

State of Recycling in Arkansas—2005

January 2007

Ways to Reduce Your Waste:

- Use the duplex (double-side) function on your copiers and printers whenever possible
- Use refillable pens, pencils and tape dispensers
- Reuse file folders and binders
- Proof documents on computer screen before printing
- Rent equipment that is used only occasionally
- Practice preventative maintenance on all equipment
- Store documents digitally
- When possible, use electronic mail for correspondence
- Share magazines, newspapers and phone books rather than receiving multiple subscriptions
- Replace disposable alkaline batteries with rechargeables
- Buy products with minimal packaging
- Sell or give away usable unneeded equipment

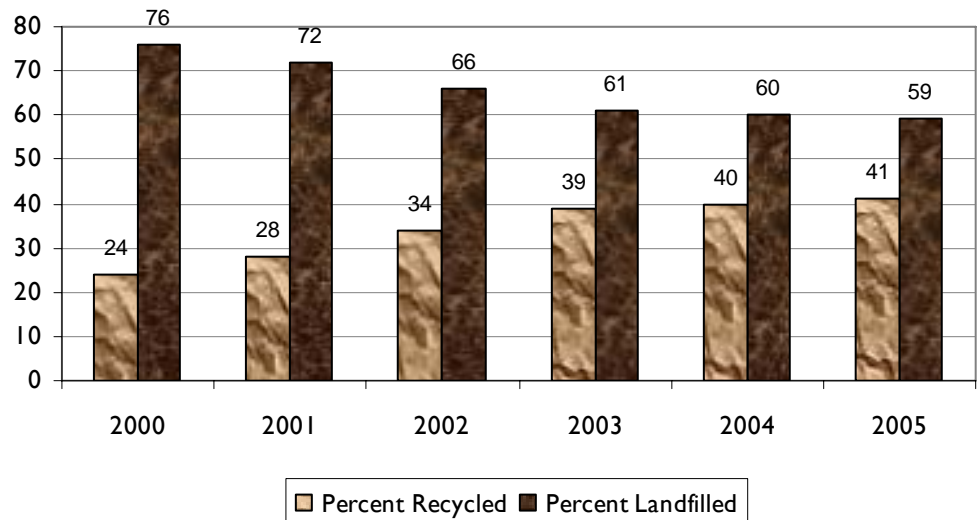
The 2005 recycling rate in Arkansas was 41.14 percent. This means that 41.14 percent of the waste generated in the state was collected, marketed and returned back to consumers as usable products through business and community recycling programs. Compare this to the national recycling rate of 32.1 percent and you can see that Arkansans are doing a good job of recycling. Plus, we exceeded our 2005 recycling goal by three percent. Keep it up and we are sure to reach our 2010 recycling goal of 45 percent.

Unfortunately, we are still generating large amounts of solid waste, and landfilling remains the most popular way of disposing of it. While we saw a slight decrease in the amount of waste created per Arkansan per day – from 9.6 pounds in 2004 to 9.3 pounds in 2005 – we are still generating more than double the national average of 4.54 pounds per person per day. Let's work toward reducing this number even further next year by remembering the order of the three Rs: Reduce, Reuse, then Recycle.

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Solid Waste Disposal in Arkansas



As used in this report, "2005" means the period from July 1, 2005, to June 30, 2006.

Recycling/Market Development Activities

The ADEQ Solid Waste Management Division's Recycling/Market Development Branch offers general information, technical assistance and educational programs targeted at reducing the amount of waste going into landfills, as well as a tax credit program for businesses. Although the name emphasizes recycling, the branch focuses on comprehensive waste management, which includes reduction, reuse and composting as well as recycling.

Recycling staff members gave more than 300 educational presentations reaching at least 5,000 Arkansans. This included conducting 15 full- or half-day environmental education workshops for teachers, most held in cooperation with one or more of the 18 Regional Solid Waste Management Districts and one of the 15 Arkansas Education Service Cooperatives. Other presentations were made at schools, businesses, community group meetings, and special events.

