Washington's Recycling Produces Results

Recycling in Washington continues to produce important environmental and economic benefits for our state. In 2013, more than 50 percent of the waste generated by Washington residents and businesses was recycled or diverted from landfills. While reducing the amount of waste going to landfills is important, recycling is more than a way to manage wastes – it also reduces pollution and conserves natural resources.

Recycling saves energy and reduces greenhouse gas emissions

Using recycled materials to make new paper, plastic, glass, and metal products saves energy. Collecting, processing, and transporting recycled materials almost always uses less energy than extracting, refining, transporting, and processing raw materials. Less energy use also means fewer greenhouse gas (GHG) emissions.

In 2013, 8 million tons of material was collected for recycling in Washington. This effort:

- Saved energy equivalent to 1 billion gallons of gasoline, or more than 128 trillion British thermal units (BTUs) of energy. This is enough to power almost 1.3 million homes for a year — or nearly half the households in Washington.[1]
- Prevented 3.1 million tons of GHG emissions — about 905 pounds per person. That impact is similar to taking 2.4 million vehicles off the road, or stopping 61,000 railway cars of coal from being burned.

Recycling conserves natural resources

Recycling reduces the need for mining or logging, along with their harmful environmental effects. Supplying industry with recycled materials instead of virgin resources from forests and mines conserves these scarce resources and protects wildlife habitat. In 2013, Washington recycling programs collected 8 million tons of material to supply industry with commodities such as metals, plastics, paper, glass, wood, and construction and demolition scrap.

- Manufacturing recycled products requires, on average, 17 times less energy than manufacturing the same products from virgin materials.[2]
- By recycling nearly 1.4 million tons of scrap metal in 2013, Washington avoided mining and processing 1.75 million tons of iron ore, 700,000 tons of coal, and 28,000 tons of limestone.[3]
- Every ton of paper recycled saves roughly 17 trees and 7,000 gallons of water. By recycling more than 540,000 tons of paper, Washingtonians prevented the use of 9.3 million trees and 3.8 billion gallons of water.[4]

Recycling lessens emissions of air and water pollutants

Recycling keeps materials out of landfills where they can contaminate groundwater and generate GHGs. It also reduces the amount of pollution entering the air and water and keeps harmful materials out of incinerators that can pollute the air and create ash residue. To make an ordinary 12-ounce beverage can, using recycled aluminum instead of raw materials reduces both energy consumption and air pollution by 95 percent.[5]

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[1] Environmental Protection Agency (EPA) Waste Reduction Model (WaRM): http://epa.gov/climatechange/wycd/waste/calculators/Warm_home.html.
[2] University of Massachusetts Amherst: http://www.umass.edu/recycle/recycling_benefits.shtml
[3] University of Massachusetts Amherst: http://www.umass.edu/recycle/recycling_benefits.shtml
[4] Environmental Protection Agency (EPA), Communicating the Benefits of Recycling: http://www.epa.gov/osw/conserve/tools/localgov/benefits/
[5] Chiras, Daniel D. (2012) Environmental Science. Burlington, MA: Jones & Bartlett Learning.

Energy & Greenhouse Gas Savings by Recycling in Washington (2013)[6]

Recycled Material	Tons Recycled[7]	BTUs Saved (millions)	GHGs Avoided (MTCE[8])
Aluminum Cans	15,636	2,397,468	39,017
Steel Cans	17,267	354,523	8,726
Glass	97,374	262,034	8,452
Plastics[9]	66,830	2,613,221	13,192
Corrugated Cardboard	483,864	7,557,757	473,293
Mixed Paper[10]	547,754	10,177,883	492,446
Wood[11]	534,577	3,148,650	26,834
Yard Trimmings	869,175	95,138	-20,266
Food Scraps	355,258	325,258	76,439
Other Organics	261,355	4,809	27,343
Mixed Metals	1,556,734	104,625,606	1,875,557
Landclearing Debris	227,729	252,153	-31,213
Carpet	4,341	96,096	2,843
Computers/Electronics	51,412	1,532,516	35,824
Construction & Demolition Debris[12]	2,276,218	4,229,351	70,746
Tires	47,991	1,258,602	9,756
Subtotal	**7,413,514**	**138,921,444**	**3,115,441**
Other Recycling	**486,276**	**Data not available for all material categories**	
Total	**7,899,790**		

More information

Beyond Waste plan: http://www.ecy.wa.gov/beyondwaste/.

Contact

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Special accommodations:

To ask about the availability of this document in a version for the visually impaired, call the Waste 2 Resources Program at (360) 407-6900. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

[6] Washington Department of Ecology's 2013 Recycling Survey: http://www.ecy.wa.gov/programs/swfa/solidwastedata/. Savings are relative to energy required and GHGs emitted during production of products using virgin materials; EPA WaRM.
[7] For this analysis, recycling includes composting and burning for energy.
[8] Metric Tons Carbon Equivalent
[9] Includes HDPE, PET, and mixed plastics (EPA WARM).
[10] Includes mixed paper, newspaper, and high-grade paper (EPA WARM).
[11] Includes reused and recycled dimensional lumber, recycled wood and wood burned for energy recovery (EPA WaRM).
[12] Includes fly ash, concrete/asphalt, asphalt shingles, and gypsum/drywall (EPA WARM).