Waste Managed

Signal Largest Tree Plantation of 100 KM in western part of India.

1.45 mn MT Bio mined Legacy waste; 25 acres Land Reclaimed

Sustainability



700 MW Solar EPC delivered At India, Zimbabwe and Cambodia
Solar Pumps Operations & Maintenance

ENVIRONMENT & SUSTAINABILITY



Humanity Ahead



Solid Waste- Collection to Disposal



- Door to Door: Collection- Processing- Segregation- Disposal.
- Bio Mining.
- Mechanized Road Sweeping.
- Plastic to plastic
- Plastic to Fuel
- Paper to Paper
- Waste to Composting



Recycling and Conversion- Aiming Net Zero



Scientific Landfilling & Capping of Dumpsites

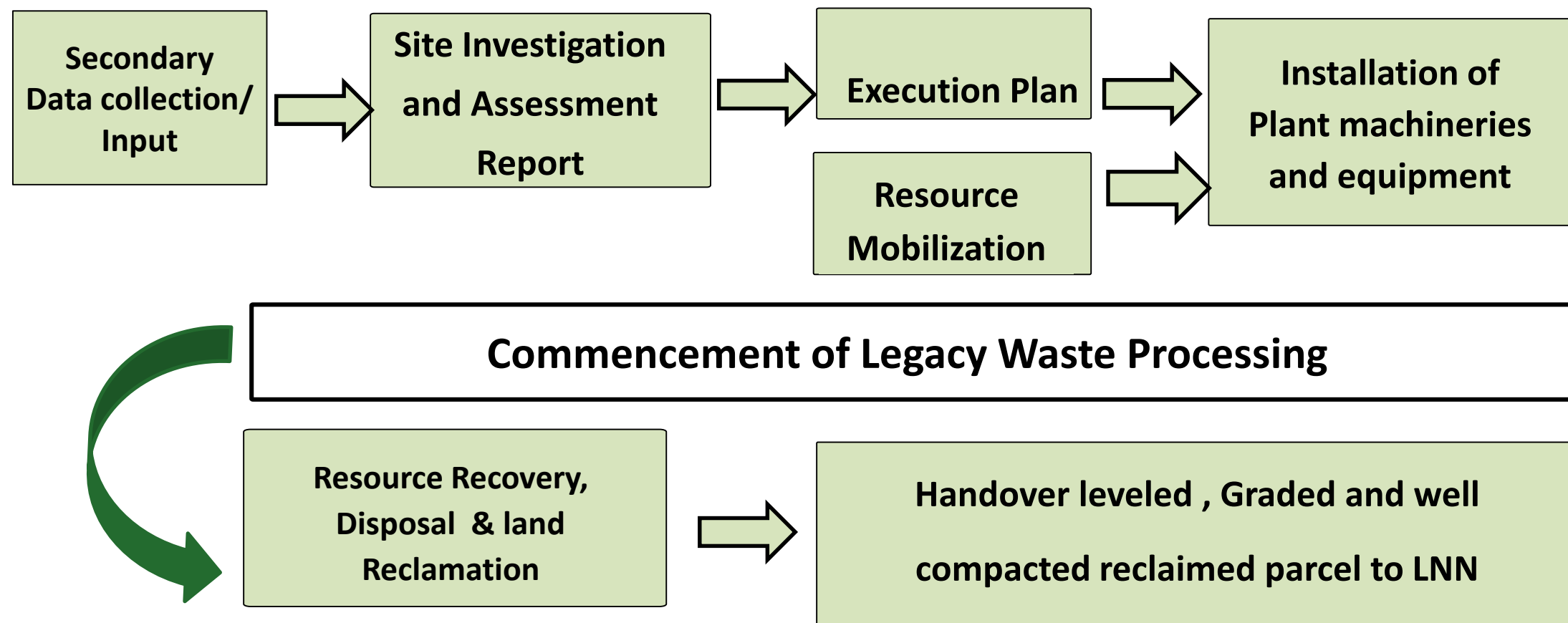


Solar – Installation to Maintenance

TRIGGER

- Urban India accounts for a third of India's population and generates 54.75 Million Tons of municipal solid waste annually.
- 10,000+ hectares of urban land is locked in the dumpsites in India.
- India's daily municipal waste production has surpassed 160,000 metric tons daily in the financial year 2021.
- India's 60 major cities together produce about 3,500 tons of plastic waste.
- As per Annual Report of the CPCB (2016-2017), there are 2120 Legacy waste dumpsites in India across 23 States
- By 2031, to accommodate the increasing waste, an estimated 23.5 million cubic meters of land will be required.

