
Missouri State Government Annual Recycling Report Fiscal Year 2013



**Prepared by the State of Missouri,
Office of Administration**

Acknowledgements

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*Special thanks to the **Department of Natural Resources’ — Solid Waste Management Program, Missouri Interagency Recycling Committee (MIRC), department recycling coordinators and purchasing staff** who contributed to this report. The Missouri State Recycling Program thanks all **state employees** for their ongoing efforts to reduce, reuse, recycle, and buy recycled-content products.*

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Recycling Symbol on Cover Page

The “chasing arrows” recycling symbol is internationally recognized and was born out of a national design competition in the United States in 1970 - the same year as the nation’s first Earth Day. Many people associate recycling with the act of tossing a can, bottle, or other material into a recycling container; however, this is only one part of the entire recycling process.

The recycling symbol appearing on the cover of this year’s report provides a more detailed accounting of the entire “recycling loop” and offers a better understanding of the important role recycling plays in Missouri’s economy as evidenced by the following economic data:

- *“Scrap & Waste” exports regularly exceed \$100 million per quarter (MO Economic Research & Information Center)*
- *Employs over 28,000 workers (2005 MO Recycling Economic Information Study)*
- *Produces annual sales over \$5 billion (2005 MO Recycling Economic Information Study)*
- *Annual payroll over \$707 million (2005 MO Recycling Economic Information Study)*

*A special thank you to the **Environmental Improvement Energy Resources Authority, Missouri Market Development Program** for providing the recycling logo graphic on the front cover of this report.*





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Doug Nelson
Commissioner

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James Miluski
Director

January 1, 2014

To the Members of the General Assembly of the State of Missouri,

In accordance with RSMo 34.031, the Office of Administration is submitting the Fiscal Year 2013 (FY13) Annual Recycling Report to summarize state government's accomplishments in the areas of recycling, waste reduction, and recycled content product procurement for the period of July 1, 2012 through June 30, 2013.

State law directs state agencies to implement policies for recycling, waste reduction, and procurement of recycled content products. The Missouri State Recycling Program, administered by the Office of Administration, Division of Purchasing and Materials Management, is responsible for assisting state agencies in these areas. The State Recycling Program works cooperatively with the Missouri Interagency Recycling Committee (MIRC) to facilitate recycling and waste reduction by state employees.

As a result of the efforts of state employees and MIRC, the Recycling Program continues to register solid financial returns and steady development of the State's recycling collection infrastructure. State employees continue to reduce the amount of waste generated at state facilities and the related costs of waste disposal. Waste reduction achievements of several agencies are summarized on pages 12 – 16 of this report.

We appreciate the support of the General Assembly in our recycling efforts.

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas E. Nelson".

Douglas E. Nelson
Commissioner of Administration

Table of Contents

I. Missouri State Recycling Program Background and Structure (p. 5)

- What is the Missouri State Recycling Program (MSRP)?
- Who is the MSRP?
- What is the Missouri Interagency Recycling Committee (MIRC)?
- Who is the MIRC?

II. FY13 Overview (p. 6 - 20)

Collection of Recyclables (p. 7 - 11)

- Local Recycling Services Contracts: Jefferson City | Kansas City | St. Louis
- Statewide Recycling Services
- FY13 Department Reports of Materials Recycled
- Measuring Economic and Environmental Savings of Materials Recycled

FY13 Annual Recycling Awards (p. 12)

State Agency Waste Reduction / Recycling Accomplishments (p. 13 - 16)

- Remanufactured Toner Cartridges: State Agency Savings
- Department of Revenue Saves BIG
- Composting at Southeast Missouri Mental Health Center
- Missouri Barbecue Showcase Highlights Recycling
- Avoided Costs of Waste Disposal
- Reuse on the Rise
- University of Missouri - Kansas City Places First in National Recycling Competition

Recycled Content Procurement (p. 17 - 19)

- Recycling Program Guidelines for Buying Recycled
- Comprehensive Procurement Guidelines: Recycled Product Categories
- State Agencies “Close the Loop” with Paper Procurement
- FY13 Department Reports for Recycled Content Procurement

Missouri’s State Recycling Fund (p. 20)

- Summary of Revenues & Expenses
- Sources of Revenue
- Contributions to the Heating Assistance Program (Utilicare)

III. Missouri State Recycling Program Goals (p. 21)

IV. Recycling Resources (p. 22)

I. Missouri State Recycling Program Organization

What is the Missouri State Recycling Program?

The Missouri State Recycling Program (**MSRP**) was established in 1989 when legislation added sections 34.031 and 34.032 to Chapter 34 of the MO Revised Statutes. The purpose of the **MSRP** is to assist State of Missouri government agencies with:

- **Procurement** of products manufactured with recycled materials.
- Coordinating **waste reduction** strategies.
- Overseeing the **collection** of recyclables by establishing recycling services contracts.

Who is the MSRP?

There are three components to the **MSRP's** organizational chart.

The **state recycling coordinator** is dedicated to the planning and administration of recycling and waste reduction activities.

The **Missouri Interagency Recycling Committee** serves an important purpose by providing input on recycling initiatives and communicating with state employees about various recycling programs.

The efforts of **state employees** to recycle ensures the success of any recycling initiative. State employees that recycle are considered a part of the **MSRP**.



What is the Missouri Interagency Recycling Committee?

The Missouri Interagency Recycling Committee (**MIRC**) was established in 1994. It was recognized the **MSRP** needed a way to communicate procurement and recycling policies throughout state government. **MIRC** is a vital component of the **MSRP** and meets regularly to discuss recycling collection, waste reduction, recycling market conditions and recycled product procurement.

Who is MIRC?

The Recycling Committee is composed of representatives from various state departments (executive, judicial, and legislative). To learn more about recycling in your department, please contact your **MIRC** member.

A list of members is located on the Internet at <http://content.oa.mo.gov/sites/default/files/mirc.pdf>

II. FY13 Overview: Collection of Recyclables

Local Recycling Services Contracts

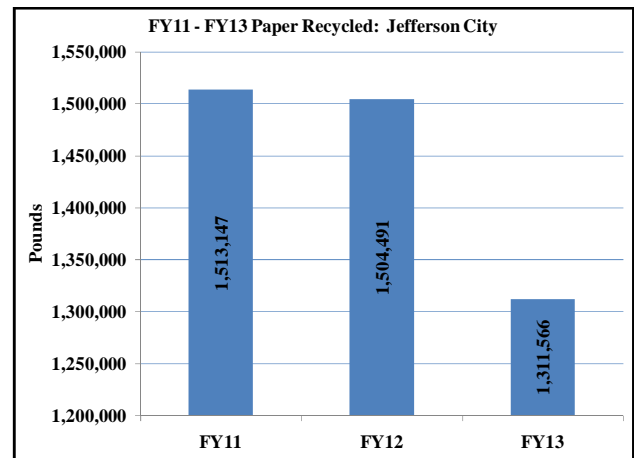
During Fiscal Year 2013 (FY13), the Missouri State Recycling Program (MSRP) administered two local recycling services contracts. A third contract was awarded late in FY13 for recycling services for state agencies in the St. Louis area.

State agencies in Jefferson City and Kansas City had access to recycling services under these contracts for recycling of office paper and cardboard. In the Jefferson City area, the contract provided state agencies with an option to recycle plastic bottles and aluminum cans. Steel cans (a new material) were added to the Jefferson City contract in FY13.

