

State of Recycling in Arkansas—2007-2008

JANUARY 2009

Arkansas Waste Trends

Arkansas's recycling rate continued to increase in 2007-2008, reaching 44.6 percent. (The 2006 recycling rate was 42.1 percent.) This means that 44.6 percent of all the waste generated in the state was collected, marketed and returned back to consumers as usable products through business and community recycling programs.

Unfortunately, the amount of waste generated in the state also continued to increase, reaching more than 5.4 million tons. (In 2006, we created just over 5 million tons of solid waste in the state.) In all, waste generation in the state increased nearly nine percent.

But isn't Arkansas's population increasing? Wouldn't that account for the increase in waste generated? Arkansas's population did increase in 2007, but only by one percent. (From 2,804,199 in 2006 to 2,830,557 in 2007.) Therefore, the amount of waste generated in Arkansas is increasing faster than the population. In fact, the amount of waste generated in Arkansas has increased from 9.79 pounds/person/day in 2006 to 10.56 p/p/d in 2007-2008.

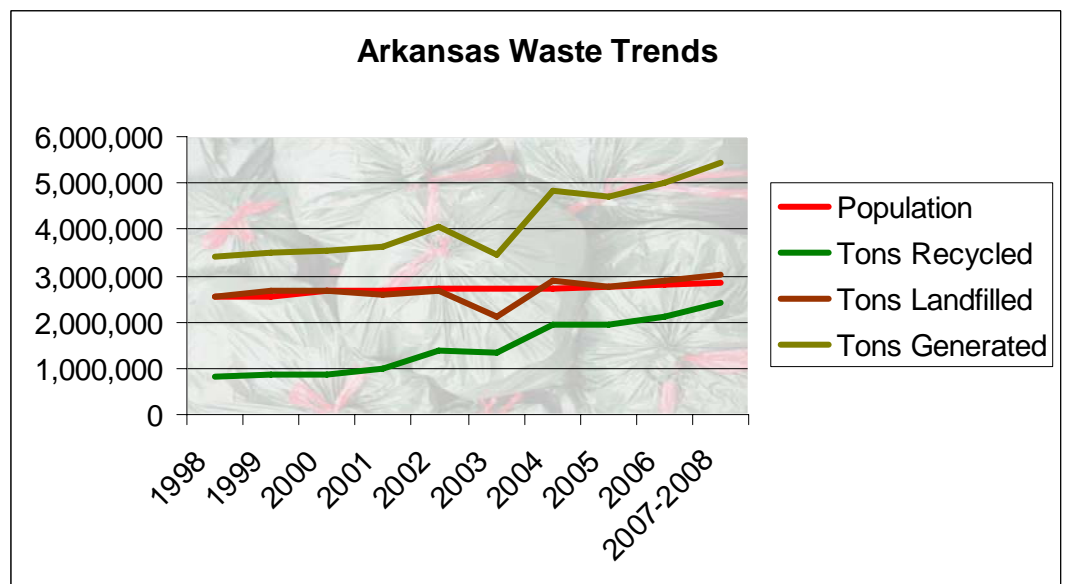
It's good to look at year-to-year changes, but what do the trends look like over time? Are the changes in waste generated, landfilled and recycled really that much different than the changes in population? The "Arkansas Waste Trends" chart provides some answers. The red line shows a slight, but steady increase in population. The brown line shows a similar overall trend in the amount of waste we send to the landfill. However, the green line shows that recycling increased at a faster rate. Because waste landfilled and waste recycled are added to-

gether to get waste generated (olive line) it also increased at a faster rate.

So what does it all mean? While we are doing a good job at recycling, we still need to work at decreasing the amount of waste we produce. It's good to see the tons recycled (green line) catching up to the tons landfilled (brown line), but it would be even better to see all the lines trending downward over time. Remember, Reduce and Reuse come before Recycle. Don't skip the first two Rs.

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As used in this report, "2007-2008" means the period between July 1, 2007, and June 30, 2008.



Recycling/Market Development Activities

The Arkansas Department of Environmental Quality (ADEQ), specifically the Solid Waste Management Division, is charged with administering solid waste management programs in the state. The Recycling/Market Development Branch focuses on recycling and other waste reduction activities. The Branch provides technical assistance and educational programs throughout the state, as well as administering the Recycling Equipment Tax Credit Program.

On the Recycling side, major projects for the year included expanding the state electronic waste recycling program, assistance and training for Craighead County's Environmental Schools program, continued development of a statewide solid waste management curriculum and discussions for the development of a statewide Master Recyclers program. Recycling staff members gave more than 200 educational presentations reaching

at least 3,500 Arkansans. This included conducting seven full- or half-day environmental education workshops for teachers. Other presentations were made at schools, businesses, community group meetings, and special events. In addition, section staff conducted eight waste audits and assisted with five electronics collection events.

