Aerobic composting

a method of com-posting organic wastes using bacteria that need oxygen. This requires that the waste be exposed to air, either via turning or by forcing air through pipes that pass through the material.

Anaerobic digestion

a method of composting that does not require oxygen. This composting method produces methane. Also known as anaerobic composting.

Ash

the noncombustible solid by-products of incineration or other burning process.

Autoclaving

sterilization via a pressurized, high-temperature steam process.

Baghouse

a combustion plant emission control device that consists of an array of fabric filters through which flue gases pass in an incinerator flue. Particles are trapped and thus prevented from passing into the atmosphere.

Basel Convention

an international agreement on the control of transboundary movements of hazardous wastes and their disposal, drawn up in March 1989 in Basel, Switzerland, with over 100 countries as signatories.

Biodegradable material

any organic material that can be broken down by microorganisms into simpler, more stable com-pounds. Most organic wastes (e.g., food, paper) are biodegradable.

Bottom ash

relatively coarse, noncombustible, generally toxic residue of incin-eration that accumulates on the grate of a furnace.

Bulky waste

large wastes such as appliances, furniture, and trees and branches, that cannot be handled by normal MSW processing methods.

Cell

the basic unit by which a landfill is developed. It is the general area where incoming waste is tipped, spread, compacted, and covered.

Chemocar

a special vehicle for the collection of toxic and hazardous wastes from residences, shops, and institutions.

Cleaner production

processes designed to reduce the wastes generated by production.

Co-disposal

the disposal of different types of waste in one area of a landfill or dump. For instance, sewage sludges may be disposed of with regular solid wastes.

Cogeneration

production of both electricity and steam from one facility, from the same fuel source.

Collection

the process of picking up wastes from residences, businesses, or a collection point, loading them into a vehicle, and transporting them to a processing, transfer, or disposal site.

Combustibles

burnable materials in the waste stream, including paper, plastics, wood, and food and garden wastes.

Combustion

in MSWM, the burning of materials in an incinerator.

Commingled

mixed recyclables that are collected together after having been separated from mixed MSW.

Communal collection

a system of collection in which individuals bring their waste directly to a central point, from which it is collected.

Compactor vehicle

a collection vehicle using high-power mechanical or hydraulic equipment to reduce the volume of solid waste.

Composite liner

a liner system for a land-fill consisting of an engineered soil layer and a synthetic sheet of material.

Compost

the material resulting from com posting. Compost, also called humus, is a soil conditioner and in some instances is used as a fertilizer.

Composting

biological decomposition of solid organic materials by bacteria, fungi, and other organisms into a soil-like product.

Construction and demolition debris

waste generated by construction and demolition of buildings, such as bricks, concrete, drywall, lumber, miscellaneous metal parts and sheets, packaging materials, etc.

Controlled dump

a planned landfill that incorporates to some extent some of the features of a sanitary landfill: siting with respect to hydrogeological suitability, grading, compaction in some cases, leachate control, partial gas management, regular (not usually daily) cover, access control, basic record-keeping, and controlled waste picking.

Curbside collection

collection of compostables, recyclables, or trash at the edge of a sidewalk in front of a residence or shop.

Curing

allowing partially composted materials to sit in a pile for a specified period of time as part of the maturing process in composting.

Disposal

the final handling of solid waste, following collection, processing, or incineration. Disposal most often means placement of wastes in a dump or a landfill.

Diversion rate

the proportion of waste material diverted for recycling, composting, or reuse and away from landfilling or incineration.

Drop-off center

an area or facility for receiving compostables or recyclables that are dropped off by waste generators.

Dump

see controlled dump and open dump.

Emissions

gases released into the atmosphere.

Energy recovery

the process of extracting useful energy from waste, typically from the heat produced by incineration or via methane gas from landfills.

Environmental impact assessment (EIA)

an evaluation designed to identify and predict the impact of an action or a project on the environment and human health and well-being. Can include risk assessment as a component, along with economic and land use assessment.