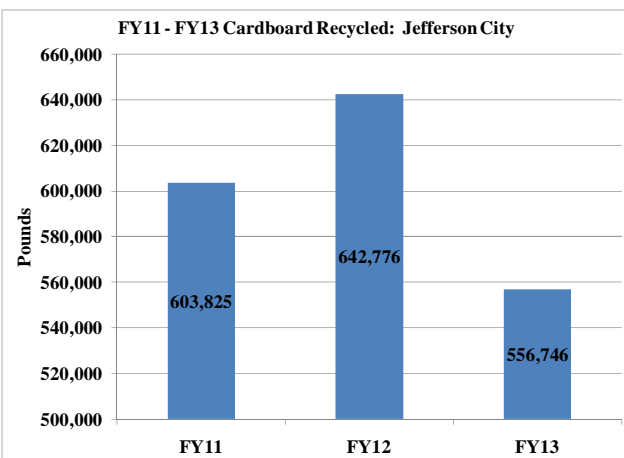
Jefferson City

Mixed paper is the most recycled material by weight and volume by state agencies in Jefferson City. There were sixty-six locations recycling mixed paper in FY13. State agencies recycled an average of over 25,000 pounds of paper each week in FY13. There was about a 13 percent drop in the amount collected in FY13 as compared to FY12. This may be attributable to more agencies utilizing document destruction services (see pg. 8) for paper disposal. Another reason for the drop may be related to a decrease in paper consumption as more state agencies utilize electronic mediums to conduct business.

The number of locations collecting cardboard for recycling in FY13 held steady at fifty-two. Total cardboard collected — including baled and loose material — amounted to approximately 556,746



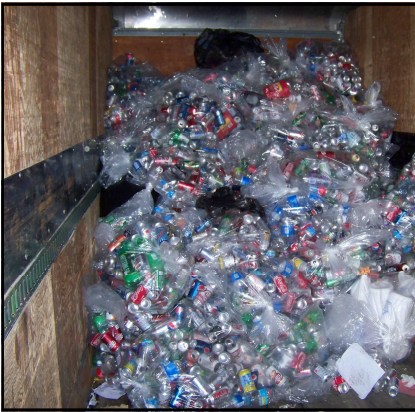
1000 pound bales of paper await shipment to a mill to make toilet paper, paper towels, or office paper



pounds. This amount includes 67,346 pounds of baled cardboard collected from the Truman Building and the Highway Patrol warehouse. This means on average more than 10,000 pounds of cardboard is recycled per week by state employees in Jefferson City.

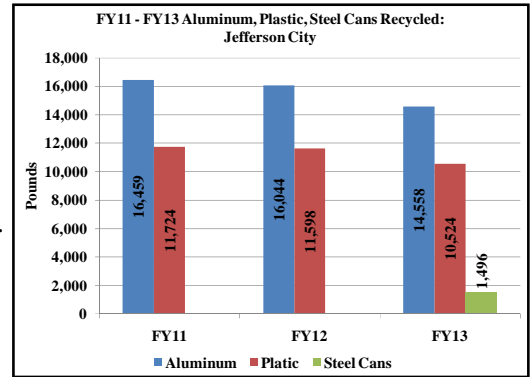
Jefferson City ... continued

The commingled beverage container recycling infrastructure continued to mature as two new locations were added to the collection route bringing the total number of locations to forty-one. In addition,



Can/Bottle collections from various offices in Jefferson City

a new item — steel (tin) cans — was added late in FY13 to the list of materials that could be recycled. State agencies recycled a total of 14,558 pounds of aluminum cans, 10,524 pounds of plastic bottles, and 1,496 pounds of steel cans in FY13.



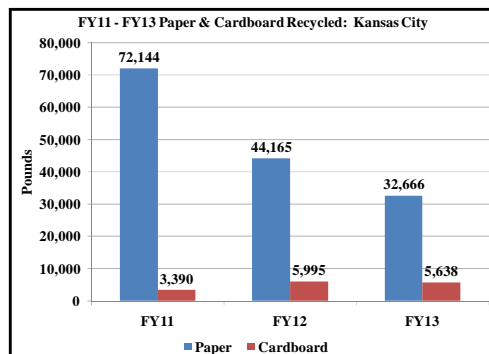
The subcontractor, Kingdom Projects (a sheltered workshop), provided collection services for cardboard and commingled materials — sorting beverage containers at their recycling facility located in Fulton.



One week of can/bottle collections at the Truman Building in Jefferson City — the largest building in state government with 2500 employees

Kansas City

During FY13, the Kansas City contract offered state agencies the opportunity to recycle cardboard and mixed office paper. The amount of paper recycled in Kansas City in FY13 was 32,666 pounds. The amount of cardboard recycled in Kansas City stayed about the same in FY13 as compared to the previous year.



St. Louis

In April, 2013 the State awarded a contract for recycling services for state agencies for the counties of St. Louis, St. Charles, Jefferson, and the City of St. Louis. The contract allows state agencies to recycle materials in two “streams” where fiber materials (paper and cardboard) are collected in one container and non-fiber materials such as aluminum, steel, and plastics are collected in a separate container.

The St. Louis contract was implemented in FY14.

Statewide Recycling Services

The Missouri State Recycling Program (MSRP) administered two no-cost statewide recycling services for state agencies in FY13. These convenient services allowed state employees to recycle printer cartridges or rechargeable batteries. In addition, the Office of Administration's Division of Purchasing and Materials Management administered two fee-based contracts for document destruction and lamp recycling.

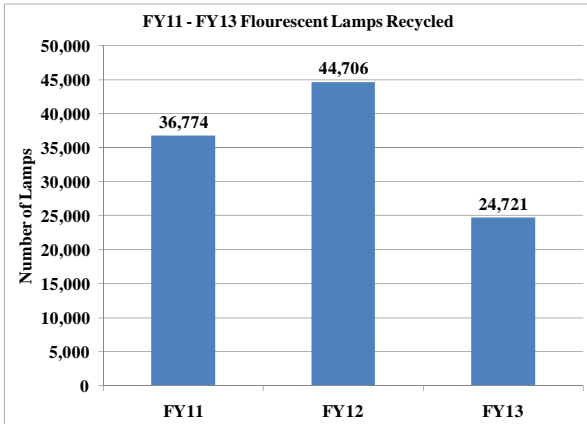
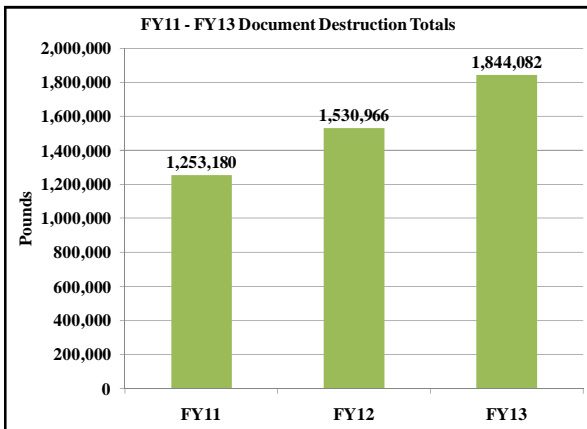
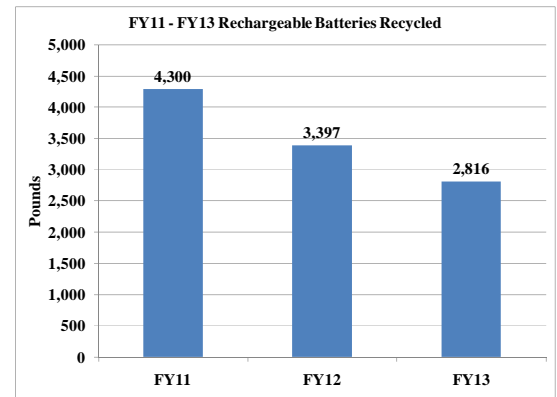
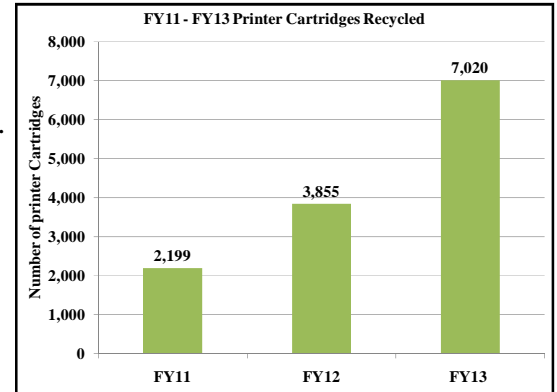
No-Cost Services