On the Market Development side, the major work focused on the Recycling Equipment Tax Credit Program and the Arkansas Marketing Board for Recyclables. The Recycling Equipment Tax Credit Program provides a state income tax credit to Arkansas businesses who invest in recycling. In 2007-2008, the Market Development Branch certified 69 tax credit applications totaling \$27.9 million. The Arkansas Marketing Board for Recyclables is charged with understanding and improving markets for recyclables in the state. ADEQ is an ex-officio

member of the Board and Branch staff provides support and advice. In addition to ongoing market networking and discussions, the section also organized and conducted a statewide Styrofoam® Recycling Forum this year.

The Solid Waste Management Division's Programs Branch administers two grants programs that enhance recycling in Arkansas. The Solid Waste Management and Recycling Grants program provides funding for a variety of recycling, composting and other waste reduction programs and projects throughout the state. In 2007-2008, more than \$3.5 million was distributed through 139 grants. The Computer and Electronic Recycling Fund provides grants to fund the development and promotion of environmentally responsible methods of managing electronic waste. In 2007-2008, ADEQ distributed \$168,769 to 13 e-waste recycling projects.

2007-08 Statistics

Tax Credits

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Recycling Grants

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E-Waste Grants

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Planning for 2010

Many electronic items, including computers, are a mix of valuable resources and potentially hazardous materials, none of which belong in a landfill. However, there were few alternatives until recently. Since 2000, at least 18 states, including Arkansas, have passed some sort of legislation to deal with electronic waste (e-waste).

In 2001, The Arkansas Legislature passed Act 1410 - the Arkansas Computer and Electronic Solid Waste Manage-

ment Act. One part of this legislation provided the potential for a ban on disposing of computer and electronic waste equipment in Arkansas landfills no sooner than January 1, 2005. Funding and infrastructure issues made implementation in 2005 impractical, and additional legislation moved the date to January 1, 2010. In the meantime, various groups have been working toward finding funding sources and building infrastructure for recycling e-waste in the state.

Act 1410 of 2001 also created the Computer and Electronic Recycling Fund and a grant program to provide funding to develop and promote environmentally responsible methods of managing electronic solid waste in the state. Funds come from the sale of state-owned computers and other electronic equipment that is no longer needed by the purchasing agency. In the three grant rounds held between January 2006 and mid-2008, more than \$575,000 has been

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Planning for 2010 *(continued)*

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awarded to 35 projects. (An additional \$140,000 was awarded to nine projects in October 2008.) For more information about the e-waste grants program, see www.adeq.state.ar.us/solwaste/branch_programs/e-waste-grants/e-waste_grants_program.htm.

The Arkansas Department of Environmental Quality (ADEQ) has worked with UNICOR (the Federal Prison Industries, Inc.) to bring affordable e-waste recycling to the state. UNICOR's e-waste recycling facility is located at the federal prison in Texarkana, TX. Prisoners refurbish or disassemble the e-waste received through the program, and UNICOR uses the money received for the resulting products/scrap to fund the e-waste recycling program.

UNICOR began taking unwanted electronics from Arkansas schools in late 2003, expanding the program to include municipalities in late 2004 and businesses in 2005. UNICOR does not charge for the service; the only cost to participants is materials/labor to load the e-waste into trucks and transportation costs to the recycling facility in Texarkana. UNICOR also ran two mail-in programs for Arkansas residents – Project Green Fed and Project Green Fed II – between 2005 and 2008.

In 2006, the Arkansas Association of Regional Solid Waste Management Districts (RSWMDs) commissioned a study of possible options for a statewide e-waste recycling program. An E-Scrap Advisory

Panel – comprised of representatives from the RSWMDs, ADEQ, businesses and environmental organizations – was formed to work with the consultants and to continue developing and implementing the plan once the study was completed. This group worked with the legislature to move the date for a potential landfill ban and to find an additional source of funding for e-waste programs in the state.

Act 512 of 2007 provided the possibility of several million dollars a year funding for e-waste recycling. The funding would come from a fee that is already being collected on waste sent to landfills. This fee is currently set aside in the Landfill Post-Closure Trust Fund to handle issues at closed landfills. However, the fund is capped at \$25 million and is close to reaching this cap. Instead of removing the fee, it will be diverted to the Solid Waste Management and Recycling Fund “for support of the computer and electronic equipment recycling program.”

