

advantages of waste management

The Profound Advantages of Waste Management: A Historical Perspective and Modern Relevance

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Publisher: GreenTech Publishing, a leading publisher of peer-reviewed journals and books on sustainable technologies, with a dedicated section on waste management and circular economy solutions. Their authority stems from their rigorous editorial process and commitment to publishing cutting-edge research in the field.

Editor: Professor David Miller, PhD in Environmental Science, holds a distinguished professorship at the University of California, Berkeley, and has authored several influential texts on waste management policy and its impact on public health. His expertise ensures the accuracy and credibility of the presented information.

Keywords: advantages of waste management, waste management benefits, environmental protection, public health, resource recovery, sustainable development, circular economy, waste reduction, recycling, composting

1. Introduction: A Historical Glance at Waste Management

The concept of "waste management," as we understand it today, is a relatively recent development. Historically, waste disposal was largely unregulated, often involving simple dumping or burning, leading to significant environmental and health problems. Early civilizations dealt with waste through practices like burying organic materials or using them as fertilizer, exhibiting a rudimentary understanding of resource recovery. However, the industrial revolution, with its mass production and consumption patterns, drastically increased waste generation, exposing the limitations of these traditional methods. The 20th century witnessed a growing awareness of the detrimental consequences of inadequate waste management, spurring the development of more sophisticated techniques and regulations. This shift signifies the increasing recognition of the profound advantages of waste management.

2. Environmental Advantages of Waste Management: Protecting Our Planet

One of the most significant advantages of waste management lies in its ability to mitigate environmental damage. Improper waste disposal contributes to air, water, and soil pollution. Landfills, for instance, leach harmful chemicals into groundwater, contaminating drinking water sources. Burning waste releases greenhouse gases and toxic pollutants into the atmosphere, exacerbating climate change and respiratory problems.

Effective waste management strategies, conversely, significantly reduce these risks. Recycling diverts materials from landfills, conserving natural resources and reducing the need for virgin materials extraction, a process that often results in habitat destruction and resource depletion. Composting organic waste reduces methane emissions from landfills, a potent greenhouse gas. Properly managed landfills with liners and leachate collection systems minimize groundwater contamination. These are just some of the numerous environmental advantages of waste management.

3. Public Health Advantages of Waste Management: Safeguarding Communities

The advantages of waste management extend beyond environmental protection to encompass significant public health benefits. Improper waste disposal creates breeding grounds for disease vectors such as rats, mosquitoes, and flies, which spread infectious diseases. Uncollected garbage can also lead to the contamination of food and water sources, causing waterborne and foodborne illnesses.

Effective waste management programs dramatically improve public health outcomes. Regular garbage collection and proper disposal methods eliminate breeding grounds for disease vectors, reducing the incidence of vector-borne diseases. Safe handling and treatment of hazardous waste prevent exposure to toxic substances, lowering the risk of poisoning and other health problems. The advantages of waste management in this context are undeniable. Clean and healthy communities are a direct outcome of efficient waste management systems.

4. Economic Advantages of Waste Management: Turning Waste into Resources

Contrary to popular belief, waste management is not just an expense; it presents significant economic opportunities. Recycling and resource recovery programs generate revenue through the sale of recovered materials, creating jobs in collection, processing, and manufacturing sectors. Composting creates valuable soil amendments, reducing the reliance on chemical fertilizers. Waste-to-energy facilities can generate electricity from non-recyclable waste, offering a renewable energy source. These economic advantages of waste management demonstrate its potential to contribute positively to local and national economies.

5. Social Advantages of Waste Management: Fostering Community Engagement and Responsibility

Effective waste management relies on community participation and engagement. Public awareness campaigns and educational programs promote responsible waste disposal habits, fostering a sense of collective responsibility towards environmental protection. Community-based recycling programs empower citizens to actively participate in waste reduction efforts, creating a stronger sense of community ownership and pride. This social dimension highlights the broader societal advantages of waste management.

6. Current Relevance of Waste Management: Addressing the Global Waste Crisis

The global waste crisis is escalating rapidly, driven by population growth, urbanization, and rising consumption patterns. Landfills are overflowing, resources are being depleted at an alarming rate, and pollution levels are reaching critical thresholds. These challenges underscore the urgent need for robust and innovative waste management solutions. The advantages of waste management are no longer a matter of preference but a necessity for sustainable development. The global community is increasingly recognizing the need for sustainable waste management practices.