Printer Cartridge Recycling

State agencies have numerous options for recycling printer cartridges. The chart to the right details only those recycling activities where state agencies used either the State Recycling Program's printer cartridge collection service or MO Vocational Enterprises' (MVE) service. Agencies that returned printer cartridges to the "original equipment manufacturer" (OEM) are not accounted for in this chart. The substantial increase in collections from FY12 to FY13 is attributable to the State Recycling Program dedicating more communication resources to its own collection program.

Rechargeable Battery Recycling

Ten departments utilized the rechargeable battery recycling service and recycled 2,816 pounds of rechargeable batteries. Over the past ten years, Missouri state government efforts have resulted in the recycling of 38,238 pounds of rechargeable batteries. Thirty-five locations throughout Missouri utilized this service in FY13.



Fee-Based Services

Document Destruction Contract

This service contract provided state agencies throughout Missouri an opportunity to have confidential documents destroyed and the shredded paper recycled. Cost for services varied and was based on document volume and the location of the state agency. The chart to the left shows a significant increase in records destroyed in FY13 which is a result of more widespread use of this contract by state agencies.

Lamp & Ballast Recycling Contract

This contract allows for the recycling of fluorescent and incandescent lights and related equipment (i.e., ballasts), as well as non-rechargeable batteries. Very few incandescent lamps were reported as recycled in FY13 which may be a result of the numerous fluorescent retrofits that have occurred over the last several years. The State Recycling Program covered costs for several state agencies to recycle fluorescent lamps in FY13.

FY13 Department Reports of Materials Recycled

Number of Pounds Recycled	Agriculture	Attorney General	State Auditor	Conservation	Corrections	Economic Development	Elementary & Secondary Educ.	Health & Senior Services	Higher Education	Insurance, Finan. Inst., Prof. Reg.	Labor & Industrial Relations	Lottery	Mental Health	MOSEKS	Natural Resources	Northwest Missouri State University	Office of Administration	Public Safety	Revenue	Secretary of State	Social Services	Southeast Missouri State University	State Courts Administrator	Transportation	Totals by Material	
Aluminum	C	C	C	279	51,861		C	376	C	C	C		3,343	400	9,517	6,424	C	440	C	C	C		C	28,121		
Ballasts				12	C										C		15,004						C	639	115,319	
Batteries-Non Rechargeable				140			2	5					1,645		521		37	126				13		781	3,270	
Batteries-Rechargeable				117	2,193		10	40					617		1,183		1,556	10,531			4		28	1,487	17,766	
Cardboard	C	C	C	4,900	1,508,954		C	C	C	C	C		291,185	C	13,881	364,570	13,512	11,775	C	C	C		C	24,406	2,795,567	
Carpet Tiles																	10,850								10,850	
Commingled Materials*					270,000										67,952							924,489			1,262,441	
Electronic Scrap	62			3	12,317	1,088	4,782	3,570							1,917		8,584	54,331	650	102			18,973	2,920	1,968	435,492
Food-Yard Waste					497,414								19,025		8,585	205,810		126								730,960
Glass				160											4,556	250										4,966
Magazines & Catalogs				1,000	14,950								743		1,705											18,398
Media, Storage																2100							61		2,161	
Mixed Office Paper	5,867	17,556	2,260	10,700	668,685	53,604	16,304	92,784	11,713	75,656	63,296	2,372	286,647		87,532		18,794	138,907	622,225	131,580	619,929		19,423	110,753	4,425,389	
Newsprint				360	3,418								3,265		2,683											9,726
Plastic	C	C	C	1,305	34,285		C	1,320	C	C	C		12,751	C	3,397	28,760	96	2,260	C	4,141	C		C	C	5,085	103,924
Rubber, Scrap Tires				102	11,260								291		11,760			43,033							378,210	444,656
Scrap Metal				75,681	249,311		190	31,000					14,025		30,251	86,996	63,391	261,550	17,920						5,047,766	5,878,081
Styrofoam															19		23									42
Telephone Books				1,022									523		129										150	1,824
Textiles					7,000												8	58,905								65,913
Tin / Steel Cans				125	595,598								6,121		300			173							1,000	604,813
Totals Reported by Agency	5,929	17,556	2,260	95,906	3,927,286	54,692	21,288	129,095	11,713	75,656	66,302	2,372	640,181	400	245,888	719,480	131,855	582,157	640,795	135,823	619,946	943,462	22,432	5,600,366		

Total Pounds Recycled in FY13: **16,947,253**

(8474 tons)

Note on Boxes with C's: A "C" in a box on this table indicates an agency recycled the designated item by utilizing the Jefferson City (JC) recycling services contract. Materials collected via the JC contract include **Aluminum, Cardboard, Mixed Office Paper, and Plastic**. A box that has a number over a "C" indicates the agency reported material that was recycled statewide, but not reported in the JC contract figures. For example, statewide Public Safety reported 440 pounds of aluminum recycled and Public Safety offices in JC utilized the JC Recycling Contract to recycle aluminum.

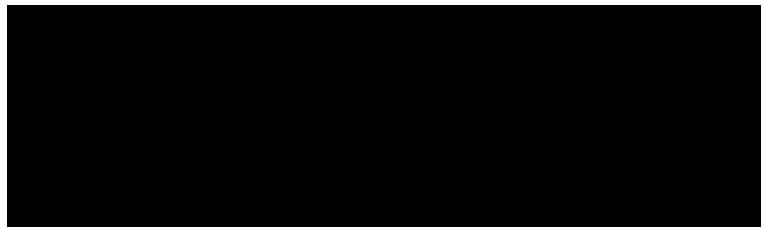
Note on "Totals by Material": This column includes collection totals as reported by the recycling contractor or service provider for the following materials: **Aluminum, Cardboard, Carpet Tiles, Electronic Scrap, Mixed Office Paper, Plastic, and Steel Cans**. These figures are summarized in a table on p. 10 of this report. Agencies that utilized a recycling contract, but do not appear in this table include: **State Treasurer, Senate, House of Representatives, Supreme Court, MO Consolidated Health Care Plan, Tax Commission, and Governor's Office**. Amounts of materials recycled by these agencies are included in the "Totals by Materials" column. (see explanation under "contractual reporting" on top of p. 10)

*The contents of "Commingled Materials" will vary from one location to the next. Typically "commingled materials" will include materials such as cardboard, paper, plastics, aluminum cans, books and steel cans.

