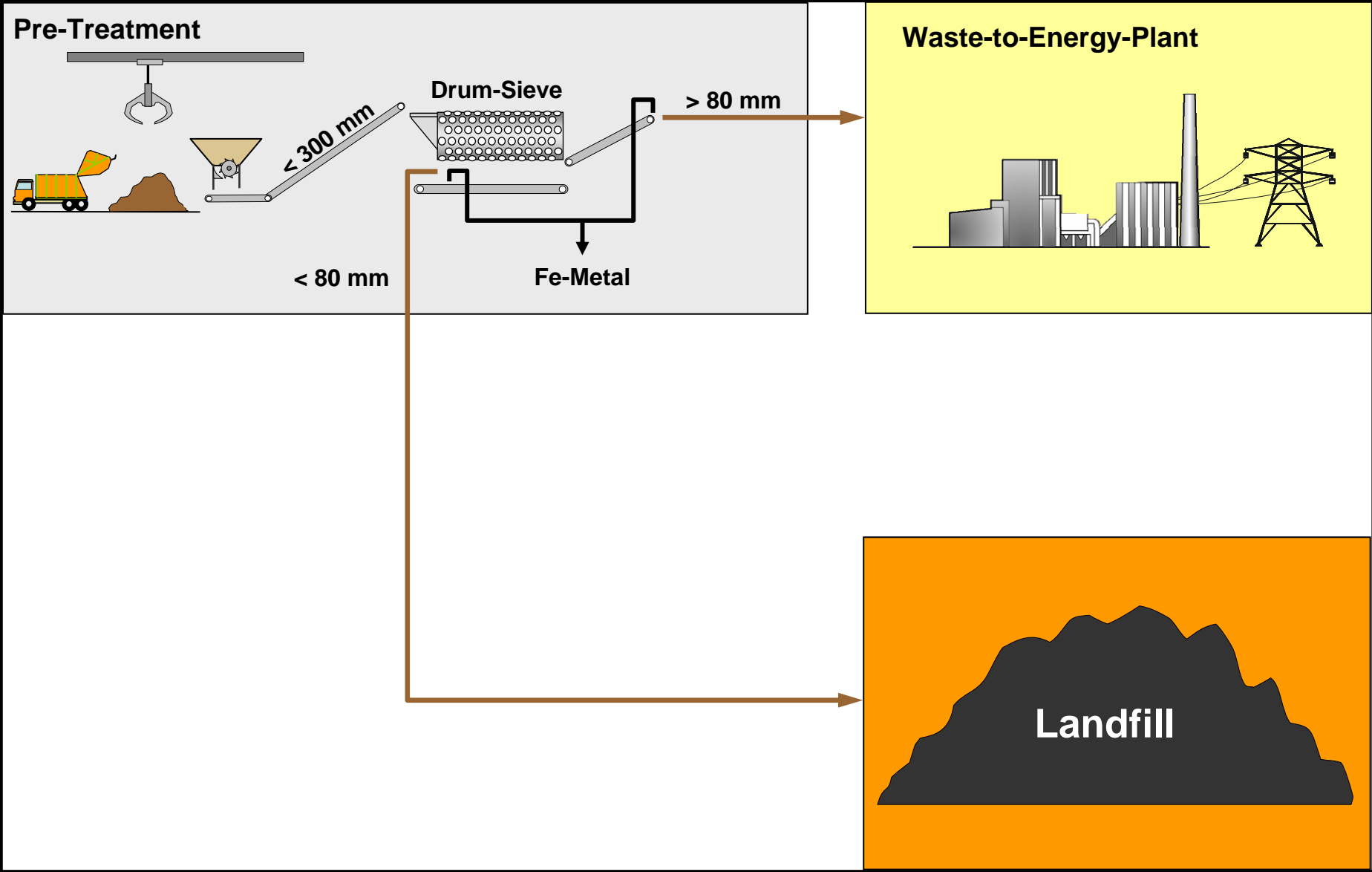


MBT Concepts for a Sustainable Development

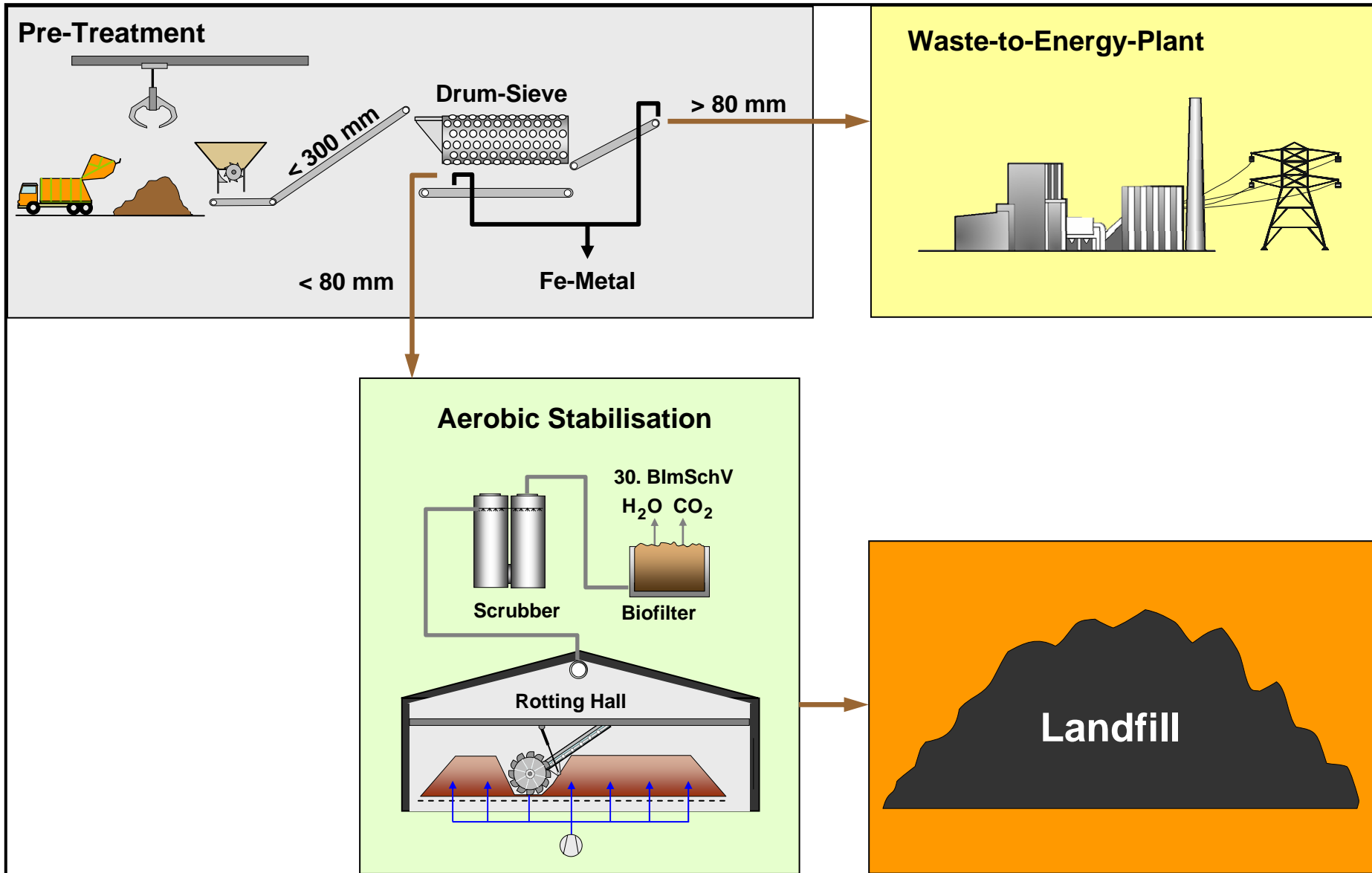
**Venice 2008
Second International Symposium on Energy from
Biomass and Waste**

**Dipl.- Ing. Reinhard Schu
Dipl.- Biol. Kirsten Schu
EcoEnergy Gesellschaft für
Energie- und Umwelttechnik mbH
Walkenried, Germany**

