White Paper on CU Recycling

a summary of findings and recommendations for resource and waste management at CU-Boulder

printed on recycled paper

April, 2003

introduction

The University of Colorado at Boulder has long been regarded as a leader in campus waste reduction and recycling programs. Since 1976, CU Recycling's mission has been to divert materials from the waste stream cost-effectively while promoting the benefits of recycling and resource conservation and providing opportunities for meaningful student involvement. Today's recycling program is managed by the Environmental Center, the Department of Housing, and Facilities Management. This Student-Administrative Partnership, formed by the Chancellor in 1991, has become a model of what campuses can and ought to do.

Although CU has made great strides towards converting its waste from a liability to an asset, there is still plenty of room for improvement Recent analyses show that in addition to providing environmental, academic, and community benefits, CU Recycling contains costs, generates net savings, and earns revenues. This Summary presents recent findings and recommendations that can reinvigorate this important effort.

Get to know CU Recycling and its many benefits.

did you know?

- For every ton recycled in academic buildings, CU Recycling saves the University $315. 00.
- Every dollar spent on recycling in academic buildings is comparable to spending $2.12 for landfill disposal.
- Recycling programs exist at over 75 percent of the nation's colleges and universities. A significant number of schools are recycling over 40 percent of their waste.
- As a national industry, recycling is comparable in size to auto/truck manufacturing and significantly larger than the mining and disposal industry, with 1.1 million jobs, $37 billion in annual payroll, and $236 billion in annual sales (U.S. EPA)

recycling is working

operationally

Over 1,400 tons will be recycled at CU this year, diverting approximately 30 % of campus waste from areas landfills.

Materials are collected from 10,000 desk side and 750 central locations.

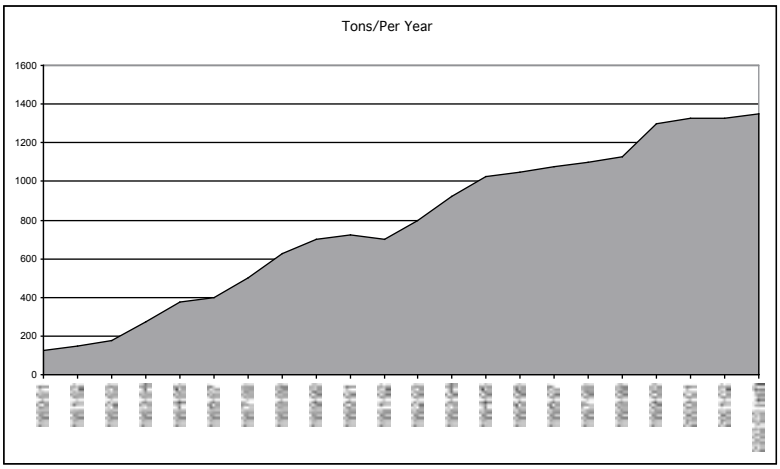
A Spring 2003 survey of CU-Boulder building proctors indicates participation rates of 70% to 100% of faculty and staff.

Facilities Management and the Housing department compost over 200 cubic yards of grounds waste annually.

Facilities Management recovers an estimated 90 percent of scrap metal for recycling.

Over 20 cubic yards of reusable clothing, books, and appliances are collected from the residence halls and donated to local civic groups for resale each year.

Over 3 million pounds of concrete, asphalt, and other demolition waste was recovered last year.



recycling works

environmentally

As a higher education institution and a significant consumer, CU has a responsibility to environmental protection. CU Recycling's programs enable the campus community to make a difference.

Since 1980, CU has recycled over 16,000 tons (that's over 32 million pounds) saving the equivalent of
- 158,000 40' Douglas Fir trees
- 215,000 gallons of gasoline
- 559,000 pounds of air pollutants

Since 1980, CU Recycling has saved over 31,000 tons of greenhouse gases, equivalent to taking 3,000 cars off the road.

Individuals have a direct impact by recycling.
- A four foot stack of paper saves the equivalent of one 40' tree.
- Each aluminum can recycled saves 8 ounces of gasoline.

academically

CU Recycling coordinates a number of activities for involving undergraduate and graduate level students in campus and regional programs. Internships, independent studies, and service learning projects are three ways CU Recycling facilitates the increased concern and interest many students feel about environmental issues. CU Recycling has also offered certification programs in recycling operations and outreach.

