



Matthias Kühle-Weidemeier (Herausgeber)  
**International Symposium MBT 2007**

*Mechanical biological treatment and automatic sorting of municipal  
solid waste*

**Matthias Kuehle-Weidemeier**

**International Symposium  
MBT 2007**

**Mechanical biological treatment and  
automatic sorting of municipal solid waste**

**Proceedings**

**22 - 24 May 2007**

**wasteconsult**  
**INTERNATIONAL**

**Cuvillier Verlag**

<https://cuvillier.de/de/shop/publications/1820>

Copyright:

Cuvillier Verlag, Inhaberin Annette Jentzsch-Cuvillier, Nonnenstieg 8, 37075 Göttingen, Germany  
Telefon: +49 (0)551 54724-0, E-Mail: [info@cuvillier.de](mailto:info@cuvillier.de), Website: <https://cuvillier.de>

# Content

## I General and International Aspects of MBT

<b>Lessons from Municipal Solid Waste Processing Initiatives in India.</b> <i>Kurian Joseph</i>	1
<b>Biogas from Municipal and Agricultural Bioorganic Waste: Renewable Energy for China</b> <i>Raninger, B.; Zhao, Y.; Ji, R.; Li, A; Bidlingmaier, W.; Li, R.; Li, R.</i>	12
<b>Mechanical Biological Treatment as an Effective Alternative for Landfilling of MSW in Shiraz</b> <i>Sabouri, M.; Gheytsi, F.</i>	30
<b>The Role of Alternative Waste Technologies in Australia in Achieving Sustainable Waste Management</b> <i>Gamble, D.</i>	41
<b>Mechanical – Biological Treatment Experiences in Greece: Problems, Trends and Perspectives</b> <i>Haritopoulou, T.; Lasaridi, K.</i>	51
<b>Could MBT Plants be the Solution to Fulfil Landfill Directive Targets in Portugal?</b> <i>Pires, A.; Martinho, M.G.; Silveira, A.</i>	63
<b>Promoting the Uptake of Advanced Waste Management Technologies in the UK</b> <i>Gandy, S.</i>	73
<b>Revision of the European Waste Directive</b> <i>Hagmann, J.</i>	81
<b>MBT: Yesterday’s Technology or Synergistic with a New Low Carbon Economy</b> <i>Archer, E.</i>	89
<b>Capability of MBT to meet treatment targets in different EC states</b> <i>Müller, W.</i>	91
<b>Mechanical-biological Treatment of Waste in Austria: Current Developments</b> <i>Neubauer, C.</i>	105
<b>Drawing the Materials Balance for an MBT Cycle from Routine Process Measures in a MBT Plant located in Venice</b> <i>Nicosia, S.; Lanza, P.A.; Spataro, G.; Casarin, F.</i>	116

## **II Short Presentations**

<b>Experiences with the Operation of the Nehlsen-Drying-MBT-Plant Stralsund</b> <i>Breuer, W.</i>	128
<b>MBT Concepts of an Internationally Acting Engineering Company</b> <i>Pilz, G.</i>	143
<b>Mechanical-biological Treatment with the Plant Concept 3A-biogas</b> <i>Müller, H.</i>	157
<b>Research and Development Results of the Mechanical Biological Treatment Process NEW EARTH in the UK</b> <i>Lübke, A.</i>	163
<b>Modification and Optimisation of Existing MBT Plants Using BTA Technology</b> <i>Rahn, T.; Bozano Gandolfi, P.</i>	177

## **III MBT Experiences and Optimisation**

<b>Current Situation and Experience with MBT in Germany</b> <i>Kühle-Weidemeier, M.; Langer, U.; Hohmann, F.; Butz, W.</i>	187
<b>Two Years of Experience with New German Regulations for MBT Plants: View of an MBT Operator</b> <i>Warnstedt, A.; Dach, J.; Müller, G.</i>	204
<b>Suitability of MBT Facilities for Treatment of Different Kinds of Waste</b> <i>Scotti, S.; Minetti, C.</i>	220
<b>MBT for a Sustainable Development – Vision 2020</b> <i>Schu, R.</i>	232
<b>MBT Operation in Wilsum – Field Report</b> <i>Schrap, H.; Hoffmann, W.</i>	244
<b>Weak-point Analysis: Example MBT Wilsum</b> <i>Scheffold, K.-H.</i>	255
<b>Optimisation of the MBT Schwanebeck</b> <i>Kleinke, M.</i>	272
<b>Construction and Start-Up of the MBT Kahlenberg Results of an Attendant Research Project Promoted by the EU</b> <i>Schneider, R.; Rettenberger, G.</i>	282

