



Focus on the Benefits of Recycling

from Ecology's Solid Waste and Financial Assistance Program

Based on Washington's 2005 Recycling Efforts

Recycling conserves natural resources

Each ton of solid waste diverted from disposal - whether reused, recycled, or composted - is one less ton of solid waste requiring disposal. The value of reusing, recycling, and composting solid waste is clear when you consider the amount of disposal space required to accept that material. By using other strategies to manage waste (as well as to manage resources), we reduce our dependence on incinerators and landfills. And when we use recycled materials rather than trees, metal ores, and minerals, there is less pressure to expand forestry and mining production.

By recycling 975,000 tons of scrap steel in 2005, Washington's recycling efforts reduced the need for virgin materials by twice that amount. For every ton of scrap steel we recycled, we avoided mining and processing two tons of raw materials such as iron ore, coal, and limestone!

Recycling saves energy

Saving energy is an important environmental benefit of recycling, because using energy usually requires fossil-fuel consumption and involves air- and water-pollutant emissions. The energy needed to make paper, plastics, glass, and metal products from recycled materials is generally less than the energy needed to produce them from virgin materials. Additionally, the energy used to provide recycled materials to industry (including collecting, processing, and transporting) is typically less than the energy needed to supply new materials to industry (including extracting, refining, transporting, and processing).

The 7,400,000 tons of materials recycled in Washington in 2005 saved about 116,000 billion BTUs of energy. This is equal to about half of all energy used in homes in the state annually!

The materials recycled in Washington in 2005 saved about 925 million gallons of gasoline. This is equivalent to about one quarter of the oil used in Washington annually.

Recycling reduces greenhouse gas emissions

A great amount of energy used in industrial processes and in transportation involves burning fossil fuels. Recycling helps lessen the dangers of global climate change by reducing the amount of energy used by industry and by reducing greenhouse gas emissions.

Washington's measured recycling efforts for 2005 reduced greenhouse gas emissions by almost 3.2 million tons or over 1000 pounds per person. This is similar to removing 2.5 million passenger cars from the road way each year—over half of the passenger cars in Washington!

Recycling provides preferable sources of raw materials

Recycling is more than a waste-management strategy; it is also an important way to reduce the environmental effects of industrial production. Supplying industry with recycled materials, instead of virgin resources from forests and mines conserves these scarce natural resources, and it saves energy. It reduces greenhouse gas emissions, and other dangerous air and water pollutants. **In 2005, Washington**

recycling programs supplied industry with more than 7,400,000 tons of recycled commodities such as metals, plastics, paper, glass, wood, and construction and demolition scrap.

**Energy Savings and Greenhouse Gas Impacts from Recycling in Washington – 2005
(Relative to energy required for virgin production - Selected List of Materials)***

Material Recovered/Recycled (limited list)	Tons Recovered	BTUs Saved by Recycling (in millions)	Tons Greenhouse Gases Reduced by Recycling (MTCE)
Aluminum Cans	15,441	3,173,034	56,863
Tin Cans	12,133	210,722	5,317
Glass	82,773	61,281	4,019
HDPE	9,319	457,178	3,200
LDPE	16,209	767,430	4,730
PET	8,534	436,537	3,298
Corrugated Cardboard	565,698	8,651,560	451,080
Mixed Paper	322,732	7,187,770	255,964
Newspaper	259,157	4,207,237	230,744
High-Grade Paper	58,661	587,863	5,361
Dimensional Lumber	351,855	161,523	291,700
Yard Trimmings	674,235	N/A	50,716
Mixed Metals	1,144,327	85,432,513	1,637,446
Mixed Plastics	7,247	219,347	N/A
Mixed Organics	596,177	N/A	17,207
Computers/Electronics	8,534	362,091	5,088
Concrete/Asphalt	1,783,418	173,312	3,442
Fly Ash	14,588	55,205	3,176
Tires	9,256	257,030	2,346
Total	5,940,294	112,401,633	3,031,697

*Sources: Recycling data from Washington Department of Ecology's 2005 Recycling Survey; Energy and resource conversions from EPA's Waste Reduction Model (WARM).

Recycling reduces emissions of air and water pollutants

Recycling can significantly reduce the amount of pollution entering the air and water. Recycling uses less fossil fuel and keeps materials out of landfills, where they can contaminate groundwater systems.

Recycling also keeps materials out of incinerators, which can pollute the air and create ash residue.

Twenty-seven different types of air and water pollutants are reduced when we recycle instead of using virgin resources to manufacture products and disposing of the waste materials.

For more information

If you have questions or would like further information, contact Gretchen Newman, Environmental Specialist, Solid Waste and Financial Assistance Program, Department of Ecology

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