CU Recycling staff regularly make class presentations in a variety of academic departments along with giving tours of recycling facilities on campus and the Denver-Metro area. In addition, CU Recycling maintains career resources and gives presentations about jobs in recycling-related fields.

recognition

2000	Climate Protection Award, U.S. EPA
1999	Nation's Model Campus Recycling Program, Office of the Federal Environmental Executive
1995	Outstanding School Program, National Recycling Coalition
1993	Annual Award, PLAN Boulder County
1990	Winner of MTV's national campus recycling contest
1986	Colorado Recycler of the Year, Recycle Now!

service to the state

- State Recycling Survey
- Green Teams
- Construction/Demolition Study
- On-Farm Composting Assessment
- Institutional Food Waste Guide
- Computer Reuse & Recycling

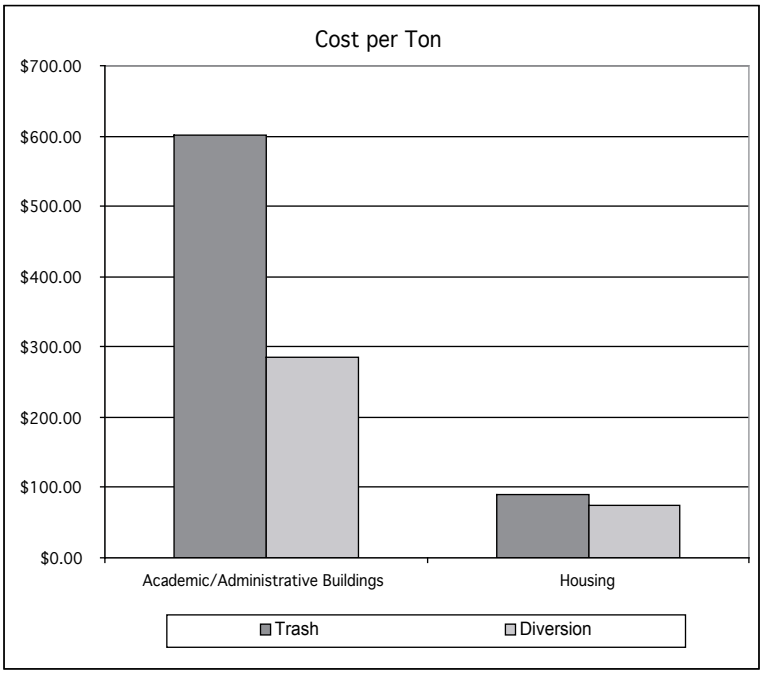
financially

At CU-Boulder, recycling is less expensive than landfill disposal. Last year, recycling provided a net savings of $175,000 to the University.

Recycling insulates against rate increases for landfill disposal. Trash charges to the University increased by 64 percent since 1996. Additional rate hikes for garbage have already been announced by private haulers.