APPROACH AND METHODOLOGY

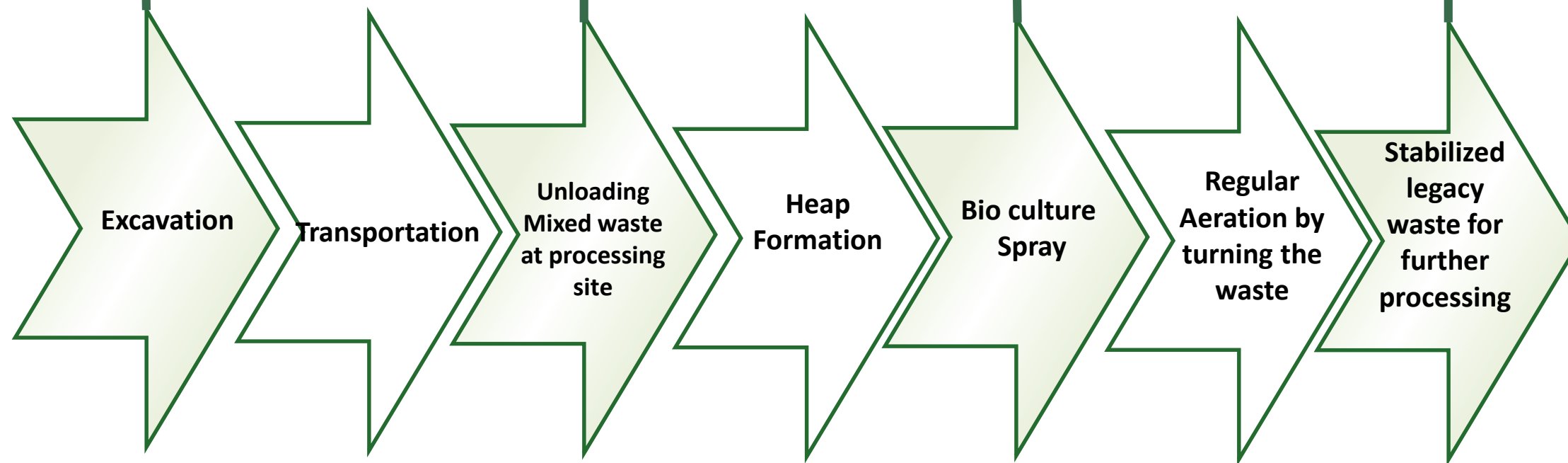
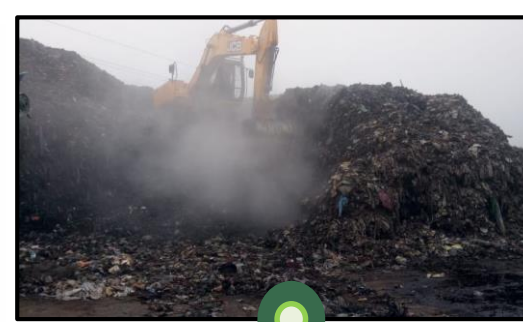