7. Advanced Waste Management Techniques: Expanding the Advantages

Recent advancements in waste management technology are amplifying the advantages. Advanced sorting technologies enhance recycling rates, while innovative anaerobic digestion methods maximize energy recovery from organic waste. The development of bioplastics and biodegradable materials offers sustainable alternatives to conventional plastics, reducing plastic pollution. These technological advancements are crucial for maximizing the positive impacts of waste management.

8. Conclusion: Embracing the Advantages of a Sustainable Future

The advantages of waste management are multifaceted and far-reaching, encompassing environmental protection, public health improvements, economic benefits, and social progress. From reducing greenhouse gas emissions and protecting water resources to creating jobs and fostering community engagement, effective waste management strategies are crucial for building sustainable and resilient communities. As the global waste crisis intensifies, embracing the advantages of advanced waste management techniques and adopting a circular economy approach will become paramount to securing a healthier planet and a more prosperous future for generations to come.

FAQs

1. What is the difference between waste management and waste disposal? Waste disposal focuses solely on the final destination of waste (e.g., landfills, incineration), while waste management encompasses the entire lifecycle of waste, including reduction, reuse, recycling, and disposal.
1. How does waste management contribute to climate change mitigation? Effective waste management reduces greenhouse gas emissions through recycling (reducing the need for energy-intensive virgin material production), composting (reducing methane emissions from landfills), and waste-to-energy technologies.

1. What are the economic benefits of recycling? Recycling creates jobs in collection, processing, and manufacturing, generates revenue from the sale of recovered materials, and reduces the need to purchase virgin materials.

1. How can communities improve their waste management practices? Communities can improve their practices by implementing comprehensive recycling programs, promoting composting initiatives, educating residents about waste reduction strategies, and investing in modern waste management infrastructure.

1. What is the role of technology in advancing waste management? Technology plays a crucial role in improving sorting efficiency, enhancing energy recovery from waste, and developing sustainable alternatives to conventional materials.

1. What are some examples of hazardous waste and how are they managed? Hazardous waste includes batteries, electronics, medical waste, and certain chemicals. These require specialized handling, treatment, and disposal to prevent environmental and health risks.

1. How does waste management contribute to sustainable development? Waste management is integral to sustainable development by conserving resources, protecting ecosystems, promoting economic growth, and improving public health.

1. What are some policy measures that can promote effective waste management? Effective policy measures include implementing extended producer responsibility schemes, setting waste reduction targets, investing in infrastructure, and enforcing regulations.

1. What is the role of individual responsibility in effective waste management? Individual responsibility is paramount in reducing waste generation, practicing proper waste sorting, and supporting sustainable consumption patterns.

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advantages of waste management: Climate Change and Waste, 1999

advantages of waste management: Safe Management of Wastes from Health-care Activities Yves Chartier, 2014 This is the second edition of the WHO handbook on the safe, sustainable and affordable management of health-care waste—commonly known as the Blue Book. The original Blue Book was a comprehensive publication used widely in health-care centers and government agencies to assist in the adoption of national guidance. It also provided support to committed medical directors and managers to make improvements and presented practical information on waste-management techniques for medical staff and waste workers. It has been more than ten years since the first edition of the Blue Book. During the intervening period, the requirements on generators of health-care wastes have evolved and new methods have become available. Consequently, WHO recognized that it was an appropriate time to update the original text. The purpose of the second edition is to expand and update the practical information in the original Blue Book. The new Blue Book is designed to continue to be a source of impartial health-care information and guidance on safe waste-management practices. The editors' intention has been to keep the best of the original publication and supplement it with the latest relevant information. The audience for the Blue Book has expanded. Initially, the publication was intended for those directly involved in the creation and handling of health-care wastes: medical staff, health-care facility directors, ancillary health workers, infection-control officers and waste workers. This is no longer the situation. A wider range of people and organizations now have an active interest in the safe management of health-care wastes: regulators, policy-makers, development organizations, voluntary groups, environmental bodies, environmental health practitioners, advisers, researchers and students. They should also find the new Blue Book of benefit to their activities. Chapters 2 and 3 explain the various types of waste produced from health-care facilities, their typical characteristics and the hazards these wastes pose to patients, staff and the general environment. Chapters 4 and 5 introduce the guiding regulatory principles for developing local or national approaches to tackling health-care waste management and transposing these into practical plans for regions and individual health-care facilities. Specific methods and technologies are described for waste minimization, segregation and treatment of health-care wastes in Chapters 6, 7 and 8. These chapters introduce

