

Anaerobic Digestion of Waste

Problems with Contraries and Innovative Solutions

Venice 2008

Second International Symposium on
Energy from Biomass and Waste



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Anaerobic Digestion of Municipal Solid Waste (MSW)

1920	Contraries	Sewage Sludge
1975		Manure
1985		Organic Industrial Waste
1990		Biowaste
1995		Organic Fraction of MSW (OFMSW)

Technical Challenge increases with Content of „Contraries“:

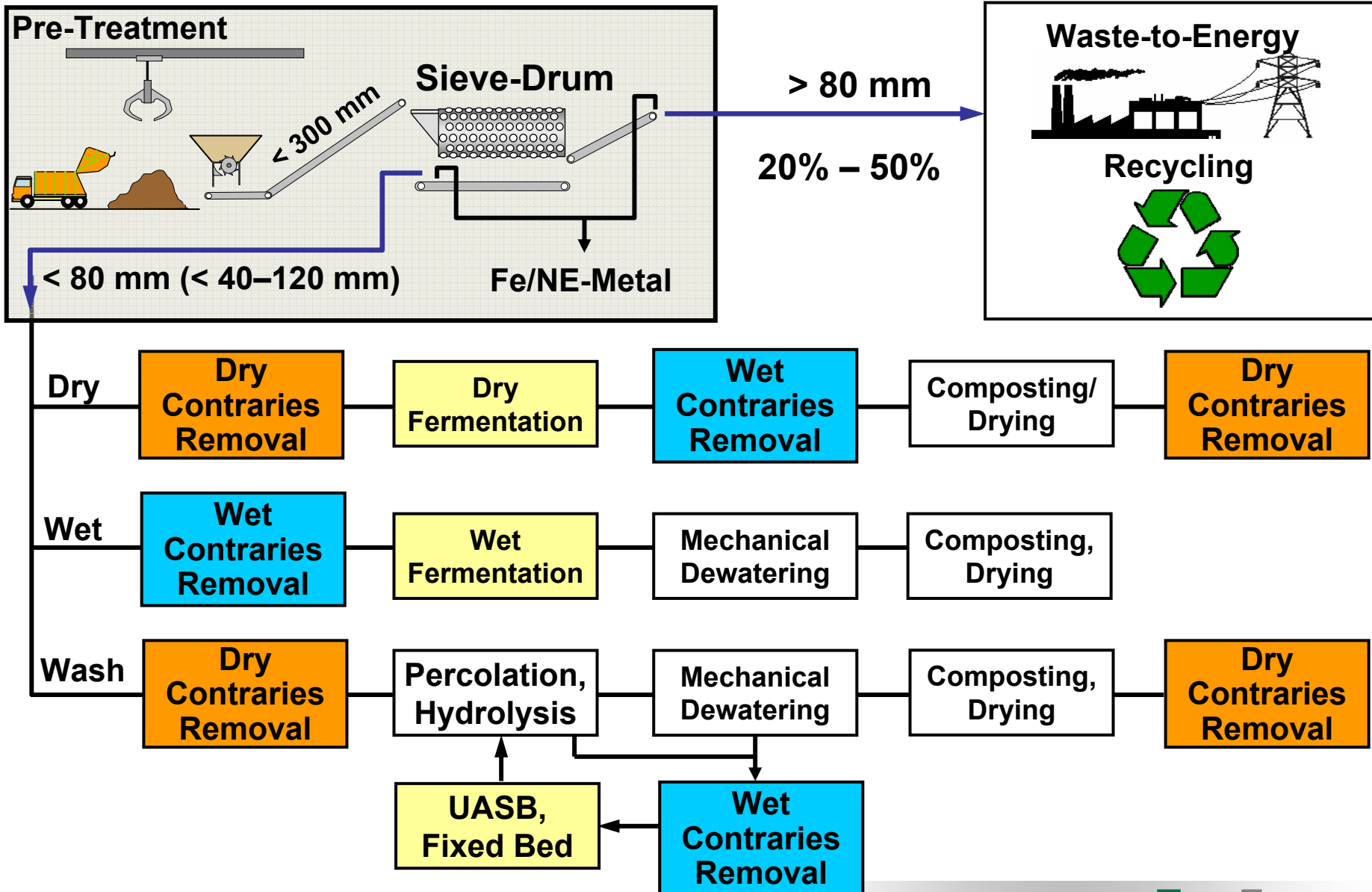
- Glass
- Stones
- Sand
- Plastics

Contraries have to be removed for Protection of Plant Equipment

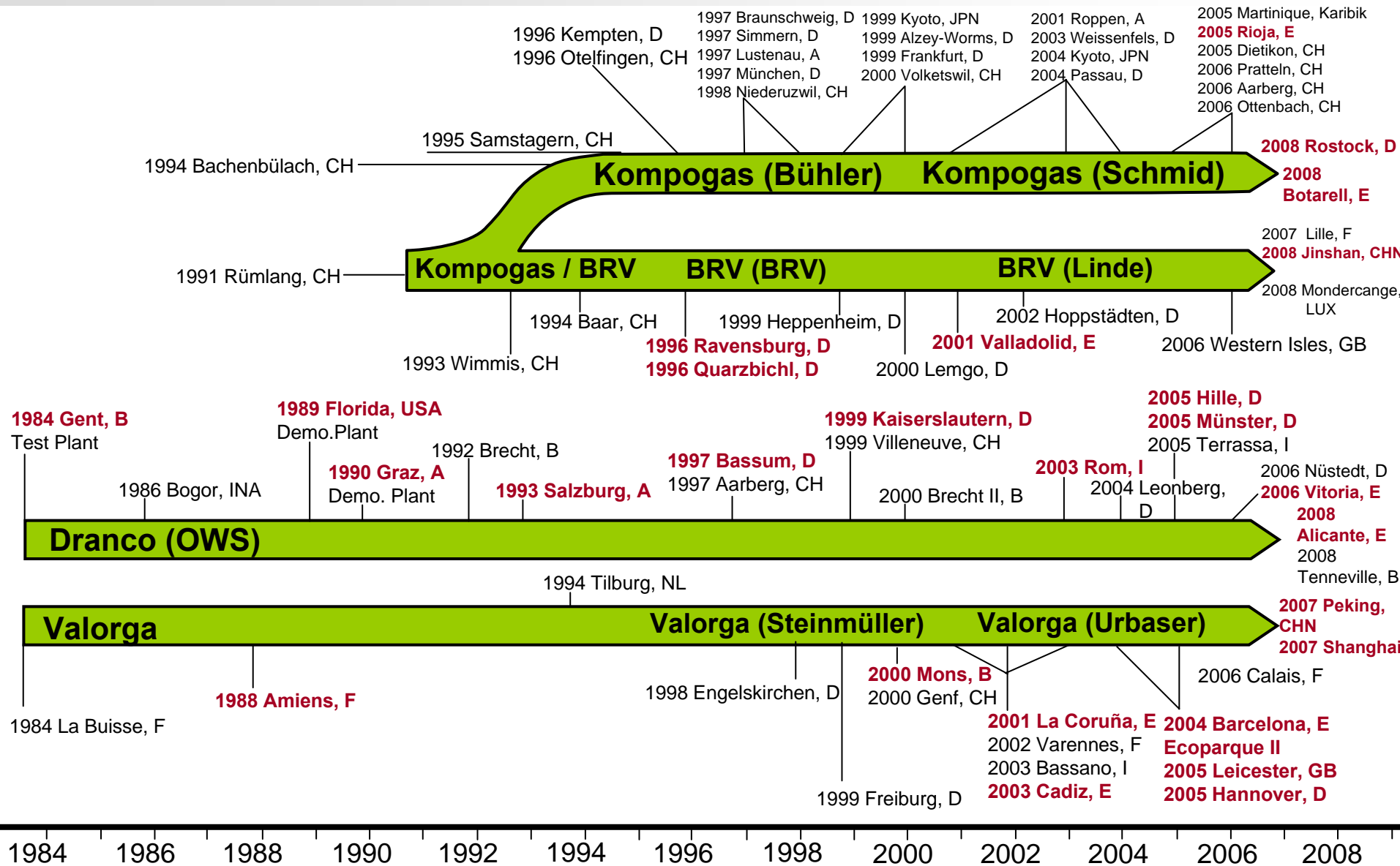
Status Quo:

- Frequent Plant Downtime in Wet Anaerobic Digestion of OFMSW
- Abrasive Wear on Plant Equipment
- Difficult Contraries Removal after Dry Anaerobic Digestion of OFMSW
- Few Options for Recycling of Digestate

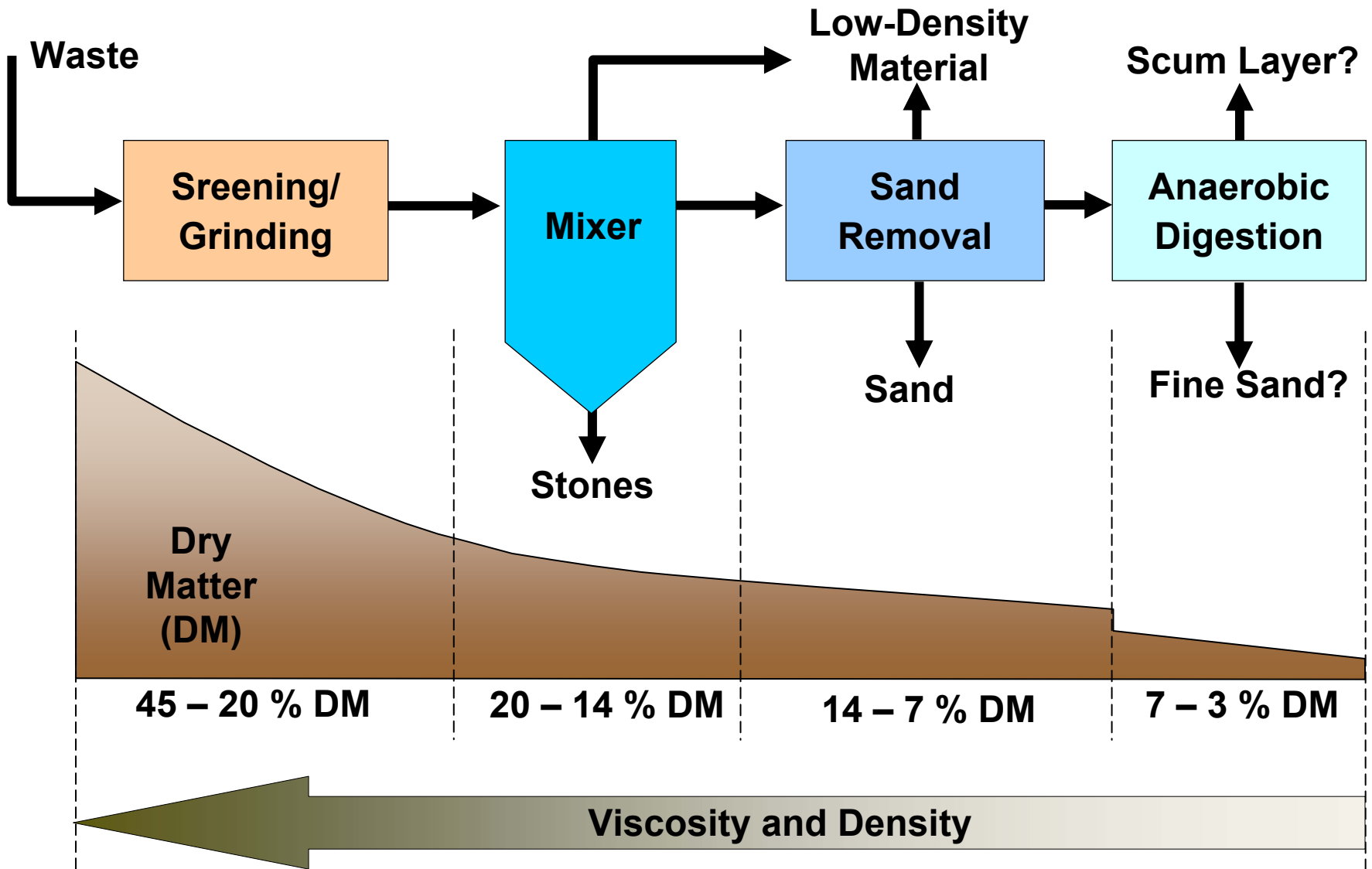
Mechanical Treatment ⇒ AD-Technologies



Development of Dry Anaerobic Digestion

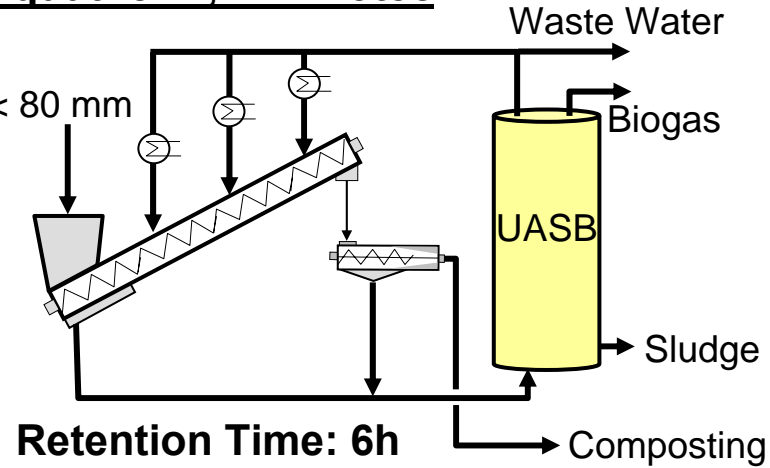