FY13 Department Reports of Materials Recycled (cont.)

Summary Information for Table on Page 9 for Contractual Reporting and Other Recycling Services

Total pounds recycled by agencies utilizing the Jefferson City and Kansas City recycling services contracts as well as the document destruction contract are summarized in the table to the right. These figures are reported as cumulative totals. Due to contract reporting, data is reported by building and it is not feasible to separate data by agency where there are multiple agencies in the same building.



Total pounds recycled by agencies utilizing the electronics recycling service and the carpet contract is summarized in the table to the left.

Number of Items and Gallons Recycled Table

Number of Items Recycled	Books, Bound Publications	Cell Phones	Fluorescent Lamps	Incandescent Lamps	Printer Cartridges	Fuel/Oil Filters	Pallets	Number of Gallons Recycled						
								Anti-freeze	Diesel / Gasoline	Oil, Cooking	Oil, Motor	Paint		
Economic Development					7									
Agriculture					5				2,587					
Conservation	500	30	233			55		30				1,850		
Corrections		36			2,280		2,548	65		1,084		3,345		
Elementary & Secondary Education		12			27									
Health & Senior Services		17			16									
Insurance, Financial Inst., Prof. Reg.					14									
Labor & Industrial Relations					10									
Lottery			215											
Mental Health	45	7	10		944		408	2		1,975		474		
MOSERS			64											
Natural Resources			320		584	122	45	14,719				1,204	12	
Northwest Missouri State University			5,705									750		
Office of Administration			18,587	56	30		502							
Public Safety			4,725		5,633	6,050	978	100	10	331		5,025		
Revenue					233									
Social Services		49			43									
Southeast Missouri State University					445									
Transportation		449	13,506	840	827		569	490				27,255		
Treasurer's Office					73									
TOTALS	545	600	43,365	896	12,127	6,227	5,050	15,406	2,597	3,390		39,903	12	

Note on Total Printer Cartridges: 965 printer cartridges were recycled by employees using a statewide service for this item and are included in the TOTALS amount shown in this table. **Note on Agency-Specific Printer Cartridges:** Figures appearing for individual agencies may not be an accurate reflection of the number of printer cartridges recycled. In some buildings agencies utilize a centralized recycling drop-off for cartridges and it is not feasible to separate agency data once recycled. See p. 8 "Printer Cartridge Recycling" for additional explanation.

Measuring the Economic and Environmental Savings of Materials Recycled*

The Department of Economic Development, Division of Energy utilized the Environmental Protection Agency's Waste Reduction Model (WARM) as a way to measure the economic and environmental savings of materials recycled by state agencies in FY13. Essentially WARM is a life-cycle analysis tool that has been in development for over 10 years.

The WARM model helps us to better understand the benefits of alternative end-of-life waste management decisions such as recycling. This model is a lifecycle assessment tool which considers the energy usage and greenhouse emissions from raw material extraction until product disposal. This includes material assessment, all product transportation, manufacturing, and disposal. The model compares different disposal scenarios such as recycling, landfill, incinerating, composting, and source reduction.

The following carbon dioxide and energy reduction estimates include a majority of the materials listed in the tables on page 9 and top of page 10 of this report. Materials not included in the WARM model calculations include all items listed in the table entitled "Number of Items and Gallons Recycled" located on page 10. (books/bound publications; cell phones; fluorescent lamps; incandescent lamps; printer cartridges; fuel/oil filters; pallets; anti-freeze; diesel/gasoline; cooking oil; and motor oil). In addition, the following items from the "Number of Pounds" table on p. 9 are not included in the WARM model calculations: textiles; styrofoam; storage media; batteries (rechargeable/non-rechargeable); and ballasts.

Energy Reductions (Economic Benefits) Related to Recycling*

The amount of material recycled by state employees in FY13 resulted in an estimated reduction in energy use of 276,881,000,000 (over 275 billion) BTUs. This amount of energy is equivalent to ...

- **Conserving 2,463 households' annual energy consumption or ...**
- **Conserving 47,656 barrels of oil or ...**
- **Conserving 2,215,047 gallons of gasoline**

Carbon Dioxide Reductions (Environmental Benefits) Related to Recycling*

State of Missouri recycling efforts resulted in an estimated reduction of greenhouse gasses of 27,069 MTCO₂E (metric tons of carbon dioxide equivalent). This is equivalent to . . .

- **Removing annual emissions from 5,308 passenger vehicles or ...**
- **Conserving 3,034,684 gallons of gasoline or ...**
- **Conserving 1,127,891 cylinders of propane used for home barbeques or ...**
- **Conserving 147 railway cars of coal**

*Department of Economic Development, Division of Energy calculated these estimates utilizing the EPA's WARM model.



Missouri State Recycling Program Annual Awards

Each year the State Recycling Program accepts nominations for the Annual Recycling Award. Employees, departments, or agencies are eligible to be nominated for outstanding contributions made in the areas of recycling collection, waste reduction, and/or recycled content procurement. Members of the Missouri Interagency Recycling Committee review the nominations and vote for an individual and agency award. The State Recycling Program encourages nominators to submit information demonstrating the *value* of the nominee's recycling efforts. *Value* could include costs avoided, revenue generated, ongoing leadership/commitment/passion/enthusiasm, or environmental benefits.

FY13 Annual Recycling Award

Northwest Missouri State University (NWMSU) was selected by the Missouri Interagency Recycling Committee as this year's winner of the Missouri State Recycling Program's annual award. NWMSU's **Hardscape and Recycling Team (HaRT)** continue to demonstrate how collaboration, innovation, and long-term dedication produce valuable results. HaRT has been involved in a multi-year transformation of recycling practices on the NWMSU campus. The examination of recycling systems has been quite thorough and covers everything from looking at program costs and benefits from a strategic vantage point to rethinking collection practices ... from vehicles to recycling containers.

The primary reason NWMSU was selected as this year's winner is related to the development of their on-campus material recovery facility. This is where campus material streams are processed for recycling. The centerpiece of this operation is a baler that was modified to include a conveyor, hopper, and loading system which will allow for more efficient processing of materials. HaRT was very resourceful in creating this equipment as they reused and repurposed existing equipment and scrap to make these modifications. For example, poles from old emergency call stations were used to create legs for the hopper.

The other significant development over the past two years with NWMSU's recycling scene is the launch of a food waste composting program. Since implementing this service NWMSU has diverted over 300,000 lbs. of food service organics from the landfill creating a nutrient-rich compost which is used extensively as a soil supplement in the Arboretum greenhouse and campus grounds. HaRT once again fabricated much of the collection and composting equipment with hardware and scrap already on-campus; thereby saving NWMSU significant costs.