the basic features of each technology and the operational and environmental characteristics required to be achieved, followed by information on the potential advantages and disadvantages of each system. To reflect concerns about the difficulties of handling health-care wastewaters, Chapter 9 is an expanded chapter with new guidance on the various sources of wastewater and wastewater treatment options for places not connected to central sewerage systems. Further chapters address issues on economics (Chapter 10), occupational safety (Chapter 11), hygiene and infection control (Chapter 12), and staff training and public awareness (Chapter 13). A wider range of information has been incorporated into this edition of the Blue Book, with the addition of two new chapters on health-care waste management in emergencies (Chapter 14) and an overview of the emerging issues of pandemics, drug-resistant pathogens, climate change and technology advances in medical techniques that will have to be accommodated by health-care waste systems in the future (Chapter 15).

advantages of waste management: Source Separation and Recycling Roman Maletz, Christina Dornack, Lou Ziyang, 2018-03-07 Source separation of waste and subsequent recycling processes are promising solutions on the road to a circular economy. They reduce waste disposal and the need for resource deployment, while also producing secondary raw materials; as such, they have a significant effect on climate protection. This book presents source separation technologies and related aspects that form the basis for efficient recycling and a modern approach to waste management. It examines legislative drivers and policy aspects of adequate waste collection schemes, as well as segregation technologies and the success factors for their implementation. Summarizing the outcomes of a Sino-German workshop, the focus of this volume is mainly on the current situation in China and Germany. However, the findings are applicable to a broad range of situations and regions around the world. In addition, the book demonstrates the relevance of source separation for climate protection and describes alternative separation technologies. Given the breadth and depth of its coverage, the volume will appeal to environmental scientists, engineers, economists, waste managers and policymakers alike.

advantages of waste management: Solid Waste Technology and Management Thomas Christensen, 2011-08-02 The collection, transportation and subsequent processing of waste materials is a vast field of study which incorporates technical, social, legal, economic, environmental and regulatory issues. Common waste management practices include landfilling, biological treatment, incineration, and recycling - all boasting advantages and disadvantages. Waste management has changed significantly over the past ten years, with an increased focus on integrated waste management and life-cycle assessment (LCA), with the aim of reducing the reliance on landfill with its obvious environmental concerns in favour of greener solutions. With contributions from more than seventy internationally known experts presented in two volumes and backed by the International Waste Working Group and the International Solid Waste Association, detailed chapters cover: Waste Generation and Characterization Life Cycle Assessment of Waste Management Systems Waste Minimization Material Recycling Waste Collection Mechanical Treatment and Separation Thermal Treatment Biological Treatment Landfilling Special and Hazardous Waste Solid Waste Technology & Management is a balanced and detailed account of all aspects of municipal solid waste management, treatment and disposal, covering both engineering and management aspects with an overarching emphasis on the life-cycle approach.

advantages of waste management: What a Waste 2.0 Silpa Kaza, Lisa Yao, Perinaz Bhada-Tata, Frank Van Woerden, 2018-12-06 Solid waste management affects every person in the world. By 2050, the world is expected to increase waste generation by 70 percent, from 2.01 billion tonnes of waste in 2016 to 3.40 billion tonnes of waste annually. Individuals and governments make decisions about consumption and waste management that affect the daily health, productivity, and cleanliness of communities. Poorly managed waste is contaminating the world's oceans, clogging drains and causing flooding, transmitting diseases, increasing respiratory problems, harming animals that consume waste unknowingly, and affecting economic development. Unmanaged and improperly managed waste from decades of economic growth requires urgent action at all levels of

