## Introduction

This document contains relevant industry definitions to support partners in the Better Buildings, Better Plants Waste Reduction Network. Definitions were compiled using the CalRecycle Glossary, SWANA's Waste Glossary, the U.S. Environmental Protection Agency, the State of Washington's Department of Ecology, the Ellen MacArthur Foundation, and Metro Oregon. Some terms contain multiple complementary definitions.

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## Aerobic Decomposition

Degradation of organic wastes in the presence of oxygen by microorganisms and bacteria, releasing carbon dioxide gas and heat and producing solid material (compost) that can be used as a soil amendment.

## Agricultural Wastes

Solid Waste comprised of crop residues and animal manures resulting from agricultural operations.

## Anaerobic Digestion

Degradation of organic wastes in the absence of oxygen by microorganisms and bacteria, releasing methane that can be collected and used as a fuel and producing relatively inert solid materials that can be processed for use as a soil amendment. In a circular economy, anaerobic digestion can be used to convert food by-products, sewage sludge, and other biodegradable materials into digestates (or 'biosolids') that can be used as soil enhancers and biogas.

## Automated Collection

Solid Waste collection by mechanical means, where arms or other devices extend from the collection vehicle, grasp, or otherwise manipulate containers, lift them overhead, tip them to empty solid waste into the vehicle, and set them back down on the ground. Fully automated collection requires no manual labor to grasp containers; semiautomated collection requires manual labor to position containers for mechanical grasping.

## Bagasse

Residue left over from sugar cane harvesting that can be used as a fuel source or in the production of paper products.

## Beneficial Use

Utilization or reuse of a material that would otherwise become solid waste. Examples include landfill cover, aggregate substitute, fuel substitute or the feedstock in a manufacturing process.

## Biodegradable

Describes waste materials capable of being biologically decomposed by microorganisms and bacteria. For example, organic wastes such as paper, wood, food, and plants are biodegradable; metals, glass and most plastics are not.

## Bioreactor Landfill

Engineered landfill or landfill cell where liquid and gas are actively managed in order to accelerate or enhance biostabilization of waste. Example management includes controlled addition and recirculation of water and capture of methane gas in a piping network.

## Biosolids

Solid, semisolid, or liquid waste generated from a wastewater treatment plant. Sometimes referred to as Sewage Sludge.

## Biostabilization

Biological decay of organic wastes through process that reduces leachate and landfill gas generation.

## Bottle Bill

Law that requires payment of a deposit on specified beverage containers (such as aluminum cans or glass beverage bottles) by consumers at time of purchase, and subsequent refund of the deposit by the

product retailer or other entity when consumers return the containers for redemption. Bottle Bills encourage container recycling and discourage littering.

## Bulky Wastes

Solid waste comprised of large, discarded materials such as appliances, furniture, automobile parts. Large branches and tree stumps are sometimes included by local definitions.

## Buy Recycled

Purchasing recycled products. Buy Recycled programs often emphasize purchase of products that contain a specified or maximum level of post-consumer content and/or recyclable materials content without affecting the intended use of the product.

## Buyback Center

Facility that refunds deposits on containers subject to bottle bill redemption and/or purchases recyclable materials.

## Capture Rate

Ratio of quantity of recyclable materials diverted for recovery, to the total quantity of recyclable materials available for recovery.

## Central Accumulation Area

Any on-site hazardous waste area where dangerous wastes are stored prior to off-site shipment or on-site treatment. CAAs may be anywhere on site and do not need to be centrally located.

## CERCLA

Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S. C Section 9601 et seq., referred to colloquially as “Superfund”, providing for cleanup and remediation of uncontrolled or abandoned hazardous waste sites and response to accidents, spills, and other emergency releases of hazardous substances. CERCLA provides EPA with enforcement authority to ensure that responsible parties pay the cleanup costs. (“PRPs” are Potentially Responsible Parties.)

## CESQG

(Pronounced SQUEEGY) Conditionally Exempt Small Quantity Generators, which are facilities that produce less than 100 kg. (220 lbs.) of hazardous waste (or less than 1 kg. of acutely hazardous waste) per calendar month. CESQGs are exempt from many of the requirements applicable to hazardous waste generators provided they comply with certain conditions specified in Subtitle C regulations.

## Circular Economy

A systems solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution. It is based on three principles, driven by design: eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature. It is underpinned by a transition to renewable energy and materials. Transitioning to a circular economy entails decoupling economic activity from the consumption of finite resources. This represents a systemic shift that builds long-term resilience, generates business and economic opportunities, and provides environmental and societal benefits.

▶ **See Linear Economy**

## Clean Air Act

The Clean Air Act (CAA) is the comprehensive federal law that regulates air emissions from stationary and mobile sources. Among other things, this law authorizes EPA to establish National Ambient Air Quality Standards (NAAQS) to protect public health and public welfare and to regulate emissions of hazardous air pollutants.

### NAAQS and SIPs

One of the goals of the Act was to set and achieve NAAQS in every state by 1975 in order to address the public health and welfare risks posed by certain widespread air pollutants. The setting of these pollutant standards was coupled with directing the states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards. The Act was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS since many areas of the country had failed to meet the deadlines.

### Sources of Pollution

Section 112 of the Clean Air Act addresses emissions of hazardous air pollutants. Prior to 1990, CAA established a risk-based program under which only a few standards were developed. The 1990 Clean Air Act Amendments revised Section 112 to first require issuance of technology-based standards for major sources and certain area sources. "Major sources" are defined as a stationary source or group of stationary sources that emit or have the potential to emit 10 tons per year or more of a hazardous air pollutant or 25 tons per year or more of a combination of hazardous air pollutants. An "area source" is any stationary source that is not a major source.

For major sources, Section 112 requires that EPA establish emission standards that require the maximum degree of reduction in emissions of hazardous air pollutants. These emission standards are commonly referred to as "maximum achievable control technology" or "MACT" standards. Eight years after the technology-based MACT standards are issued for a source category, EPA is required to review those standards to determine whether any residual risk exists for that source category and, if necessary, revise the standards to address such risk.

