

ATHENS-HOCKING ZERO WASTE ACTION PLAN

APPALACHIA OHIO
zero



waste
INITIATIVE

PREPARED BY MEMBERS AND
PARTNERS OF THE APPALACHIA
OHIO ZERO WASTE INITIATIVE
December 2013

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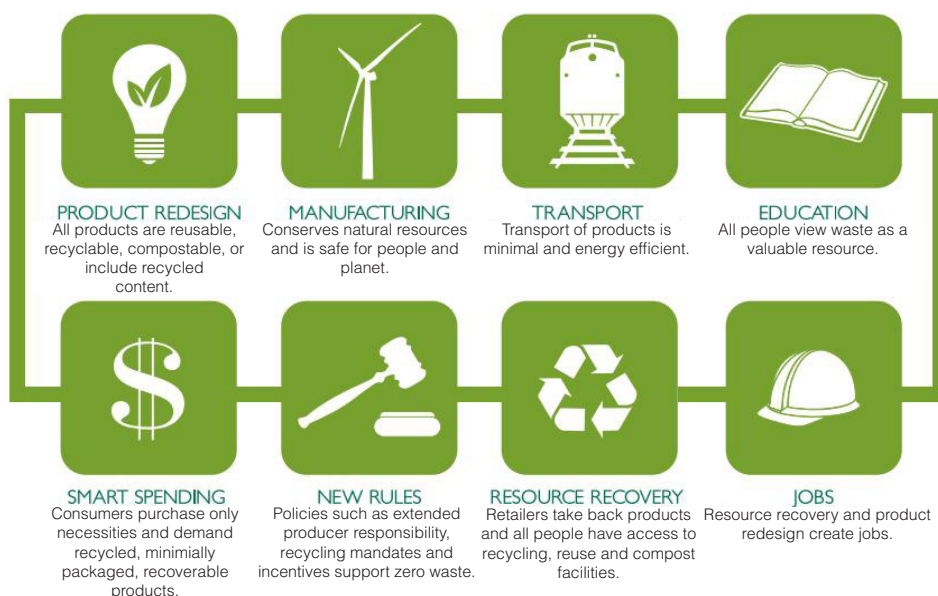
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The Appalachia Ohio Zero Waste Initiative (AOZWI) collaborates with communities to build local wealth and environmental health by increasing waste diversion and supporting the development of a zero waste economy. AOZWI is coordinated by Rural Action in partnership with the Voinovich School of Leadership and Public Affairs at Ohio University, and funded by the Sugar Bush Foundation, a supporting organization of the Ohio University Foundation. Since 2010, AOZWI has supported the advancement of waste and recycling systems in the southeast Ohio by securing financial, human, and infrastructure resources. Community organizing, education, business support, zero waste event services, cleanups, waste assessments, and research, such as the Materials Recovery Facility Feasibility Study, have also been central to AOZWI's work.

INTRODUCTION

The Zero Waste Action Plan for Athens and Hocking Counties aims to provide a unified vision and path for a robust waste management system that will enable Athens and Hocking counties to work towards becoming a zero waste economy. Zero Waste is an approach to resource management that conserves, repurposes and recycles what otherwise would be buried or burnt, into valuable assets that contribute to environmental, economic and social well-being. For measurement purposes, an entity achieves zero waste when 90% or more of their waste stream is diverted from the landfill through reuse, composting, or recycling.¹

ELEMENTS OF A ZERO WASTE ECONOMY



This plan addresses the waste reduction and resource recovery needs of community members and businesses, also known as the residential and commercial municipal solid waste stream². It also provides a foundation for a healthier environment and local economy, and leads to more prosperous communities by maximizing opportunities to capture wealth from materials consumed locally. Recognizing that poverty and unemployment is another condition this region faces, the Appalachia Ohio Zero Waste Initiative (AOZWI) and working group members included action steps to use resource recovery as a means to spur on economic growth and business development. By renewing and repurposing local resources, Athens and Hocking Counties will continue to increase local wealth, including revenue, jobs, natural assets, and appropriate built infrastructure.

This plan was developed through a collaborative effort of stakeholders and residents of Hocking and Athens Counties. The signatures of those who endorse this plan follow.

¹ There are numerous organizations that have defined zero waste such as the Grass Roots Recycling Network and the Zero Waste International Alliance. AOZWI has developed its own language to best reflect its mission.