society. **What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050** aggregates extensive solid waste data at the national and urban levels. It estimates and projects waste generation to 2030 and 2050. Beyond the core data metrics from waste generation to disposal, the report provides information on waste management costs, revenues, and tariffs; special wastes; regulations; public communication; administrative and operational models; and the informal sector. Solid waste management accounts for approximately 20 percent of municipal budgets in low-income countries and 10 percent of municipal budgets in middle-income countries, on average. Waste management is often under the jurisdiction of local authorities facing competing priorities and limited resources and capacities in planning, contract management, and operational monitoring. These factors make sustainable waste management a complicated proposition; most low- and middle-income countries, and their respective cities, are struggling to address these challenges. Waste management data are critical to creating policy and planning for local contexts. Understanding how much waste is generated—especially with rapid urbanization and population growth—as well as the types of waste generated helps local governments to select appropriate management methods and plan for future demand. It allows governments to design a system with a suitable number of vehicles, establish efficient routes, set targets for diversion of waste, track progress, and adapt as consumption patterns change. With accurate data, governments can realistically allocate resources, assess relevant technologies, and consider strategic partners for service provision, such as the private sector or nongovernmental organizations. **What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050** provides the most up-to-date information available to empower citizens and governments around the world to effectively address the pressing global crisis of waste. Additional information is available at <http://www.worldbank.org/what-a-waste>.

advantages of waste management: The Principles of Green and Sustainability Science Adenike A. Akinsemolu, 2020-03-28 This book uses the concept of sustainability in science to address problems afflicting the environment, and to devise measures for improving economies, societies, behaviors, and people. The book pursues a scientific approach, and uses scientific evidence as the basis for achieving sustainability. The key topics addressed include: unemployment, health and disease, unsustainable production, our common future, renewable energies, waste management, environmental ethics, and harmful anthropogenic activities. Whereas past literature has mainly examined sustainability as an environmental issue, this book expands the conversation into various sciences, including mathematics, biology, agriculture, computer science, engineering, and physics, and shows how sustainability could be achieved by uniting these fields. It offers a wealth of information across various disciplines, making it not only an intriguing read but also informative and insightful.

advantages of waste management: Integrated Solid Waste Management: A Lifecycle Inventory P.R. White, M. Franke, P. Hindle, 2012-12-06 Life is often considered to be a journey. The lifecycle of waste can similarly be considered to be a journey from the cradle (when an item becomes valueless and, usually, is placed in the dustbin) to the grave (when value is restored by creating usable material or energy; or the waste is transformed into emissions to water or air, or into inert material placed in a landfill). This preface provides a route map for the journey the reader of this book will undertake. Who? Who are the intended readers of this book? Waste managers (whether in public service or private companies) will find a holistic approach for improving the environmental quality and the economic cost of managing waste. The book contains general principles based on cutting edge experience being developed across Europe. Detailed data and a computer model will enable operations managers to develop data-based improvements to their systems. Producers of waste will be better able to understand how their actions can influence the operation of environmentally improved waste management systems. Designers of products and packages will be better able to understand how their design criteria can improve the compatibility of their product or package with developing, environmentally improved waste management systems. Waste data specialists (whether in laboratories, consultancies or environmental managers of waste facilities) will see how the scope, quantity and quality of their data can be improved to help their colleagues

design more effective waste management systems.

advantages of waste management: Advanced Organic Waste Management Chaudhery Mustansar Hussain, Subrata Hait, 2022-01-24 Advanced Organic Waste Management: Sustainable Practices and Approaches provides an integrated holistic approach to the challenges associated with organic waste management, particularly related to sustainability, lifecycle assessment, emerging regulations, and novel approaches for resource and energy recovery. In addition to traditional techniques, such as anaerobic digestion, composting, innovative and emerging techniques of waste recycling like hydrothermal carbonization and vermicomposting are included. The book combines the fundamentals and practices of sustainable organic waste management with successful case studies from developed and developing countries, highlighting practical applications and challenges. Sections cover global organic waste generation, encompassing sources and types, composition and characteristics, focus on technical aspects related to various resource recovery techniques like composting and vermicomposting, cover various waste-to-energy technologies, illustrate various environmental management tools for organic waste, present innovative organic waste management practices and strategies complemented by detailed case studies, introduce the circular bioeconomy approach, and more. Presents the fundamentals and practices of sustainable, organic waste management, with emerging regulations and up-to-date analysis on environmental management tools such as lifecycle assessment in a comprehensive manner Offers the latest information on novel concepts and strategies for organic waste management, particularly zero waste and the circular bioeconomy Includes the latest research findings and future perspectives of innovative and emerging techniques of waste recycling, such as hydrothermal carbonization and vermicomposting