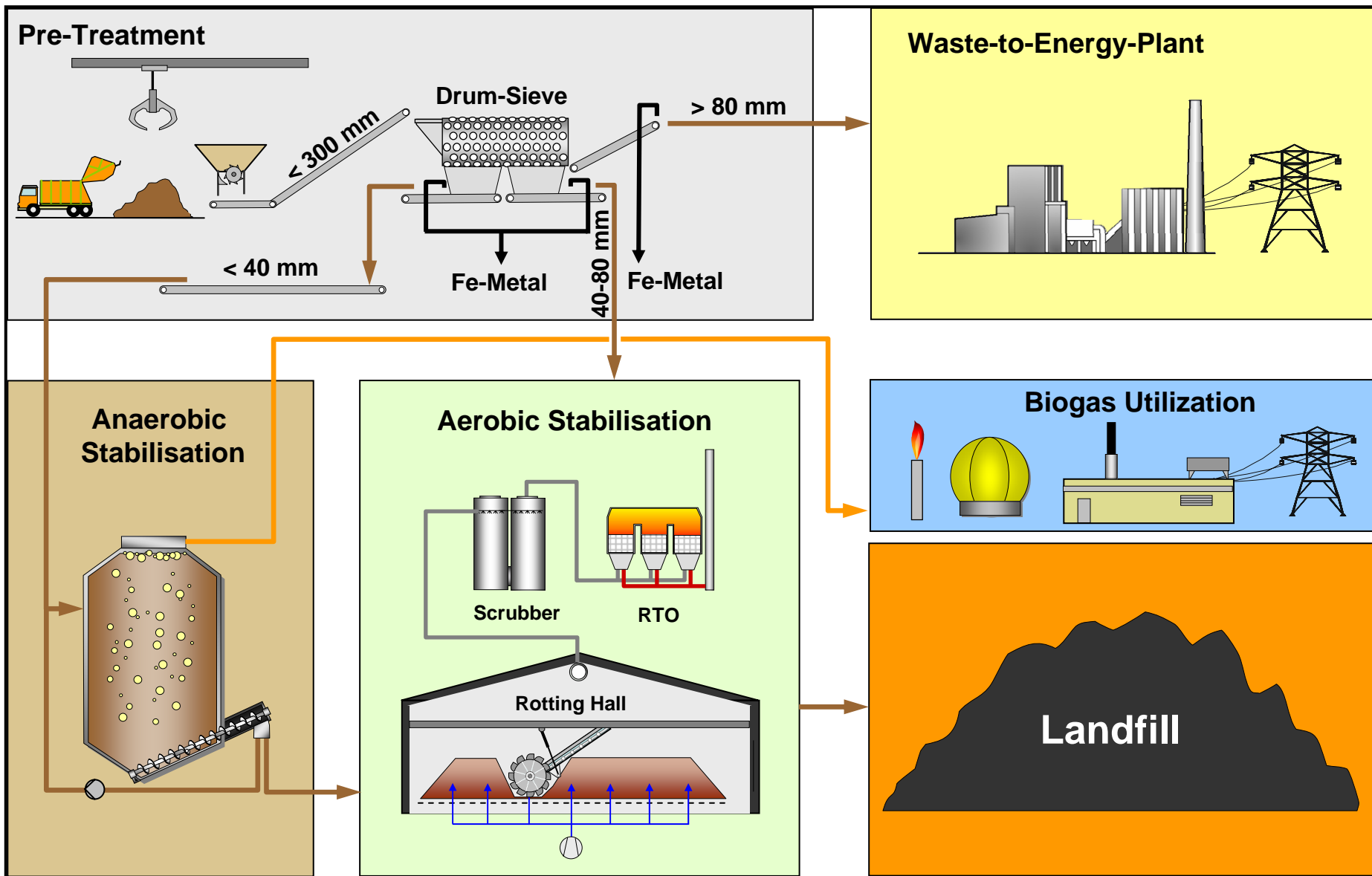
Simple Mechanical Pre-Treatment for Landfill until 2005



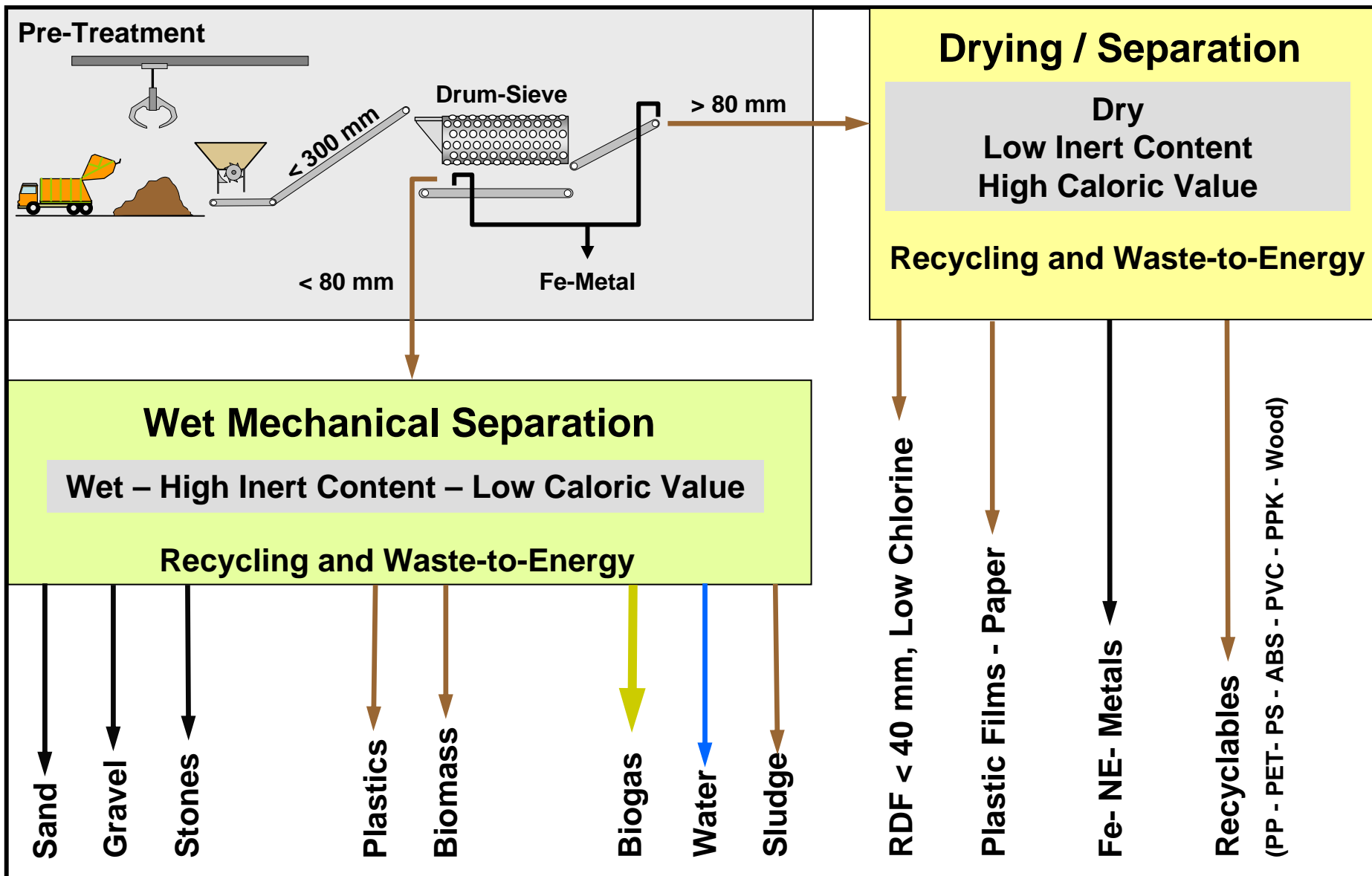
MBT until 2005 – Demonstration Projects as Base for Equivalence