In addition to providing assistance to the Arkansas Marketing Board for Recyclables, the Market Development staff administers the Recycling Equipment Tax Credit program which helps Arkansas businesses, both large and small, invest in recycling. More than 200 companies have invested nearly \$418 million since the recycling tax credit program began 14 years ago. In 2005, the section certified 80 tax credit applications totaling \$11.5 million.

A major project for the Market Development staff this year was the development of an on-line materials exchange. The Arkansas Materials Exchange (ARMAX) allows businesses and organizations to post materials they no longer need and/or search for materials they can use. The participants make exchange and transportation arrangements with each other. ARMAX is accessed through the ADEQ Web site—
www.adeg.state.ar.us.

For each dollar expended in the program, citizens have realized a direct return of \$1.96 ...

Recycling Grants to Communities

The Solid Waste Management and Recycling Grants Program has funded 1,242 grants since 1994. In 2005, nearly \$3.5 million was awarded, resulting in a total 12-year investment of more than \$32 million.

More than 225 public recycling centers offer citizens, schools, businesses, and industries the opportunity to reduce waste by making the choice to

recycle. These facilities are often funded, at least in part, by recycling grants.

During the past 12 years, recycling grant recipients have diverted 1.65 million tons of waste from Arkansas landfills—more than 1/2 ton (1,191 pounds to be exact) for every Arkansan. In 2005, grantees recycled 17,732 tons, earning close to one million dollars in revenue and saving nearly

\$600,000 in landfill disposal costs.

Of the \$32 million granted since 1994, more than \$28 million has been expended with a direct economic benefit of nearly \$56 million to the citizens of Arkansas. For each dollar expended in the program, citizens have realized a direct return of \$1.96 and 116 pounds of waste recycled.

E-Waste Grants

The Arkansas Computer and Electronic Solid Waste Management Act (Act 1410 of 2001) created a formula for distributing revenues from the sale of state surplus computer and electronic equipment including setting aside 25 percent for the Computer and Electronic Recycling Fund. Part of

this fund may be used to provide grants to develop and promote environmentally responsible methods of managing electronic waste in the state. The first grants were issued in February 2006, providing a total of \$229,206 to nine e-cycling projects around the state.

Craighead Co. RSWMD	\$9,300	Collection & Transportation
Cabot Public Schools	\$1,021	Transportation
West River Valley RSWMD	\$25,000	Statewide Study of Management Options
Pulaski Co. RSWMD	\$50,000	Equipment & Special Collection Events
Boston Mountain RSWMD	\$26,950	Equipment & Promotion
Northeast AR RSWMD	\$10,920	Equipment & Promotion
Resource Recovery, Inc.	\$40,000	Collection in SE Arkansas
HMI Recycling & Disposal, Inc.	\$58,790	Equipment & Education
Saline Co. RSWMD	\$7,225	Equipment & Promotion

Project Green-Fed

In 2004, the Arkansas Department of Environmental Quality began discussions with UNICOR (the Federal Prison Industries) to develop an electronics recycling program for the state. The result was Project Green-Fed, a one-year pilot project that allowed Arkansas residents to recycle – free of charge – certain electronic equipment (mainly computers and related peripherals) they no longer wanted.

Recycling electronics through Project Green-Fed, which ended September 1, 2006, was as simple as 1-2-3:

1. Order boxes and packaging materials by calling an 800 number or complet-

ing a form on-line. Packaging materials included packing instructions, tape and return address labels.

2. Follow the instructions to fill the box with unneeded equipment and seal.
3. Call another 800 number to schedule a package pickup via Federal Express.

All equipment recycled through the program was shipped to UNICOR in Texarkana, Texas, where it was disassembled and all components were reused or recycled. UNICOR paid for all expenses of the program.

The purpose behind Project Green-Fed was to determine how much a program like

this would be used and the costs associated with it. Per requests, UNICOR shipped out 4319 boxes and packaging materials, of which 2073 were returned with old electronics in them. In total, UNICOR processed 88,538 pounds of electronics through this program.