advantages of waste management: Prudent Practices in the Laboratory National Research Council, Division on Earth and Life Studies, Board on Chemical Sciences and Technology, Committee on Prudent Practices in the Laboratory: An Update, 2011-03-25 Prudent Practices in the Laboratory-the book that has served for decades as the standard for chemical laboratory safety practice-now features updates and new topics. This revised edition has an expanded chapter on chemical management and delves into new areas, such as nanotechnology, laboratory security, and emergency planning. Developed by experts from academia and industry, with specialties in such areas as chemical sciences, pollution prevention, and laboratory safety, Prudent Practices in the Laboratory provides guidance on planning procedures for the handling, storage, and disposal of chemicals. The book offers prudent practices designed to promote safety and includes practical information on assessing hazards, managing chemicals, disposing of wastes, and more. Prudent Practices in the Laboratory will continue to serve as the leading source of chemical safety guidelines for people working with laboratory chemicals: research chemists, technicians, safety officers, educators, and students.

advantages of waste management: Sustainable Solid Waste Management Jonathan W-C Wong, 2016

advantages of waste management: Emerging and Eco-Friendly Approaches for Waste Management Ram Naresh Bharagava, Pankaj Chowdhary, 2018-05-25 Rapid industrialization is a serious concern in the context of a healthy environment. With the growth in the number of industries, the waste generated is also growing exponentially. The various chemical processes operating in the manufacturing industry generate a large number of by-products, which are largely harmful and toxic pollutants and are generally discharged into the natural water bodies. Once the pollutants enter the environment, they are taken up by different life forms, and because of bio-magnification, they affect the entire food chain and have severe adverse effects on all life forms, including on human health. Although, various physico-chemical and biological approaches are available for the removal of toxic pollutants, unfortunately these are often ineffective and traditional clean up practices are inefficient. Biological approaches utilizing microorganisms (bacterial/fungi/algae), green plants or their enzymes to degrade or detoxify environmental pollutants such as endocrine disruptors, toxic metals, pesticides, dyes, petroleum hydrocarbons and phenolic compounds, offer eco- friendly approaches. Such eco-friendly approaches are often more

effective than traditional practices, and are safe for both industry workers as well as environment. This book provides a comprehensive overview of various toxic environmental pollutants from a variety natural and anthropogenic sources, their toxicological effects on the environment, humans, animals and plants as well as their biodegradation and bioremediation using emerging and eco-friendly approaches (e.g. Anammox technology, advanced oxidation processes, membrane bioreactors, membrane processes, GMOs), microbial degradation (e.g. bacteria, fungi, algae), phytoremediation, biotechnology and nanobiotechnology. Offering fundamental and advanced information on environmental problems, challenges and bioremediation approaches used for the remediation of contaminated sites, it is a valuable resource for students, scientists and researchers engaged in microbiology, biotechnology and environmental sciences.

advantages of waste management: Waste Management Practices John Pichtel, 2005-03-29 A practical guide for the identification and management of a range of hazardous wastes, Waste Management Practices: Municipal, Hazardous, and Industrial integrates technical information including chemistry, microbiology, and engineering, with current regulations. Emphasizing basic environmental science and related technical fields, the book is an i

advantages of waste management: Plastics Waste Management Muralisrinivasan Natamai Subramanian, 2019-09-02 The book provides clear explanations for newcomers to the subject as well as contemporary details and theory for the experienced user in plastics waste management. It is seldom that a day goes by without another story or photo regarding the problem of plastics waste in the oceans or landfills. While important efforts are being made to clear up the waste, this book looks at the underlying causes and focuses on plastics waste management. Plastics manufacturers have been slow to recognize their environmental impact compared with more directly polluting industries. However, the environmental pressures concerning plastics have forced the industry to examine their own recycling operations and implement plastics waste management. Plastics Waste Management realizes two ideals: That all plastics should be able to persist for as long as plastics are required, and that all plastics are recycled in a uniform manner regardless of the length of time for which it persists. The book examines plastics waste management and systems for the environment, as well the management approaches and techniques which are appropriate for managing the environment. It serves as an excellent and thoughtful plastics waste management handbook. This groundbreaking book: Identifies deficiencies in plastics waste management Extrapolates from experiences to draw some conclusions about plastics waste for persistence Describes methods how the waste related processing techniques should be used in recycling Shows how the consumer and industry can assess the performance of plastics waste management Explains waste utilization by recycling techniques as well as waste reduction Life cycle assessment as an important technique for recycling of persistent plastics waste.