## Closure

Cessation of operations at a solid waste management facility (especially a sanitary landfill) and implementing plans promulgated in accordance with provisions of RCRA in order to ensure future protection of human health and the environment. An example closure requirement is providing specified grading and final cover of a sanitary landfill.

## Combustible Waste

Solid waste that will burn, such as wastepaper, cardboard, wood, plastics, textiles and leaves, with or without resource recovery.

## Commercial Waste or Recyclables

Solid waste or recyclables from businesses, office buildings, stores and markets and sometimes including institutional waste.

## Commingled Recyclables

Recyclable Materials designated for recycling either by (1) generators' placement with other recyclable materials mixed in a single, common container for collection, or (2) collectors' sorting and placement in a single, common compartment on the collection vehicle.

## Compaction Density

Ratio of weight to unit volume of solid waste, recyclables or other materials usually expressed as pounds per cubic yard or kilogram per cubic meter (lbs/y3 or kg/m3). Compaction is achieved in sanitary landfills, collection vehicles and storage containers by using compactors. Greater Compaction Density increases the life of sanitary landfills, route length of collection vehicles or capacity of storage containers. Prescribed Compaction Density may be a performance standard in solid waste management agreements. Compaction Density varies, depending on where and how it is measured. For example, in a sanitary landfill, Compaction Density is affected by type of cover, the initial moisture content of the waste, type of landfill compactors used, number of passes by the landfill compactors, where it is measured (e.g.,

on side slopes), etc. Compaction in a sanitary landfill can be measured by multiple means, including aerial surveys, GIS etc. During collection, greater Compaction Density may be undesirable for certain recyclable materials such as glass.

## Compactors

Machines that reduce the volume of solid waste by crushing, compression, or compaction. A landfill Compactor is a piece of heavy construction equipment with a blade (to push waste) and steel wheels with cleats (to minimize surface contact with waste and maximize pressure). It reduces volume of solid waste in a sanitary landfill by rolling over solid waste deposited on the surface of the sanitary landfill. A Compactor collection truck is equipped with a hydraulic ram and compactor plate that reduces volume by pushing and compressing wastes into the main body of the truck. Stationary Compactors contain a ram that pushes and compresses waste into a container or bale.

## Compost

The end product of composting. It is a humus-like material that can be added to soils to increase soil fertility, aeration, and nutrient retention.

## Composting

Biological decomposition or decay of organic wastes (sometimes including mixed solid waste) under controlled conditions. Composting takes place under aerobic conditions, typically in an open pile (called a windrow) or in a tank or container (called in-vessel composting).

The biological decomposition of organic materials such as leaves, grass clippings, brush, and food waste into a soil amendment. Composting is a form of recycling.

Microbial breakdown of organic matter in the presence of oxygen. In a circular economy, composting can be used to convert food by-products and other biodegradable materials into compost, which can be used as a soil enhancer.

## Contamination

Commingling of garbage, refuse or other material having unsuitable physical or chemical properties with recyclable materials or organic wastes, thereby rendering the recyclable materials or organic wastes unfit for further reuse, requiring processing prior to reuse, or decreasing their value for reuse. A recycling example is paper products sullied by food. A composting example is compost degraded by glass particles (a physical property) or heavy metals (a chemical property) present in the feedstock.

## Corrective Action

Action taken to investigate, describe, evaluate, correct and cleanup contamination from solid waste management facilities as prescribed in accordance with law, including CERCLA and RCRA.

## Cover (or Cap)

Soil or alternative daily cover used to cover exposed solid waste in a sanitary landfill. Alternative Daily Cover is cover other than soil, such as spray slurries, tarps, foams, vegetative waste and ash. Daily Cover is cover applied at the end of each sanitary landfill operating day. Final Cover or Cap is cover comprised of layers of impermeable materials such as compacted clay, drainage materials, topsoil and vegetation applied over the top of a closed cell of a sanitary landfill to minimize the infiltration of rainwater and the production of Leachate.

## C&D Debris

Materials resulting from the construction and demolition (C&D) of buildings and other structures, including materials such as metals, wood, gypsum, asphalt shingles, roofing, concrete, rocks, rubble, soil, paper, plastics and glass, but excluding putrescible wastes.

## Dioxin

Group of chemical compounds sharing certain similar physical structures and biological characteristics that can be emitted when burning Solid Waste if there is incomplete combustion and inadequate air pollution control devices. Studies have shown that exposure to Dioxin at high levels may adversely affect health. Federal air quality standards for waste-to-energy facilities establish very stringent emission limits for Dioxin.

## Diversion

Re-direction of recyclable materials from disposal through resource recovery.

## Diversion Goals

Diversion Rates encouraged by law or policy, carrying no penalties, fines, or other adverse consequences for non-achievement.

## Diversion Mandates

Diversion Rates prescribed by law, carrying penalties, fines, or other adverse consequences for non-achievement.

## Diversion Rate

Ratio of the quantity of recovered materials, to the sum of the quantity of recovered materials plus the quantity of disposed materials. What materials are deemed recovered or disposed of may vary among different local, state, provincial and national governments. “Diversion Rate” is often referred to as “recycling rate” or “recycling diversion rate”.

## Drop-Off Center

Containers such as bins and roll-off boxes placed at collection sites designated for deposit by generators of specified materials such as recyclable materials or solid waste.

## Environmental Impact Statement (EIS)

A document that identifies and analyzes in detail the environmental impacts of a proposed action, including in some instances, the construction of solid waste management facilities, prepared in compliance with the National Environmental Policy Act (NEPA) or state and provincial laws.

