

Environmental Benefits of Recycling

Recycling, the process of collecting and processing materials that would otherwise be thrown away as trash and turning them into new products, is a key aspect of our state's solid waste management strategy and benefits the environment in many ways. Recycling is not only significant because it keeps millions of tons of materials out of landfills and other disposal facilities, but also because it conserves natural resources, saves energy, and reduces emissions of water and air pollutants, including greenhouse gas emissions. Recycling is also an easy and important way for people to express their commitment to the environment.

National Recycling Facts

- In 2017, Americans generated almost 268 million tons of trash and recycled and composted about 94 million tons of this material, equivalent to a 35.2 percent recycling rate. (United States Environmental Protection Agency)
- Over 52.6 million tons of waste paper was recovered for recycling in the United States in 2018. This equates to a 68.1 percent recycling rate. (American Forest & Paper Association)
- In 2017, the U.S. scrap industry processed and recycled 66 million tons of ferrous metal scrap. (Institute of Scrap Recycling Industries)
- More than 56 billion aluminum cans were recycled in the United States in 2018. This equates to a 63.6 percent recycling rate. (The Aluminum Association)
- The glass container and fiberglass industries collectively purchase 3.35 million tons of recycled glass annually, which is remelted and repurposed for use in the production of new glass containers and fiberglass products. (Glass Packaging Institute)
- Over 1.8 billion pounds of polyethylene terephthalate (PET) plastic bottles were collected for recycling in the United States in 2018. This equates to a 29 percent recycling rate. (National Association for PET Container Resources)

New Jersey Recycling Facts

- In 2017, the New Jersey Department of Environmental Protection documented the recycling of almost 4 million tons of municipal solid waste (residential, commercial and institutional) for a municipal solid waste recycling rate of 40%.
- In 2017, the New Jersey Department of Environmental Protection documented the recycling of over 14 million ton of total solid waste (municipal solid waste plus industrial) for a total recycling rate of 60%.
- Over 1.6 million tons of paper and corrugated cardboard were recycled by New Jersey residents, businesses and institutions in 2017.
- Over 445,000 tons of glass containers, aluminum containers, steel containers and plastic containers were recycled by New Jersey residents, businesses and institutions in New Jersey in 2017.
- Over 5.9 million tons of concrete, asphalt, brick and block were recycled in New Jersey in 2017.
- Over 667,000 tons of leaves were composted in New Jersey in 2017.

Natural Resource Conservation

- The use of recycled material feedstocks conserves natural resources.
- Recycling one car (steel) conserves 2,500 pounds of iron ore, 1,400 pound of coal, and 120 pounds of limestone. (Institute of Scrap Recycling Industries)
- Recycling one ton of aluminum conserves more than four metric tons of bauxite ore. (Institute of Scrap Recycling Industries)
- Recycling one ton of paper saves trees, 3.3 cubic yards of landfill space and 7,000 gallons of water. (United States Environmental Protection Agency)
- Over a ton of natural resources are saved for every ton of glass recycled. (Glass Packaging Institute)
- Recycling plastic containers reduces the need for virgin petrochemical feedstock. (National Association for PET Container Resources)
- Recycling reduces the need for new landfills and incinerators.

Energy Conservation

- The use of recycled material feedstocks (rather than virgin materials) in the production of new products saves energy.
- Producing recycled paper requires about 60% of the energy used to make paper from virgin wood pulp. (United States Environmental Protection Agency)
- Recycling one ton of paper save enough energy to power the average American home for six months. (United States Environmental Protection Agency)
- Steel produced from recycled steel requires 56% less energy than steel produced from iron ore. (Institute of Scrap Recycling Industries)
- Producing new plastic from recycled material uses only two-thirds of the energy required to manufacture it from raw materials. (United States Environmental Protection Agency)
- Aluminum produced from recycled aluminum cans requires up to 92% less energy than aluminum produced from bauxite ore. (Institute of Scrap Recycling Industries)
- The energy saved from recycling aluminum beverage cans in the U.S. could fuel more than 1 million cars on the road for a full year. (Institute of Scrap Recycling Industries)
- Recycling one glass container saves enough energy to light a 100-watt bulb for four hours. (United States Environmental Protection Agency)

Reductions in Emissions of Air and Water Pollutants

- Recycling results in reduced emissions of air and water pollutants.
- Recycling reduces the need for mining and drilling, both of which cause air and water pollution. (University of Buffalo)
- Manufacturing with recycled materials, with very few exceptions, produces less air and water pollution than manufacturing with virgin materials. It results in a net reduction for ten major categories of air pollutants (such as nitrogen oxide, particulates, and sulfur oxides) and eight major categories of water pollutants. (United States Environmental Protection Agency – City of Fort Collins)
- In container glass production, a relative 10% increase in the use of recycled glass cullet reduces particulates by 8%, nitrogen oxide by 4%, and sulfur oxides by 10%. (Institute of Scrap Recycling Industries)

Greenhouse Gas Reductions

- Recycling leads to reductions in greenhouse gas generation by saving energy needed to extract natural resources, by increased forest carbon sequestration (through the saving of trees), by using less energy in manufacturing and by reducing the amount of waste burned or buried.
- On average, approximately 1.67 metric tons of Carbon Dioxide (CO₂) equivalents are avoided for every ton of municipal solid waste recycled. (United States Environmental Protection Agency)
- Greenhouse gas emissions are reduced by 1/3 per ton for every ton of recycled glass used. (Glass Packaging Institute)
- By using ferrous scrap rather than virgin materials in the production of iron and steel, CO₂ emissions are reduced by 58%. (Institute of Scrap Recycling Industries)
- Recycling one ton of paper will reduce greenhouse gas emissions by one metric ton of carbon equivalent (MTCE). (United States Environmental Protection Agency)
- American Forest and Paper Association member companies' use of recovered fiber resulted in avoided greenhouse gas emissions of more than 19 million metric tons of CO₂ equivalents in 2018.
- For every pound of recycled PET plastic flake used (in lieu of virgin petrochemical feedstock) greenhouse gas emissions are reduced by 71%. (National Association for PET Container Resources)