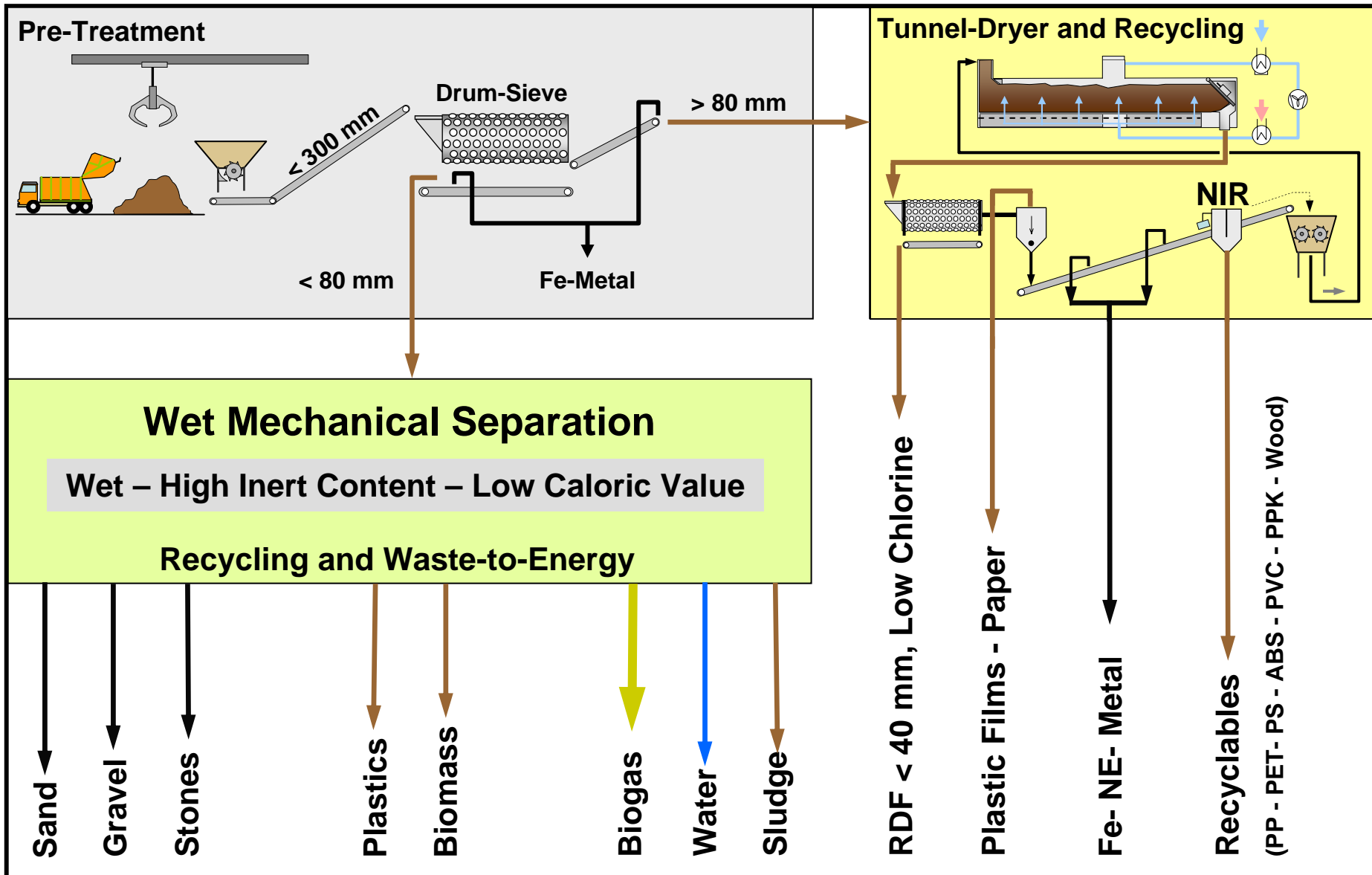
MBT 2005 to 2020 – German Concept for Mechanical-Biological Treatment



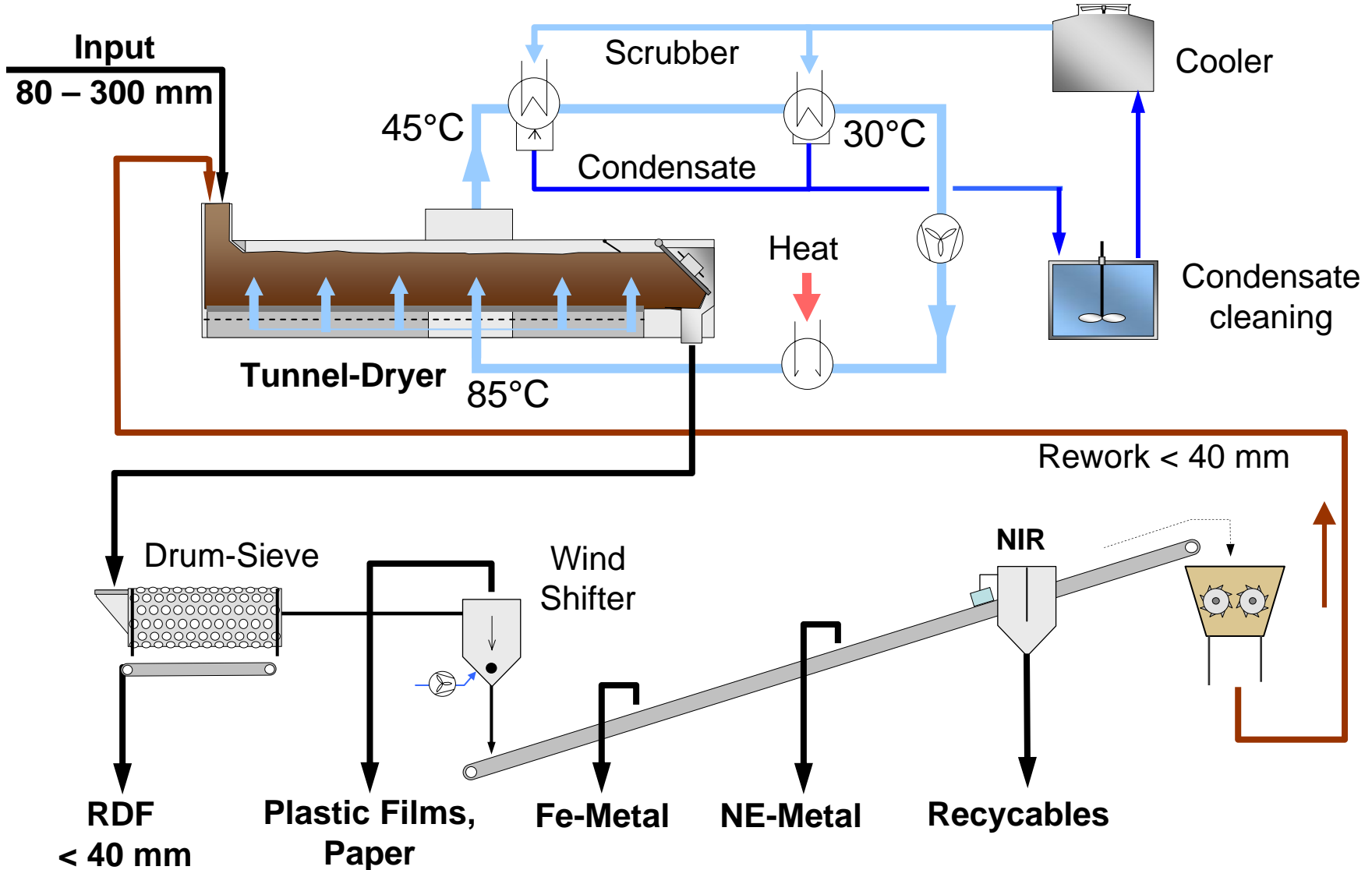
Selective Shredding and 1st Step for Mass Splitting



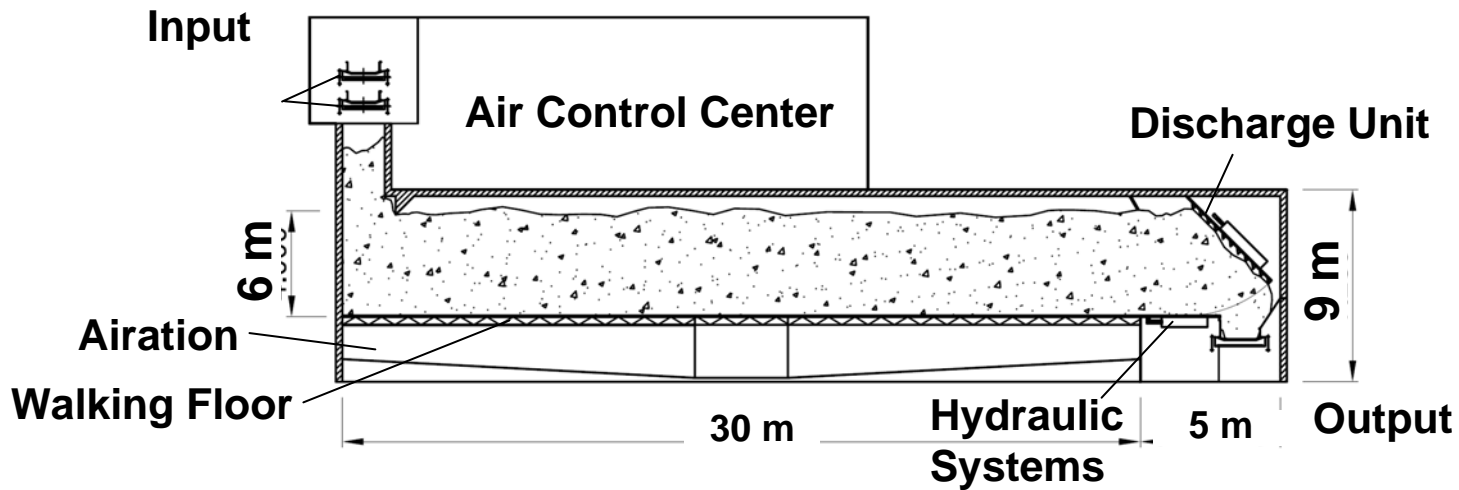
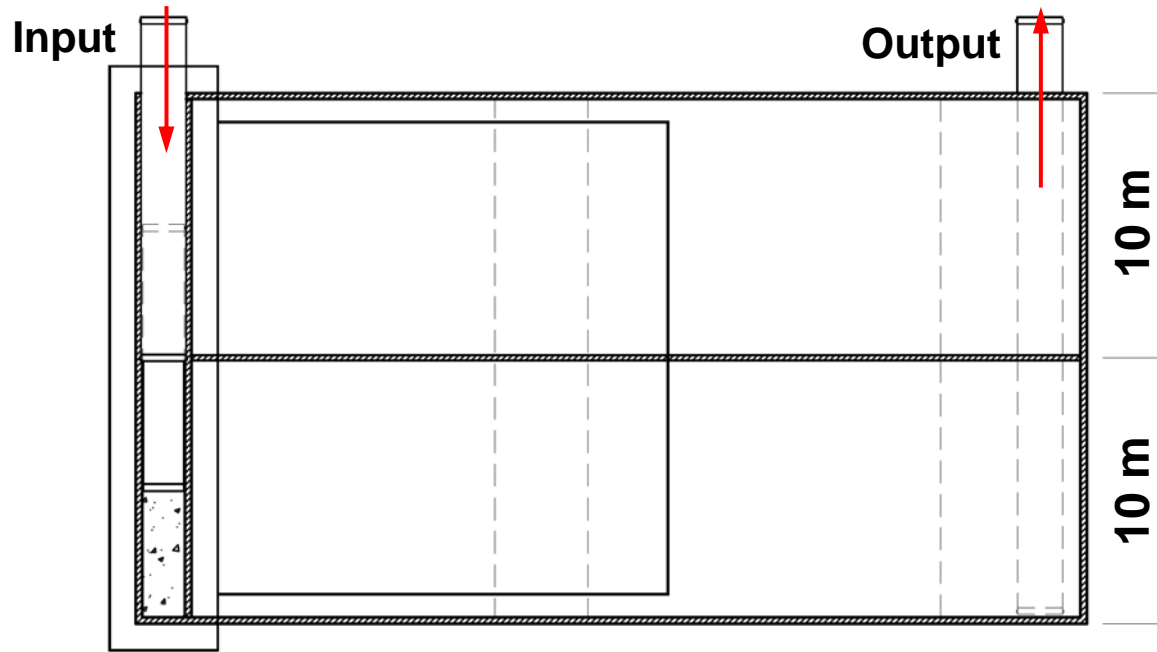
Selective Shredding and 1st Step for Mass Splitting