Today, nine 53-foot trailers are sited across the state for the collection and transport of unwanted electronics. Some are owned by UNICOR and others are owned by RSWMDs or communities, but UNICOR is providing transportation to Texarkana for them all. These trailers serve as regional collection hubs, often consolidating loads from smaller sites. The smaller sites use smaller trailers to collect and move materials to the hubs, or in some cases, directly to UNICOR. In addition, UNICOR is provid-

ing trailers and transportation for communities to hold one-time or annual e-waste collection events.

Several businesses and many national programs also offer e-waste recycling to Arkansans. See the Electronics Recycling page on the ADEQ Web site – www.adeq.state.ar.us/solwaste/branch_recycling/electronics_reuse_and_recycling.htm for more information.



Collection events have been very successful in Arkansas, contributing to the nearly 6 million pounds of electronics recycled in 2007-2008.

Whether or not e-waste is banned from Arkansas landfills in 2010, the state is moving forward on the proper management of e-waste. The programs currently in place provide recycling opportunities for many Arkansans, either through permanent collection facilities or special collection events. As funding becomes available, the Arkansas Department of Environmental Quality and the Regional Solid Waste Management Districts will work with communities, businesses and organizations to improve and expand e-waste recycling opportunities in the state.



Moving Beyond the Buzz: Wal-Mart puts action behind its words

The first rule for solid waste management is to not create waste. If we don't create it, we don't have to handle it. So, when a multi-billion dollar company decides to reduce its environmental impact by reducing packaging, promoting eco-friendly choices and improving its own operations, everyone takes notice.

During the last several years, the recycling world and environmental professionals have been abuzz about Wal-Mart's sustainability practices. As the largest company in the world¹, Wal-Mart reports 176 million customers around the world shop at their stores in any given week². With such a wide-reaching influence, decisions made by the corporation and individual stores have an enormous impact. Yet, it wasn't until just over three years ago that CEO Lee Scott fully understood ecological connections.

In October 2005, Scott asked, "What would it take for Wal-Mart to be... at our best ...all the time? What if we used our size and resources to make this country and this earth an even better place for all of us: customers, Associates, our children, and generations unborn? What would that mean? Could we do it?"³

Scott understands the importance of the first rule. "Reduction of waste ... represents one of our most visible

opportunities. Think about it ... if we throw it away, we had to buy it first. So we pay twice, once to get it, once to have it taken away. What if we reverse that cycle? What if our suppliers send us less and everything they send us has value as a recycled product? No waste and we get paid instead."³

Since that 2005 speech, the company has worked in earnest to reduce its environmental impact, giving consumers more eco-friendly choices, researching and implementing waste-cutting measures, improving operations and analyzing the impacts associated with everything the company sells.

Early successes include the sandwich baling process, the introduction of concentrated laundry detergent and "extended roll life" products.

Until the company introduced the sandwich bale, mixing commodities in bales was taboo. In 2005, Wal-Mart stores began sandwiching loose plastic - shrink wrap, garment bags and grocery bags - between layers of cardboard. The super sandwich baling process introduced later incorporates plastic hangers, plastic bottles, aluminum cans, paperback books and office paper into the bales. Because of this process, the company recycled more than 56 million pounds of plastic and 16 billion pounds of cardboard in 2007. In 2008, Wal-Mart recycled 106 million pounds of cardboard and 1.25 million pounds of plastic film just from Arkansas.

Laundry detergent was forever changed with the introduction of concentrated formulas.

Removing unnecessary liquid reduced the amount of plastic resin, water, cardboard and diesel fuel required for diluted detergents. The corporation's decision to sell concentrated laundry detergent resulted in an anticipated three-year savings of:

- 400 million gallons of water
- 95 million pounds of plastic resin
- 125 million pounds of cardboard

One detergent manufacturer estimates annual savings of 864,000 gallons of diesel fuel due to the change to concentrated formulas.

Again looking to concentrate products, Wal-Mart worked with paper towel and toilet paper manufacturers to condense several rolls into one. The resulting "Extended Roll Life" products offer a 42 percent increase in units on trucks while eliminating 89.5 million cardboard roll cores, more than 360,000 pounds of plastic wrap and almost 54,000 gallons of diesel.

