**What is Solid Waste**

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Solid waste means any garbage, refuse, sludge from a wastewater treatment plant, water supply treatment plant, or air pollution control facility and other discarded materials including solid, liquid, semi-solid, or contained gaseous material, resulting from industrial, commercial, mining and agricultural operations, and from community activities.

**In Simple Words** - Solid wastes are any discarded or abandoned materials. Solid wastes can be solid, liquid, semi-solid or containerized gaseous material.

**Municipal solid waste** (**MSW**), commonly known as **trash** or **garbage** in the [U.S.](http://en.wikipedia.org/wiki/American_English) and as **refuse** or **rubbish** in the[UK](http://en.wikipedia.org/wiki/British_English), is a [waste type](http://en.wikipedia.org/wiki/Waste_type) consisting of everyday items that are discarded by the public. "Garbage" can also refer specifically to [food waste](http://en.wikipedia.org/wiki/Food_waste), as in a [garbage disposal](http://en.wikipedia.org/wiki/Garbage_disposal); the two are sometimes collected separately.

 Waste can be classified in several ways but the following list represents a typical classification:

* [Biodegradable waste](http://en.wikipedia.org/wiki/Biodegradable_waste): [food and kitchen waste](http://en.wikipedia.org/wiki/Food_waste), [green waste](http://en.wikipedia.org/wiki/Green_waste), [paper](http://en.wikipedia.org/wiki/Paper) (can also be recycled).
* [Recyclable](http://en.wikipedia.org/wiki/Recycling) material: paper, [glass](http://en.wikipedia.org/wiki/Glass), [bottles](http://en.wikipedia.org/wiki/Bottle), [cans](http://en.wikipedia.org/wiki/Tin_can), [metals](http://en.wikipedia.org/wiki/Metal), certain [plastics](http://en.wikipedia.org/wiki/Plastic), [fabrics](http://en.wikipedia.org/wiki/Fabric), [clothes](http://en.wikipedia.org/wiki/Clothes), [batteries](http://en.wikipedia.org/wiki/Battery_%28electricity%29) etc.
* [Inert](http://en.wikipedia.org/wiki/Inert) waste: [construction and demolition waste](http://en.wikipedia.org/wiki/Construction_and_demolition_waste), [dirt](http://en.wikipedia.org/wiki/Soil), [rocks](http://en.wikipedia.org/wiki/Rock_%28geology%29), debris.
* Electrical and [electronic waste](http://en.wikipedia.org/wiki/Electronic_waste) (WEEE) - electrical appliances, TVs, computers, screens, etc.
* Composite wastes: waste [clothing](http://en.wikipedia.org/wiki/Clothing), Tetra Packs, waste plastics such as toys.
* [Hazardous waste](http://en.wikipedia.org/wiki/Hazardous_waste) including most [paints](http://en.wikipedia.org/wiki/Paint), [chemicals](http://en.wikipedia.org/wiki/Chemical), [light bulbs](http://en.wikipedia.org/wiki/Light_bulb), [fluorescent tubes](http://en.wikipedia.org/wiki/Fluorescent_tube), [spray cans](http://en.wikipedia.org/wiki/Spray_can), [fertilizer](http://en.wikipedia.org/wiki/Fertilizer) and containers
* [Toxic waste](http://en.wikipedia.org/wiki/Toxic_waste) including [pesticide](http://en.wikipedia.org/wiki/Pesticide), [herbicides](http://en.wikipedia.org/wiki/Herbicides), [fungicides](http://en.wikipedia.org/wiki/Fungicides) and medical waste

Components of solid waste management

The municipal solid waste industry has four components: [recycling](http://en.wikipedia.org/wiki/Recycling), [composting](http://en.wikipedia.org/wiki/Compost), [landfilling](http://en.wikipedia.org/wiki/Landfill), and [waste-to-energy](http://en.wikipedia.org/wiki/Waste-to-energy) via incineration.[[5]](http://en.wikipedia.org/wiki/Municipal_solid_waste#cite_note-5) The primary steps are generation, collection, sorting and separation, transfer, and disposal. Activities in which materials are identified as no longer being of value and are either thrown out or gathered together for disposal.

**Collection**

The functional element of collection includes not only the gathering of solid waste and recyclable materials, but also the transport of these materials, after collection, to the location where the collection vehicle is emptied. This location may be a materials processing facility, a transfer station or a landfill disposal site.

**Waste handling and separation, storage and processing at the source**[[edit](http://en.wikipedia.org/w/index.php?title=Municipal_solid_waste&action=edit&section=4)]

Waste handling and separation involves activities associated with waste management until the waste is placed in storage containers for collection. Handling also encompasses the movement of loaded containers to the point of collection. Separating different types of waste components is an important step in the handling and storage of solid waste at the source.

**Separation and processing and transformation of solid wastes**[[edit](http://en.wikipedia.org/w/index.php?title=Municipal_solid_waste&action=edit&section=5)]

The types of means and facilities that are now used for the recovery of waste materials that have been separated at the source include curbside collection, drop off and buy back centers. The separation and processing of wastes that have been separated at the source and the separation of commingled wastes usually occur at a materials recovery facility, transfer stations, combustion facilities and disposal sites.