Environmental risk assessment (EnRA)

an evaluation of the interactions of agents, humans, and ecological resources. Comprised of human health risk assessment and ecological risk assessment, typically evaluating the probabilities and magnitudes of harm that could come from environmental contaminants.

Fabric filter

see baghouse.

Flaring

the burning of methane emitted from collection pipes at a landfill.

Fluidized-bed incinerator

a type of incinerator in which the stoker grate is replaced by a bed of limestone or sand that can withstand high temperatures. The heating of the bed and the high air velocities used cause the bed to bubble, which gives rise to the term fluidized.

Fly ash

the highly toxic particulate matter captured from the flue gas of an incinerator by the air pollution control system.

Garbage

in everyday usage, refuse in general. Some MSWM manuals use garbage to mean "food wastes," although this usage is not common.

Groundwater

water beneath the earth's surface that fills underground pockets (known as aquifers), supplying wells and springs.

Hazardous waste

waste that is reactive, toxic, corrosive, or otherwise dangerous to living things and/or the environment. Many industrial by-products are hazardous.

Heavy metals

metals of high atomic weight and density, such as mercury, lead, and cadmium, that are toxic to living organisms.

Household hazardous waste

products used in residences, such as paints and some cleaning compounds, that are toxic to living organisms and/or the environment.

Humus

the end product of composting, also called compost.

Incineration

the process of burning solid waste under controlled conditions to reduce its weight and volume, and often to produce energy.

Informal sector

the part of an economy that is characterized by private, usually small-scale, labor-intensive, largely unregulated, and unregistered manufacturing or provision of services.

Inorganic waste

waste composed of material other than plant or animal matter, such as sand, dust, glass, and many synthetics.

Integrated solid waste management

coordinated use of a set of waste management methods, each of which can play a role in an overall MSVVM plan.

International NGO

an organization that has an international headquarters and branches in major world regions, often with the purpose of undertaking development assistance.

In-vessel composting

composting in an enclosed vessel or drum with a controlled internal environment, mechanical mixing, and aeration.

Itinerant waste buyer

a person who moves around the streets buying (or bartering for) reusable and recyclable materials.

Landfill gases

gases arising from the decomposition of organic wastes; principally methane, carbon dioxide, and hydrogen sulfide. Such gases may cause explosions at landfills.

Landfilling

the final disposal of solid waste by placing it in a controlled fashion in a place intended to be permanent. The Source Book uses this term for both controlled dumps and sanitary landfllls.

Leachate

liquid (which may be partly produced by deromposition of organic matter) that has seeped through a landfill or a compost pile and has accumulated bacteria and other possibly harmful dissolved or suspended materials. If uncontrolled, leachate can contaminate both groundwater and surface water.

Leachate pond

a pond or tank constructed at a landfill to receive the leachate from the area. Usually the pond is designed to provide some treatment of the leachate, by allowing settlement of solids or by aeration to promote biological processes.

Lift

the completed layer of compacted waste in a cell at a landfill.

Liner

a protective layer, made of soil and/or synthetic materials, installed along the bottom and sides of a landfill to prevent or reduce the flow of leachate into the environment.

Manual landfill

a landfill in which most operations are carried out without the use of mechanized equipment.

Market waste

primarily organic waste, such as leaves, skins, and unsold food, discarded at or near food markets.

Mass-burn incinerator

a type of incinerator in which solid waste is burned without prior sorting or processing.

Materials recovery

obtaining materials that can be reused or recycled.

Materials recovery facility (MRF)

a facility for separating commingled recyclables by manual or mechanical means. Some MRFs are designed to separate recyclables from mixed MSW. MRFs then bale and market the recovered materials.

Methane

an odorless, colorless, flammable, explosive gas, CH,, produced by anaerobically decomposing MSW at landfills.

Microenterprise

a synonym for small-scale enterprise: a business, often family-based or a cooperative, that usually employs fewer than ten people and may operate "informally."

Mixed waste

unsorted materials that have been discarded into the waste stream.