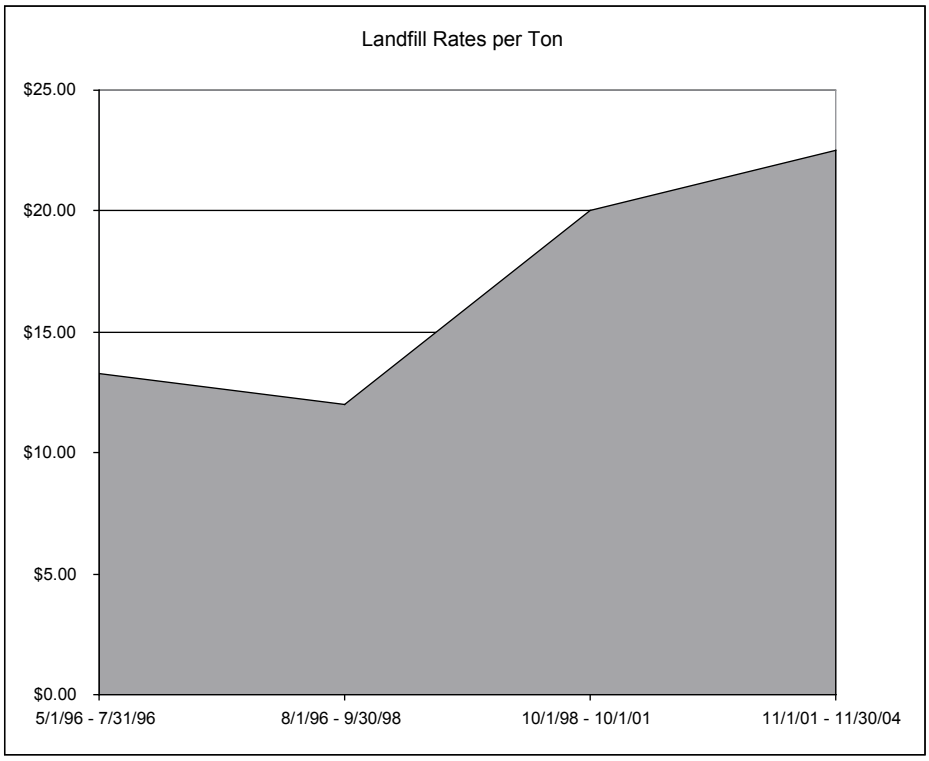
Recycling avoids the purchase of expensive trash hauling equipment. If the recyclables CU generates were hauled as trash, a new $150,000 trash truck would be needed. In addition, ongoing expenses for labor, trucking, trash bags, custodial time, and tipping fees would increase by at least $508,250 annually.

Recycling generates revenues. Despite relatively low market prices nationwide, CU will earn over $45,000 this year. The University's competitive bidding process helps assure high prices, minimum price guarantees, prompt collection service, and collection/transportation equipment.



the costs of waste

Colorado has some of the lowest landfill rates in the country, but costs are going up as the Front Range urbanizes and waste haulers raise rates. Since 1996, landfill rates charged to CU-Boulder have increased 64%. Future rate increases are certain and will likely have even greater impacts as a result of rising enrollment and additional buildings on campus.



recommendations

Building on the strengths of more than 25 years experience in campus recycling, the Student-Administrative Partnership recommends the following improvements to the program:

• Replace CU's Recycling Facility
CU's existing recycling facility is scheduled to be displaced by phase two of the Folsom Stadium expansion project. A main campus site for the new recycling center is needed in order to minimize the impact to material transport, student labor, and educational access. The process of site selection and facility design should begin immediately to comply with the Campus Master Plan and to avoid major delays in planned expansion of the stadium.

• Recover New Materials
Organic wastes represent the largest unrecovered portion of CU's waste stream. A food waste composting system could boost current landfill diversion by 50%. The U.S. EPA has awarded funding to begin a program at CU-Boulder. A temporary location is needed for food waste composting to begin until a permanent location is secured.

• Adhere to the Campus Master Plan
The Campus Master Plan guides campus development and includes important objectives for recycling such as decreasing waste generation, integrating recycling when new facilities and major renovations occur, and replacing trash-only containers (indoors and outdoors) with solid waste stations for both trash and recyclables. Adhering to this plan will boost the visibility and convenience of recycling at CU-Boulder.

• Invigorate Administrative Commitment to Waste Reduction
Harnessing CU's purchasing power through a number of cost-saving initiatives could decrease the volume of waste CU-Boulder generates.

• Establish an Environmental Management System
CU Recycling recommends involving research students in creating an environmental management system (EMS)- an internationally-recognized tool for planning, implementing, reviewing, and improving the future of recycling at CU-Boulder.

next steps

• Conduct a Diversion Potential Analysis
A Diversion Potential Analysis can help CU prioritize and plan for future recycling, identify the optimal and most cost-effective set of programs to achieve target diversion levels, and examine the costs associated with new programs and with meeting goals. The model will also provide valuable information for designing new facilities, and plan for the volumes and types of materials that will be anticipated 5-20 years into the future.

• Revise Current Billing Structure for Recycling and Solid Waste. There's an immediate need to develop garbage, recycling, or combined rates that are equitable, cover costs, and encourage recycling. Rate structures should be designed to increase recycling, improve equity, and recover the revenues required to fund a sustainable garbage and recycling system.

We Need to CU Recycling

- Reduce waste
- Recycle and compost
- Practice green purchasing
- Design for the environment
- Subscibe to CU Recycling's E-bulletin
- Visit the website: www.colorado. edu/recycle

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