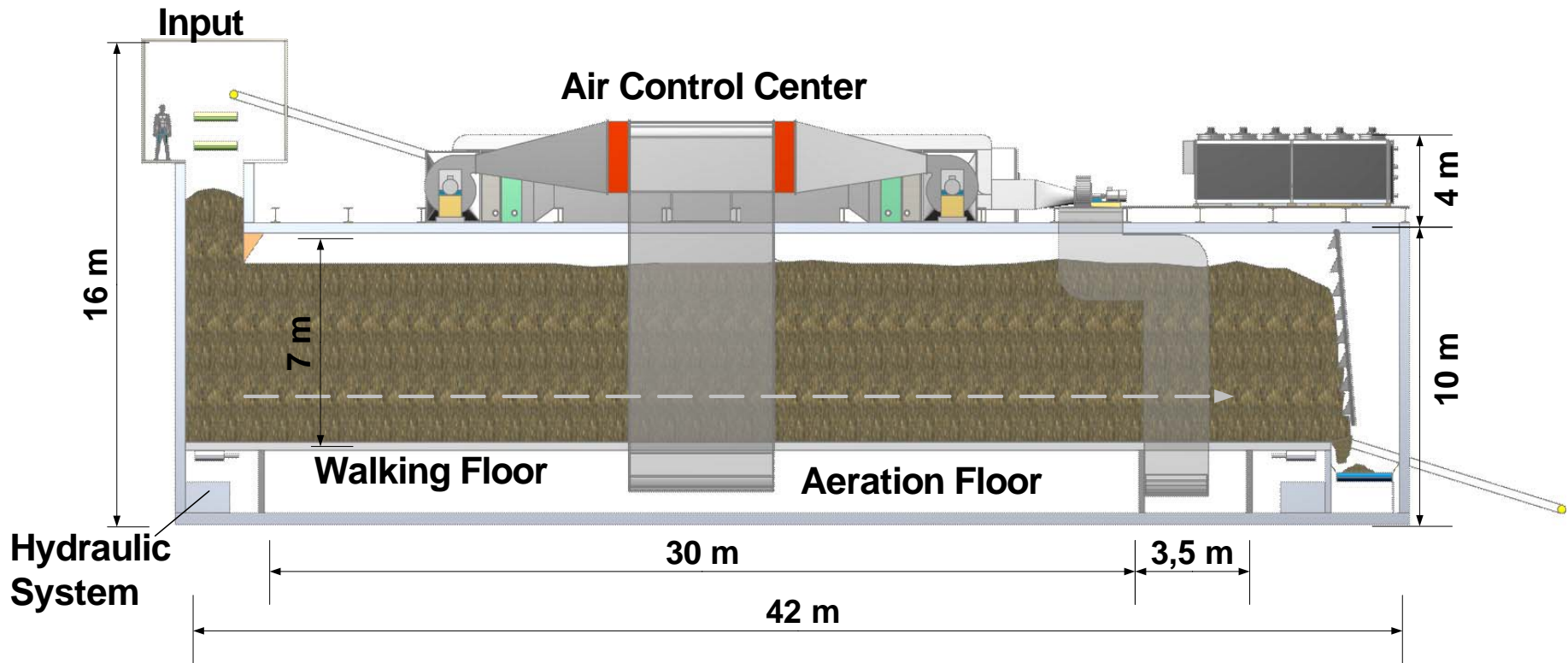
Tunnel-Dryer for Industrial Waste Recycling



