Content

I Waste Management and Zero Waste Strategies

Content

· · · · · · · · · · · · · · · · · · ·	
Transitioning to a ZeroWaste Society Peter S. Lobin	1
Enhancing Waste Reduction, Reuse and Recycling by Behaviour Change Uttam Yadav	5
Zero Plastic Waste Cities – Sustainable Municipal Waste Management Through Social Business Christina Jäger, Konstantin Münchau	23
II Practical Experience and New Facility Concepts	
Paris XVII Material-from-Waste plant in Operation Christophe Cord'homme, Frédéric Roux	35
III Processing and Recovery of Organic Waste Fractions	
Biogas from OFMSW in Mexico by using BEKON Dry-Fermentation Ignacio Benitez	51
Practical Implementation of Biological-Oxidative Desulfurization of Biogas. Alejandra Lenis, Kristoffer Ooms, Cedric Thull	63
IV Mineral and Construction Waste	
Management of Mineral Extraction Residues: Best Practices in Lombardy Region (Italy) Alessandra Diotti, Alberto Clerici, Giovanni Plizzari, Sabrina Sorlini	75
Building Material Management: System Change in Minnesota and Beyond Melissa Wenzel	87
The Effect of Granular Correction of Dredged Sediments by Other Wastes and the Mechanical and Environmental Properties of Established Mixtures Zeinab Mkahal, Yannick Namindy-Pajany, Walid Maherzi, Nor-Edine Abriak	97
Remediation of Dredged Sediments by Electrokinetic Process Prior to Their Beneficial Reuse Mathilde Betremieux, Yannick Mamindy-Paiany	11

II Content

<u>V</u>	Waste management in Asia	
of Ci	nesia Waste Bank Transition and Transformational System: a Pathway ircular Economy Development Brian Mustafa, Masahiko Haraguchi	129
and.	chnical, Economical, and Environmental Comparison of Composting Anaerobic Digestion of Organic Waste Fraction of Municipal Solid te in Sri Lanka	143
	pala Abeysinghe Mudiyanselage Asanka Nuvansiri Illankoon, Sabrina Sorlini	
rine	arate Collection and Recycling of Waste as an Approach to Combat Ma- Litter – WWF Pilot Project in the Mekong Delta, Vietnam gang Pfaff-Simoneit, Stefan Ziegler, Trinh Thi Long	157
<u>VI</u>	Waste Management in Emerging and Developing Countries	
thro	d Waste Management Decision Making for Developing Countries ugh Life Cycle Assessment Tool: A State-of-the-Art Review n V. Shah, Melanie L. Sattler	181
	sive Circular Waste Management in the Refugee Camps – Strategy for	199
	ingya Refugee Camp Barczak, Katharina Wiese, Enzo Favoino, Stephane Arditi	
ical a	ears of National Solid Waste Policy in Brazil: The Legacy of Technologand Market Approach Stiane Dias, Pereira	221
<u>VII</u>	Concepts and Data on Waste Management	
	en Deal – Tox-Free-Environment and SCIP Database e <i>Kummer</i>	231
	s Waste, Less Landfilling, More Recycling r Hoffmayer	242
	e Recycling and More Economical Recycling by Optimising Collection nens Pues	250
Dres	erial Flow Analysis of Materials for Reuse and Recycling in the Greater den Area den Area ré Rückert, Christina Dornack	259
	Waste Cardboard Technology to Support Product Stewardship	267

