

2005 Recycling Summary

This summary is a review of all recycled materials diverted from Montana landfills in 2005. The data presented in this summary on total recycled materials was obtained by reviewing permit renewal applications from all state licensed solid waste management facilities including landfills, transfer facilities, compost operations and resource recovery facilities. Data from non-licensed recycling organizations businesses and end processors was obtained through voluntary participation in the 2005 Montana Recycling Survey.

<i>Summary of Data</i>	<i>Total Tons</i>	<i>Percentage of Total</i>
Solid Waste Generated:	1,457,121	100%
Landfilled Waste:	1,184,198	81.3%
Incinerated Waste:	0	0%
Recycled Commodities:	166,316	11.4%
Other Materials:	42,083	2.9%
Composted Material:	64,524	4.4%
Total Diversion Rate:	272,923	18.7%

The EPA's recyclable commodities list was used to determine the recycling rate.

Commodities

- Aluminum Cans
- Plastics
- Steel Cans
- Paper
- Mixed Metals
- Corrugated Cardboard

- Ferrous Scrap Metal
- Glass

Other Materials

- Food Scrap
- Yard Trimmings
- Fly Ash
- Construction/Demolition
- Construction
- Batteries
- Mixed Recyclables
- Other Recyclables
- Carpet
- Electronics
- Sewage Sludge

This data has been used with conjunction with the National Recycling Coalition's Environmental Benefits Calculator. The calculator generates estimates of environmental benefits based on the number of tons of specified materials recycled, landfilled and incinerated in Montana. The calculator yields detailed information in the following areas:

- q Reductions in Greenhouse Gas Emissions through Recycling
- q Energy Savings from Recycling
- q Life Cycle Stage Comparisons
- q Air Emissions and Waterborne Wastes
- q Select National Resource Savings
- q Number of Trees Saved

Review of Montana Recycled Materials Converted by Environmental Benefits Calculator

Reductions in Greenhouse Gas Emissions through Recycling

Greenhouse Gas Emissions Associated with Recycling (MTCE)	-243,453.0
Greenhouse Gas If All Landfilled (MTCE)	-3,671.0
Net Greenhouse Gas Emissions from Recycling Compared To Landfilled (MTCE)	-239,761.0
Greenhouse Gas Reduction in Passenger Cars Equivalent (Number of cars off the road per year)	-180,930.0
<u>Energy Savings from Recycling</u>	
Net Energy from Recycling Compared to Disposal (Millions BTU)	-10,084,661.0
Energy Savings in Per Household Equivalent (Number of households per year)	-96,931.0
<u>Life Cycle Stage Comparisons</u>	
Energy Used During Recycling and Processing (Millions BTU)	139,349.0
Energy Used Waste Collection and Landfill	51,882.0
Energy Used During Waste Collection, Processing and Incineration	180,921.0
Energy Used for State's Average Mix of Landfill and Incineration	51,882.0
<u>Air Emissions and Waterborne Wastes</u>	
Reduced Emissions Due to Recycling (tons)	206,325.4
AIR EMISSIONS	
Reduced Emissions Due to Recycling (tons)	768.1
WATERBORNE WASTES	
Total (Excluding CO2 and Methane)	4,690.1
<u>Select National Resource Savings</u>	
Total Tons Resources Saved	25,569.0
<u>Number of Trees Saved</u>	
From recycling newsprint, mixed paper and office paper	164,666.0

In summary, there are many ways to express the resource savings that recycling effects. Even when considering energy used to recycle, the savings in resources rationalizes the value of recycling. As Montana recycling statistics increase, the

efficiency will only become more evident. For more information on recycling visit the

DEQ website at: www.deq.mt.gov/recycle/index.asp.

Recycling Rates for the State of Montana

2002	15.0%
2003	15.0%
2004	15.0%
2005	18.7%

State Government's Recycling Efforts:

From January 1, 2005 thru December 31, 2005 the totals are as follows:

Cardboard -	29.6 tons
Newspaper -	49.8 tons
Office Pack -	255.1 tons
Phone books -	1.7 tons
Magazines -	4.0 tons
Aluminum -	.2 tons

Prices for all recycled materials tend to follow expansions and contractions in overall demand for manufactured goods. At the same time, specific trends in each industry such as paper, cardboard, steel, aluminum, or plastics can push prices for the different recycled materials in opposite directions. These factors combined with the many market development projects and continued education through out the state, have helped to make recycling the new buzz word.

Another industry trend that is responsible for helping push the recycling market is the high price of petroleum. We believe the recycled materials percentage is up over 2004 due to the increase in petroleum price pushing the plastics market. With new material being made from oil or natural gas, using recycled plastic is more cost efficient for this industry. This has helped create a market for Montana's recycled plastics.

Also, the shortage of raw materials for the metals has pushed the pricing to make recycling scrap metal cost efficient as well. The increase in compost material over the 2004 figure is largely due to processors responding to increasing demands for their product. The increased market demand for compost is due to market development projects such as Montana Department of Transportation's highway re-vegetation project and land reclamation projects coordinated by diverse agencies. The local market has caused higher demand for compost and has affected consumer confidence in using local compost. Continued education and credibility of the product has given Montana a stable market for this recycled product.