## Electronic Waste

Sometimes called E-Waste. A term loosely applied to consumer and business electronic equipment that is near or at the end of its useful life. There is no clear definition for e-waste. It includes, computers, computer peripherals, telephones, answering machines, radios, stereo equipment, tape players/recorders, phonographs, video cassette players/recorders, compact disc players/recorders, calculators, and some appliances. However, whether or not items like microwave ovens and other similar “appliances” should be grouped into the category has not been established. Certain components of some electronic products contain materials that render them hazardous, depending on their condition and density. For instance, California law currently views nonfunctioning CRTs (cathode ray tubes) from televisions and monitors as hazardous. Therefore, nonfunctioning CRTs from televisions and monitors are banned from the trash.

Discarded electronic equipment including computers, monitors, printers, TVs, stereo systems, VCRs and other personal electronic devices.

## Energy Recovery

Includes (1) harnessing the heat from solid waste incineration or other thermal destruction process to produce steam for direct use or the generation of electricity; (2) extracting fuel from landfill gas, and (3) converting solid waste into liquid or gaseous fuels by chemical, thermal or biological processes.

## Enterprise Fund

Self-supporting method of funding solid waste management programs and operations through revenues generated from service charges and fees, deposited, and kept separate and distinct from local governments' general funds.

## Environmental Justice

Fair distribution of environmental risks among all socioeconomic and racial groups. From a solid waste perspective, environmental justice concerns arise when solid waste management facilities are, or are perceived to be, located predominantly in areas with minority or lower income populations.

## Extremely Hazardous Waste

A subset of Hazardous Waste. Extremely hazardous waste is any hazardous waste or mixture of hazardous wastes which, if human exposure should occur, may likely result in death, disabling personal injury or serious illness caused by the hazardous waste or mixture of hazardous wastes because of its quantity, concentration, or chemical characteristics.

## Food Residuals or Waste

Animal and vegetable materials resulting from the handling and preparation of foods.

Food such as plate waste (i.e., food that has been served but not eaten), spoiled food, or peels and rinds considered inedible that is sent to feed animals, to be composted or anaerobically digested, or to be landfilled or combusted with energy recovery.

## Front End Loaders

Include (1) Solid Waste collection vehicles (a) originally designed to collect commercial, institutional and industrial solid waste from large containers such as dumpsters, having two forks attached to the front that lift bins overhead and empty them into a hopper on top of the vehicle, and (b) adopted to collect residential solid waste, for example, from cans dumped manually into buckets or hoppers attached to the front that lift the emptied solid waste overhead and empty it into the hopper (compare Side Loaders); and (2) heavy equipment with a bucket or grapple used to push or pickup materials in solid waste facilities.

## Garbage

Putrescible Solid Waste.

## Grasscycling

The practice of leaving clippings on the lawn while mowing.

## Green Building

The practice of creating buildings that are designed, built, renovated, operated, or reused in an ecological and resource-efficient manner. Also known as sustainable building. Green building includes the practices of salvaging material from building demolition for reuse in new buildings and for recycling. The term, green building, is also applied to buildings that minimize impact to the environment, protect health and enhance productivity of occupants, and utilize energy, water, and other resources efficiently.

## Green Purchasing

Buying environmentally preferable products or services that have a less or reduced adverse effect on human health and the environment than competing products or services that serve the same purpose, considering life cycle impacts: raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance, or disposal.

## Green Waste

Solid waste comprised of grass clippings, shrub and tree cuttings and other organic wastes resulting from lawn care and gardening.

## Hazardous Waste

Speaking in general terms, hazardous wastes are solid wastes that are toxic, ignitable, reactive, or corrosive. Other wastes can be categorically, or specifically included or excluded from the definition of hazardous waste. Hazardous waste includes extremely hazardous waste, acutely hazardous waste, RCRA hazardous waste, non-RCRA hazardous waste and special waste.

Solid wastes with properties that make them dangerous or capable of having a harmful effect on human health and the environment. Under RCRA, Hazardous Wastes are specifically defined as wastes that exhibit a specific characteristic (toxicity, flammability, ignitability or infectious) or are specifically listed as a hazardous waste in the Subtitle C. States and provinces may promulgate their own definitions.

## Hazardous Waste Screening Protocol

Procedures implemented in accordance with law or best industry practice to identify and remove hazardous waste from further handling within the solid waste infrastructure, including during collection and upon delivery to transfer or disposal facilities.

## High-Density Polyethylene (HDPE)

High-Density Polyethylene, a plastic used to make a variety of products including milk jugs and landfill liners. HDPE containers are often identified by the number “2” inside the recycling arrows stamped on the container.

## Heavy Metals

Trace metals present in solid waste that are sometimes found in the air emissions and ash from solid waste combustors, leachate, compost or other products or residuals resulting from the processing of solid waste. Examples include mercury, cadmium, lead and chromium. Studies have shown that exposure to Heavy Metals at high levels may adversely affect health.

## Household Hazardous Waste (HHW)

Certain hazardous wastes generated in small quantities by homes and residences, such as batteries, paint, and oil.

## Household Waste or Recyclables

Solid waste or recyclables originating from homes and residences.

## Incinerator

Generic term for an enclosed unit that burns Solid Waste, sometimes without energy recovery.

## Industrial Waste

Solid waste originating from industrial processes or manufacturing operations.

## Inerts

Materials such as concrete, fully cured asphalt paving, glass, plastics, fiberglass, asphalt or fiberglass roofing shingles, brick, slag, ceramics, plaster, clay, and clay products that do not degrade or putrefy and are not hazardous waste.

## Institutional Waste

Solid waste originating from schools, universities, hospitals, and other institutions.

## Integrated Solid Waste Management (ISWM)

Environmentally and economically sound, systematic approach to solid waste handling that combines source reduction, reuse, recycling, composting, energy recovery, collection, transfer, transport and disposal in sanitary landfills, solid waste combustors or other solid waste disposal and processing facilities to conserve and recover resources and dispose of solid waste in a manner that protects human health and the environment.

- **Integrated Waste Management**

Managing waste by multiple techniques to achieve solid waste and resource conservation goals. The techniques may include waste reduction, reuse, recycling, composting, transformation, disposal to landfills, and other means.