² Since AOZWI has done the bulk of its work in the residential and commercial sector, and has expertise in these sectors, this plan focuses on these sectors. It does not include industrial waste in its goals or action steps. The industrial sector in Athens and Hocking Counties is also rather small compared to other counties in Ohio. Despite its exclusion from this plan, industrial solid waste is reported in the Annual District Report (ADR). The Ohio Environmental Protection Agency (OEPA) goal is to divert 66% of this waste from the landfill. According to the 2011 ADR, Athens and Hocking diverted almost 63% of their industrial waste.

ATHENS-HOCKING ZERO WASTE ACTION PLAN WRAP UP MEETING FOR WORKING GROUP MEMBERS
ROCKY BOOTS COMMUNITY ROOM * NELSONVILLE, OH, * 5:30PM * DECEMBER 10, 2013

By printing my name below, I am demonstrating my support for the Athens Hocking Zero Waste Action Plan and its vision to boost the local economy, improve quality of life, and improve the environment by striving for zero waste.

STEVEN H. PIERSON ^{NELSONVILLE CODE DIRECTOR}
ATLANTA TRUSTEE

Pres. Sugar Bush Foundation
Mary Anne Flournoy

DOUG FISHER

Kristina Laszlo

John GLAZER

MICHELE PATAI

Kelsey Naylor

Cathy Knoop

JON JAGER

Pete Clark

Carol Kuhre

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Minchen Vickers

Tyler Bonner

Tyler Bonner

Luke Black

KELLY HATAI

Andrea Reamy

Andrea Ladd

Michael Cooper

Paul E. Knoop, Jr.

Heather Stehle

Paul Logre

Amy Stevens

Steve Mack

ZACHARY MOLL

Ed Newman

Paul Wiehl

HOW DID THIS PLAN COME ABOUT?

To better understand the reasons for low recycling rates in Athens and Hocking Counties and to hear the needs and challenges that communities are facing in terms of recycling, AOZWI held a series of 10 community forums and surveyed about 3,000 households in 2012. All of the feedback from the public was analyzed by the AOZWI and turned into a summary of recommendations, *Options for Improved Recycling in Athens and Hocking Counties*, which was submitted to the Athens-Hocking Solid Waste District in February of 2013.¹

The results and findings from this study showed a clear desire for improved recycling and waste diversion services amongst community members, businesses, and municipalities. Case studies of best practices from around Ohio were matched up with needs that the communities expressed. Some of the priorities that the communities expressed included improving:

- Education and Outreach
- Access to Recycling
- Collection of Hard-to-Recycle Materials
- Illegal Dumping and Burning Prevention and Enforcement

In order to address the community's top priorities, and develop a unified approach to meet these common needs, AOZWI determined that a plan to guide public and private efforts was needed. The public had many suggestions for how to go about making these improvements. AOZWI took the suggestions and turned them into a first draft of this action plan. Five working groups were developed, based on the core areas that the action plan addressed. The groups included Business Development, Infrastructure & Access, Education & Outreach, Hard-to-Recycle Materials, and Illegal Dumping & Burning. These working groups met four times to review the content of the plan, revise action steps, set a timeline for the steps, and finally, to sign off on the contents of the plan.

¹ *Feasibility Study: Options for Improved Recycling in Athens and Hocking Counties*. <http://ruralaction.org/programs/zerowaste/zero-waste-initiative-resources/>



HOW WILL THE PLAN BE USED?

This plan will bind together entities and individuals working to decrease waste and increase resource recovery in Athens and Hocking Counties, and will inform solid waste and recycling policy in the region. Rather than individual people or groups working separately on the issues, local government, entrepreneurs, private businesses, institutions, and community organizations will work in concert with one another to implement the action steps in this plan. This shared approach to solving community challenges is referred to as the collective impact model¹. A cross-sector Athens-Hocking Zero Waste Committee will be formed to oversee the plan's execution. Representatives of public and private entities and citizens will be working together with a shared purpose to reach shared goals. The collective impact model works best when there is a backbone organization coordinating the committee. Rural Action and the Voinovich School, the partners who lead AOZWI, will work together to provide backbone services for the Athens Hocking Zero Waste Committee.

By sharing resources and taking steps together, systems and infrastructure can be put in place to improve the resource management practices in Athens and Hocking Counties. The plan is intended to not only improve traditional recycling, but also launch serious efforts in other areas of resource recovery such as composting, reuse, construction and demolition and hard-to-recycle materials. The hope is that these recovery programs, as well as the resources they capture, will spur on sustainable job creation for the region. This document will help to identify these economic development opportunities. In addition, this zero waste action plan can be used to raise needed capital and provide a baseline against which success can be measured.