advantages of waste management: Decision-Maker's Guide to Solid-Waste Management Philip R. O'Leary, 1999-02 This Guide has been developed particularly for solid waste management practitioners, such as local government officials, facility owners and operators, consultants, and regulatory agency specialists. Contains technical and economic information to help these practitioners meet the daily challenges of planning, managing, and operating municipal solid waste (MSW) programs and facilities. The Guide's primary goals are to encourage reduction of waste at the source and to foster implementation of integrated solid waste management systems that are cost-effective and protect human health and the environment. Illustrated.

advantages of waste management: Municipal Landfill Leachate Management Maryam Pazoki, Reza Ghasemzadeh, 2020-08-18 This book is divided into seven chapters, which address various leachate landfill management issues such as the quality, quantity and management of municipal landfill leachate, together with new methods. There are many methods available for the treatment and management of municipal landfill leachate. The waste management methods presented here can be applied in most third-world countries, due to the lack of waste separation and high organic content of waste. The book provides descriptions and a hierarchy of waste management, reviews the history of solid waste disposal, and covers a range of topics, including: leachate and gas generation

in landfills; natural attenuation landfills; landfill site selection; leachate and stormwater management, collection and treatment; landfill gas management; landfill cover requirements; leachate collection; types of natural treatment systems; and design procedure and considerations. In closing, it provides an overview of the current solid waste management status in Iran.

advantages of waste management: Concepts of Advanced Zero Waste Tools Chaudhery Hussain, 2020-12-10 *Advanced Zero Waste Tools: Present and Emerging Waste Management Practices, Volume One* in the *Concepts of Advanced Zero Waste Tools* series addresses the fundamental principles of zero waste that encourages the redesign of resource lifecycles so that products are reused. By promoting reuse and recycling, as well as prevention and product designs that consider the entire product lifecycle, the zero waste philosophy advocates for sustainability and environmental management and protection. This book takes the first step toward addressing the tools needed to implement zero waste, both on a practical and conceptual scale. In addition to environmental and engineering principles, the book also covers economic, toxicologic and regulatory issues, making it an important resource for researchers, engineers and policymakers working toward environmental sustainability. Uses fundamental, interdisciplinary and state-of-the-art coverage of zero waste research to provide an integrated approach to tools, methodology and indicators Covers current challenges, design and manufacturing technology, and sustainability applications Includes up-to-date references and web resources at the end of each chapter, as well as a webpage dedicated to providing supplementary information

advantages of waste management: Design of Landfills and Integrated Solid Waste Management Amalendu Bagchi, 2004-02-13 By combining integrated solid waste management with the traditional coverage of landfills, this new edition offers the first comprehensive guide to managing the entire solid waste cycle, from collection, to recycling, to eventual disposal. * Includes new material on source reduction, recycling, composting, contamination soil remediation, incineration, and medical waste management. * Presents up-to-date chapters on bioreactor landfills, wetland mitigation, and landfill remediation. * Offers comprehensive coverage of the role of geotechnical engineering in a wide variety of environmental issues.