## Intermediate Processing Center (IPC)

Term used interchangeably with Materials Recovery Facility (MRF), or to signify MRF that not only sorts and recovers single stream and commingled recyclables (usually from residential and commercial sources) but additionally processes them into new recycled materials feedstock or recycled products.

## Landfill Gas

Gas produced when organic waste naturally decomposes in a sanitary landfill, comprised of approximately 50% methane (the primary component of natural gas) and 50% carbon dioxide. Landfill gas can be collected and used as a fuel for heating, generating electricity or fueling engines.

## Leachate

Liquid that has percolated through or drained from Solid Waste, often containing suspended or dissolved waste materials.

## Linear Economy

An economy in which finite resources are extracted to make products that are used - generally not to their full potential - and then thrown away ('take-make-waste').It is a wasteful and polluting system that degrades natural systems.

- **See Circular Economy**

## Liner

Layer of natural or synthetic material laid beneath and on the sides of a sanitary landfill that restricts the downward or lateral escape of leachate and landfill gas. Clay Liners can be constructed from tightly compacted clay soils or manufactured geosynthetic clay. Synthetic Liners (sometimes called Flexible Membrane Liners or FML) are constructed from plastic membranes (geomembranes). Composite Liners combine layers of both clay and synthetic liners. State, provincial, and national law may prescribe minimum specifications for liner systems.

## Manual Collection

Solid waste collection by hand rather than machine, where workers grasp, lift and empty cans or toss bags into hoppers or buckets on a collection vehicle.

## Materials Recovery Facility (MRF)

Building where commingled recyclables are separated and processed (including sorting, baling and crushing) or where source separated recyclables are processed for sale to various markets. See Intermediate Processing Center. In a Dirty MRF the incoming recyclable materials are co-collected and commingled with other nonrecyclable portions of solid waste. See Mixed Waste Processing.

## Medical Waste

In general, medical waste is waste which is generated or produced as a result of diagnosis, treatment, or immunization of human beings or animals, is biohazardous according to Section 117635 of the California Health and Safety Code, is generated by biohazardous research, is generated by the production or testing of biologicals including serums, vaccines, antigens, and anti-toxins, or is considered to be sharps waste.

Certain materials from hospital and health care facilities, including infectious materials, human pathological wastes, human blood products and used sharps.

## Mercury

A toxic metal that can cause harm to people and animals including nerve damage and birth defects. Liquid mercury that is exposed to the air evaporates readily at room temperature. If mercury is released into the environment, it can contaminate the air we breathe and enter streams, rivers, and the ocean, where it can contaminate fish that people eat.

## Mixed Waste Processing

Picking, sorting and otherwise separating recyclable materials from commingled refuse and garbage, as opposed to picking, sorting, and otherwise separating one type of commingled recyclables (such as fiber) from another type of commingled recyclable (such as containers).

## Manager of Landfill Operations (MOLO)

Manager of Landfill Operations, one of SWANA's certification disciplines.

## Municipal Solid Waste (MSW)

Solid waste other than hazardous wastes comprised of commercial, household, and institutional wastes.

## National Environmental Policy Act (NEPA)

The National Environmental Policy Act (NEPA) was one of the first laws ever written that establishes the broad national framework for protecting our environment. NEPA's basic policy is to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that significantly affects the environment.

NEPA requirements are invoked when airports, buildings, military complexes, highways, parkland purchases, and other federal activities are proposed. Environmental Assessments (EAs) and Environmental Impact Statements (EISs), which are assessments of the likelihood of impacts from alternative courses of action, are required from all Federal agencies and are the most visible NEPA requirements.

## Non-Putrescible Waste

Any waste that contains no more than trivial amounts of putrescible materials or minor amounts of putrescible materials contained in such a way that they can be easily separated from the remainder of the load without causing contamination of the load. This term includes construction and demolition waste. This term does not include cleanup material, source-separated recyclable materials, special waste, land clearing debris or yard debris.

## Organic Wastes

Solid wastes containing carbon compounds that are capable of being biologically degraded, including paper, food residuals, wood wastes, yard debris and plant wastes but not metals and glass or plastic.

(Plastic contains carbon compounds and is theoretically organic in nature, but generally is not readily biodegradable.)

## Pollution Prevention

Preventing all forms of pollution, including toxics and other pollutants emitted into air, water, and land. Waste prevention is a type of pollution prevention.

## Postconsumer Content

Also known as postconsumer waste, any product which has served its intended use by a business or a consumer, which has been disposed and subsequently separated from solid waste for use as a constituent in a new product.

## Postmanufacture Content

Also known as postmanufacture waste, waste that is created by a manufacturing process, and that is subsequently only used as a constituent in another manufacturing process.

## Polyethylene Terephthalate (PET)

Plastic commonly used to make containers such as soft drink bottles. PET containers are often identified by the number “1” inside the recycling arrows stamped on the container.

## Per- and Polyfluoroalkyl (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes PFOA, PFOS, GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they don’t break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

## Post Closure Care

Activities during the period after closure of a solid waste disposal facility where the facility owner is required to carry out monitoring, maintenance and any necessary corrective action needed to contain liquid, gas, and solid waste and to detect, prevent or respond to the release of liquid, gas and solid waste.

## Post-Consumer

Describes products purchased and used by consumers, then discarded or recycled, such as a newspaper that has been purchased and read, recycled, then used to make newsprint.

## Pre-Consumer

Describes feedstock used in manufacturing, fabrication, or industrial production, then discarded or recycled, comprised of scrap, trimmings, cuttings, and other post-production discards such as overruns, over issue publications, and obsolete inventories.

## Privatization

Use of the private sector to provide solid waste management services, ranging from complete private ownership and operation of ISWM facilities, service contracts or franchise agreements between local

governments and private parties to provide ISWM services, to private operation of ISWM facilities or equipment owned by the public sector.

## Procurement Preference

Purchase of recycled products even though their price exceeds the price of similar products with less or no recycled materials content, often by creating exceptions to procurement laws or practices that require purchasing qualifying products having the lowest cost.