Kneeling L to R: Robert Lager, David Stith, Kurt Davis, Mike Adwell | Front Row L to R: Rick Swaney, Bruce Devers, Travis Stokes, Danny Smith, Shawn Sisney, Cree Beverlin, Bryan Freemyer, Jada Tressler, Zuelika McClarnon | Back Row L to R: Grady Hilsabeck, John Viau, Danton Green, Nic Abarr, Doc Bliley, Chase McCutcheon, Robert Archer, TJ Allen, Les Chesnut, Chris Redden

Northwest Missouri State University Solid Waste Management Statistics

Year	Total Waste (Tons)	Total Diverted from Landfill (Recycled Tons)	Percent of Recyclables Diverted from Landfill
2010	939	185	20%
2011	960	255	26.5%
2012	911	316	34%

Over the past several years, NWMSU's HaRT have engaged in a continuous improvement process that has resulted in better solid waste management practices. Collection processes have become more efficient, percentage of recyclable materials diverted from the landfill has increased and the total tons of waste generated is trending downward (see table to left).

Honorable Mentions

The State Recycling Program thanks those who took the time to make a nomination and at the same time wants to recognize the patience, passion, and persistence that the nominees have exercised with their efforts to reduce, reuse, and recycle state government waste.

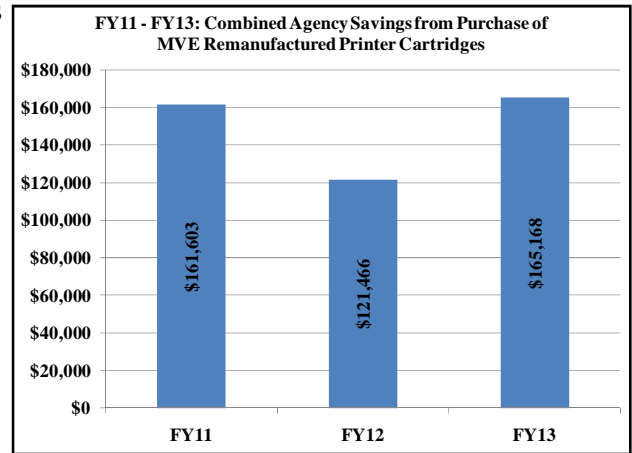
Dept. of Natural Resources' South Service Center (St. Louis)
Dept. of Natural Resources' State Parks - Long Branch State Park

II. FY13 Overview: State Agency Waste Reduction / Recycling Accomplishments

Remanufactured Toner Cartridges: State Agency Savings

For more than 10 years, Missouri Vocational Enterprises (MVE) has offered a toner cartridge remanufacturing service for state agencies. This service has provided state agencies an opportunity to realize significant savings and reduce waste by reusing toner cartridges.

The chart to the right illustrates the combined agency savings over the past three years for agencies that purchased remanufactured toner cartridges from MVE. Savings are estimated by calculating the difference in price between MVE toner cartridges and non-recycled toner cartridges available from the office supply contract.



From FY11 - FY13, state agencies have saved more than \$400,000 dollars by utilizing services provided by MVE.

Department of Revenue Saves BIG with Remanufactured Printer Cartridges

Throughout FY13 the Department of Revenue (DOR) endeavored to find ways to cut costs. Late in FY13 DOR decided to conduct a trial to procure remanufactured printer cartridges from Missouri Vocational Enterprises (MVE). In the first three months of purchasing MVE's remanufactured printer cartridges, DOR saved **\$22,861** as compared to purchasing these from the state's printer cartridge contractor. DOR's switch to remanufactured cartridges is not only fiscally responsible (DOR is on pace to save about \$100,000 each fiscal year), but also environmentally responsible and will result in DOR's operations having less of an impact on the environment and Missouri's taxpayers.

State Agency Recycling Efforts Avoid Cost of Waste Disposal

The efforts of agencies statewide resulted in a combined total of **8,474** tons (see chart on p. 9) of materials recycled in FY13. If this amount of material had been sent to landfills it is estimated the State of Missouri would have paid at least **\$325,232** in waste disposal costs. It is possible to calculate this cost avoidance based on the average tipping fee charged to waste haulers in Missouri. Tipping fees are paid by waste haulers for each ton of trash disposed in Missouri's landfills. The average tipping fee in Missouri was \$38.38* per ton in FY13.

The tipping fee is only one cost of doing business as a waste hauler. In addition to the tipping fee, a waste hauler includes labor and transportation costs in the actual amount charged to its customers. Therefore, utilizing the average tipping fee to calculate cost avoidance represents a conservative estimate.

*Tipping fee source: Waste & Recycling News, May 27, 2013 issue

Composting at Southeast Missouri Mental Health Center

Southeast Missouri Mental Health Center (SEMMHC) — located in Farmington — considered composting when the facility’s horticulture program expanded. SEMMHC grows spring bedding plants in a greenhouse and has many other garden areas around campus. Food is grown for clients, the dining room and for staff to purchase which helps support the Horticulture Vocational Services Program (HVSP) program financially. Due to client safety issues, SEMMHC doesn’t typically stock products such as water soluble fertilizers, pesticides or herbicides. Creating compost as a soil amendment for their gardens has proven to be an excellent alternative.

After consulting with SEMMHC’s dietary department, the HVSP initiated their composting program in July, 2011. By the end of 2011 this program had composted 4,207 pounds of food scraps from the facility’s kitchen. Their first



Composting system at Southeast Missouri Mental Health Center in Farmington

compost bin system was made with old pallets connected together (see photo above). Kitchen scraps were layered with straw and old newspaper and the pile was flipped by hand every couple of weeks.

By the end of 2012 the Horticulture Vocational Services Program had composted 12,418 pounds of kitchen scraps nearly tripling the amount of food scraps composted in the previous year. With the increased volume of food scraps to process SEMMHC needed a bin system that could handle more waste and embarked on testing several different designs. SEMMHC decided the best solution for their situation was to build a couple of large bins out of old landscape timbers that had once lined their nature trail. The bin was pieced together with pieces of rebar which once held them to the ground (see photo to left).



Composting system at SEMMHC designed to handle larger volumes of food scraps

The composting process continues to evolve at SEMMHC. For instance staff no longer turn the compost by hand because it is too labor intensive. Now the compost pile is left alone for at least a year so it will fully decompose. The composting process is creating a very valuable soil amendment to use in the gardens at SEMMHC. This mental health facility is saving energy and water by not continuing to flush kitchen scraps down the garbage disposal as was done prior to composting these food scraps.



Finished compost from SEMMHC

Missouri Barbecue Showcase Highlights Recycling

The Missouri Barbecue Showcase was a very popular event during Governor Nixon's second inauguration in January 2013. Event organizers also made sure the barbecue did not send much material to the landfill.

The MO Recycling Association, Lincoln University (LU), and the MO State Recycling Program worked together to provide composting services for this event. Materials such as paper plates, plastic cups made from corn (certified biodegradable), bones, food waste, napkins, and paper coffee cups were collected separate from the trash. LU then hauled the compostable



Inaugural composting and trash containers

Barbecue Recycling Statistics

- ∞ Material Composted = 234.2 lbs.
- ∞ Material Landfilled = 62.4 lbs.
- ∞ % Diverted from Landfill = 79%
- ∞ Volume Composted = 3 cubic yards

material to their farm where the food waste and other items were composted. LU has equipment — known as an in-vessel composter — that is designed to handle large quantities of material. The finished compost was utilized by LU as a soil amendment with their ongoing demonstration projects promoting sustainable agriculture.

