

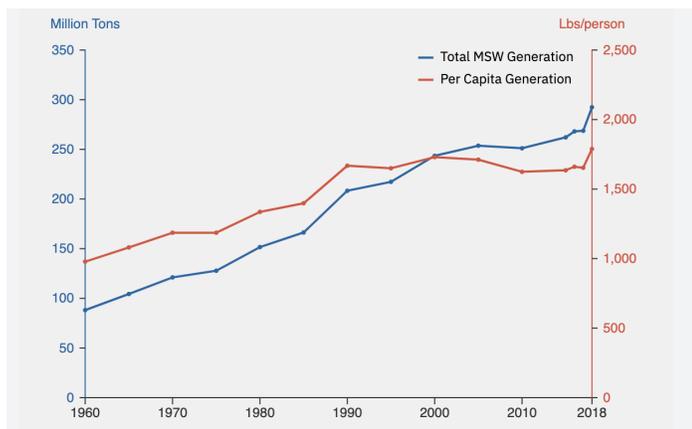
U.S. Municipal Solid Waste

Municipal Solid Waste (MSW), commonly called “trash” or “garbage,” includes wastes such as durable goods (e.g., tires, furniture), nondurable goods (e.g., newspapers, plastic plates/cups), containers and packaging (e.g., milk cartons, plastic wrap), and other wastes (e.g., yard waste, food). This category of waste generally refers to common household waste, as well as office and retail wastes, and excludes industrial, hazardous, and construction wastes. The handling and disposal of MSW is a growing concern as the volume of waste generated in the U.S. continues to increase.¹

Generation Statistics

- MSW generation in the U.S. has increased 93% since 1980, to 292M tons per year in 2018.¹ Per capita MSW generation increased by 34% over the same time period, from 3.7 to 4.9 lbs per person per day, compared to 2.4 in Sweden, 3.6 in Germany, and 2.6 in the U.K.^{1,2} At the 2018 per capita rate, an American weighing 180 lbs generates their own weight in MSW every 37 days.
- In 2021, Americans generated 28 lbs per \$1,000 of GDP compared to 26 in Germany, 21 in the U.K., and 16 in Sweden.^{3,4}
- 29% of MSW generated in the U.S. is either recycled or composted, 7.6% is sent to waste-to-energy (WTE) incinerator facilities, and the remaining 63.5% is landfilled.⁵
- Packaging, containers, and durable goods made up 48% of MSW in 2018.¹ Most of the remainder was split between nondurable goods, food waste, and yard waste.¹
- Just under 1/3 of all food is wasted in the U.S., amounting to 133B lbs per year.⁶ Food waste globally accounts for 8-10% of GHG emissions.⁷ See the [Food Systems Factsheet](#).

U.S. Annual MSW Generation¹

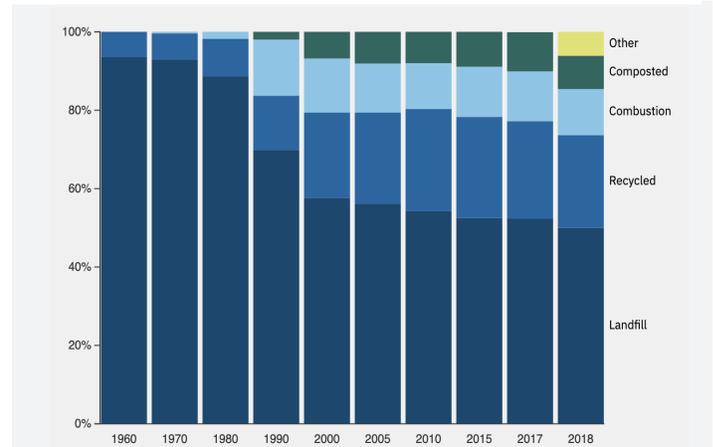


Management Methods

Landfill

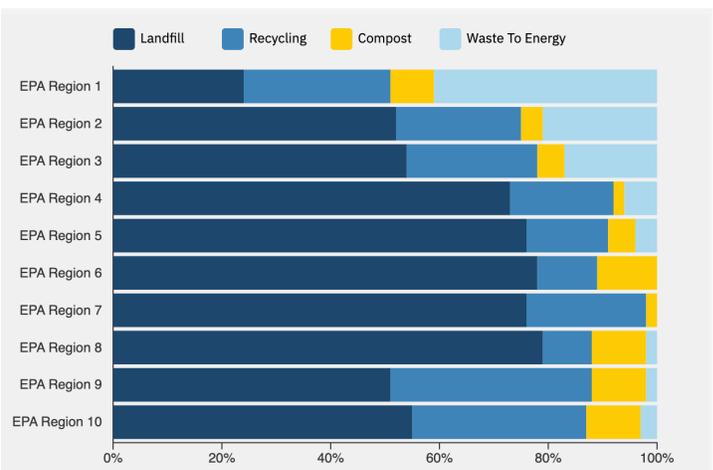
- In 2018, 50% of MSW generated in the U.S. was disposed of in 1,265 landfills.^{1,8} According to the U.S. EPA, 316 Mt of waste are landfilled annually.⁹ These landfills emit 270 Mt CO₂e, equal to 5% of U.S. energy-related CO₂ emissions.⁹
- Landfill disposal (“tipping”) fees in 2023 in the U.S. averaged \$56.80 per ton, a 3% decrease from 2022.^{10,11} These fees fund operation and maintenance of landfills, but there is still a lack of funding for research and technologies for waste diversion.¹²
- Environmental impacts of landfill disposal include loss of land area, emissions of methane (CH₄, a potent GHG), and potential leaching of hazardous materials to groundwater, though proper design reduces this risk.^{13,14}