## Product Stewardship

Appeal to all parties in a product life cycle—manufacturers, retailers, users, and waste managers—to share responsibility and costs for reducing the adverse environmental impacts of products. From a solid waste management perspective, Product Stewardship involves the actions taken to improve the design and manufacture of products to facilitate either their reuse, recycling, or disposal, as well as actions to establish programs to collect, process and reuse or recycle products when they are discarded.

## Products of Combustion

Gases and particulates that result from the combustion of solid waste.

## Putrescible Waste

Waste rapidly decomposable by microorganisms which may give rise to foul smelling, offensive products during such decomposition or which is capable of attracting or providing food for birds and potential disease vectors such as rodents and flies

## Pyrolysis

Thermal and chemical decomposition of organic waste in a furnace operated without sufficient oxygen to allow combustion. Pyrolytic products include combustible gases, oils, charcoal, and mineral matter.

## RCRA

The Resource Conservation and Recovery Act of 1976. RCRA is a federal law that is the root of most federal and state hazardous waste management law in the United States, although California and a few other states were already regulating hazardous substances, including hazardous waste, before RCRA. RCRA also set forth a framework for the management of non-hazardous wastes, although many states, including California, already managed non-hazardous solid wastes in a manner very similar to that framework. For California the main benefit of RCRA was the establishment of a national cradle-to-grave tracking system for hazardous waste transport and disposal.

(Pronounced RECK RAA.) Resource Conservation and Recovery Act, 42 S.S. C. Section 6901 et. seq., as amended, the major U.S. federal legislation first adopted in 1976 that governs the management of solid waste and hazardous waste in the U.S.

## Recyclable Material

Substance that can potentially be reused as or recycled into a recycled material or recycled product. See also Recycled Material and Recycled Products.

## Recycled Content

Portion of a product's or package's weight that is composed of materials remanufactured from a recyclable product or packaging material, including pre-consumer materials or post-consumer materials.

## Recycled Material

Material that has been converted into feedstock for use in the manufacture of a new recycled product, including containers or packaging. See also Recyclable Material and Recycled Products.

## Recycled Products

Includes (1) products having specified percentages of their total weight comprised of pre-consumer or post-consumer recycled material and/or secondary materials (such as certain paper products, plastic products, aluminum containers, compost and co-compost, glass products, lubricating oils, paints and solvents); (2) used products that are not disposed but refurbished for reuse without substantial alteration (such as refilling beverage bottles returned to a bottler, dock bumpers made of scrap tires, remanufactured laser toner cartridges, repaired office furniture, reconditioned carpet, retreaded tires, and reformatted computer disks.

## Recycling

Includes (1) collection, sorting, marketing, processing, and transforming or remanufacturing recyclable materials into recycled materials and recycled products, including marketing thereof; and (2) the purchase and use of recycled products. See Recyclable Material, Recycled Material and Recycled Products.

Using waste as material to manufacture a new product. Recycling involves altering the physical form of an object or material and making a new object from the altered material. Recycling is not waste prevention because only waste can be recycled. One must generate waste to recycle the waste. Therefore, if you are recycling, you have already generated waste. Although recycling is a very good thing, ideally it would be better to not generate any waste. Reuse is not recycling because reuse does not alter the physical form an object. Reuse is preferred to recycling because reuse consumes less energy and less resources than recycling. Of course, recycling consumes less energy and resources than making new replacement items with unrecycled or new material.

With recycling, you generally need to collect a material, transport it, clean and sort it, transform it (for example, melt it down, see secondary material, below), market that transformed material, make the transformed material into a new product, package the product, and market the product. Making a product out of recycled materials is better than using virgin materials, but waste prevention is even better because it is better to not create any waste. Unlike recycling, most forms of waste prevention require little, if any, transportation, processing, and marketing.

If you send your waste away to be recycled, but you do not buy products made from postconsumer waste, then you are not completing the “cycle.” Composting is a form of recycling.

Examples of recycling:

- At Home–Placing all your paper, cardboard, boxboard such as empty cereal boxes and empty toilet paper tubes, into the recycle bin, and then purchasing paper products made from post-consumer recycled paper. Note that if you “recycle” paper, plastic, or anything, but you do not buy products made from postconsumer recycled material, then you are not completing the “cycle.”
- In Business–Old tires can be ground up and used to make a wide variety of things, including rubber mats, door mats, pet food bowls, and playground cover. The canvas covered mats in marital arts dojos are commonly stuffed with ground up tires. Used motor oil can be reprocessed into new motor oil, and motor oil made from this “rerefined” oil is widely available.

Transform a product or component into its basic materials or substances and reprocessing them into new materials. Embedded energy and value are lost in the process. In a circular economy, recycling is the last resort action.

## Refuse

Non-putrescible solid waste.

## Remanufacture

Disassembling used products that have been recovered instead of discarded, including cleaning, repairing or replacing necessary parts, and reassembling them for resale and reuse. Remanufacture often involves breaking down a used product into its main/core subsystems/modules and adding extensive parts and labor. Remanufacture may be distinguished from “refurbishing”, which is less extensive, including renovating, repairing, restoring, or generally improving the appearance, performance, quality, functionality, or value of the used product for reuse or resale.

## Requests for Bids (RFBs)

Procurement in which a local government solicits price bids for goods or services (such as solid waste collection and disposal, recycling, or facility development or operation) based on prescribed, detailed specifications, usually with limited authority to negotiate or modify bids unless bidder does not meet minimum qualifications. The form, manner, and timing of requests for bids are mandated by law. Once bidders meet minimum qualifications (such as experience), price is the only criteria.

## Request for Proposals (RFPs)

Procurement in which a local government solicits price and/or program proposals for goods or services (such as solid waste collection and disposal, recycling, or facility development or operation) based on prescribed but possibly alternative and general specifications, usually with broad authority to negotiate or modify proposals. The form, manner, and timing of requests for proposals are subject to the local government’s discretion. Not only price, but additional factors such as proposed program, experience, references, environmental record, history of litigation, recycling achievements, etc., may be criteria.

