



U.S. Energy Information  
Administration

## Waste-to-Energy (Municipal Solid Waste)

### Energy from municipal solid waste

Municipal solid waste (MSW), often called garbage, is used to produce energy at waste-to-energy plants and at landfills in the United States. MSW contains

- biomass, or biogenic (plant or animal products), materials such as paper, cardboard, food waste, grass clippings, leaves, wood, leather products
- nonbiomass combustible materials such as plastics and other synthetic materials made from petroleum
- noncombustible materials such as glass and metals

In 2014, about 258 million tons of MSW were generated in the United States, of which

- 53% was landfilled
- 35% was recycled and composted
- 13% was burned for energy

### Waste-to-energy plants make steam and electricity

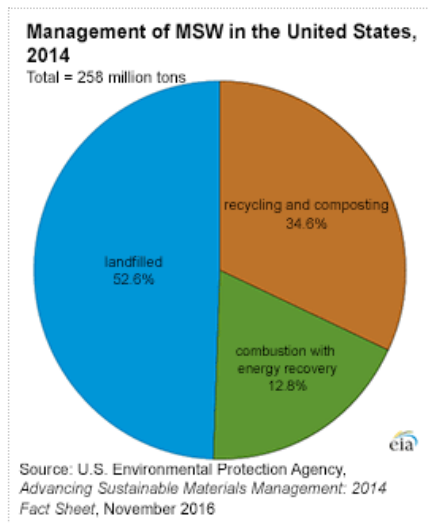
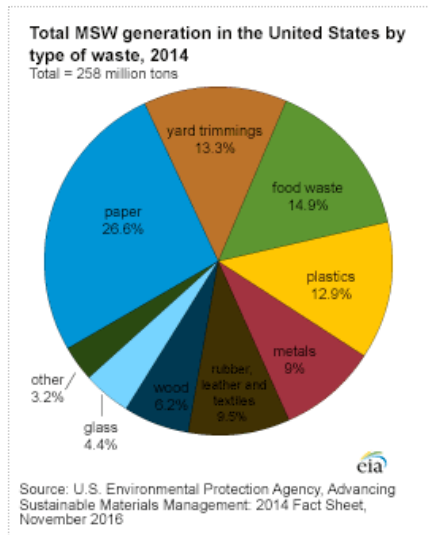
MSW is usually burned at special waste-to-energy plants that use the heat from the fire to make steam for generating electricity or to heat buildings. In 2015, 71 waste-to-energy power plants and four other power plants burned MSW in the United States. These plants burned about 29 million tons of MSW in 2015 and generated nearly 14 billion kilowatthours of electricity. The biomass materials in the MSW that were burned in these power plants accounted for about 64% of the weight of the MSW and contributed about 51% of the energy. The remainder of the MSW was nonbiomass combustible material, mainly plastics. Many large landfills also generate electricity by using the [methane gas](#) that is produced from decomposing biomass in landfills.

### Waste-to-energy is a waste management option

Producing electricity is only one reason to burn MSW. Burning waste also reduces the amount of material that would probably be buried in landfills. Burning MSW reduces the volume of waste by about 87%.

### Learn more

- [Sustainable materials management](https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures) — <https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures>
- [Methodology for allocating municipal solid waste to biogenic and non-biogenic energy](http://www.eia.gov/totalenergy/data/monthly/pdf/historical/msw.pdf) — <http://www.eia.gov/totalenergy/data/monthly/pdf/historical/msw.pdf>
- [OECD data - See Environment, Waste, Municipal waste - Generation and treatment, Incineration with energy recovery](http://stats.oecd.org/#) — <http://stats.oecd.org/#>
- [Articles on waste-to-energy](http://todayinenergy/index.php?tg=waste-to-energy) — [/todayinenergy/index.php?tg=waste-to-energy](http://todayinenergy/index.php?tg=waste-to-energy)



Last updated: March 20, 2017

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### Learn more

- [Sustainable materials management](https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures) — <https://www.epa.gov/smm/advancing-sustainable-materials-management-facts-and-figures>
- [OECD data - See Environment, Waste, Municipal waste - Generation and Treatment, Incineration with energy recovery](http://stats.oecd.org/#) — <http://stats.oecd.org/#>
- [Articles on waste-to-energy](/todayinenergy/index.php?tg=waste-to-energy) — </todayinenergy/index.php?tg=waste-to-energy>

Last updated: January 24, 2018