Wet Contraries Removal for Wet AD

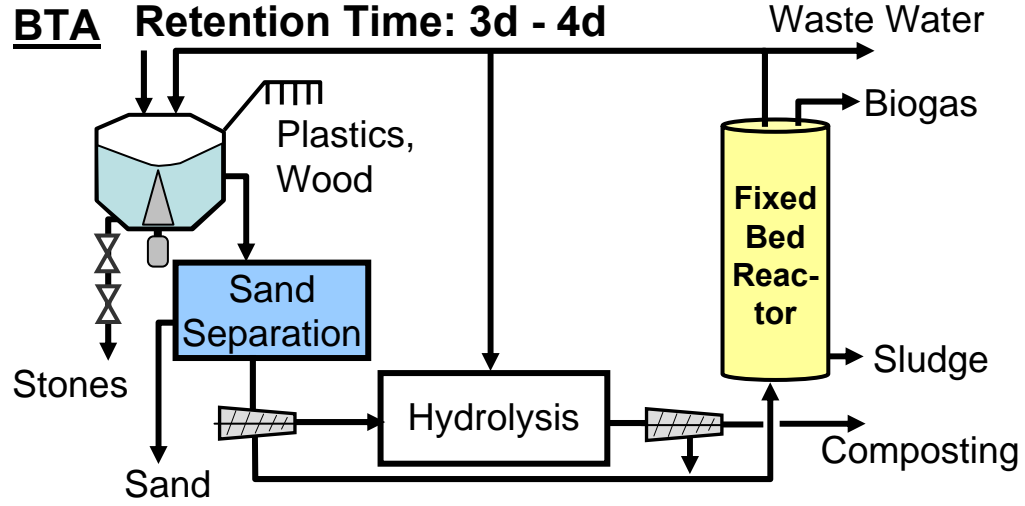


Washing Processes - Examples

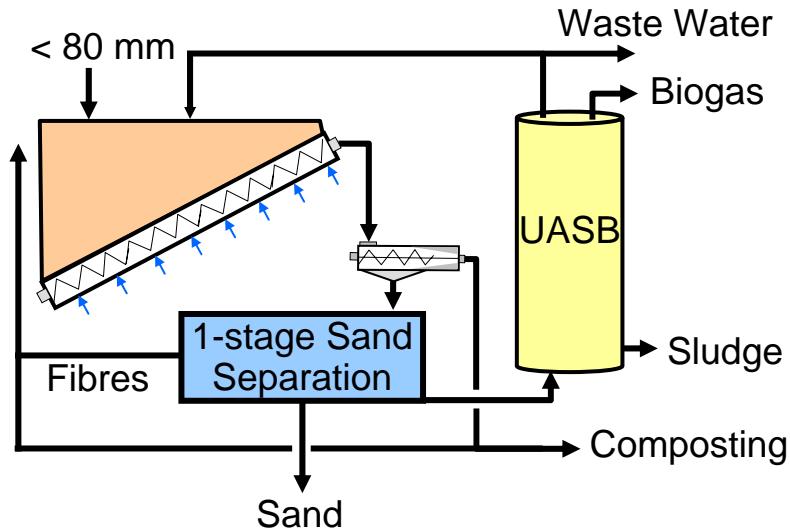
Aquatherm, AN Biotec