TIMELINE

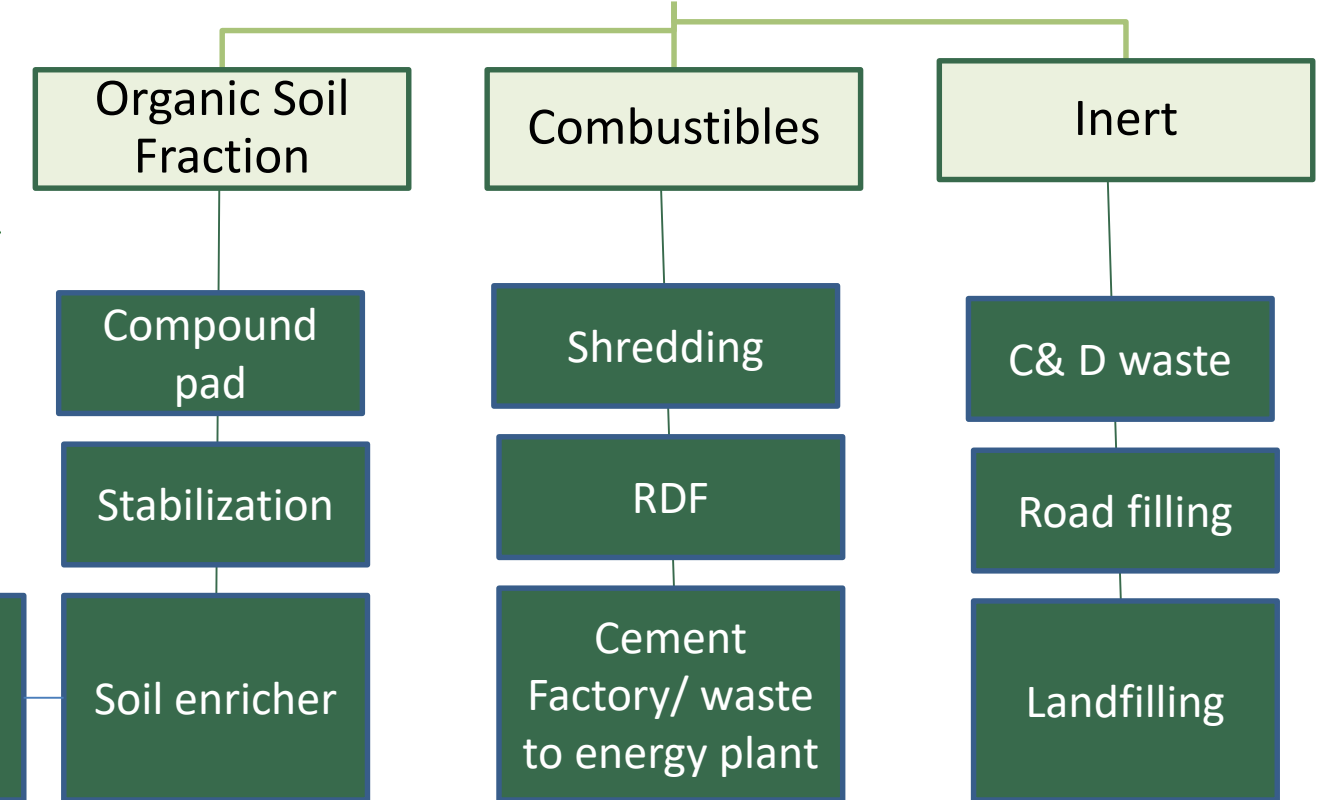


PROJECT EXECUTION METHODOLOGY

BIOREMEDIATION PROCESS

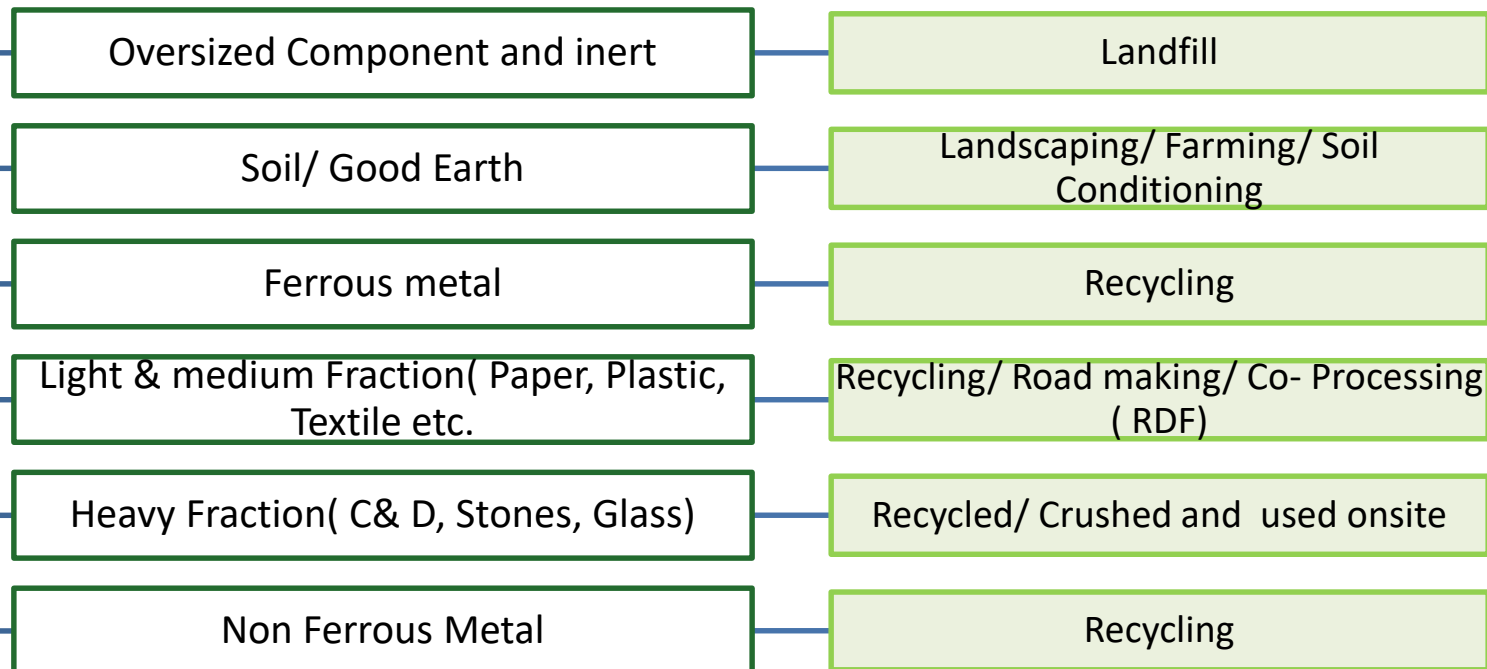


Loading & Weighing



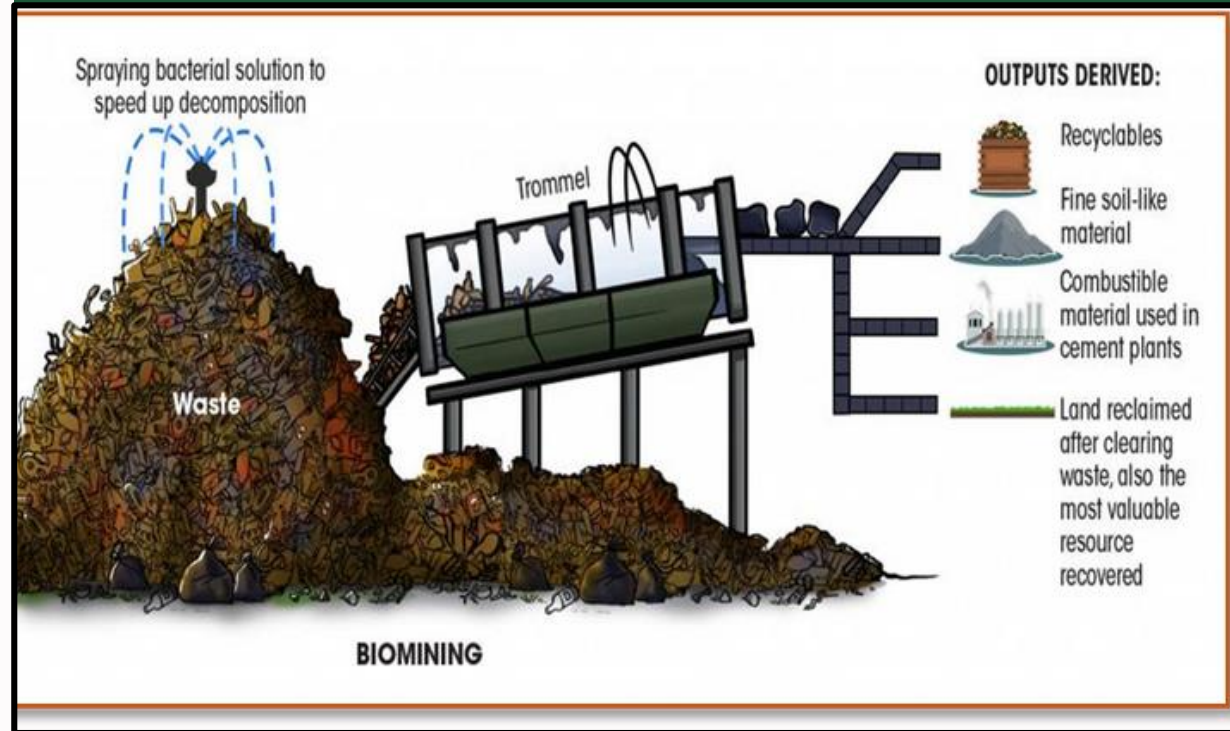
8 mm- Parks , road dividers and Top soil for land fill

Screening of Stabilized Waste



INNOVATION IN ACTION

UNIQUENESS



- The project utilized advanced bio mining methodologies, including Bioleaching, Bio-oxidation, Dump leaching, and Agitated leaching.
- Effectively segregated and converted waste into various forms such as recyclable material, plastics, RDF, and soil filters. These were then used for recycling, as raw material for plastics, in cement plants, and as compost for farmers respectively.