"When you bring the capabilities of the entire supply chain together, the ability to make a difference really pops," Scott commented in an interview with GreenBiz.com. "There's a multiplier effect. Instead of just looking at what Wal-Mart can do alone, we have the opportunity to inspire thousands of companies and millions of customers, as well."⁴

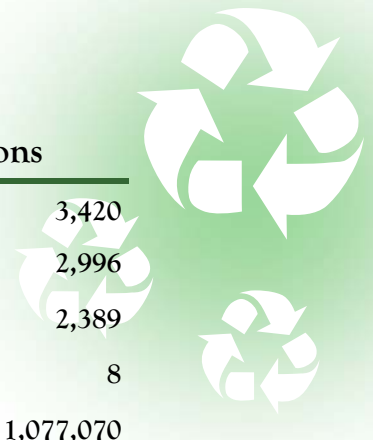
Small changes - the introduction of motion-sensor activated LED case lighting, for instance - add up to big savings for a company that, if it were a country, would be the

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Materials Recycled 2007-2008



Material	Weight in Tons
Batteries (lead-acid from vehicles)	3,420
Electronic Waste	2,996
Glass	2,389
Household Hazardous Waste (HHW)	8
Metals	1,077,070
<i>Aluminum Cans/Non-ferrous—Aluminum, Brass, Copper</i>	119,271
<i>Ferrous—Steel & Iron</i>	858,764
<i>White Goods (Ferrous)</i>	99,035
Oil (motor oil, solvents)	110,965
Paper	314,695
<i>Cardboard</i>	215,774
<i>Magazines/Mixed Paper</i>	48,827
<i>Newsprint</i>	42,268
<i>Sorted Office Paper</i>	5,697
<i>Sorted White Ledger</i>	2,129
Plastic	55,189
<i>HDPE (High Density Polyethylene)</i>	1,587
<i>LDPE (Low Density Polyethylene)</i>	19,826
<i>PET (Polyethylene Terephthalate)</i>	1,752
<i>Poly Pipe</i>	30,008
<i>Mixed/Other</i>	2,016
Textiles & Leather	685
Tires & Rubber	40,073
Wood Waste (lumber, pallets, sawdust)	493,895
Yard Wastes	331,263
Total	2,432,648

Tons landfilled in 2007 = 3,020,248

Tons total municipal solid waste stream in 2007 = 5,452,896
(Landfilled + Recycled: 3,020,248 + 2,432,648)

2007 Recycling Rate = $2,432,648 / 5,452,896 = 0.4461203$

Recycling Rate = 44.6 %



ARKANSAS
Department of Environmental Quality

SOLID WASTE
MANAGEMENT DIVISION,
RECYCLING/MARKET
DEVELOPMENT BRANCH

5301 Northshore Drive
North Little Rock,
AR 72118-5317
Phone: 501.682.0812

Director:
Teresa Marks

Chief Deputy Director:
Karen Bassett

Division Chief:
Mike Robinson

Branch Manager:
Robert Hunter



Comparing the Numbers*

	Arkansas		United States	
	2006	2007-08	2006	2007
Solid Waste Generation (pounds/person/day)	9.79	10.56	4.65	4.62
Recycling Rate (percentage of waste recycled)	42.1	44.6	32.5	33.4

*Please remember that comparing Arkansas's waste generation and recycling rate numbers to the national figures is like comparing apples to oranges. To find out why, see page 6 of last year's report—www.adeq.state.ar.us/solwaste/branch_recycling/pdfs/report_state_of_recycling_2006.pdf.

Moving Beyond the Buzz: Wal-Mart puts action behind its words *(continued)*

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20th largest in the world. In six months, the company saved about 66 percent of the energy used for lighting in stores where the lights have been installed.

For the average Arkansan, the changes mean finding more locally grown produce; recycled, recyclable and biodegradable products and packaging; organic cotton products and more. For individuals looking to become more sustainable, the green market just increased exponentially.

¹Fortune magazine's Global 500, the annual ranking of the world's largest corporations

²Wal-Mart Web sites - wal-martstores.com/sustainability/ and walmartfacts.com

³21st Century Leadership, October 24, 2005

⁴"Wal-Mart Launches 5-Year Plan to Reduce Packaging," Green-Biz.com, September 25, 2006

Fort Smith Pilot Project

In March 2008, Wal-Mart began its zero landfill pilot project in the Fort Smith market. This first of its kind project for Wal-Mart is designed to find innovative solutions for waste that doesn't have an easy end-of-life solution. Fort Smith gives us the opportunity to reduce waste in our different formats - we have a Sam's Club, a Neighborhood Market and three Supercenters in Fort Smith, and each has different needs.

We are making great progress in Fort Smith. Individual departments, such as the Tire and Lube Express, are getting close to the goal of sending zero waste to the landfill. Our stores and clubs have reduced dumpster hauls from about one per week to approximately one every three weeks.

Through recycling and food donations, we have been able to significantly reduce the amount of waste created in the market. We have made some great progress in reducing waste, but we still have work left to do to reach our goal.

Kory Lundberg, Media Manager
Wal-Mart Stores, Inc.