advantages of waste management: Cradle to Cradle William McDonough, Michael Braungart, 2010-03-01 A manifesto for a radically different philosophy and practice of manufacture and environmentalism Reduce, reuse, recycle urge environmentalists; in other words, do more with less in order to minimize damage. But as this provocative, visionary book argues, this approach perpetuates a one-way, cradle to grave manufacturing model that dates to the Industrial Revolution and casts off as much as 90 percent of the materials it uses as waste, much of it toxic. Why not challenge the notion that human industry must inevitably damage the natural world? In fact, why not take nature itself as our model? A tree produces thousands of blossoms in order to create another tree, yet we do not consider its abundance wasteful but safe, beautiful, and highly effective; hence, waste equals food is the first principle the book sets forth. Products might be designed so that, after their useful life, they provide nourishment for something new-either as biological nutrients that safely re-enter the environment or as technical nutrients that circulate within closed-loop industrial cycles, without being downcycled into low-grade uses (as most recyclables now are). Elaborating their principles from experience (re)designing everything from carpeting to corporate campuses, William McDonough and Michael Braungart make an exciting and viable case for change.

advantages of waste management: Handbook of Research on Creating Sustainable Value in the Global Economy Akkucuk, Ulas, 2019-11-15 During the first decade of the 21st century, the world has witnessed a plethora of corporate scandals, global economic crises, and rising environmental concerns. As a result of these developments, pressure has been mounting on businesses to pay more attention to the environmental and resource consequences of the products they produce and services they deliver. The *Handbook of Research on Creating Sustainable Value in the Global Economy* contains a collection of pioneering research on the integration of issues of sustainability within the traditional areas of management. While highlighting topics including green marketing, circular economy, and sustainable business, this book is ideally designed for managers,

executives, environmentalists, economists, business professionals, researchers, academicians, and students in disciplines including marketing, economics, finance, operations management, communication science, and information technology.

advantages of waste management: Prudent Practices in the Laboratory National Research Council, Division on Engineering and Physical Sciences, Commission on Physical Sciences, Mathematics, and Applications, Committee on Prudent Practices for Handling, Storage, and Disposal of Chemicals in Laboratories, 1995-09-16 This volume updates and combines two National Academy Press bestsellers--Prudent Practices for Handling Hazardous Chemicals in Laboratories and Prudent Practices for Disposal of Chemicals from Laboratories--which have served for more than a decade as leading sources of chemical safety guidelines for the laboratory. Developed by experts from academia and industry, with specialties in such areas as chemical sciences, pollution prevention, and laboratory safety, Prudent Practices for Safety in Laboratories provides step-by-step planning procedures for handling, storage, and disposal of chemicals. The volume explores the current culture of laboratory safety and provides an updated guide to federal regulations. Organized around a recommended workflow protocol for experiments, the book offers prudent practices designed to promote safety and it includes practical information on assessing hazards, managing chemicals, disposing of wastes, and more. Prudent Practices for Safety in Laboratories is essential reading for people working with laboratory chemicals: research chemists, technicians, safety officers, chemistry educators, and students.

advantages of waste management: Environment Conscious Manufacturing Surendra M. Gupta, A.J.D. (Fred) Lambert, 2007-12-19 Hotter temperatures, less arctic ice, loss of habitat--every other day, it seems, global warming and environmental issues make headlines. Consumer-driven environmental awareness combined with stricter recycling regulations have put the pressure on companies to produce and dispose of products in an environmentally responsible manner. Redefining indus

advantages of waste management: Waste Treatment and Disposal Paul T. Williams, 2013-04-30 Following on from the successful first edition of Waste Treatment & Disposal, this second edition has been completely updated, and provides comprehensive coverage of waste process engineering and disposal methodologies. Concentrating on the range of technologies available for household and commercial waste, it also presents readers with relevant legislative background material as boxed features. NEW to this edition: Increased coverage of re-use and recycling Updating of the usage of different waste treatment technologies Increased coverage of new and emerging technologies for waste treatment and disposal A broader global perspective with a focus on comparative international material on waste treatment uptake and waste management policies

advantages of waste management: Solid Waste Management in Nepal Asian Development Bank, 2013-08-01 Managing solid waste is one of the major challenges in urbanization. A survey conducted in all 58 municipalities of Nepal in 2012 found that the average municipal solid waste generation was 317 grams per capita per day. This translates into 1,435 tons per day or 524,000 tons per year of municipal solid waste generation in Nepal. Many of these technically and financially constrained municipalities are still practicing roadside waste pickup from open piles and open dumping, creating major health risks.

advantages of waste management: Waste Management and Resource Recovery Charles R. Rhyner, Leander J. Schwartz, Robert B. Wenger, Mary G. Kohrell, 2017-12-14 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.

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