OBJECTIVE



- Significantly reducing the volume of legacy waste in dumpsites, thereby freeing up urban land by recovering and recycle valuable materials from the waste,

MILESTONE



- During this period, **1,27,806 Metric ton of waste was processed.**
- Refuse derived fuel (RDF) processed Quantity was **20,052.975 Metric Ton.**
- Project completed before said deadline.
- **12 Acres** land reclaimed

TANGIBLE BENEFITS

- The plant was structured to separate approximately **14 different aggregates**, allowing for the efficient and responsible disposal of all materials.
- All aggregates are disposed of responsibly, ensuring **a 100% disposal rate**.
- The plant has achieved **a 0% rejection rate**, indicating that none of the aggregates are classified as rejects and sent to sanitary landfills.
- Processed a total of **1,27,806 Metric tons of waste**.
- Processed and sold **20,052.975 Metric tons of RDF**.
- **Employment to 25+ Locals.**
- Reclaimed **12 Acres** of land which cost **24 CR+ approx.**
- Provided **free compost** for farmers.
- Improved **Air quality & water quality** of near by area.

INTANGIBLE BENEFITS

- Heightened awareness about incorporating **sustainability in waste management systems**.
- Optimization at various stages leads to **significant material recovery and monetary savings**.
- Such initiatives help the organization to become more **socially responsible, enhancing trust among customers and society**.
- Providing **training / educating** to rag pickers about hazard and precautions to be taken.
- The project's success in transforming waste into valuable resources showcases the potential of sustainable practices, **inspiring other organizations and individuals to adopt similar approaches**



REPLICATION POTENTIAL

Government Initiatives:

The Biomining project serves as a blueprint for Government and public sector entities to address waste management challenges on a larger scale.

Urban Development:

The project's success in reclaiming land and managing waste sets a precedent for urban development initiatives nationwide.



Environmental Sector:

The project offers insights for environmental and waste management sectors to remediate legacy waste sites and reduce pollution.

Renewable Energy Sector:

The project presents opportunities for renewable energy and resource recovery sectors to extract valuable resources from legacy waste.

NATIONAL/INTERNATIONAL BENCHMARKS



Goal 4- Quality Education
Enhancement of community awareness



Goal 6- Clean Water and Sanitation
Environmental monitoring parameters



Goal 12- Responsible Consumption and Production.



Goal 13- Climate Action
Facilitation of ecological restoration



Goal 15- Life on Land
Environmentally sound waste management practices

NATIONAL GUIDELINE ADHERED



- Solid Waste Management Rules, 2016, CPCB guidelines



- Advisory of Landfill Reclamation released in June 2020 by CPHEEO, under Swachh Bharat Mission.

CHALLENGES

KEY LEARNINGS



- 1. Innovation:** Biomining techniques effectively manage legacy waste.
- 2. Regulatory Compliance:** Adherence to established guidelines is the key.
- 3. Community Engagement:** Local community involvement enhances project impact. Raising awareness about the environmental, health, and socio-economic implications of waste management practices.
- 4. Environmental Impact:** Effective waste management significantly reduces pollution.
- 5. Sustainability:** The project highlighted the importance & impact of sustainability in waste management.
- 6. Enhanced collaboration** among recycling companies can streamline processes, improve efficiency, and promote innovation in waste management practices, leading to more effective recycling and resource recovery efforts.
- 7. Increased awareness** among citizens about proper waste segregation at the point of generation is crucial for facilitating recycling processes.

THE IMPACT

The Dump Yard was an eye sore with no place left to dump future MSW

Average height of the heaps were 25 to 30 Mtr from the ground level.

BEFORE

Out of the total area of 10 acres, around 8 acres of land was dumped indiscriminately

There was no space to establish any new MSW Processing facility.

Fully dumped site was handed over to us with no space for erection of equipment's

All equipment's erected were mobile in nature and could be moved once the project gets over.

AFTER

Machineries included trommels, vibro separators, air density separators, conveyors and magnetic separators installed

The plant started operations in the month of April 21 and finished in March 2022

STABILISATION OF WASTE

PROCESSING & SEGREGATION

AFTER COMPLETION- 12 ACRES RECLAIMED

GPS Map Camera

Yamunanagar, HR, India
 Ambala Road, Jagadhri, Yamunanagar, 135003, HR, India
 Lat 30.184517, Long 77.256794
 05/09/2024 06:24 PM GMT+05:30
 Note : Captured by GPS Map Camera

A STEP FURTHER INITIATED BY BVG



- Door to Door: Collection- Processing- Segregation- Disposal.
- Bio Mining.
- Mechanized Road Sweeping.
- **Plastic to plastic**
- **Plastic to Fuel**
- **Paper to Paper**
- **Waste to Composting**



PLASTIC TO RAW MATERIAL



RECYCLING AND CONVERSION- AIMING NET ZERO



**“TRANSFORMING
PEOPLE, PLANET, PLACES
&
ACCELERATING
YOUR NET ZERO JOURNEY”**