

Benefits of Recycling

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Most people realize that recycling is a critical part of dealing with the ever-growing solid waste stream and easing pressure on our already strained landfill capacity. But recycling is a lot more than a waste management strategy. The impacts of recycling are far-reaching and cover a broad range of benefits, including energy savings, job creation and economic growth, natural resource conservation, reduced emissions of greenhouse gases, pollution prevention, a reduced need for new landfills, and the prevention of other detrimental impacts on our environment.

Economic Benefits

Recycling generates many significant benefits for the economy. In fact, the Office of the Federal Environmental Executive estimates that recycling and remanufacturing industries account for more than \$200 billion in revenue annually. New businesses are created to haul, process, and broker recovered materials, as well as manufacture and distribute products made with recovered materials.

These new businesses create new jobs. And the jobs created by recycling businesses employ workers from a broad spectrum of the labor market, ranging from low- to high-skilled positions in a variety of jobs, from materials handling and processing to high-quality product manufacturing to engineering new processes. The D.C. based Institute for Local Self Reliance (ILSR) reports that on a per ton basis the sorting and processing of recyclables alone sustains ten times more jobs than landfilling. Recycling based manufacturers have an even bigger impact, employing even more people and at higher wages. For example, on a per ton basis, some plastics manufacturers employ up to 60 times more workers than do landfills (ILSR).

Investments in recycling equipment and the companies themselves also filter through the economy and contribute to growth. Moreover, the drive for efficient handling and use of recycled materials spurs innovation, a key to long-term economic growth.

Energy Savings

On top of its economic impacts, recycling offers significant benefits in terms of energy savings. The steps in supplying recycled materials to industry, including collection, processing and transportation, typically use less energy than the steps in supplying virgin materials to industry, including extraction, refining, and transportation. Additional energy savings associated with recycling occur in the manufacturing process, when products are made from already processed material versus from scratch using raw materials. For instance, the Container Recycling Institute (CRI) reports that manufacturing an aluminum can from recycled material requires only about 5% of the energy that would be needed to produce the can from virgin materials. The amount of energy saved is roughly equivalent to what is needed to power a TV for 3 hours (CRI). Extrapolate these figures and you can begin to grasp the real-life implications. For instance, according to the EPA, on a per ton basis, recycled paper saves around 400 gallons of oil.

Pollution Prevention

Still one of the greatest benefits of recycling is pollution prevention. Energy savings is one of the ways that recycling reduces pollution emissions. When less energy is used to make products, fewer fossil fuels are burned and less green house gas, mercury, and other harmful chemicals are emitted into the atmosphere to pollute our air, water, soil. For example, that aluminum can made from recycled material that required only 5% of the energy needed to produce it from raw materials, also produced 95% less air pollution (CRI).

Another way that recycling prevents pollution is by reducing pollution emissions from landfills. Organic material produces methane gas as it decomposes. Methane, a potent greenhouse gas, is 21 times more effective at trapping heat in the atmosphere than carbon dioxide. By diverting organic material from landfills, recycling reduces methane emissions. The materials decomposing in landfills also produce leachate. Leachate is a liquid formed when water percolates through the garbage in a landfill. It can contain metals, bacteria, and toxins that sometimes end up in our soil and water.

Recycling prevents pollution in a third way by increasing the potential amount of carbon that is absorbed by trees. Trees absorb carbon dioxide from the atmosphere in a process called carbon sequestration. Recycling of paper products reduces the number of trees that are cut down to make these products. With more trees standing, more carbon is absorbed from the air. To illustrate the effect of all of these factors combined, consider the impact of a single ton of paper. Each ton of paper that is recycled prevents 500 pounds of air pollution and thousands of gallons of contaminated waste water from being released into the environment (U.S. EPA).

Natural Resource Conservation

The final, and perhaps the most significant benefit of recycling, is its potential to preserve our natural resources, many of which are being depleted at alarming rates. Recycling allows us to use these resources more than once, reducing the need to chop down, extract, process, refine and transport natural resources such as timber, petroleum, and mineral ores. Glass, for example, never wears out. It can be recycled over and over again. In the case of aluminum, 4 pounds of bauxite ore is saved for every pound of aluminum that is recycled (CRI). By supplying industry with recycled materials, rather than virgin resources, recycling also preserves biodiversity by slowing the destruction of forests, wetlands, rivers and other places essential to wildlife. Additionally, other detrimental impacts, such as soil erosion associated with logging and mining, are lessened.

Considering these facts, you can begin to understand that the benefits of recycling encompass much more than waste management objectives. While recycling goes a long way in preserving valuable landfill space, it also has enormous potential for economic and environmental benefits. This is why disposing of materials that could be recycled is truly a careless waste of a valuable resource.