MSW Management in the U.S.¹



- Landfills were the third largest source of U.S. anthropogenic CH₄ emissions in 2021, accounting for over 17% of total CH₄ emissions, about 1.9% of total GHG emissions.¹⁵
- In 2019, 38% of food waste was landfilled, resulting in 18% of the total CH₄ emitted from landfills.^{6,16}

Regional MSW Management, 2010¹



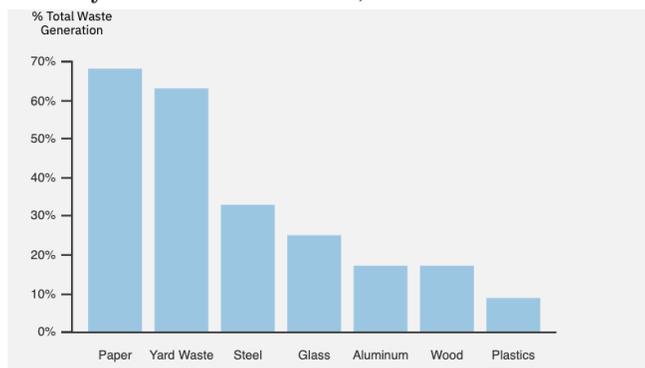
Combustion

- In 2018, 11.8% of MSW generated in the U.S. was disposed of through waste-to-energy incineration.¹ Combustion reduces waste 75-85% by weight and 85-95% by volume, creating a residue called ash. Most of this ash is landfilled. Recent attempts have been made to reuse the ash.¹⁷
- In 2022, 63 power plants burned 26.6M tons of MSW and generated about 12.8B kWh of electricity.¹⁸
- Biogenic MSW (paper, food, and yard waste) accounted for 45% (5.76B kWh) of the electricity produced, or about 0.14% of total U.S. electricity generation.^{18,19}
- In 2019, 10% of food waste was combusted.¹⁶
- Incineration of MSW generates pollutants (CO₂, heavy metals, dioxins, particulates) that contribute to impacts such as climate change, smog, acidification, and human health impacts (asthma and heart and nervous system damage).²⁰

Recycling and Composting

- In 2018, 32.1% of MSW (by weight) generated in the U.S. was recovered for recycling or composting, diverting 93.9M tons of material from landfills and incinerators— about 2.8 times the amount diverted in 1990.¹

Recovery of Materials in MSW, 2018²¹



- In 2018, 27% of recovered MSW was composted.¹
- 53% of people in the U.S. live in communities that automatically provide curbside recycling services. 82% of cities with curbside recycling collect single-stream, meaning materials are separated at the recycling plant.^{22,23}
- Between 1988 and 2011 the number of curbside programs in the U.S. increased more than ninefold.^{24,25}
- Households with a recycling pickup service generate 42% less waste than those without access to recycling.²⁶
- In 2018, 97% of corrugated boxes were recovered for recycling; other highly recycled products include lead-acid batteries (99%), newspapers (65%), major appliances (60%), and aluminum beverage cans (50%).¹
- Common products with poor recycling rates include: carpet (9%), small appliances (6%), and furniture (0.3%).²⁷

Solutions and Sustainable Actions

Source Reduction

- Source reduction activities help prevent materials from entering the MSW stream and are the most effective way to reduce waste generation.²⁸
- Identify opportunities to reuse materials at home or in your community. Purchase items like furniture and appliances from reuse centers and consignment shops.
- Packaging and containers made up 28% of MSW generated in 2018. Reduce packaging material required by selecting efficiently packaged products or buying in bulk.¹
- Purchase products with post-consumer recycled content and encourage companies to implement source reduction.
- In 2018, 2.5M tons of paper and plastic plates and cups were disposed of.²⁹ Choose reusable plates, cups, and silverware over disposable and reuse them to make up for their greater production burdens compared to disposables.³⁰
- Food waste makes up 24% of MSW in the U.S., more than any other material. Reduce food waste through meal planning and composting of scraps.¹⁶
- In 2018, 600M tons of construction and demolition (C&D) waste was generated.³¹ Significant amounts of waste and GHG emissions can be prevented if cities and buildings are laid out and constructed in an energy-efficient manner.³² For more information, see the [Commercial Buildings Factsheet](#).

Encourage Supportive Public Policy

- According to a survey conducted by the NRDC, 87% of Americans want the U.S. be a global leader in tackling plastic pollution and waste.³³
- In 2020, the USDA, EPA, and FDA renewed the “Winning on Reducing Food Waste” initiative, to continue to promote the reduction of food loss and waste.³⁴
- In 2021, 25 states introduced food waste-related legislation to reduce the amount of food waste going to landfills.¹⁶
- In 2024, the USEPA, USDA, and USFDA released a “Strategy for Reducing Food Loss and Waste and Recycling Organics.”³⁵
- Implement Pay-As-You-Throw programs, designed to limit the volume of MSW per household by charging residents for waste collection based on the weight they throw away.³⁶
- Implementation of curbside recycling and composting programs can help reduce the burden of waste disposal.
- Households that take their recycling to a drop-off center generate 26% less waste.²⁶
- Ten states (CA, CT, HI, IA, ME, MA, MI, NY, OR, and VT) have deposit laws to encourage the return of beverage containers.³⁷