

# Mr. Binman Ltd.

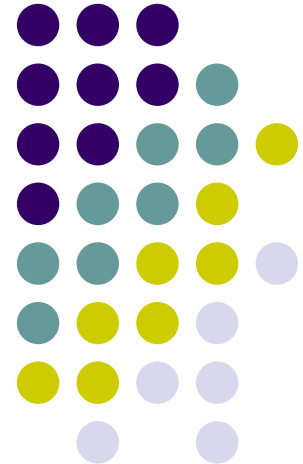


*Repak Recovery Operator of the Year 2004 & 2005*



Martin Sheahan Jnr

Managing Director



# Company Overview



- Largest waste management company in the Mid West Region
- Progressive company
- Maintain our position at the forefront of waste management
- Maximise diversion of waste from Landfill and Increase Materials Recycling and Recovery Rates.
- Pilot Collection of Source Separated Organics proved unsuccessful
- Extensive Research & Development across Europe and North America
- Array of technology is collectively know as a Mechanical Biological Treatment (MBT) plant
- Selected & Adapted Technology specific to Irish conditions

# What is MBT?



## Mechanical Biological Treatment Plant

Highly automated process for the recovery of recyclable and compostable material from municipal solid waste.



# What is MBT?

## Mechanical Biological Treatment Plant

MBT plants essentially comprises of two elements

i) **mechanical separation** and ii) **biological stabilisation**

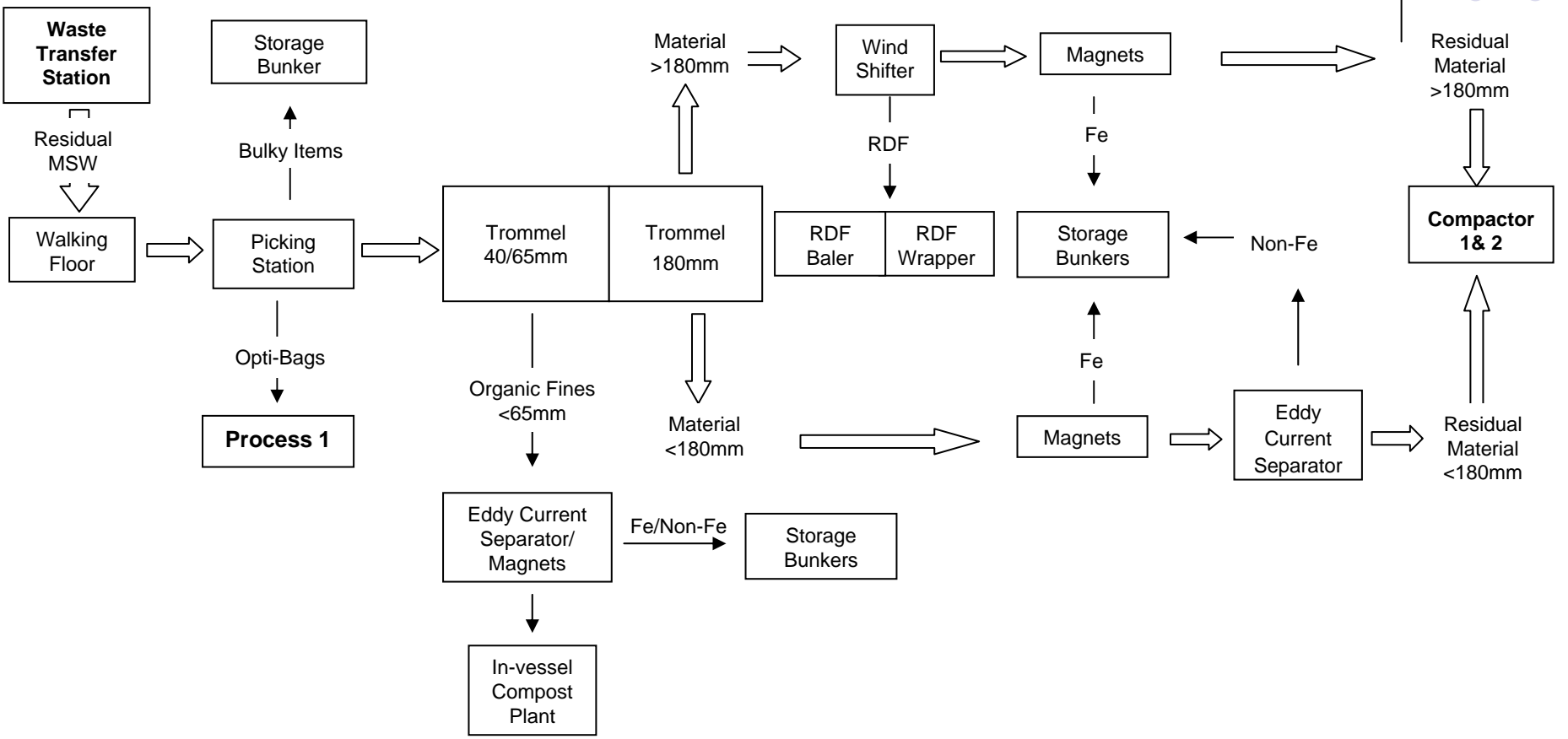
### **Mechanical Separation**

The basic operations of a MBT are trommel screening (sieving), magnetic separation, kinetic separation and manual sorting.

### **Biological Stabilisation**

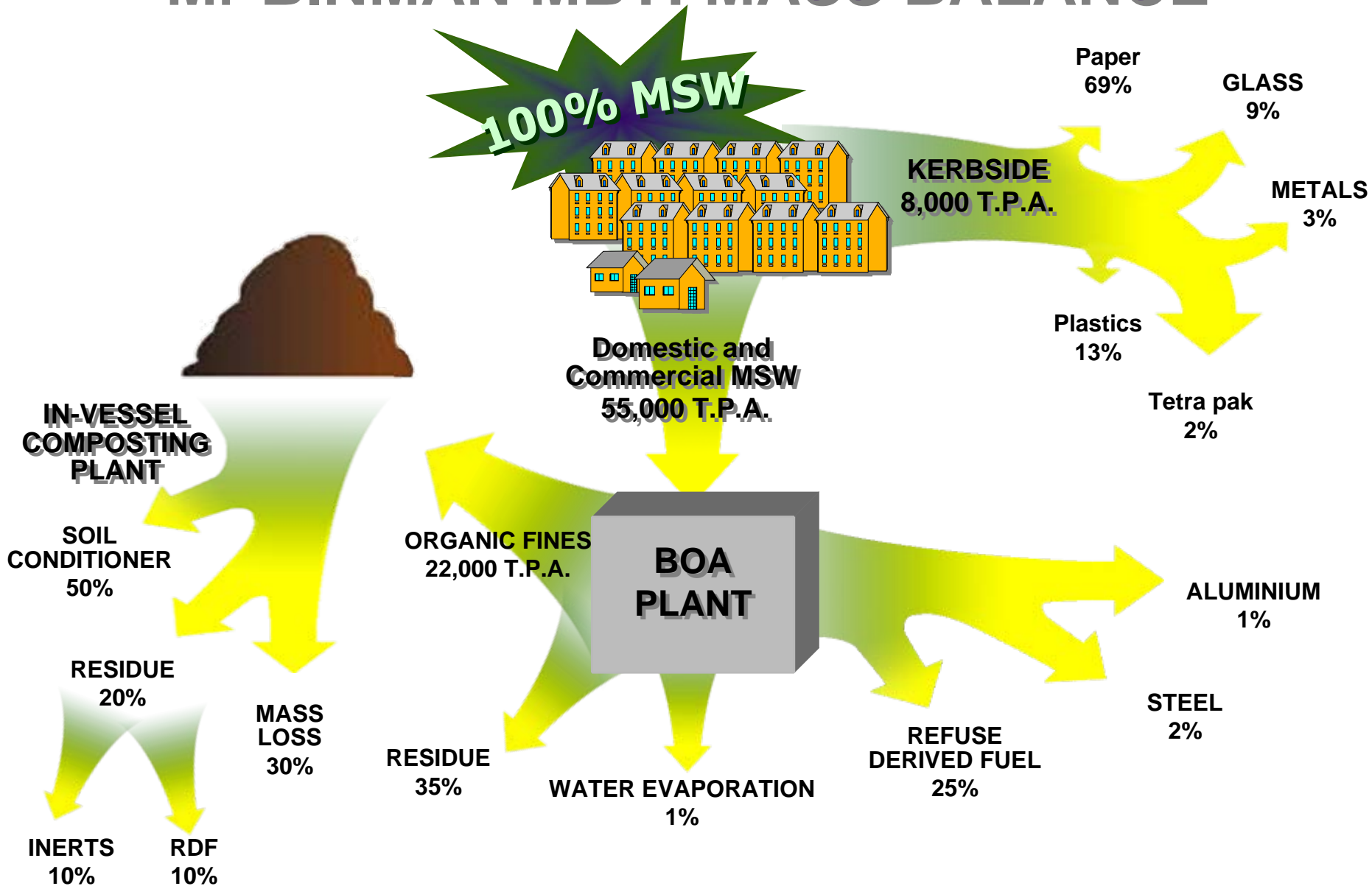
Organic Fines extracted mechanically are stabilised by in-vessel accelerated aerobic composting units.