All of the disposable wares utilized at the barbecue were not compostable; therefore, volunteers assisted attendees with proper separation. Event organizers provided compostable plastic cups and paper plates which significantly increased the amount of material that was diverted from the landfill.



List of compostable items



Material from the Missouri Barbecue Showcase is prepared for composting

Overall 79 percent of the material generated at the barbecue was diverted from the landfill and composted by LU.

Persons attending the event were very appreciative and curious that the majority of waste at the barbecue was being recycled through the composting process.

Surplus Property Reuse on the Rise

Widespread use of the Purchasing Committee (purchcomm) listserv in FY13 helped agencies to streamline the surplus property disposal process and save money. Essentially, the listserv is an email distribution list that allows agencies to communicate with other state agencies about property that is no longer needed. Purchcomm may also be used to find items that an agency needs to acquire. Typically, the exchange of property through the listserv does not cost state agencies any money. For FY13 it is estimated state agencies saved over \$115,000 as a result of utilizing the purchcomm listserv.

FY13 Top 5 Items Reused Through the Listserv

1. Cardboard Boxes
2. Printer Cartridges
3. 3-ring Binders
4. Electrical Conduit
5. 3.5-inch Floppy Diskettes

Since FY07 the Office of Administration's (OA) Division of Purchasing (DPMM) and Office of Equal Opportunity (OEO) have been distributing used 3-ring binders to other state agencies by utilizing the purchcomm listserv. This has provided other state agencies with the opportunity to save money by not having to purchase new notebooks.

In order to participate with the purchcomm listserv a state employee must subscribe to the listserv. Since State Surplus Property policies apply to distribution of property via the listserv, it is a good idea for employees who normally handle

OA/DPMM & OEO Notebook Reuse Stats

Avg. # of notebooks distributed each year = 644
Avg. Annual Estimated Cost Avoided = \$1,376

disposal of property to subscribe. Here is a web link to the subscription page <http://lists.mo.gov/mailman/listinfo/purchcomm>

University of Missouri - Kansas City Places 1st in National Recycling Competition



The University of Missouri - Kansas City claimed the 2013 national title for recycling in the nationwide recycling competition known as RecycleMania!

RecycleMania is a competition among colleges and universities in the United States that provides schools with a fun, proactive opportunity to increase awareness about waste prevention and recycling on their campus. Over a 10-week period, schools compete in different contests to see which

institution can collect the largest amount of recyclables per capita; the largest amount of total recyclables; the least amount of trash per capita; or have the highest recycling rate.

In addition to the schools placing in the Top 25, the following Missouri schools participated in the 2013 national competition: **Missouri University of Science & Technology; Northwest Missouri State University; St. Louis University; Washington University; University of Missouri - St. Louis; Missouri Western State University; and Lincoln University.**

The State Recycling Program applauds Missouri's colleges and universities for their participation in the national RecycleMania competition. (www.recyclemaniacs.org)

Missouri Schools Placing in the Top 25 for RecycleMania Competitions

Grand Champion Competition

University of Missouri - Kansas City (1st)
St. Louis Community College - Wildwood (5th)
Harris-Stowe State University (15th)

Gorilla Competition

Washington University - St. Louis (17th)
University of Missouri - Columbia (21st)

Waste Minimization Competition

St. Louis Community College - Meramec (7th)
St. Louis Community College - Florissant Valley (12th)
University of Missouri - Kansas City (23rd)

Paper Competition

St. Louis Community College - Wildwood (8th)

FY13 Overview: Recycled Content Procurement

Recycling Program Guidelines for Buying Recycled

The State Recycling Program works with agencies to increase procurement of products containing recycled content. This is commonly referred to as “closing the loop”. Recycling can only be successful if products produced from recyclable materials are then purchased. The State Recycling Program has adopted the Environmental Protection Agency’s (EPA) “**Comprehensive Procurement Guidelines (CPG)**” for recycled content products as a roadmap for the State of Missouri to continue working towards “closing the loop”.

Evaluation Criteria for Products Listed Under CPG:

- Availability of product
- Impact of procurement on the solid waste stream
- Economic and technological feasibility of producing the product
- Other uses of the recovered materials used to produce the product

There are eight categories designated in the CPG. Product categories and individual items in these categories are listed below. **Products identified by the recycling symbol appear in the Missouri Recycled Products Directory** published by the Environmental Improvement and Resources Authority’s Market Development Program. This publication is a good resource for locating recycled products manufactured and distributed in Missouri. Additional information about this directory may be found in the “Recycling Resources” section on page 22 of this report.

Product Fact Sheets may be found for each of these categories on the internet at the following address:

<http://www.epa.gov/epaoswer/non-hw/procure/factshts.htm>

Comprehensive Procurement Guidelines: Recycled Product Categories

1. Construction Products

- ♻️ **Building Insulation**
 - Carpet (polyester)
 - Carpet Cushion
 - Laminated Paperboard
- ♻️ **Cement & Concrete Containing**
 - **Coal fly ash**
 - Furnace slag
 - Ground granulated blast
 - Cenospheres
 - Silica fume
- Consolidated & Reprocessed Latex Paint
- Floor Tiles
- Flowable Fill
- Modular Threshold Ramps
- Nonpressure Pipe
- ♻️ **Patio Blocks**
 - Railroad Grade Crossing Surfaces
- ♻️ **Roofing Materials**
- ♻️ **Shower & Restroom Dividers/Partitions**
- ♻️ **Structural Fiberboard**

2. Landscaping Products

- ♻️ **Compost & Fertilizer Made from Recovered Organic Materials**
 - Garden & Soaker Hoses
- ♻️ **Hydraulic Mulch**
 - Lawn & Garden Edging
- ♻️ **Plastic Lumber Landscaping Timbers & Posts**

3. Park & Recreation Products

- ♻️ **Park Benches & Picnic Tables**
- ♻️ **Plastic Fencing**
- ♻️ **Playground Equipment**
- ♻️ **Playground Surfaces**
 - Running Tracks

4. Paper Products

- ♻️ **Commercial/Industrial Sanitary Tissue (paper towels & toilet paper)**
 - Miscellaneous Papers
 - Newsprint
- ♻️ **Paperboard & Packaging Products**
- ♻️ **Printing & Writing Papers**

5. Nonpaper Office Products

- ♻️ **Binders, Clipboards, File Folders, Clip Portfolios, & Presentation Folders**
- ♻️ **Office Furniture**
- ♻️ **Office Recycling Containers**
- ♻️ **Office Waste Receptacles**
 - Plastic Desktop Accessories
 - Plastic Envelopes
 - Plastic Trashbags
- ♻️ **Printer Ribbons**
- ♻️ **Toner Cartridges**

6. Vehicular Products

- Engine Coolants
- Rebuilt Vehicular Parts
- Re-Refined Lubricating Oils
- Retread Tires

7. Transportation Products

- Channelizers
- Delineators
- Flexible Delineators
- Parking Stops
- Traffic Barricades
- Traffic Cones

8. Miscellaneous Products

- ♻️ **Awards & Plaques**
 - Bike Racks
 - Blasting Grit
 - Industrial Drums
 - Manual-Grade Strapping
- ♻️ **Mats**
- ♻️ **Pallets**
 - Signage
 - Sorbents

State Agencies Close the Loop with Paper Procurement






Paper is the most common recycled product purchased by state agencies. RSMo 34.032 established attainment goals for state agencies to purchase certain percentages of products made from post-consumer recovered materials.