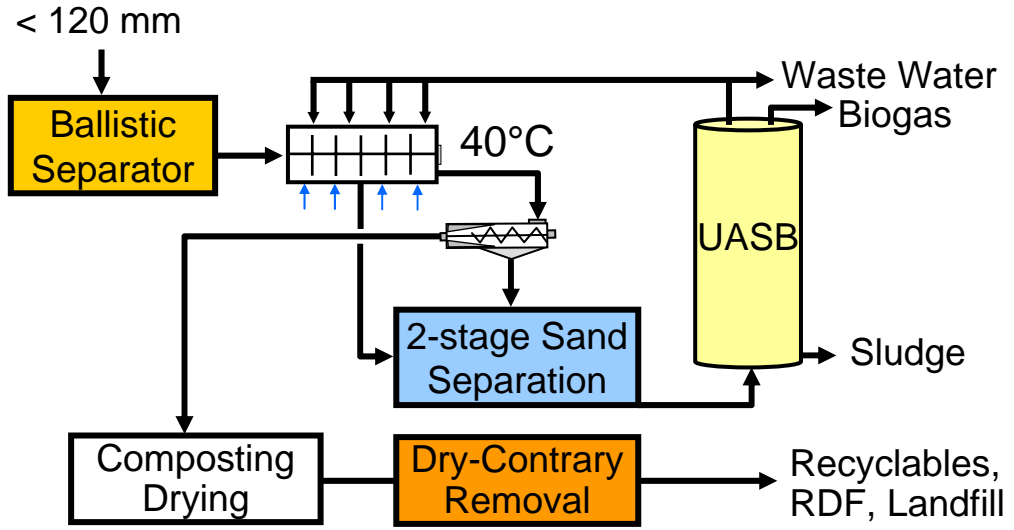
BTA Retention Time: 3d - 4d



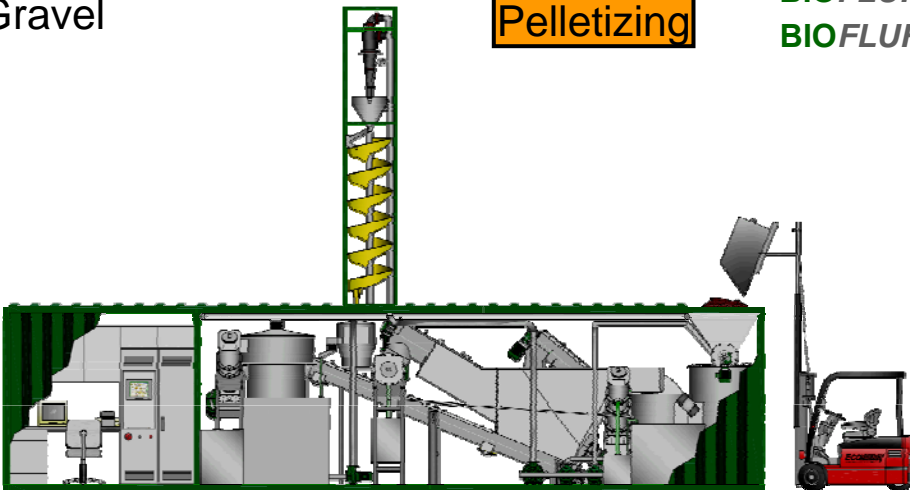
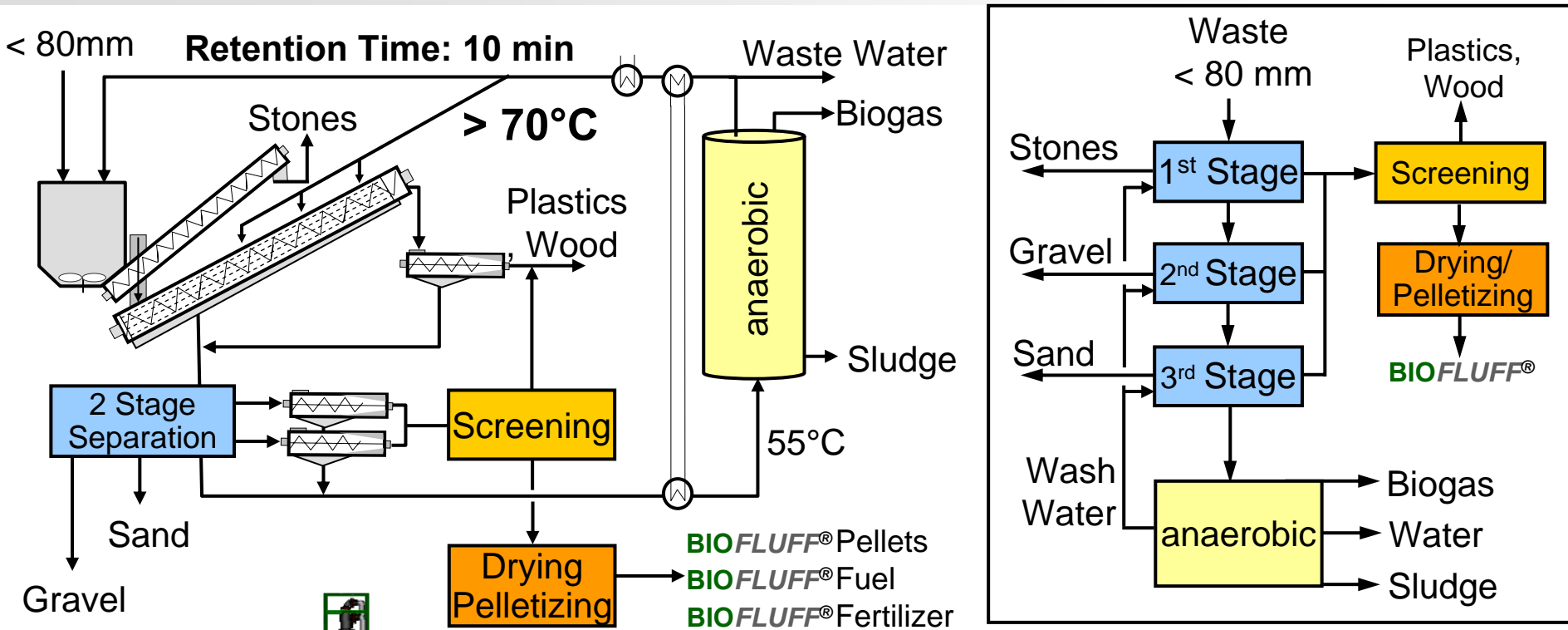
IMK Retention Time: 3d