# Mechanical Separation Residual Municipal Waste





# Mr BINMAN MBT: MASS BALANCE





# Estimated Recovery Rates

## Round One

- 30% Organic Waste Fines
- 28% Refuse Derived Fuel
- 2% Metals
- 60% Total Recovery

## Round Two

- 24% Organic Waste Fines
- 26% Refuse Derived Fuel
- 0% Metals
- 50% Total Recovery

## Total Recovery

- 80% of Residual MSW

# End Markets Stabilised Biowaste



- Two Options:
- ‘Biofuel’ or ‘Compost’
- Biofuel
- Compost is stabilised by ‘bio-drying’ rather than composting
- No Domestic Market
- CV and consistency similar to Peat
- Two New Peat Fuelled Power Plants built by BNM – Lanesboro and Shannonbridge



# End Markets Stabilised Biowaste

## Compost

There are two main set of regulations which determine the final use of compost:

- 1. Thematic Strategy for Soil Protection (Draft Biowaste Directive)**
- 2. Animal By-Products Regulations**

Both similar, rate of application under Draft Biowaste Directive is restrictive.

### **Non–Agricultural Applications:**

- Forestry
- Daily cover/topping for landfills
- Private and public Gardens
- Sports Grounds - Golf Courses/ Racecourses, GAA pitches
- Land Remediation -Topping for closed mines, Depleted bog
- Motorway verges/sound barriers



# End Markets Stabilised Biowaste

## Biological Stabilisation

- Maturation of compost essential to fully penetrate all available markets.
- Even daily landfill cover has stabilisation requirements
- Stabilisation not achieved in 2-3 weeks in-vessel!
- In-vessel systems necessary to achieve ABPR
- 10-12 weeks ACTIVE MANAGEMENT minimum time frame required
- In-vessel composting must be followed with further biological treatment – ASP, Windrowing
- Most in-vessel systems STABILISE waste by drying, compost appears fit-for-purpose
- However, once water is added, cloud of steam produced, unsightly and potentially odorous
- This will show up on laboratory tests such as Self-Heating test and SOUR test



# End Markets Stabilised Biowaste

## Measures to Improve Quality of Mechanically Separated Fines include:

- Exclusion of Pre-Shredding on Domestic Waste
- If Screen Size is too large – too much contamination from in-organics
- Screen size is too small not enough organic material removed from waste
- Also, RDF will be ‘too wet’
- Composting dries and reduces particle size of organic fines - easier to remove in-organic contaminants post-composting
- Post–composting polishing to remove glass, stones and plastics
- Combination of Screens, Density Separators & Windshifters

# End Markets Refuse Derived Fuel



- Coarse RDF - Papers and Lightweight Plastic-double wire baled and shrink wrapped
- Currently No Domestic Markets
- Export must be 'Recovery' –Must be Substitute for Fossil Fuel
- Incineration termed 'Disposal'
- Moisture control essential, Determines CV
- Achieved by weighing RDF bales
- Domestic markets may develop in future
- Currently, not enough good quality RDF produced in Ireland to warrant industry to adapt boiler technology and install APC equipment.