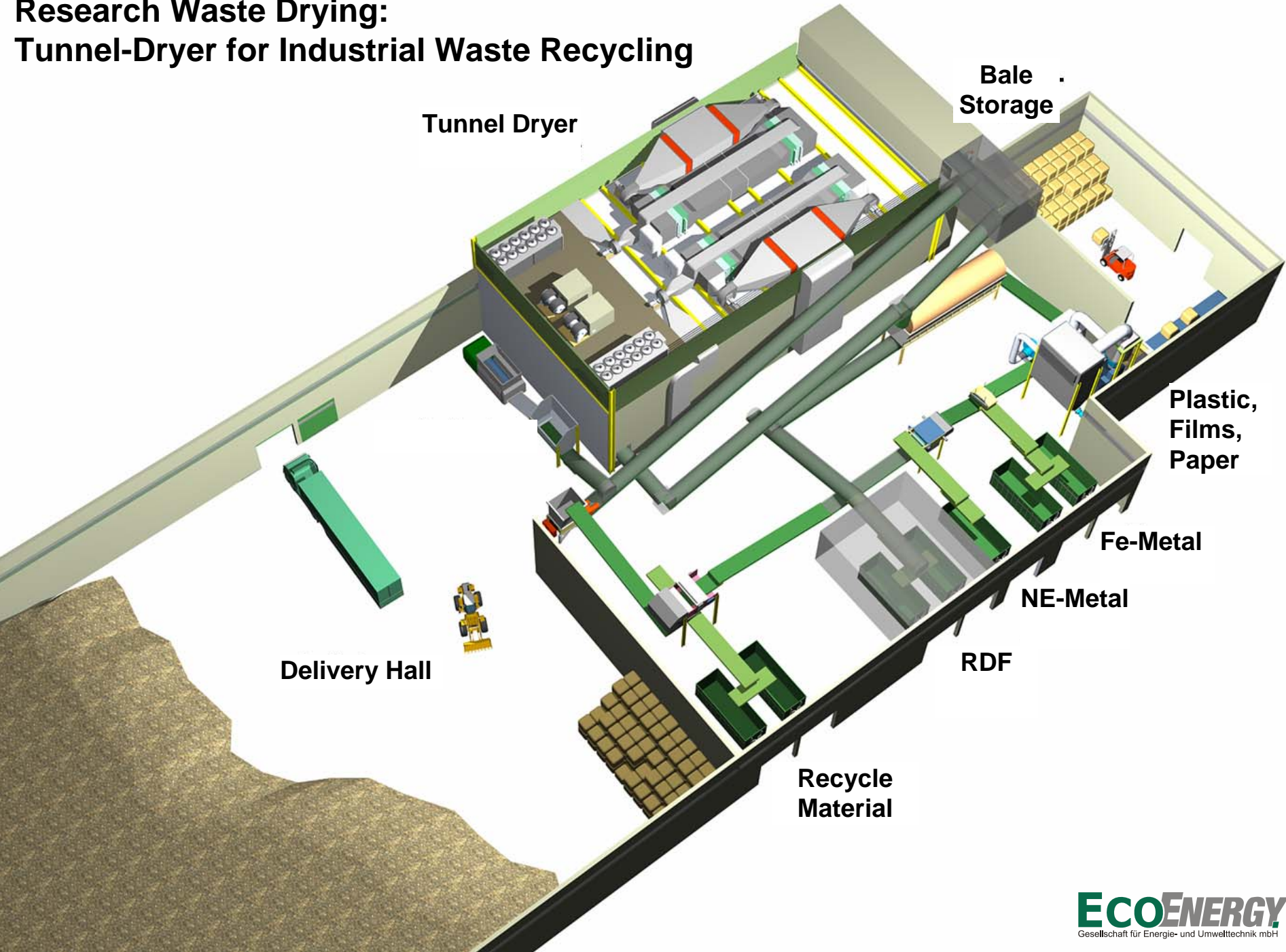
Tunnel-Dryer Layout



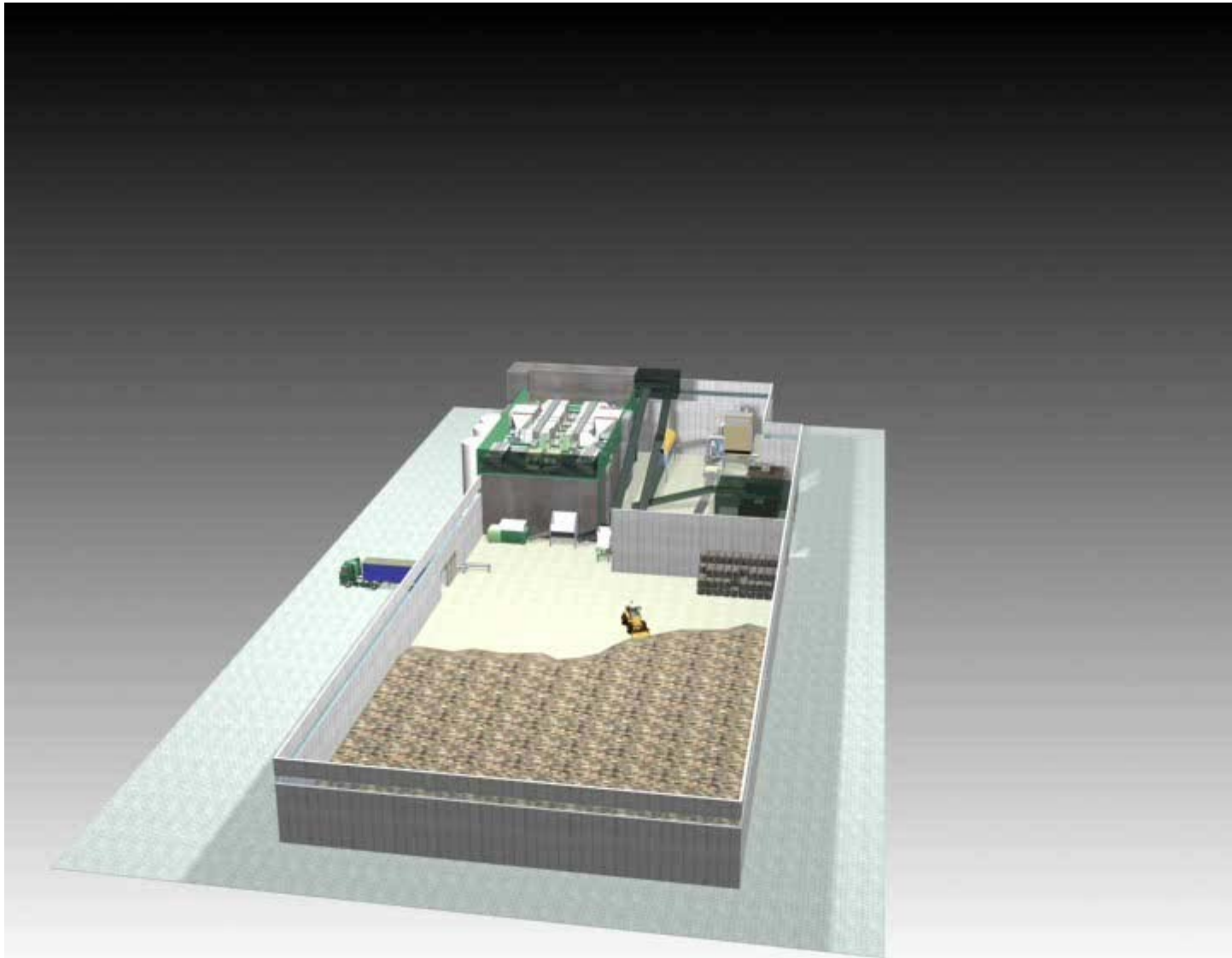
Research Waste Drying: Tunnel-Dryer for Industrial Waste Recycling



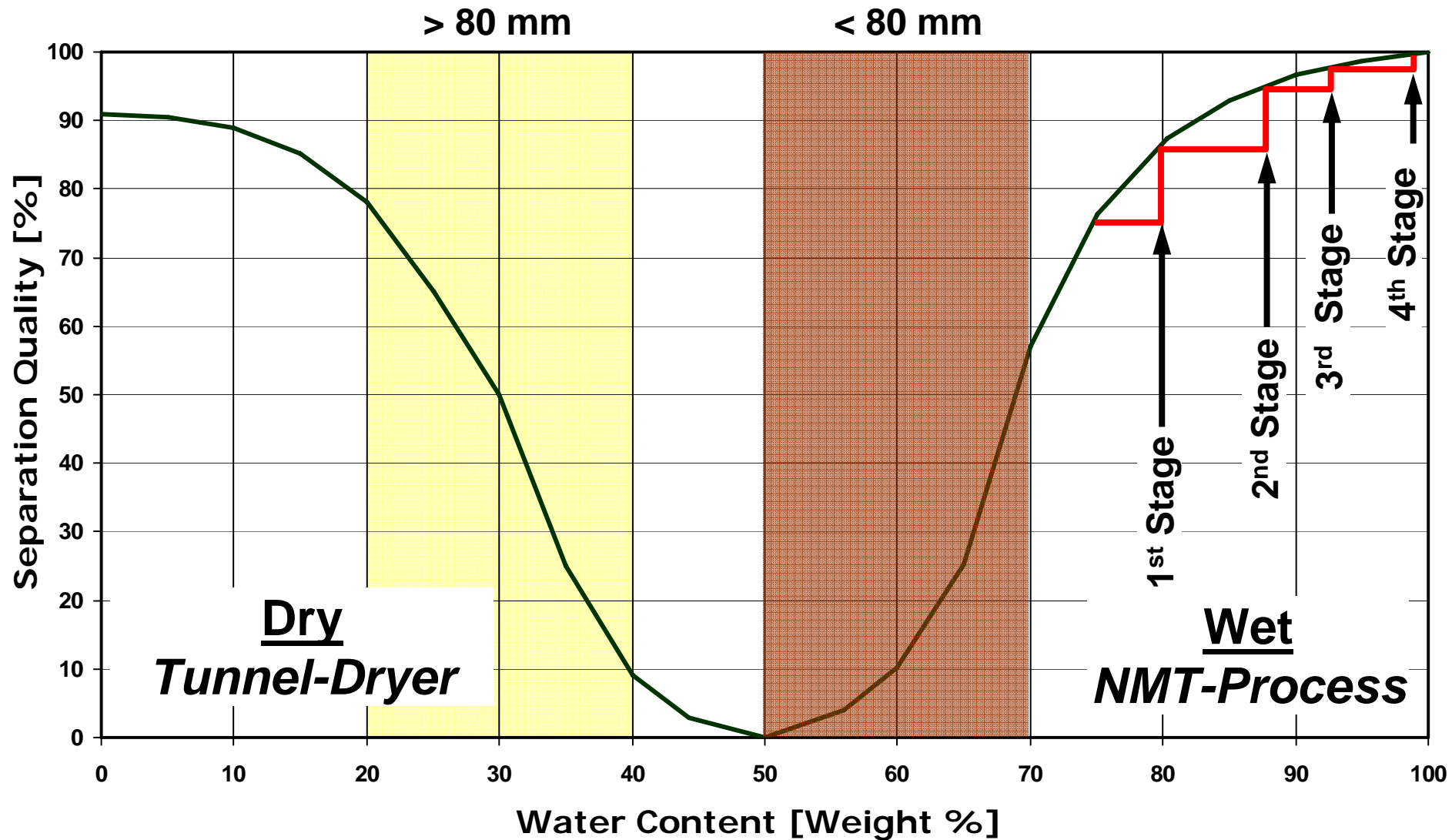
Research Waste Drying: Tunnel-Dryer for Industrial Waste Recycling