Percolation Retention Time: 2d - 3d



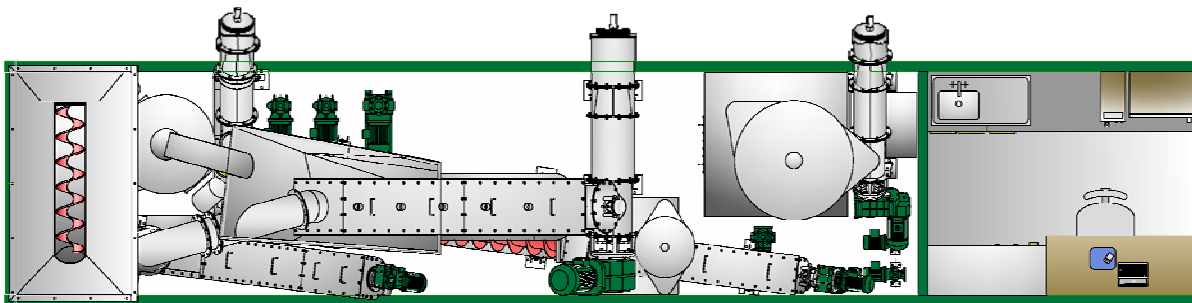
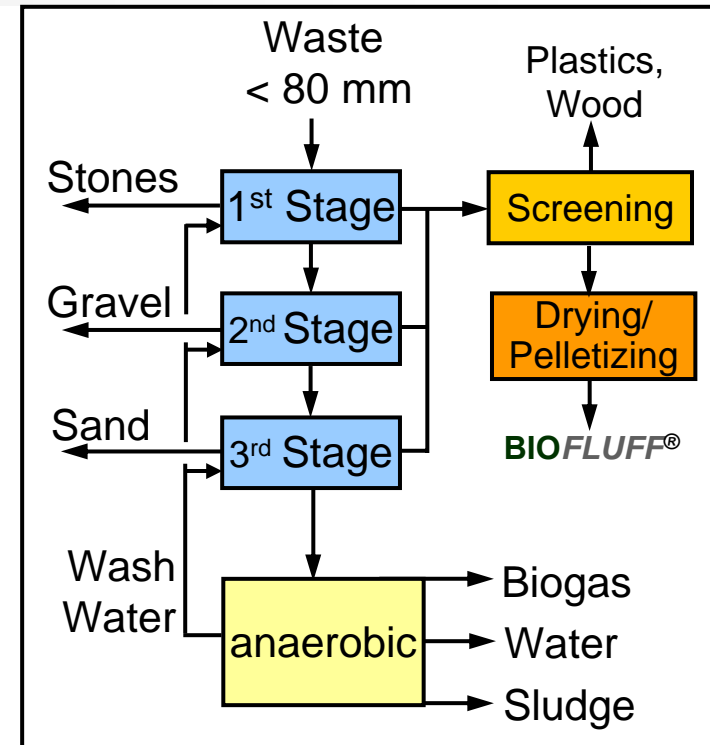
SCHUBIO® (Former NMT Process) - EcoEnergy



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Highlights:

- Short Retention Time
- AD Liquid free from contraries
- Separated Fractions are Recyclables:
 - Inert Fraction (Contraries) for Construction
 - Organic Fractions separated into:
 - Native Organics (**BIOFLUFF®**)
 - Plastics, Wood





Thank you for your attention!

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