## Request for Qualifications (RFQs)

In advance of issuing requests for proposals, local governments solicit qualifications of potential proposers.

## Resource Recovery

Recovery rather than disposal of Recyclable Materials or energy from solid waste, encompassing recycling, reuse, composting and energy recovery.

## Reuse

Using an object or material again, either for its original purpose or for a similar purpose, without significantly altering the physical form of the object or material. Reuse is not recycling, because recycling alters the physical form of an object or material. Reuse is generally preferred to recycling because reuse generally consumes less energy and resources than recycling. Waste is defined as material for which no use or reuse is intended. Thus, reuse prevents objects and materials from becoming waste. Therefore, reuse is a form of waste prevention. One exception to the normal preference of reuse to the purchasing of new items might be some appliances. It is often environmentally preferable to replace very old refrigerators, clothes washers, clothes dryers, or central heating and air conditioning units with new appliances if given a choice between repair and replacement, because the amount of energy (and water, in the case of clothes washers) used to operate some older appliances is substantially more than the amount used to operate new appliances. Of course, attempts should be made when replacing appliances to have the metal in the discarded appliances recycled.

Examples of Reuse:

- At Home–Wash and reuse your plastic food bags or consider purchasing reusable cloth bags. Buy reusable storage containers to store leftover food, and to store foods that you buy in bulk. Consult material exchanges to purchase used items or to find new homes for items that

you no longer need. If you remodel your home, consider using reused building materials, and send demolition materials that you create for reuse. Bring a reusable coffee mug or commuter mug with you when you buy coffee drinks. Many coffee shops offer discounts for customers using their own mugs.

- In Business–Purchase “recycled” ink and toner cartridges for your printers and photocopiers. Have the tires on your cars retreaded when the tread is worn, but the tire is otherwise reusable.

The repeated use of a product or component for its intended purpose without significant modification. Small adjustments and cleaning of the component or product may be necessary to prepare for the next use.

## Roll Off Boxes

Open-topped rectangular containers for storage, collection and transport of solid waste that are rolled on and off flatbed collection vehicles via winches or reeving cylinders (hooks), originally servicing commercial, institutional, and industrial solid waste but increasingly servicing drop-off centers for residential solid waste or recyclables or sites that generate construction and demolition debris.

## Sanitary Landfill

Engineered solid waste disposal method on the land in accordance with Subtitle D, designed and operated to protect human health and the environment by establishing requirements with respect to location, operation, design, ground water monitoring, corrective action, closure and post-closure, and financial assurance.

## Scavenging

(1) Theft of recyclable materials set out by the generators, prior to collection by the hauler, done by individuals or illicit businesses, and (2) uncontrolled (and generally unsafe) removal of recyclable materials from the working areas of a sanitary landfill, transfer station, MRF or other solid waste management facility.

## Secondary Material

This term traditionally refers to industrial byproducts of a manufacturing process that are used as an ingredient of another manufacturing process to create another product. Traditional usage of the term, secondary material, does not refer to scrap or fragments generated by a manufacturing process and subsequently returned to the same manufacturing process. However, some recent usage of the term, secondary material, contradicts the traditional definition. In some cases, the term secondary material, does include scrap or fragments generated by a manufacturing process and subsequently returned to the same manufacturing process.

## Sharps

Discarded needles and syringes.

## Small Quantity Generator (SQG))

(Pronounced SQEEGY.) Facilities that generate very small quantities of hazardous waste, between 100 kg. (220 lbs.) and 1000 kg. (2,200 lbs.) per calendar month. The regulatory requirements for Small Quantity Generators are less stringent than persons who, or entities that, generate larger quantities of hazardous waste.

## Solid Waste

Any garbage, refuse, sludge, and other discarded material, including solid, liquid, semisolid, or contained gaseous material, resulting from residential habitation; industrial, commercial, mining, and agricultural operations; and community activities. This definition may vary under diverse local, state, provincial and national laws.

This term generally includes used oil. This term generally does not include solids or dissolved material in domestic sewage or other significant pollutants in water such as silt, dissolved or suspended solids in industrial wastewater effluents, dissolved materials in irrigation return flows or other common water pollutants. However, if any of these materials are separated from the water that carries them, then they generally are considered solid waste. For regulatory purposes, hazardous waste is a subset of solid waste.

## Solid Waste Combustor

Furnace that combusts solid waste as defined in regulations promulgated under the US Clean Air Act. Solid Waste Combustors are subject to stringent federal regulations that control the combustion process and establish emission limits for various air pollutants including dioxin, heavy metals, acid gases (hydrogen chloride and sulfur dioxide), particulates and nitrogen oxides.

- **Solid Waste Combustor (Ash)**

Noncombustible residue remaining after the combustion of solid waste. Bottom Ash is the noncombustible residue that falls to the bottom of the combustion chamber and is removed mechanically. Fly Ash is particles of noncombustible residue that are entrained in the exhaust gases during combustion prior to exhaust into the atmosphere.

## Solid Waste Disposal

The discharge, deposit, injection, dumping, spilling, leaking, or placing of solid waste on or in the land or water. This definition may vary under diverse local, state, provincial and national laws.

## Solid Waste Infrastructure

Facilities, furnishings, equipment, systems, and programs developed to provide solid waste services, including privately or publicly owned or operated collection fleets, transfer stations, MRFs (Materials Recovery Facility), composting facilities, sanitary landfills, solid waste combustors and other solid waste disposal facilities, or operation or service contracts.

## Solid Waste Management

Planned and organized handling of solid waste and recyclable materials in an environmentally and economically sound manner, encompassing the generation, storage, collection, transfer, transportation, processing, resource recovery, reuse, and disposal of solid waste and recyclable materials and including all administrative, financial, educational, environmental, legal, planning, marketing, and operational aspects thereof.