## **IV Mechanical Treatment and Automatic Sorting**

- Perspectives of Sensor Based Sorting for the Processing of Solid Waste Material** 296  
*Killmann, D.; Scharrenbach, T.; Pretz, T.*
- Sensor-Based Sorting Systems in Waste Processing** 308  
*Habich, U.*
- Metal Sorting in Waste Treatment – Improvement of Quality and Economical Backbone** 318  
*Kohaupt, U.*
- Solid waste material characterisation and recognition by hyperspectral imaging based logics** 326  
*Serranti, S.; Bonifazi, G.*
- IPPC-Directive and Best available techniques (BAT / BREF) for Sorting Technology** 337  
*Kalmbach, S.*
- Investigations on the Separability of Dynamically Dried Municipal Solid Waste – First Results** 349  
*Bartha, B.; Brummack, J.*
- Simulation of Mechanical Conditioning Processes in Waste Treatment** 360  
*Zwisele, B.; Rosenkranz, S.; Nordwig, A.*
- Optimisation of Fuels from MBT Processes** 372  
*Ibbetson, C.; Wengenroth, K.*
- Applying Mechanical Pre-Treatment and Landfill Mining Approach in recovering Refuse Derived Fuels (RDF) from Dumpsite Waste** 385  
*Visvanathan, C.; Norbu, T.; Chimchaisri, C.; Charnnok, B.*

## **V Fuels (RDF) and Recycled Materials**

- Capacity Development of RDF Power Plants for Secondary Fuels as Market for high calorific MBT output in Germany** 397  
*Greiner, T.*
- Tenders and Contracts for the Sale of RDF** 403  
*Michels, N.*
- Experiences with Conditioning and Use of RDF from Commercial Waste for Heat Production in Flensburg** 414  
*Oetjen-Dehne, R.; Kalvelage, M.*

<b>Optimised Management of Commercial Waste</b>	427
<i>Knappe, F.; Vogt, R.</i>	

## **VI Biological Treatment**

<b>Critical Analysis of High Moisture MSW Bio-Drying: The Romanian Case Study</b>	440
<i>Rada, E.C.; Ragazzi, M.; Apostol, T.; Panaitescu, V.</i>	

<b>Economic Analysis of Energy Recovery from the Aerobic Bioconversion of Solid Urban Waste Organic Fraction</b>	452
<i>Goriatti, V.; Di Maria, F.; Benavoli, M.; Zoppitelli, M.</i>	

<b>Optimisation of Intensive Rotting Processes – Comparison of Experiences with Tunnel and Container Rotting (Composting) Systems</b>	467
<i>Mähl, B.</i>	

<b>Dry Fermentation: Ideal for the Biologically Treated Fraction?</b>	479
<i>Caviezel, M.</i>	

<b>Waste Fermentation and Sand: No Problem?</b>	489
<i>Schu, K.; Schu, R.</i>	

## **VII Sampling and Analytical Methods**

<b>Sampling and Conditioning of Waste Samples/ Devices for the Conditioning of Waste Samples</b>	502
<i>Kühle-Weidemeier, M.; Hohmann, F. / Graf, J.</i>	

<b>Assessment of the Biological Activity of Residual Waste – Comparison of British and German Anaerobic Test Methods</b>	503
<i>Bockreis, A., Müller, W.; Steinberg, I.</i>	

<b>Thermal Analysis for MBT Process and Quality control</b>	514
<i>Smidt, E.; Tintner, J.</i>	

## **VIII Emissions and Emission Treatment**

<b>Customised Exhaust Gas Treatment for MBT: Costs, Maintenance Effort and Efficiency of the Combination RTO (Regenerative Thermal Oxidation) / Chemical Scrubber / Biofilter at MBT Neumünster</b>	524
<i>Bisdorf, R.; Fliegensdörfer, T.</i>	

<b>Operational Experiences and Optimisation Potential for the Application of RTO at MBTs</b>	538
<i>Neese, O.; Carlowitz, O.; Reindorf, T.</i>	

- Ecobalance of Regenerative Thermal Oxidation (RTO) Regarding the Avoidance of Greenhouse Gas Emissions** 552  
*Dach, J.; Warnstedt, A.; Siemion, J.; Müller, G.*

- Laboratory Biological Process for Treatment of Leachate from the Initial Phase of Landfilling of Mechanically Sorted Organic Residue and Mechanically-Biologically Treated Municipal Solid Waste** 565  
*Kaparaju, P.L.N.; Rintala, J.A.*

## **XI Posters**

- Modelling of Landfilling Acceptance of Residue from Refused Derived Fuel Generation** 575  
*Ragazzi M., Venturi M., Rada E.C., Apostol T.*

- Study on Selected Odorous Compounds at the Barycz Municipal Landfill Site in Krakow, Poland** 585  
*Sadowska-Rociek, A.; Kurdziel, M.; Piejko, K.; Szczepaniec-Cieciak, E.*

- Interpretation Approaches of Infrared-Spectroscopic Waste Analysis in Order to Assess Biological Stability** 597  
*Tesar, M.; Meissl, K.*