As with any pilot project, there were some challenges to overcome and lessons to be learned. However, the experience was generally positive. The Department and UNICOR are currently working out details for a longer-term electronics recycling program and hope to announce Green-Fed II before the end of this fiscal year.



Recycling's Environmental Benefits

Recycling provides a variety of environmental benefits that are rarely reported except in general statements such as “saves energy” and “reduces greenhouse gases.” The National Recycling Coalition has provided an Environmental Benefits Calculator which allows users to quantify these environmental benefits. Using information specific to Arkansas provides the following results of recycling in 2005:

- Energy Savings due to recycling and remanufacture versus disposal and manufacturing from virgin materials amounted to 32,700,081 million Btus.
- That's nearly 26.5 million Btus for every Arkansas household, approximately 25 percent of an average annual energy bill. Put another way, it's equivalent to saving 7,772 kilowatt hours, or approximately \$735, per household during the year.
- Greenhouse Gas Emissions were reduced by 947,889 metric tons of carbon equivalent, a metric measure used to compare the emissions of different greenhouse gases based on their global warming potential. The increased temperature and changes in precipitation associated with global warming could have adverse effects on human health and the economy as well as many ecological systems.
- Other Air Emissions and Waterborne Wastes were also reduced. Air emissions were reduced by 1,257,560 tons. This includes gases such as sulfur oxides, which contribute to acid rain, and particulates, which contribute to ozone. Waterborne wastes, including ammonia and cyanide, were reduced by 4,682 tons.
- Natural Resources are conserved when recycled materials are used instead of virgin materials in the manufacturing process. For instance, the steel recycled in Arkansas saved 882,828 tons of iron ore; 494,383 tons of coal; and 42,376 tons of limestone. Arkansans also saved more than 1.8 million trees by recycling paper products.

Information presented in this document is from several sources. Arkansas specific data on waste generated and recycled, the Recycling Tax Credit program and the Recycling Grants program is collected as required by Arkansas Pollution Control and Ecology Commission Regulations 11, 14, 16, 22 and 28. National figures and generic information were provided by the U. S. Environmental Protection Agency and the U.S. Department of Energy.

Materials Recycled 2005

Material	Weight in tons
Batteries—Lead Acid	2,371
Computers/Electronics	1,223
Cooking Oil	8, 677
Glass	1, 143
Metals	798, 629
<i>Aluminum Cans/Non-ferrous—Aluminum, Brass, Copper</i>	<i>92,317</i>
<i>Oil Filters (Steel)</i>	<i>50</i>
<i>Ferrous—Steel & Iron</i>	<i>564,187</i>
<i>White Goods (Ferrous)</i>	<i>142,075</i>
Motor Oil	17, 905
Pallets and Other Wood Waste	53,996
Paper	128, 231
<i>Cardboard</i>	<i>89,064</i>
<i>Mixed</i>	<i>11,610</i>
<i>Newsprint</i>	<i>15,771</i>
<i>White Ledger</i>	<i>11,363</i>
<i>Magazines</i>	<i>275</i>
<i>Other (including computer printout)</i>	<i>148</i>
Plastic	85,528
<i>HDPE (High Density Polyethylene)</i>	<i>26,128</i>
<i>LDPE (Low Density Polyethylene)</i>	<i>43,404</i>
<i>PET (Polyethylene Terephthalate)</i>	<i>93</i>
<i>Poly Pipe</i>	<i>12,324</i>
<i>Other</i>	<i>3,579</i>
Sawdust	732, 319
Textiles and Leather	2,604
Tires & Rubber	37,500
Yard Waste	67, 358
Other (Solvents, fluorescent lights, household hazardous waste)	515
Total I,	937,999

2,772,955 tons landfilled in 2005

2,772,955 + 1,937,999 = 4,710,954 tons total municipal solid waste stream in 2005

1,937,999/4,710,954 = 41.14 percent recycling rate