## Source Reduction (or Waste Reduction)

Actions taken to reduce solid waste toxicity or disposal, including (1) manufacturers' redesign and management of products and packaging to extend product life, and facilitating repair, (2) consumers' reduced purchase and consumption of products that become wastes; and (3) manufacturers' and consumers' reuse of products. Section 40196 of the California Public Resources Code defines source reduction as any action which causes a net reduction in the generation of solid waste. "Source Reduction" includes, but is not limited to, reducing the use of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing packaging, reducing the amount of yard wastes generated, establishing garbage rate structures with incentives to reduce the amount of wastes that generators produce, and increasing the efficiency of the use of paper, cardboard,

glass, metal, plastic, and other materials. “Source Reduction” does not include steps taken after the material becomes solid waste or actions which would impact air or water resources in lieu of land, including, but not limited to, transformation.

An alternative definition to the one in the statute was adopted by the CalRecycle in May 1993 (as recommended in the Statewide Waste Prevention Plan). This definition highlights the role of individuals as well as organizations, clearly states that source reduction occurs before anything enters the waste stream; and addresses the question of the overall environmental impacts.

“Any action undertaken by an individual or organization to eliminate or reduce the amount or toxicity of materials before they enter the municipal solid waste stream. This action is intended to conserve resources, promote efficiency, and reduce pollution.”

The United States Environmental Protection Agency defines the term, source reduction, as follows:

“Source reduction is the design, manufacture, purchase, or use of materials or products (including packages) to reduce their amount or toxicity before they enter the municipal solid waste stream. Because it is intended to reduce pollution and conserve resources, source reduction should not increase the net amount or toxicity of wastes generated throughout the life of a product.”

The above definition emphasizes the process of how waste is generated. Analyzing this process helps us find source reduction opportunities. The last sentence of the definition handles life-cycle questions that often arise when substituting products or packaging. As you can see, waste prevention, or source reduction, has everyday opportunities such as when mowing your lawn, buying pet food, and in industrial settings such as when designing consumer products.

Source Reduction is used synonymously with the term waste prevention. The combined experience of other states and public interest groups indicates that it is easier to understand the term waste prevention.

## Source Separated Recyclables

Recyclable materials that are sorted and removed from refuse, garbage and commingled recyclables by the generator or owner of those recyclable materials so that they can be collected in different containers for recycling or composting. Examples include sorting newspapers, glass bottles, metal cans, plastic containers, corrugated cardboard, office papers, and lawn and garden wastes.

## Special Wastes

Solid wastes that are often separated from mixed solid waste for special handling or management, including household hazardous waste, tires, batteries, discarded pesticides, E-waste, and bulky wastes. In 1980, Congress enacted the Solid Waste Disposal Act Amendments of 1980 which included the Bentsen and Bevill Amendments. These amendments exempted “special wastes” from regulation under Subtitle of RCRA. The Bentsen Amendment exempted drilling fluids, produced waters, and other wastes from the exploration, development, and production of crude oil, natural gas, or geothermal energy. The Bevill Amendment exempted fossil fuel combustion waste, Mining and Mineral Processing Waste, and Cement Kiln Dust Waste. Categories of special wastes include:

- **Cement Kiln Dust Waste (CKD)**: a fine-grained solid by-product generated during the cement manufacturing process and captured by the facility’s air pollution control system. Most CKD is returned to the production process, but CKD that is not typically is removed due to the presence of undesired constituents such as alkali metals. Currently, it is generally excluded from the definition of hazardous waste under federal regulations.
- **Crude Oil and Natural Gas Waste**: Certain wastes from the exploration and production of oil, natural gas, and geothermal energy are excluded from hazardous waste regulations.
- **Fossil Fuel Combustion Waste (FCC)**: Wastes produced from the burning of fossil fuels (coal, oil, natural gas). These wastes can include fly ash, bottom ash, boiler slag, and particulates removed from flue gas. See Special Wastes for more information.
- **Mining and Mineral Processing Waste:** Wastes generated during the extraction,

beneficiation, and processing of minerals. Most extraction and beneficiation wastes from hardrock mining and 20 specific mineral processing wastes have been excluded from federal hazardous waste regulations. See Special Wastes for more information and the full list of excluded mining and mineral processing wastes.

## Superfund

Common name for CERCLA, including the entire CERCLA program as well as specifically the trust fund established to fund cleanup of contaminated sites.

## Solid Waste Association of North America (SWANA)

The Solid Waste Association of North America (SWANA) is an organization of more than 10,000 public and private sector professionals committed to advancing from solid waste management to resource management through their shared emphasis on education, advocacy, and research. For more than 60 years, SWANA has been the leading association in the solid waste management field. SWANA serves industry professionals through technical conferences, certifications, publications, and a large offering of technical training courses.

## SWANA Certified

Describes a solid waste professional who meets SWANA's eligibility requirements for education and experience, and who has passed one of SWANA's Certification Exams for a particular solid waste management discipline. SWANA currently offers certification in seven disciplines:

- Management of Collection Systems
- Management of Composting Programs
- Management of Construction and Demolition Materials
- Management of Recycling Systems
- Management of Landfill Operations
- Management of Transfer Stations
- Principles of Management of Municipal Solid Waste Systems

## Toxic Substances Control Act (TSCA)

The Toxic Substances Control Act of 1976 (15 U.S.C. §2601 et seq. (1976)) provides EPA with authority to require reporting, record-keeping and testing requirements, and restrictions relating to chemical substances and/or mixtures. Certain substances are generally excluded from TSCA, including, among others, food, drugs, cosmetics, and pesticides. TSCA addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

On June 22, 2016, the Frank R. Lautenberg Chemical Safety Act was signed into law. This law amends the TSCA by including improvements such as:

- Mandatory requirement for EPA to evaluate existing chemicals with clear and enforceable deadlines
- Risk-based chemical assessments
- Increased public transparency for chemical information; and
- Consistent source of funding for EPA to carry out the responsibilities under the new law

## Tipping Fee

Fee charged for accepting recyclable materials or solid waste at a solid waste management facility (such as a transfer station, solid waste combustor, MRF, IPC or sanitary landfill).