Modular incinerator

a relatively small type of prefabricated solid waste combustion unit.

Monofill

a landfill intended for one type of waste only.

MSW

municipal solid waste.

MSWM

municipal solid waste management.

Municipal solid waste

all solid waste generated in an area except industrial and agricultural wastes. Sometimes includes construction and demolition debris and other special wastes that may enter the municipal waste stream. Generally excludes hazardous wastes except to the extent that they enter the municipal waste stream. Sometimes defined to mean all solid wastes that a city authority accepts responsibility for managing in some way.

Municipal solid waste management

planning and implementation of systems to handle MSW.

NGO

Nongovernmental organization. May be used to refer to a range of organizations from small community groups, through national organizations, to international ones. Frequently these are not-for-profit organizations.

Night soil

human excreta.

NIMBY

"Not In My Back Yard." An expression of resident opposition to the siting of a solid waste facility based on the particular location proposed.

Open dump

an unplanned "landfill" that incorporates few if any of the characteristics of a controlled landfill. There is typically no leachate control, no access control, no cover, no management, and many waste pickers.

Organic waste

technically, waste containing carbon, including paper, plastics, wood, food wastes, and yard wastes. In practice in MSWM, the term is often used in a more restricted sense to mean material that is more directly derived from plant or animal sources, and which can generally be decomposed by microorganisms.

Pathogen

an organism capable of causing disease.

Picker

see waste picker.

Pollution

the contamination of soil, water, or the atmosphere by the discharge of waste or other offensive materials.

Post-consumer materials

materials that a consumer has finished using, which the consumer may sell, give away, or discard as wastes.

Primary material

a commercial material produced from virgin materials used for manufacturing basic products. Examples include wood pulp, iron ore, and silica sand.

Privatization

a general term referring to a range of contracts and other agreements that transfer the provision of some services or production from the public sector to private firms or organizations.

Processing

preparing MSW materials for subsequent use or management, using processes such as baling, magnetic separation, crushing, and shredding. The term is also sometimes used to mean separation of recyclables from mixed MSW.

Producer responsibility

a system in which a producer of products or services takes responsibility for the waste that results from the products or services marketed, by reducing materials used in production, making repairable or recyclable goods, and/ or reducing packaging.

Putrescible

subject to decomposition or decay. Usually used in reference to food wastes and other organic wastes that decay quickly.

Pyrolysis

chemical decomposition of a substance by heat in the absence of oxygen, resulting in various hydrocarbon gases and carbon-like residue.

Recyclables

items that can be reprocessed into feedstock for new products. Common examples are paper, glass, aluminum, corrugated cardboard, and plastic containers.

Recycling

the process of transforming materials into raw materials for manufacturing new products, which may or may not be similar to the original product.

Refuse

a term often used interchangeably with solid waste.

Refuse-derived fuel (RDF)

fuel produced from MSW that has undergone processing. Processing can include separation of recyclables and noncombustible materials, shredding, size reduction, and pelletizing.

Resource recovery

the extraction and utilization of materials and energy from wastes.

Reuse

the use of a product more than once in its original form, for the same or a new purpose.

Rubbish

a general term for solid waste. Sometimes used to exclude food wastes and ashes.

Sanitary landfill

an engineered method of disposing of solid waste on land, in a manner that meets most of the standard specifications, including sound siting, extensive site preparation, proper leachate and gas management and monitoring, compaction, daily and final cover, complete access control, and record-keeping.

Scrubber

emission control device in an incinerator, used primarily to control acid gases, but also to remove some heavy metals.

Secondary material

a material recovered from post-consumer wastes for use in place of a primary material in manufacturing a product.

Secure landfill

a disposal facility designed to permanently isolate wastes from the environment. This entails burial of the wastes in a landfill that includes clay and/ or synthetic liners, leachate collection, gas collection (in cases where gas is generated), and an impermeable cover.

Septage

sludge removed from a septic tank (a chamber that holds human excreta).

Set-out container

a box or bucket used for residential waste that is placed outside for collection.