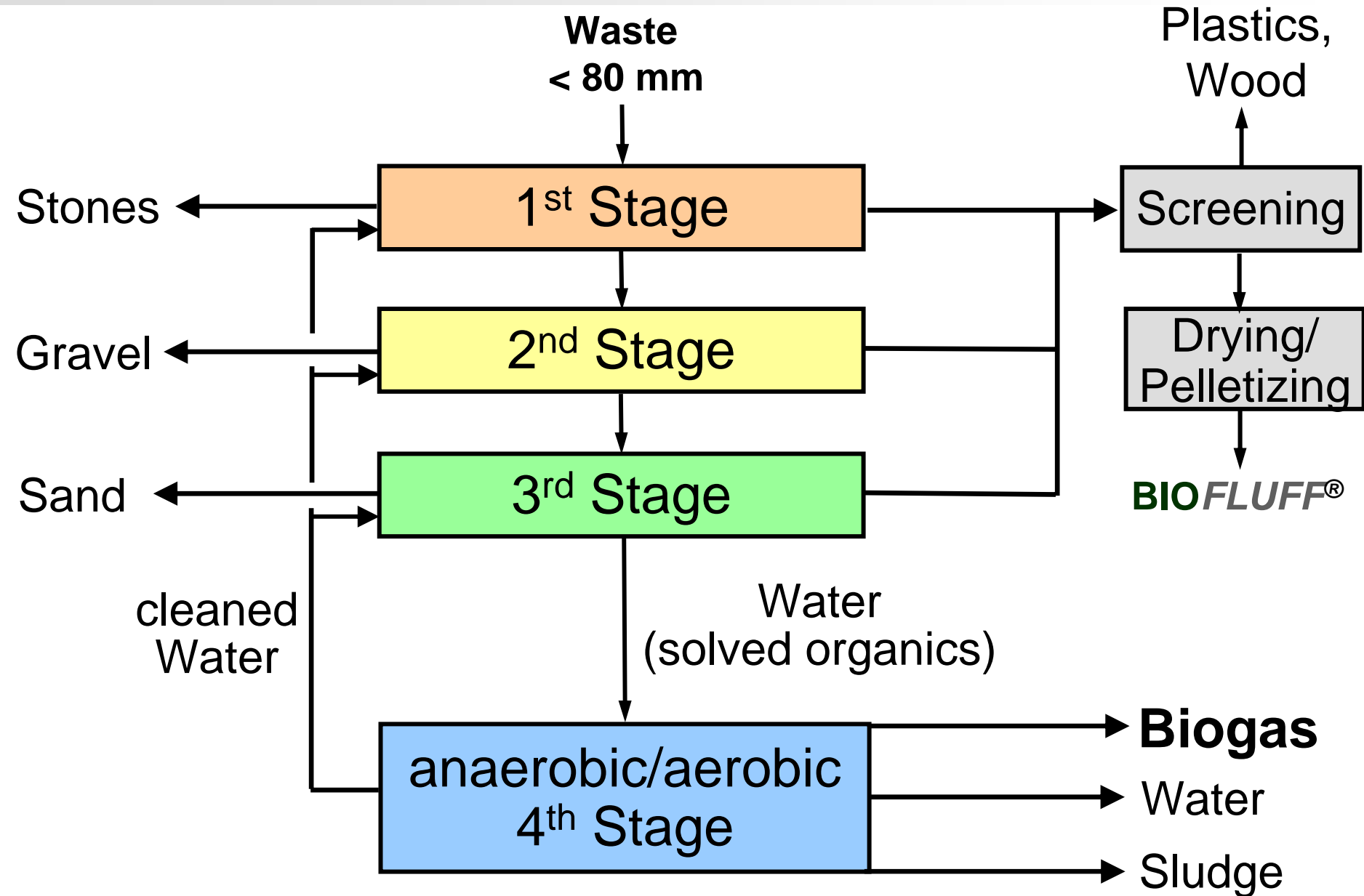
Animation: Tunneldryer integrated in Recycling Plant



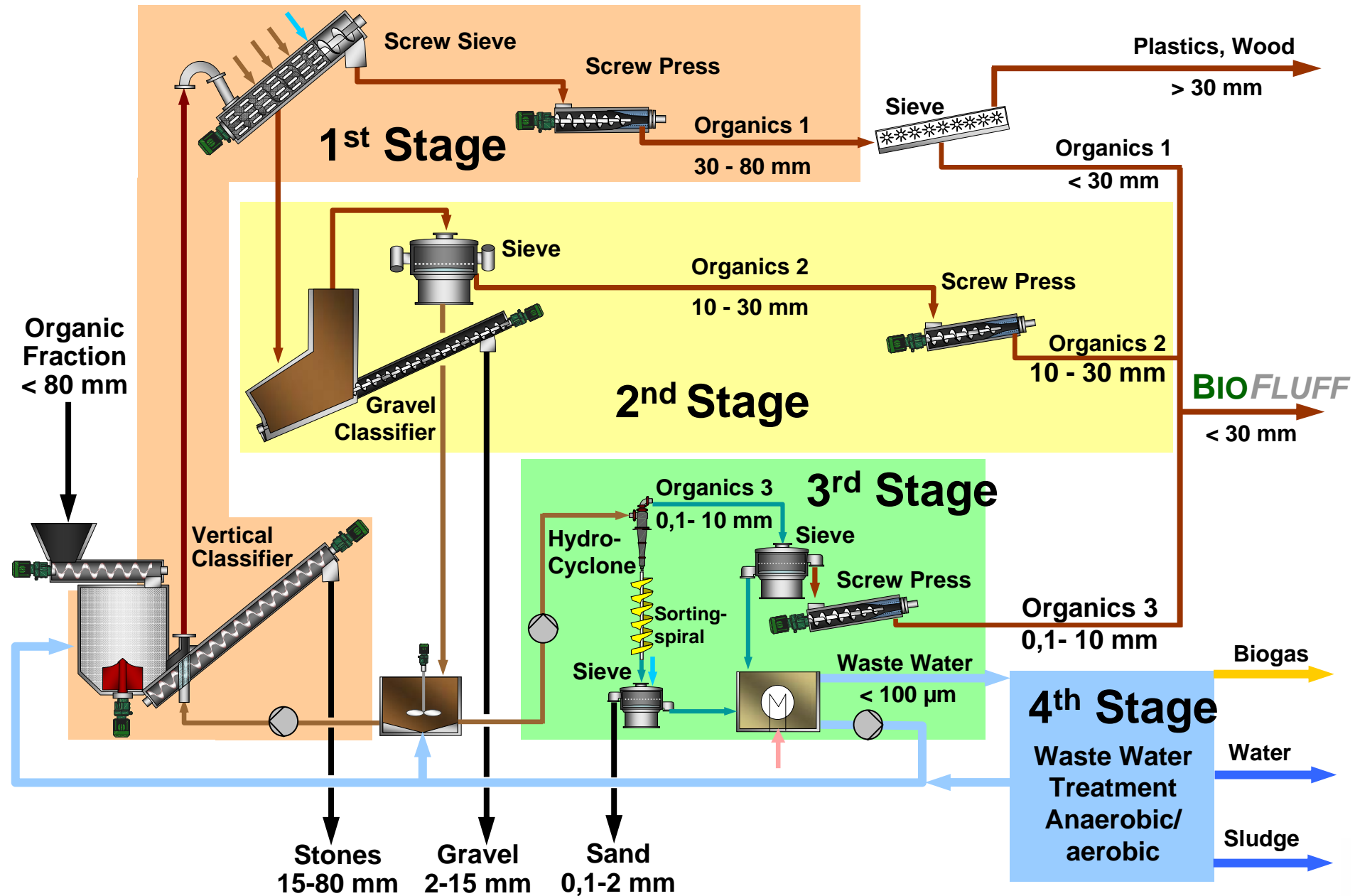
Separation of Contraries – HOW ? - Wet or Dry ?