**Transfer and transport**[[edit](http://en.wikipedia.org/w/index.php?title=Municipal_solid_waste&action=edit&section=6)]

This element involves two main steps. First, the waste is transferred from a smaller collection vehicle to larger transport equipment. The waste is then transported, usually over long distances, to a processing or disposal site.

**Disposal**

Today, the disposal of wastes by land filling or land spreading is the ultimate fate of all solid wastes, whether they are residential wastes collected and transported directly to a landfill site, residual materials from [materials recovery facilities](http://en.wikipedia.org/wiki/Materials_recovery_facilities)(MRFs), residue from the combustion of solid waste, [compost](http://en.wikipedia.org/wiki/Compost), or other substances from various solid waste processing facilities. A modern sanitary landfill is not a dump; it is an engineered facility used for disposing of solid wastes on land without creating nuisances or hazards to public health or safety, such as the breeding of insects and the contamination of[ground water](http://en.wikipedia.org/wiki/Ground_water).

**Energy generation**

Municipal solid waste can be used to generate energy. Several technologies have been developed that make the processing of MSW for energy generation cleaner and more economical than ever before, including landfill gas capture, combustion, [pyrolysis](http://en.wikipedia.org/wiki/Pyrolysis), [gasification](http://en.wikipedia.org/wiki/Gasification), and [plasma arc gasification](http://en.wikipedia.org/wiki/Plasma_arc_gasification).[[6]](http://en.wikipedia.org/wiki/Municipal_solid_waste#cite_note-6) While older waste incineration plants emitted high levels of pollutants, recent regulatory changes and new technologies of have significantly reduced this contamination.

Methods of Solid Waste Management

There are different methods of solid waste management. The following are some of the recognized methods:

**Sanitary Landfill**

This is the most popular solid waste disposal method used today. Garbage is basically spread out in thin layers, compressed and covered with soil or plastic foam. Modern landfills are designed in such a way that the bottom of the landfill is covered with an impervious liner which is usually made of several layers of thick plastic and sand. This liner protects the ground water from being contaminated because of leaching or percolation. When the landfill is full, it is covered with layers of sand, clay, top soil and gravel to prevent seepage of water.

 **Incineration**

This method involves burning of solid wastes at high temperatures until the wastes are turned into ashes. Incinerators are made in such a way that they do not give off extreme amounts of heat when burning solid wastes. This method of solid waste management can be done by individuals, municipalities and even institutions. The good thing about this method is the fact that it reduces the volume of waste up to 20 or 30% of the original volume.

**Recovery and Recycling**

[Recycling](https://www.conserve-energy-future.com/various-recycling-facts.php) or recovery of resources is the process of taking useful but discarded items for next use. Traditionally, these items are processed and cleaned before they are recycled. The process aims at reducing energy loss, consumption of new material and [reduction of landfills](https://www.conserve-energy-future.com/15-easy-ways-to-reduce-landfill-waste.php). Recycling is a [resource recovery](http://en.wikipedia.org/wiki/Resource_recovery) practice that refers to the collection and reuse of waste materials such as empty beverage containers. The materials from which the items are made can be reprocessed into new products.

**Composting**

Due to lack of adequate space for landfills, biodegradable yard waste is allowed to decompose in a medium designed for the purpose. Only biodegradable [waste materials are used in composting](https://www.conserve-energy-future.com/Composting.php). Good quality [environmentally friendly manure](https://www.conserve-energy-future.com/15-easy-ways-to-become-environmentally-friendly.php)is formed from the compost and can be used for agricultural purposes.

**Pyrolysis**

This is method of solid waste management whereby solid wastes are chemically decomposed by heat without presence of oxygen. This usually occurs under pressure and at temperatures of up to 430 degrees Celsius. The solid wastes are changed into gasses, solid residue and small quantities of liquid.

In summary, proper solid waste management is an integral part of environmental conservation that should be observed by individuals and companies globally. This will keep the [environment clean](https://www.conserve-energy-future.com/environmental-ethics.php) and reduce health and settlement problems.

**Resource recovery**

Resource recovery is the systematic diversion of waste, which was intended for disposal, for a specific next use.[[14]](http://en.wikipedia.org/wiki/Waste_management#cite_note-14) It is the processing of recyclables to extract or recover materials and resources, or convert to energy.[[15]](http://en.wikipedia.org/wiki/Waste_management#cite_note-Montana-15) These activities are performed at a resource recovery facility.[[15]](http://en.wikipedia.org/wiki/Waste_management#cite_note-Montana-15) Resource recovery is not only environmentally important, but it is also cost effective.[[16]](http://en.wikipedia.org/wiki/Waste_management#cite_note-traverse-16) It decreases the amount of waste for disposal, saves space in landfills, and conserves natural resources.[[16]](http://en.wikipedia.org/wiki/Waste_management#cite_note-traverse-16)