FY13 Purchases of Recycled Paper Compared to Virgin Paper

Product Category	Recycled Paper Purchases	Virgin Paper Purchases	Recycled Paper Purchases as a % of Total Purchases in Product Category		
			FY13	FY12	FY11
Fine Paper Products (office, copy, fax)	\$1,114,203	\$1,901,529	37%	39%	42%
Course Paper Products (napkins, towels, tissues)	\$1,728,243	\$121,971	93%	67%	64%
Forms (continuous & snap out)	\$256,563	\$3,785	99%	96%	98%
Envelopes (Plain or Printed)	\$896,625	\$14,887	98%	99%	97%
Printing by contractors (40% of total charge is attributable to paper - figures appearing in this row represent paper cost only)	\$298,887	\$864,700	26%	34%	23%
Overall Totals	\$4,294,521	\$2,906,872	60%	54%	54%

Environmental Benefits of Buying Recycled Paper

The State of Missouri spent \$1,114,203 on recycled “Fine Paper Products” in FY13. This translates into approximately 40,079 cases of recycled paper. A majority of this paper is printer/copier paper made with 30 percent post-consumer recycled paper. Purchasing this type of recycled paper versus virgin paper translates into the following estimated savings:

-  7,214 trees
-  2,104,147 gallons of water
-  18,035 lbs. of air pollution
-  1,232,429 kw/hours of electricity
-  4.2 billion Btu – enough energy to power 40 homes in Missouri for a year!

Source: www.recycledproducts.org/calculator.html

FY13 Department Reports for Recycled Content Product Procurement

Non-Paper Recycled Content Procurement (All Figures Reported in Dollars)	Agriculture	Conservation	Corrections	Economic Development	Elementary & Secondary Education	Health & Senior Services	Insurance, Financial Inst., Prof. Reg.	Labor & Industrial Relations	Mental Health	Natural Resources	Office of Administration	Public Safety	Revenue	Secretary of State	Social Services	Southeast Missouri State University	State Courts Administrator	Transportation	Treasurer's Office	Category Totals	
Batteries-Rechargeable		15							515			8,076									\$8,606
Carpet / Construction Materials					3,000				23,526	3,553	28,475	19,603			3,120			5,391			\$259,078
Cardboard Boxes		2,000	14,946		2,354	235	75		2,103		270	7,175		42,753							\$120,948
Janitorial Supplies			275,253		16,811	55	80		717	11,398	2,897	14,613		895							\$677,772
Metal Products			7,694	460	2,605		399			20,055		272,392	3,082,022								\$3,385,627
Office Supplies			3,500						3,439	2,341	1,699	7,454				200			6,266		\$587,916
Playground Supplies					25,933				19,033	38,488							3,457				\$86,911
Printer Cartridges, Remanufactured	415		154,087	1,250	76	2,489		750	100	5,751	1,639	2,579	31,257		5,818	1,583					\$215,094
Remanufactured Furniture																					\$11,800
Refurbished Signs			100																		\$100
Tires, Retread			1,746																		\$1,746
Vehicle Maintenance Supplies			1,392						230												\$1,622
Agency Totals	415	2,015	458,718	1,710	50,779	2,779	554	750	49,663	81,586	34,980	331,892	3,113,279	43,648	8,938	1,783	3,457	5,391	6,266		

Total Dollars Spent on Recycled-Content Products in FY13 = \$5,357,220

Notes: When adding figures in each row the following needs to be considered. **Carpet** contractors reported agency purchases of \$91,827. **Construction Materials** contractors reported purchases of \$80,583. **Office Supplies** contractors reported purchases of \$569,662. MVE provided procurement figures for **Cardboard Boxes** (\$49,037); **Janitorial Supplies**-plastic bags (\$355,053); and **Remanufactured Furniture** (\$11,800). The total for Remanufactured Printer Cartridges includes \$7,300 of purchases that couldn't be attributed to a particular department. When adding the figures in each row -- these amounts need to be included in the sum. For additional information on recycled-content products and services from MO Vocational Enterprises see p. 22 of this report.

II. FY13 Overview: Missouri's State Recycling Fund

Missouri's State Recycling Fund was established by RSMo 34.032 which states that "Proceeds from the sale of recycled materials may be used to offset costs of the recycling program."

Recycling revenues dropped 24 percent from FY12 to FY13. Primarily this was a result of lower pricing on newly awarded recycling contracts. Secondary to this was weakened export demand for scrap paper largely related to China's "green fence" enforcement action.

In FY13 the MSRP distributed over 12,000 plastic bags to state agencies. A majority of these were used to collect aluminum cans and plastic bottles with a smaller percentage used for shredded paper. In addition, over 400 recycling containers were provided to state agencies in FY13. About one-half of these are being used for mixed office paper, a smaller percentage for can and bottle recycling and the balance of containers are being used by the Missouri National Guard. Other significant purchases made with monies from the State Recycling Fund included a baler for Potosi Correctional Center; fluorescent lamp recycling services; containers for the Department of Revenue's paper recycling program; baler supplies and maintenance; and supplies for in-vessel composters located at Ozark Correctional Center and Northeast Correctional Center.

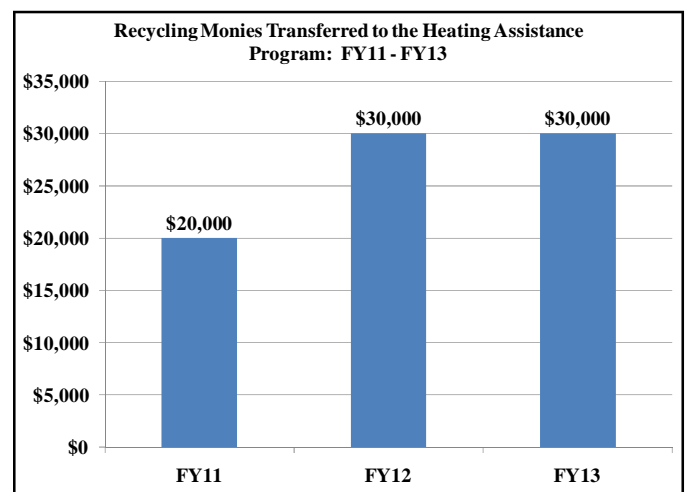
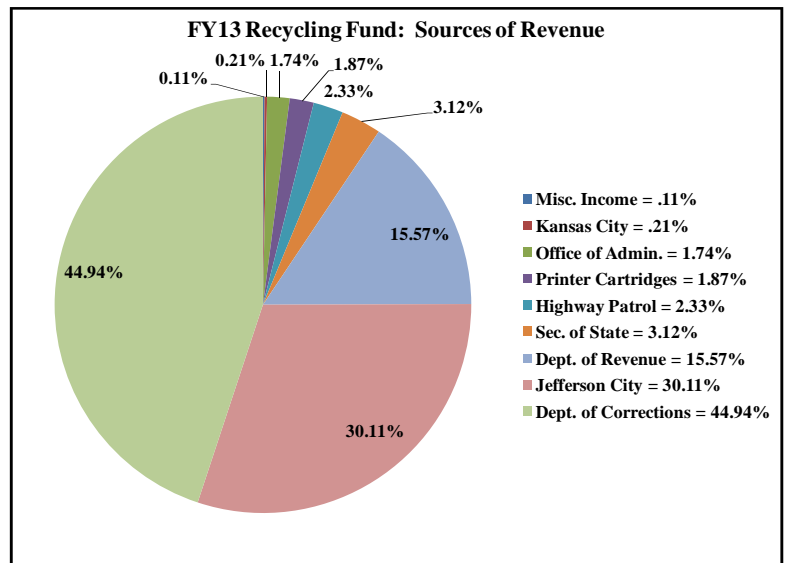
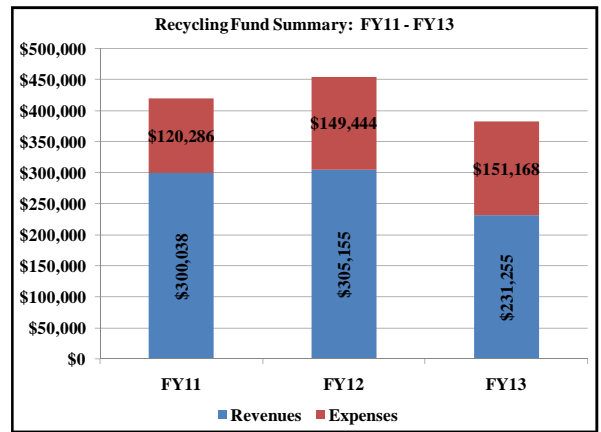
Expenses listed in the bar chart at the top of this page include operations, salary, and fund transfers to the Heating Assistance Program.