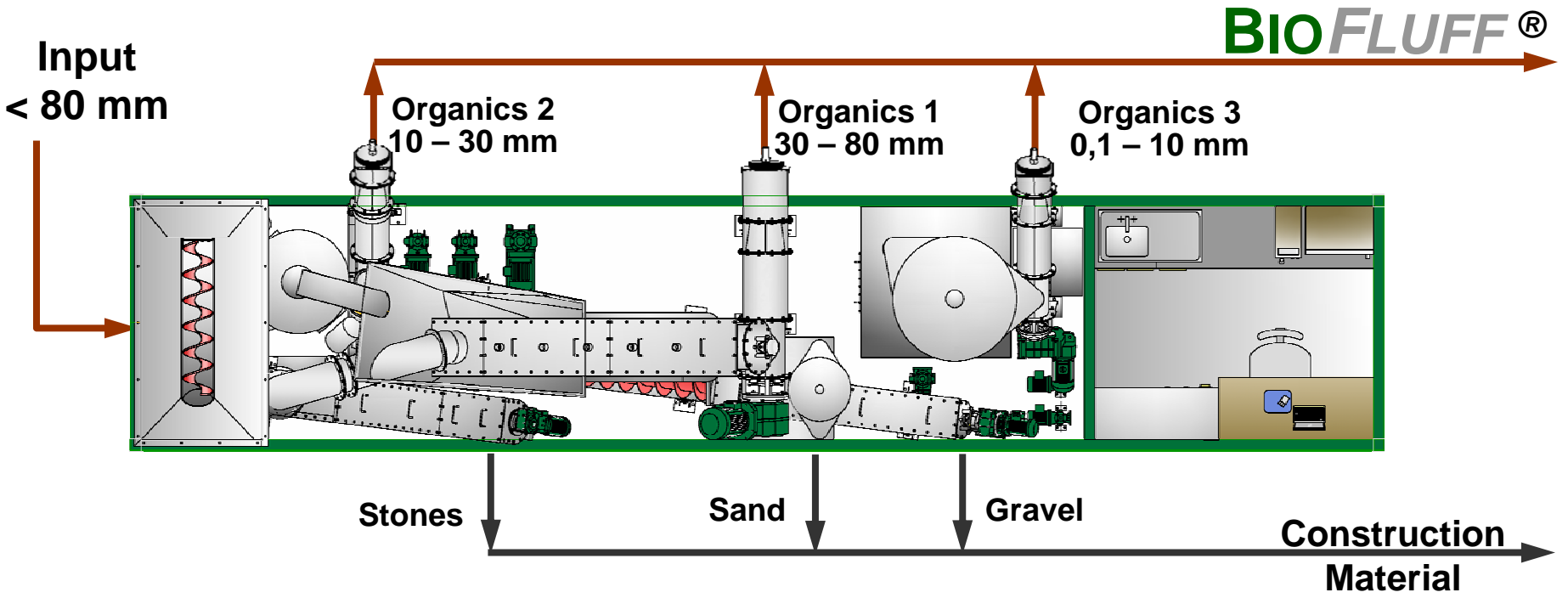
4-Stage-wet-Separation



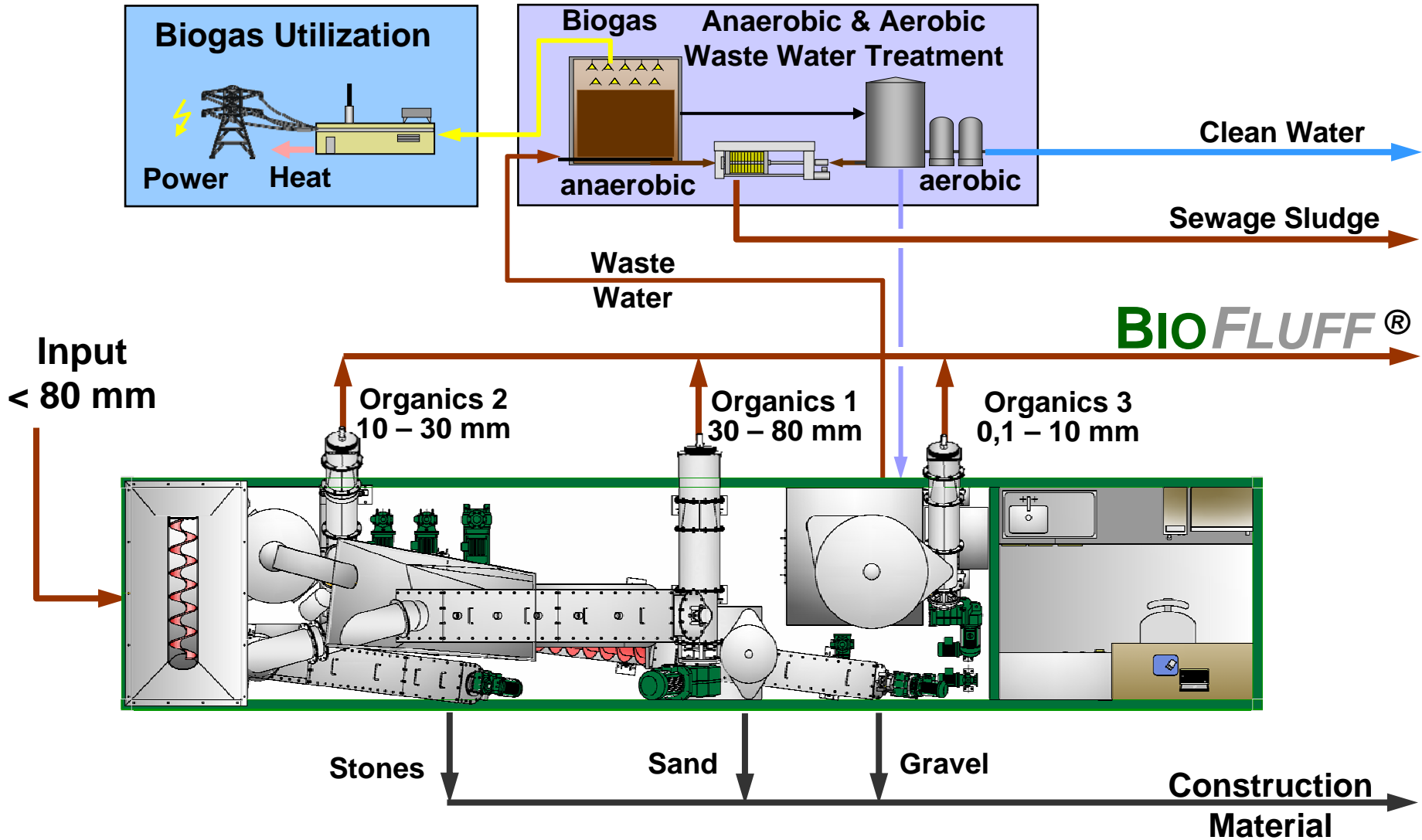
Pilot Plant NMT-Process – Process Flow Diagram



