The passage from a linear to a circular approach has characterised waste management strategies over the last few decades. Attention is currently moving from the limited and fixed stocks of raw materials to the increasing anthropogenic stocks of materials. Urban Mining activities operate in this context, representing actions and technologies finalized towards the recovery of secondary raw materials and energy from products of the urban catabolism. Urban Mining therefore provides a systematic management of anthropogenic resources stocks (products and buildings) and waste, in the view of long term environmental protection, resource conservation and economic benefits. This monograph includes some of the most significant scientific contributions on Urban Mining presented during the Conferences organized by IWWG, in particular the Symposium in Bergamo, and constitutes a useful tool for professionals and administrators involved in the field.

_CISA Publisher, 440 pages, ISBN 978-88-6265-001-4_

---

_Urban Mining: A global cycle approach to resource recovery from solid waste_

*edited by: Raffaello Cossu, Viviana Salieri, Valentina Bisinella*

---

**Raffaello Cossu**

Full Professor of Waste Management, Head of the Environmental Engineering Program at the University of Padova. Studies of Chemical Engineering at the Technical University (Politecnico) of Milan. Past President of IWWG (International Waste Working Group). Editor in Chief of Waste Management Journal, published by Elsevier, Amsterdam

**Viviana Salieri**

Research fellow at the University of Padova. Studies of Environmental Engineering at the same University. Main fields of interest are sustainable waste management strategies and full scale landfilling performance. Scientific Secretary of SUM2012, Symposium on Urban Mining.

**Valentina Bisinella**

Studies of Environmental Engineering at the University of Padova. Main research experiences within the Sanitary Engineering Unit at the same University, dealing with sustainable waste management strategies.

---

*Buy this book on: www.cisapublisher.com*

*price 80 €*

To ensure a widespread distribution of the books the cover price has been kept as low as possible by the insertion of a few advertising pages, which in no way affect the content of the book.
TABLE OF CONTENTS

Introduction: The Urban Mining concept
R. Cossu, V. Salieri, V. Bisinella

1. Strategies
Innovative technologies and processing architectures in Urban Mining: Two key issues to ensure secondary raw materials supply
S. Serranti, F. Di Maio, P. Rem, G. Bonifazi
Links between primary (extracted) and secondary (recycled) mineral resources
D. Guyonnet, C. Hocquard, F.W. Wellmer
Incentives for a recycling-oriented waste management: Evaluation of instruments of Extended Producer Responsibility
V.S. Rotter
The Extended Producer Responsibility in medicine packaging waste: Portuguese approach
A. Cardoso, B. Mendes
The informal sector in SWM: Economic arguments and political framework for its integration
E. Gunsilius, S. Spies, S. García Cortés
Economic aspects of waste management in Italy net of incentives and penalties
R. Cossu, S. Masi

2. Waste from Electrical and Electronic Equipment (WEEE)
WEEE: No waste anymore but secondary raw material
F. Andreola, L. Barbieri, M. Cannio, R. Giovanardi, I. Lancellotti, P. Pozzi, E. Soragni
Identification and recovery of rare metals in electric and electronic scrap
N. Menad, J.A. Van Houwelingen
Limits of resource recovery and waste management with regard to Electric and Electronic Equipment
H. Friege
Efficiency of take back systems for Waste Electrical and Electronic Equipment in Europe
S. Salhofer

3. End of Life Vehicles (ELV)
Car fluff management
R. Cossu, R. Gadia
Recycling options of car parts and their environmental burdens
S. Scherhauer, P. Beigi
Treatment processes for the valorisation of End of Life Vehicles (ELVs) residues
S. Fiore, R. Ruffino, M.C. Zanetti
Novel and innovative thermal process for energy efficient and environmentally sound fluff disposal
P. Viotti, R. Tamma, L. Lombardi, G. Mancini

4. Tyres
Technological innovations in End of Life Tyres recovery and recycling
A. Bonoli, S. Tondelli, M. Bergonzoni
Use of shredded End of Life Tyres for drainage in leachate recirculation trenches, biogas drainage and drainage of water under cover in MSW landfills
G. Didier, R. Moretto, A. Budka, A. De Cazenove
Energy valorization of tyres waste: A multi-step approach
E.C. Rada, R. Dal Maschio, M. Ischia, M. Ragazzi
Implementing the Extended Producer Responsibility for End of Life Tyres: The Italian case
G. Corbetta, D. Fornai, G. Rimondi

5. Construction and Demolition (C&D) Waste
C&D waste management for sustainable reconstruction after catastrophic events
C. Furcas, G. Balletto
Analysis of the use of Civil Construction Waste (CCW) in soil improvement
A.B. De Farias, R.A. De Medeiros Junior, S.P. Fucate, A.D. Gusmão

6. Combustion Residues
State-of-the-art and outlook on management of waste-to-energy bottom ashes: Treatment
State-of-the-art and outlook on management of waste-to-energy bottom ashes: Utilization
Using ash in a sustainable society: Swedish R&D case
H. Bjurström, R. Herbert, C. Ribbing, G. Tham
The LECA from fly ash after sewage sludge treatment: Possibilities of reuse in constructed wetlands
A. Białowiec, W. Janczugowicz, M. Krzemieniewski, Z. Gussiat
Intrinsic properties of new materials for civil engineering works based on the reuse of MSWI bottom ashes: Chemical and ecotoxicological assessment
N. Lapa, R. Barbosa, B. Mendes

7. Plastic Residues
Residues from the mechanical sorting of source segregated plastics: Management and LCS of different utilization scenarios
G. Rossi, C. Spreafico, S. Bonvino, A. Casula, R. Cossu, F. Simion, A. Vivona
Dechlorination and recovery of PVC
P. Plescia, G. Paoloni, M.A. Tocino, R. Sottile
The use of post consumer plastic waste for the production of wood plastic composites: A Review
S. Mehmoed, A. Khalil, S.A. Ranjha

8. Road sweeping waste
Recovery of road sweeping waste
P. Bevilacqua, L. Jagodic, E. Esposito

9. Landfill Mining
Theory and perspectives of Landfill Mining
R. Cossu, R. Raga
Planning and economic constraints related to a Landfill Mining project in Norway
M. Hogland, B. Berg, W. Hogland, M. Marques
Wood waste disposed of in landfills in Australia: An evaluation of the amount and potential use for bioenergy
J.A. Taylor, A. Herr, D.R. Farine
Landfill in situ aeration for emission control and landfill mining
R. Cossu, R. Raga, G. Testolin
Environmental reclamation of the Campodarsego (PD) controlled waste landfill
E. Cossu, A. Artuso
Enhanced landfill mining: A future perspective for landfilling

For orders and further information please contact:
CISA Publisher / Via Beato Pellegrino, 23 – 35137 Padova, Italy
Tel. +390498726986 / fax. +390498726987 / info@cisapublisher.com / www.cisapublisher.com