## Transfer Station

Facility that receives and consolidates solid waste or recyclable materials from municipal or commercial collection trucks and self-haulers' vehicles and loads the solid waste onto tractor trailers, railcars, or barges for long-haul transport to a distant disposal facility.

## Transformation

Incineration, pyrolysis, distillation, or biological conversion other than composting. The statutory definition of transformation does not include composting, gasification, or biomass conversion.

## Universal Wastes

Sometimes called U-Waste. Several widely generated hazardous wastes identified by U.S. EPA (such as batteries, pesticides, thermostats, and mercury containing lamps and equipment) that are subject to streamlined requirements for collection, storage, and processing if they are recycled in accordance with law rather than disposed. The term, universal waste, was coined by U.S. EPA to describe wastes that seem to come from everywhere. The term results in part from an early federal method of identifying hazardous waste with the earliest federal waste laws paying attention mostly to the processes that generated waste. Certain processes, mostly manufacturing processes, were deemed to generate hazardous waste based on both scientific and political criteria. Since the passage of the Resource Conservation and Recovery Act (RCRA) in 1976, there has been a blending of the two concepts. Additionally, RCRA allowed states to have more stringent standards than those required by federal law. Nevertheless, the term, universal waste, reflects the traditional federal concept of identifying processes. In the case of universal wastes, there are supposedly no processes that can be clearly identified as the source of generation because they come from an infinite number of sources. Some examples of Universal Waste include:

- Batteries
- Fluorescent lamps and tubes
- Thermostats
- Electronic Devices
- Electrical Switches
- Pilot Light Sensors
- Mercury Gauges
- Mercury Added Novelties
- Mercury Thermometers
- Non-Empty Aerosol Cans that Contain Hazardous Materials

## Upstream Diversion

Diversion of recyclable materials that occurs prior to a specified place or time before setting out the balance of recyclable materials at the curb for collection in a recyclables collection program. An example of Upstream Diversion is as a generator's source reduction, charitable donation, or delivery of recyclable materials to a buy back center.

## Variable Rates

Charges for solid waste collection services that incrementally increase with disposed refuse and garbage volume (such as 32-, 64- or 96-gallon carts) or weight, with lesser or no charges for recyclables collection services, to encourage recycling and discourage disposal. Variable Rates do not necessarily reflect actual operational costs but rather constitute behavioral incentives (or disincentives).

## Waste

Objects or materials for which no use or reuse is intended.

## Waste Diversion

As defined in California statute, the combined efforts of waste prevention, reuse, and recycling practices.

## Waste Exchange

Organization or service that facilitates or arranges for recyclable materials or discarded materials from various generators or industries to be recycled or reused by others.

## Waste Generation

Total amount of disposed Solid Waste and diverted Recyclables.

## Waste Management Hierarchy

The order of preference of waste management techniques, reduce, reuse, recycle, dispose. This is to say that individuals and businesses should look for opportunities to reduce the waste that they generate before they practice any other option. After all attempts to reduce or eliminate the generation of waste have been exhausted, the next preferred option is to look for opportunities to reuse items or substances which could become waste. If all waste reduction and reuse options are exhausted, individuals and businesses should try to recycle waste items or substances. Note that, in general, items and substances are not considered to be wasted if they are reused, and not recycled or discarded. Items or substances that are recycled are considered waste.

## Waste Minimization

Refers to reducing or eliminating, and recycling, hazardous waste.

## Waste Prevention

Actions or choices that prevent the generation of waste. Waste prevention is used synonymously with the term source reduction. U.S. EPA and many states use this term to mean any action undertaken to eliminate or reduce the amount or toxicity of materials before they enter the municipal solid waste stream. Reuse is a type of waste prevention. Waste prevention is a type of waste reduction. Waste Prevention is a type of pollution prevention. Note: Recycling is not a form of waste prevention.

Common examples of waste prevention:

- At Home–Avoiding the use of disposable utensils, napkins, paper towels, and other disposable products. Buying durable items that will last longer than less durable items. Buy other grain-related foods in bulk and store these items in reusable containers until needed.
- In Business–Buying cases of paper in which the paper is not packaged in individual reams. Some paper companies provide paper this way. By not creating individual packages of 500 sheets, you can just open a box of paper next to the photocopier or printer and put what they need into the machine.

## Waste Reduction

Actions taken before waste is generated to either reduce or completely prevent the generation of waste. The combined efforts of waste prevention, reuse, composting, and recycling practices. Many local jurisdictions, public interest groups and a few states use waste reduction synonymously with waste prevention, defined above. Check how the terms are being used when reviewing documents or in conversation to avoid confusion.

## Waste Screening

Monitoring and inspecting incoming solid waste at a solid waste management facility in order to screen out solid waste and other materials that are prohibited or otherwise unacceptable.

## Waste-to-Energy

Controlled combustion of solid waste in solid waste combustors having state-of-the-art pollution controls, and energy recovery there from. Types of Waste-to-Energy facilities include mass burn units that incinerate mixed solid waste with little or no prior separation, and RDF (Refuse Derived Fuel) units that separate combustible solid waste from noncombustible solid waste prior to combustion. See Solid Waste Combustor Ash and Incinerator.

## White Goods

Discarded household appliances such as stoves, refrigerators, and washing machines.

## Worm Composting

Worms feed on slowly decomposing materials (e.g., vegetable scraps) to produce a nutrient rich soil amendment, in a controlled environment.

## Xeriscaping

The practice of landscaping with slow growing, drought-tolerant plants.

## Zero Waste

Efforts to reduce solid waste generation waste to nothing, or as close to nothing as possible, by minimizing excess consumption and maximizing the recovery of solid wastes through recycling and composting

*This glossary is part of a series from Better Buildings focused on industry definitions.*
*Published October 2022 | DOE/EE-2657*