Sewage sludge

a semi-liquid residue that settles to the bottom of canals and pipes carrying sewage or industrial wastewaters, or in the bottom of tanks used in treating wastewaters.

Site remediation

treatment of a contaminated site by removing contaminated solids or liquids or treating them on-site.

Source reduction

the design, manufacture, acquisition, and reuse of materials so as to minimize the quantity and/or toxicity of waste produced.

Source separation

setting aside of compostable and recyclable materials from the waste stream before they are collected with other MSW, to facilitate reuse, recycling, and composting.

Special wastes

wastes that are ideally considered to be outside of the MSW stream, but which sometimes enter it and must often be dealt with by municipal authorities. These include household hazardous waste, medical waste, construction and demolition debris, war and earthquake debris, tires, oils, wet batteries, sewage sludge, human excreta, slaughterhouse waste, and industrial waste.

Subsidy

direct or indirect payment from government to businesses, citizens, or institutions to encourage a desired activity.

Tipping fee

a fee for unloading or dumping waste at a landfill, transfer station, incinerator, or recycling facility.

Tipping floor

unloading area for vehicles that are delivering MSW to a transfer station or incinerator.

Transfer

the act of moving waste from a collection vehicle to a larger transport vehicle.

Transfer point

a designated point, often at the edge of a neighborhood, where sma collection vehicles transfer waste to larger vehicles for transport to disposal sites.

Transfer station

a major facility at which MSW from collection vehicles is consolidated into loads that are transported by larger trucks or other means to more distant final disposal facilities, typically landfills.

Transition countries

the countries of Eastern Europe and the former Soviet Union that are in various stages of restructuring their economies. The changes involve a move away from being substantially staterun toward a variety of new configurations, ranging from moderate economic liberalization to a significant dismantling of the state's role in the economy.

Vectors

organisms that carry diseasecausing pathogens. At landfills rodents, flies, and birds are the main vectors that spread pathogens beyond the landfill site.

Vermiculture

see worrn culture.

Virgin materials

any basic material for industrial processes that has not previously been used, for example, wood-pulp trees, iron ore, crude oil, bauxite.

Waste characterization study

an analysis of samples from a waste stream to determine its composition.

Waste collector

a person employed by a local authority or a private firm to collect waste from residences, businesses, and community bins.

Waste dealer

a middleman who buys recyclable materials from waste generators and itinerant buyers and sells them, after sorting and some processing, to wholesale brokers or recycling industries.

Waste management hierarchy

a ranking of waste management operations according to their environmental or energy benefits. The purpose of the waste management hierarchy is to make waste management practices as environmentally sound as possible.

Waste picker

a person who picks out recyclables from mixed waste wherever it may be temporarily accessible or disposed of.

Waste reduction

all means of reducing the amount of waste that is produced initially and that must be collected by solid waste authorities. This ranges from legislation and product design to local programs designed to keep recyclables and compostables out of the final waste stream.

Waste stream

the total flow of waste from a community, region, or facility.

Waste-to-energy (WTE) plant

a facility that uses solid waste materials (processed or raw) to produce energy. WTE plants include incinerators that produce steam for district heating or industrial use, or that generate electricity; they also include facilities that convert landfill gas to electricity.

Water table

level below the earth's surface at which the ground becomes saturated with water.

Wetland

an area that is regularly wet or flooded and has a water table that stands at or above the land surface for at least part of the year.

Windrow

an elongated pile of aerobically composting materials that are turned periodically to expose the materials to oxygen and to control the temperature to promote biodegradation.

Working face

the length and width of the row in which waste is being deposited at a landfill. Also known as the tipping face.

Worin castings

the material produced from the digestive tracts of worms as they live in earth or compost piles. The castings are rich in nitrates, potassium, phosphorous, calcium, and magnesium.

Worm culture

a relatively cool, aerobic composting process that uses worms and microorganisms. Also known as venniculture.

Yard waste leaves, grass clippings, prunings, and other natural organic matter discarded from yards and gardens.