The top three sources of revenue in FY13 were the Department of Corrections (**45 percent**), the Jefferson City recycling contract (**30 percent**) and Department of Revenue (**16 percent**). (see chart above) The Department of Corrections (DOC) spends a significant amount of recycling funds on consumable products such as plastic bags and baling wire for securing bales of recyclable materials. This is due to the high volume of materials that DOC generates and recycles.

Contributions to the Heating Assistance Program (Utilicare)

Excess revenues from the sale of recyclable materials are transferred to the Heating Assistance Program managed by the Department of Social Services pursuant to RSMo 34.032. The Heating Assistance Program (HAP) - also known as Utilicare - provides financial assistance to low-income Missourians for heating their homes during winter months. The MSRP has transferred a total of **\$260,000** to the HAP since 2004.

As a result of state employee recycling efforts, the MSRP made a **\$30,000** contribution to the HAP in FY13. The \$30,000 transferred to the HAP in FY13 will help approximately 150 households in Missouri to pay their heating bills.



III. State Recycling Program Goals

FY13 Goal

Goal: Establish a dual-stream recycling service contract for state agencies in the St. Louis area to recover common office waste products. The contract will provide services for the counties of Jefferson, St. Charles, St. Louis, and City of St. Louis. In this scenario, dual-stream recycling means mixed paper will be kept separate from other recyclable materials such as cardboard, plastic, and tin.

Result: A contract for recycling collection services was awarded in April, 2013 for the counties of Jefferson, St. Charles, St. Louis, and City of St. Louis. Materials are collected in two separate streams. One stream allows for collection of fiber-based material such as mixed office paper and cardboard. The other stream allows for materials to be commingled in the same container. The commingled material stream includes aluminum, steel (tin) cans, and a variety of plastics.

Planning for the collection infrastructure at various buildings in the St. Louis area as well as development of a collection route were underway by the end of FY13.

FY14 Goals

Background: In FY13 there were seventy-eight state buildings in Cole County. This count includes state-owned and leased buildings managed by the Office of Administration (OA) as well as other state properties not managed by OA. The following recycling participation rates were established at the end of FY13.

- ∞ Mixed Paper: 66 out of 78 buildings = 84.6%
- ∞ Cardboard: 52 out of 78 buildings = 66.7%
- ∞ Commingled Materials: 41 out of 78 buildings = 52.6%

Goal: Increase the Cole County recycling services contract participation rate by 5 percent for each of the three material streams (mixed paper, cardboard, commingled materials) for state owned and leased buildings. By the end of FY14 participation rates will be . . .

- ∞ Mixed Paper: 70 out of 78 buildings = 89.7%
- ∞ Cardboard: 56 out of 78 buildings = 71.8%
- ∞ Commingled Materials: 45 out of 78 buildings = 57.7%

Background: In FY13 the Office of the Secretary of State had a contract for “off-site document destruction services”. Based on the performance of this contract, the Office of Administration’s Purchasing Division awarded a contract for “off-site document destruction” services in FY14. This new contract along with cooperation from the Office of the Secretary of State will allow other state agencies to access these no-cost services. State agencies now have an option to avoid costs of on-site document destruction by redirecting documents to the off-site document destruction contract.

Goal: Increase utilization of the statewide “offsite document destruction” contract by 20 percent as compared to FY13. In FY13 131,580 pounds of documents were destroyed (recycled). In FY14 an additional 26,000 pounds of documents will be destroyed by agencies utilizing this service.

IV. Recycling Resources

Environmental Improvement and Energy Resources Authority / Market Development Program Missouri Department of Natural Resources

Internet: <http://eiera.mo.gov/mo-market-dev-program/>

Email: eiera@dnr.mo.gov

Phone: 573-751-4919

The **Missouri Recycled Products Directory** is published by the Market Development Program. An excellent resource for finding Missouri based businesses that manufacture or distribute recycled-content products. The directory is available online at <http://eiera.mo.gov/mmdp-recycled-products-directory/>

Missouri State Recycling Program

Office of Administration

Division of Purchasing & Materials Management

Internet: <http://www.oa.mo.gov/purch/recypro.html>

Email: recycling@oa.mo.gov

Phone: 573-751-2387

The Missouri State Recycling Program (MSRP) works with state agencies to increase purchases of recycled content products, reduce their waste stream and increase collection of materials for recycling. The MSRP web page is a good resource for state contracts that offer recycled content products as well as recycling services.

Solid Waste Management Program

Missouri Department of Natural Resources

Internet: <http://www.dnr.mo.gov/env/swmp/index.html>

Email: swmp@dnr.mo.gov

Phone: 800-361-4827 or 573-751-5401

The Solid Waste Management Program (SWMP) works with citizens, businesses, industry, and government to continue increasing material reuse and recycling. The SWMP web page is an excellent resource for information dealing with all aspects of solid waste management in Missouri.

Missouri Vocational Enterprises (MVE)

Missouri Department of Corrections

Internet: <http://www.doc.missouri.gov/mve>

Phone: 800-392-8486 or 573-751-6663

The Department of Corrections vocational training program offers the following products and services that meet “buy recycled” criteria. MVE products and services are only available to state agencies and other tax-supported entities.

MVE Recycling/Remanufacturing/ Refurbishing Services

- Tire Recycling Service
573-635-3825
- Toner Cartridge Refill Service
573-751-3224 ext. 1260
- Furniture & Office Panel (cubicle) Refurbishing
573-751-6663 or 800-392-8486

MVE Recycled-Content Products

- Cardboard boxes: 35 percent post-consumer content
- Plastic bags: 30 percent recycled material
- Metal products: 28 percent post-consumer content
- Toilet paper: 40 percent recycled material
- Envelopes: 30 percent post-consumer content