

Resource Recovery And Recycling From Metallurgical Wastes Volume 7 Waste Management

This book provides a basic understanding of waste management problems and issues faced by modern society. Scientific, technical, and environmental principles are emphasized to illustrate the processes of municipal and industrial solid wastes and liquid wastes, and the nature of impacts resulting from waste dispersal and disposal in the environment. Economic, social, legal, and political aspects of waste management are also addressed. Environmental issues and concerns receive thorough coverage in discussing waste reduction, resource recovery, and efficient and practical waste disposal systems. Other specific topics include recycling, physical and chemical processing, the biological treatment of waste solids, incineration, pyrolysis, and energy recover, hazardous wastes, and landfill management. The role of government and other institutions in waste management and resource recovery matters is also detailed. Discussion questions, worked examples, and end-of-chapter problems reinforce important concepts. Waste Management and Resource Recovery is particularly suitable as a text in waste management courses in environmental science or engineering programs. It also works well as a reference for practitioners in the waste management field.

The book presents the state-of-the-art document describing the knowledge, data, cost-effectiveness and technologies employed to manage the waste in several countries such as Morocco, Tunisia, Egypt, Jordon, Syria, Palestine, Lebanon, and Yemen. It covers diverse topics including the status of the waste in the region, solid waste management, solid waste recovery and disposal, the use of the agricultural waste in feeding poultry, sludge disposal and management, wastewater treatment and energy production. Also, the book explains how waste management systems are becoming more complex in many countries with the move from landfill-based to resource recovery-based solutions following the setting of international and national targets to divert waste from landfill and to increase recycling and recovery rates. Besides, this book also evaluates the environmental legislation in the selected countries and suggests new performance enhancements. This book is of interest to environmental professionals including scientists and policymakers in the Middle East, North Africa, and areas with similar features.

Solid waste is one of the newest fields to achieve recognition as a sub-discipline in environmental engineering. As such, one is hard-pressed to find thorough coverage of related topics in academic curricula. Many graduate programs in environmental engineering have one introductory course in waste control. A handful of texts, some excellent, exist to serve this need. Recent purported crises in solid waste management have forced the understanding that something beyond the traditional control methods may be appropriate. Resource recovery is the correct nomenclature for the longest standing alternative approach seeking to extract materials from the waste stream for eventual re-use in one or another beneficial fashion. Several books have evolved, covering various approaches. Design approaches therein have borrowed heavily from other disciplines, ceasing where solid waste differs from the feeds to be processed. These books were oriented towards knowledgeable practitioners. This work attempts to present waste processing as a study in unit operations appropriate to university study at the graduate level. The study of unit operations is typical in environmental engineering. These unit operations are different. A variety of student backgrounds are suitable. However, a familiarity with the basics of waste control, such as would be gained from one of the introductory courses mentioned above, is assumed, as is a sound quantitative background. It is hoped that this work fills an empty niche. Contents 1 Waste as a Resource 1

Resource recovery and recycling from millions of tons of wastes produced from industrial activities is a continuing challenge for environmental engineers and researchers. Demand for conservation of resources, reduction in the quantity of waste and sustainable development with environmental control has been growing in every part of the world. Resource Recovery and Recycling from Metallurgical Wastes brings together the currently used techniques of waste processing and recycling, their applications with practical examples and economic potentials of the processes. Emphasis is on resource recovery by appropriate treatment and techniques. Material on the subject is scattered in waste management and environmental related journals, conference volumes and government departmental technical reports. This work serves as a source book of information and as an educational technical reference for practicing scientists and engineers, as well as for students. Describes the currently used and potential techniques for the recovery of valuable resources from mineral and metallurgical wastes Discusses the applications to specific kinds of wastes with examples from current practices, as well as the economics of the processes Presents recent and emerging technologies of potentials in metal recycling and by-product utilization

Resource Recovery and Recycling from Metallurgical Wastes Elsevier

Water Recycling and Resource Recovery in Industry: Analysis, Technologies and Implementation provides a definitive and in-depth discussion of the current state-of-the-art tools and technologies enabling the industrial recycling and reuse of water and other resources. The book also presents in detail how these technologies can be implemented in order to maximize resource recycling in industrial practice, and to integrate water and resource recycling in ongoing industrial production processes. Special attention is given to non-process engineering aspects such as systems analysis, software tools, health, regulations, life-cycle analysis, economic impact and public participation. Case studies illustrate the huge potential of environmental technology to optimise resource utilisation in industry. The large number of figures, tables and case studies, together with the book's multidisciplinary approach, makes Water Recycling and Resource Recovery in Industry: Analysis, Technologies and Implementation the perfect reference work for academics, professionals and consultants dealing with industrial water resources recovery. Contents Part I: Industrial reuse for environmental protection Part II: System analysis to assist in closing industrial resource cycles Part III: Characterisation of process water quality Part IV: Technological aspects of closing industrial cycles Part V: Examples of closed water cycles in industrial processes Part VI: Resource protection policies in industry

Several options to recover energy out of organic solid waste from domestic, agricultural, and industrial origin are presented and discussed. This text also demonstrates existing economically feasible treatment systems that produce energy out of solid waste.