Content

Take-Back of Waste Electrical and Electronic Equipment – A Successful Model? Ralf Brüning, Julia Wolf, Stephan Löhle, Ute Schmiedel, Ines Oehme, Kerim Zaidi	277
VIII Waste Technology	
Contribution of Biological Residual and Waste Materials to the Bioeconomy Kyra Atessa Vogt, Iris Steinberg	283
How to Fail Successfully in Designing an Alternative Fuel Production Hubert Baier	307
Organic Waste for the Production of Hard Carbons for Batteries – A Life Cycle Assessment Perspective Huiting Liu, Claudia R. Tomasini, Linghan Lan, Jun Li, Xiang Zhang, Niklas von der Aßen, Marcel Weil	319
IX Circular Economy During the Corona Crisis	
Waste Management Challenges in Romania During the COVID-19 Pandemic Florin-Constantin Mihai, "Alexandru Ioan Cuza" University, Iasi, Romania	335
Using Computer Vision to Strengthen Resilience of Waste Sorting Infra- structure During the Pandemic Victor Dewulf, Recycleye, London, United Kingdom	345
X Waste management in Western Asia, Middle East, Black Sea and Mediterranean countries	
Households' Willingness to Pay for a Local Recycling Programm: A Case Study from Lebanon Mary Abed Al Ahad, Ali Chalak, Souha Fares, Rima R. Habib	357
Sustainability Challenges in Solid Waste Management for Future Prospective I Gaza Strip: Rafah City Case Study Samir Alnahhal, Samir Afifi	373
Waste Prevention and Recycling Strategy for Tbilisi City, Georgia Virginie Herbst, Ludwig Streff, George Tavoularis	387
New Orientation of the Waste management Strategy in Durban, South Africa as Contribution to the City's Ambition to Achieve Carbon Neutrality Wolfgang Pfaff-Simoneit, Logan Moodley, Federico di Penta	402
Plastic Wastes as a Resource: Lebanese Experience Arwa Anouti ElZein	415

IV Content

XI Slag recovery (Recovery of incinerator bottom ash)	
Grate-for-Riddlings – Improved Fine Bottom Ash Treatment and Effects on the CO₂ Footprint of Waste Incineration Plant Ivo Budde	431
Technical Assessment of a Bottom Ash Treatment Plant – a Case styudy Kay Johnen, Alexander Feil	443
Process Development to Improve Volumetric Stability of Steel Slag Mukund Manish, Praveen Kumar, D. Satish Kumar, Veeresh Bellatti, Balachan- dran G	455
XII Geomechanical Properties of MBT-Output	
Settlement Characteristics of Saturated Mechanical Biological Treated Waste from Croatia Nikola Kaniski, Nikola Hrncic, Igor Petrovic	469
Maximum and Minimum Void Ratio Characteristics of MBT Waste Nikola Hrncic, Nikola Kaniski, Igor Petrovic	483
XIII Plastic Waste	
Comparison of the Quality of Mechanically Recycled Plastics Made from Separately Collected and Mechanically Recovered Plastic Packaging Waste Eggo U. Thoden van Velzen, Ingeborg Smeding, Marieke T. Brouwer, Evelien Maaskant-Reilink	499
Sorting of Film Mixtures to Increase the Recycling Rate Maria Schäfer, Peter Clemenz, Heinz Schnettler	511
Conditioning of Plastic Fractions by Means of NIR-Sorting to Reduce Part of Plastics in Thermal Waste Treatment Anett Kupka, Lukas Knauth	523
XIV Hydrogen Economy	
Biomass Conversion and H ₂ -Production Alfons Kuhles, Hubert Kohler	533
Hydrogen From Biogenic Sources with Negative CO ₂ Balance for Fuel Cell Waste Collection Vehicles	545

Content

XV Fire Protection in Waste Treatment and Recycling Plants	553
Why is Targeted Extinguishing Control the Better Solution? Prerequisites for Targeted Extinguishing Control Via Infrared Systems and the Technical Implementation in Practice Mark Müller	
XVI Recovery of Metals	
Thermal Metal Recovery from Tertiary Waste Kurt Bernegger, Helmut Lugmayr, Christian Mlinar	563
Spent Automotive Converters as a Secondary Resource of Platinum Group Metals	571
Martyna Rzelewska-Piekut, Pawel Krawczyk, Zuzanna Wiecka, Magdalena Regel-Rosocka	
Hydrometallurgical Recovery of Metal Ions from Spent Catalytic Converters Zuzanna Wiecka, Ewelina Lopinska, Martyna Rzelewska-Piekut, Magdalena Regel-Rosocka	581
XVII Separation and Processing of Waste Fractions	
The Robust and Fast Way of Free-Fall Sorting of Ruble and Debris Markus Eck	591
XVIII Advanced MBT Processes With Wet Mechanical Separation	
Advanced Waste Treatment and Material Recovery by Wet Separation Matthias Kuehle-Weidemeier	601
XIX Pyrolysis, Plasma, Gasification	
Assessing Pyrolysis for the Recovery of the Composted Organic Fraction of the Municipal Solid Waste (OFMSW) Jessica Graca, Marzena Kwapinska, Brian Murphy, J. J. Leahy, Brian Kelleher	619
Perspectives on Waste to Energy Conversion by Microwave Plasma Gasification	621
Melda Ozdinc Carpinlioglu	