Pilot Plant NMT-Process



Pilot Plant NMT-Process – Extension with Biogas Production



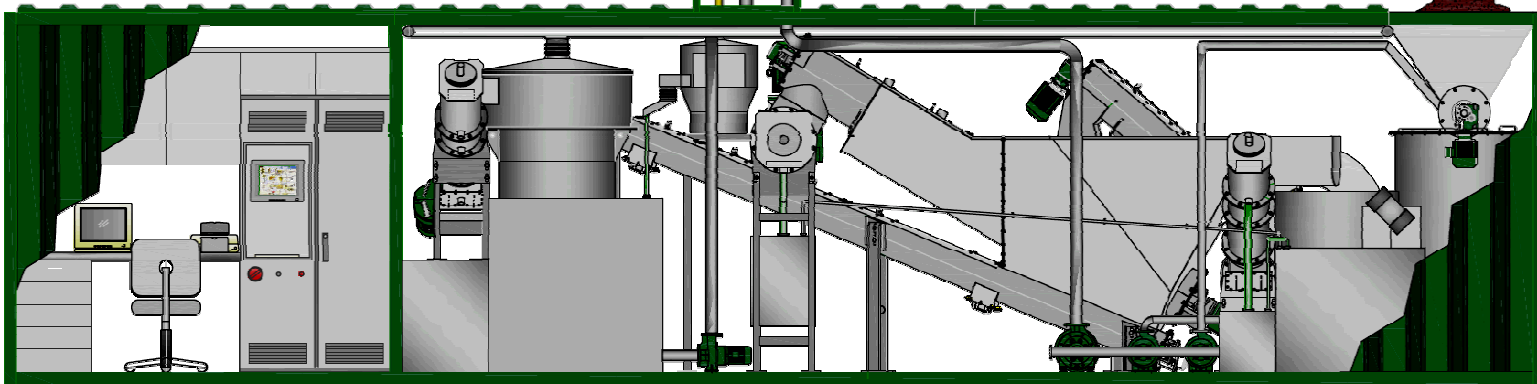
Pilot Plant NMT-Process – Test Sites



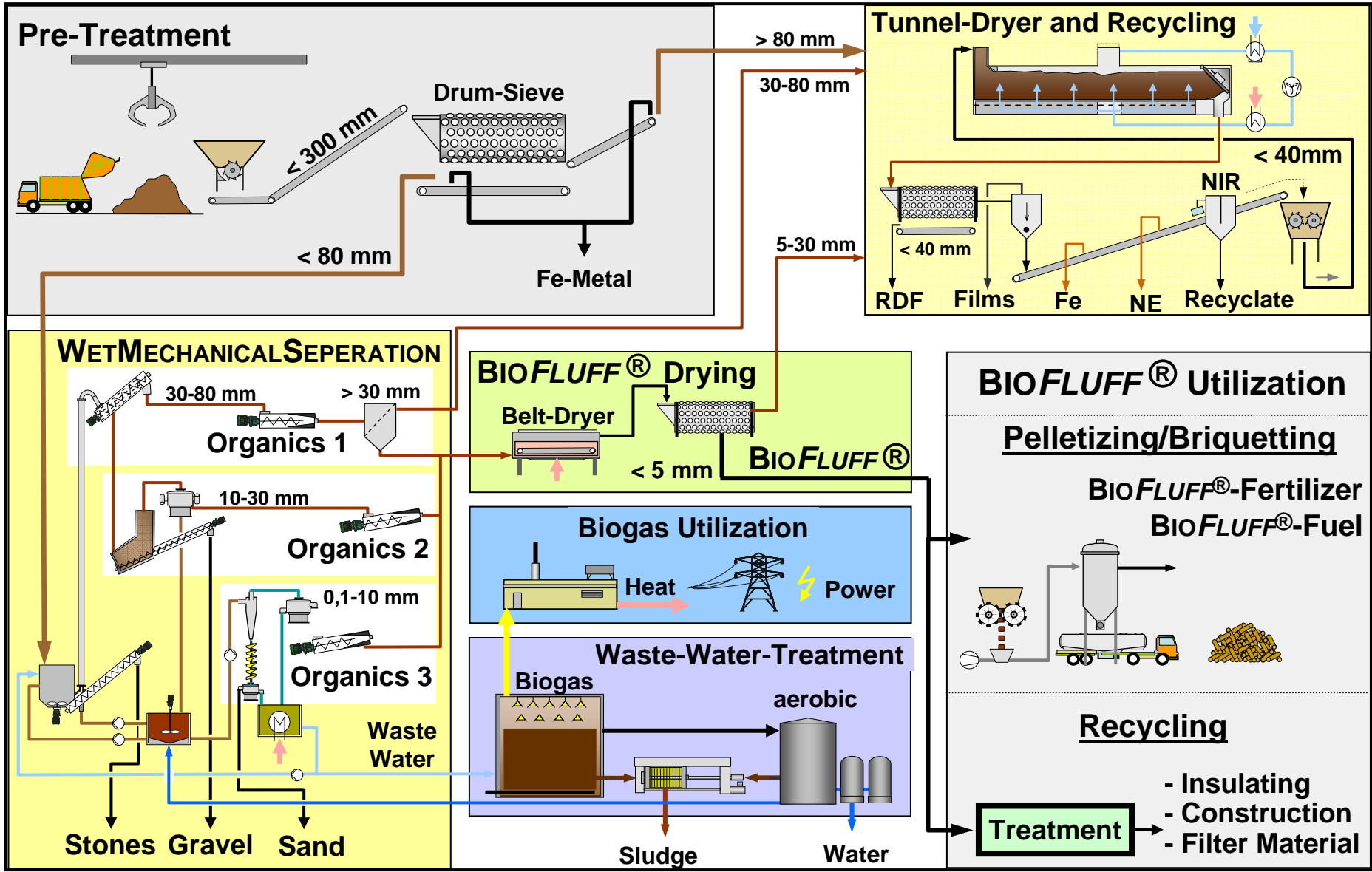
**Test Site Wiefels
2004**



**Research Center
Walkenried, 2005 - 2007**



Vision 2020 – Sustainable Mechanical-Biological-Treatment without Landfill



Recent Development: SCHUBIO®- Process in Switzerland

SCHUBIO®-Process, former NMT-Process, is since 2008 represented by **SCHU AG Schaffhauser Umwelttechnik, Schaffhausen, CH.**

History SCHUBIO®-Process

- 2000 Grant application to DBU, Germany
- 2004 Pilot-Plant and 1st Tests in AWZ Wiefels, Germany
- 2005 - 2007 Process Optimisation, Research Center EcoEnergy, Walkenried, G
- 2008 2nd Test Phase, KBA Hard, Schaffhausen, Switzerland



AWZ Wiefels,
Germany

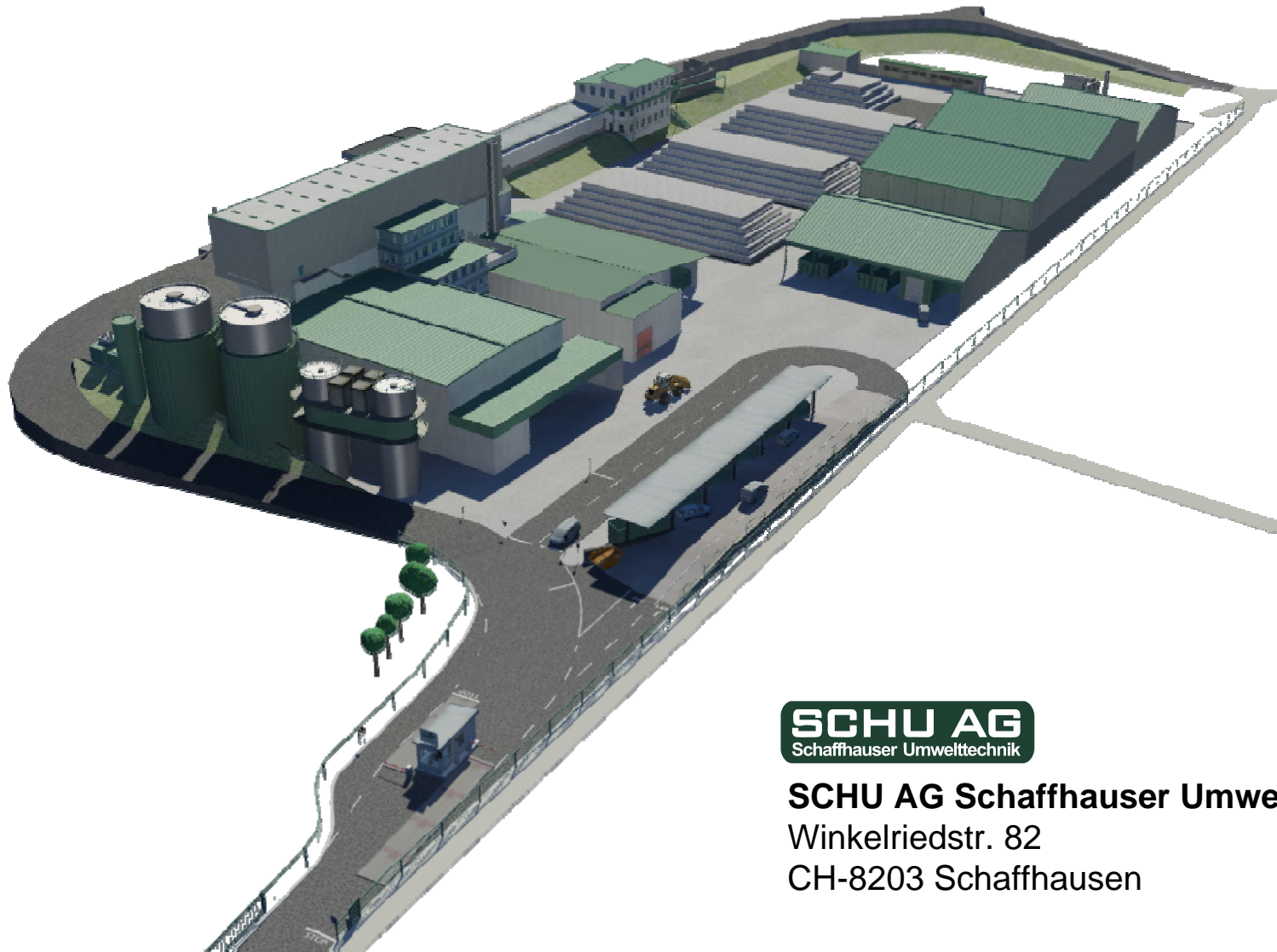


Research Center EcoEnergy,
Walkenried, Germany



KBA Hard Schaffhausen
Switzerland

KBA Hard - SCHUBIO® - Start up planned 2010



SCHU AG
Schaffhauser Umwelttechnik

SCHU AG Schaffhauser Umwelttechnik
Winkelriedstr. 82
CH-8203 Schaffhausen

Results Test Phase SCHUBIO® - in Schaffhausen, CH:

Quality of separated Products

Minerals	usable outside Landfill (in all European Countries)
Organics Biowaste	BioFluff-Pellets as peat substitute (high quality)
Organics MSW	BioFluff-Briquets as - coal substitute (high quality) > 40% el. eff. - compost (meeting swiss standards)
Wood	CHP - Biomass incineration Plant > 40% el. eff.
Biogas	CHP - Biogas > 40% el. eff.
Miscellaneous	RDF – CHP Waste to Energy Plant > 40% el. eff.
Metals	Recycling
Plastics	Recyclates
Sludge	Sludge Incineration with Phosphate-Recycling and heavy metal recycling (reality in Switzerland)

Conclusion: Vision 2020 is getting real – „Yes, we can!“