¹ Kania & Kramer (Winter 2011). "Collective Impact" Stanford Social Innovation Review.; Hanleybrown, Knia, Kramer (2012). "Channeling Change: Making Collective Impact Work" Stanford Social Innovation Review

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VISION & GOALS

The entities that have contributed to this plan share the following vision:

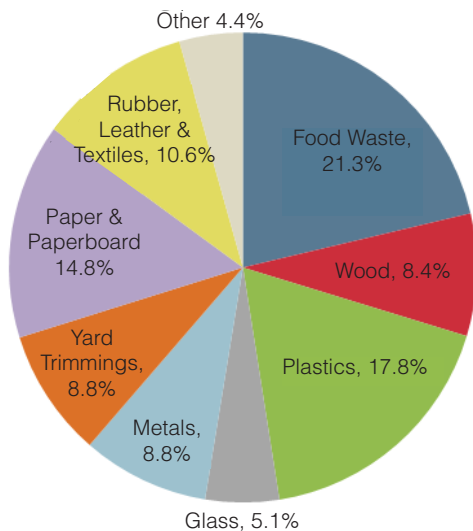
Athens and Hocking Counties will boost the local economy, improve quality of life, and improve the environment by striving for zero waste.

The goals to support this vision are:

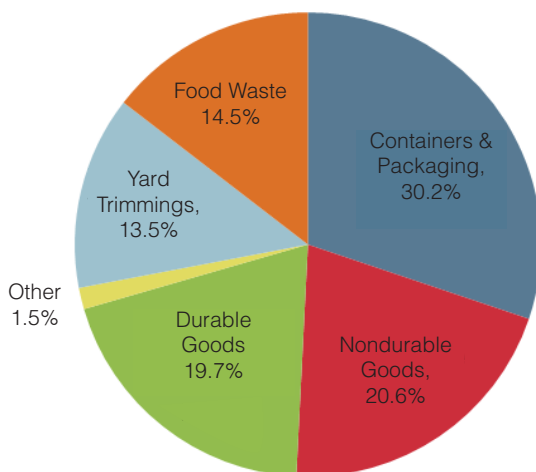
1. Every citizen and every entity will make personal and operational choices, informed by a zero waste philosophy, that improve the health of the environment and the people.
2. Every citizen and every entity in Athens and Hocking Counties will have access to high quality, convenient recycling, reuse, and composting services.
3. Every citizen and every entity in Athens and Hocking Counties will be aware of the services available to them for recycling, reuse, and composting, and they will know how to use these services.
4. Action steps to reach zero waste will create conditions for feedstock availability, material processing and use, job creation, business development, and business expansion in Athens and Hocking Counties.

These goals are idealistic and meant to be a target to strive for well into the future. The goals are intended to guide the actions that Athens and Hocking County decide to take. In the following sections, realistic, achievable, and measureable action steps have been developed to continually move Athens and Hocking Counties closer to zero waste. All of the action steps should be achievable within 10 years.

**CHART 1: TOTAL MSW DISCARD
BY MATERIAL, 164 MILLION
TONS AFTER RECYCLING AND
COMPOSTING (US EPA STUDY,
2011)**



**CHART 2: TOTAL MSW GENERATION
BY CATEGORY, 250 MILLION TONS
BEFORE RECYCLING (US EPA
STUDY, 2011)**



WASTE STREAM COMPOSITION

In order to determine a plan of action to reduce and recover more materials from our waste stream through reuse, composting, and recycling, it is important to know what makes up our waste stream. As defined under the Environmental Protection Act of 1993, the waste stream is the movement of waste from the source to its final disposal. The waste stream is comprised of any discarded, rejected, abandoned, unwanted, or surplus matter.

At the time of this publication, there are two different waste stream analyses that can be used as reference tools to understand the composition of the waste stream. The first is *Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2011* that the United States Environmental Protection Agency (US EPA) publishes every other year. The US EPA report takes into account all of the materials that are generated in the United States and then estimates the totals that end up in the waste stream based on the material generated. The composition of Athens and Hocking Counties' waste cannot be assumed to be identical. However, the study can be used to get a basic idea of what major materials comprise the waste stream and in what proportion to one another.

Chart 1 identifies the national waste stream materials by percentage sent to U.S. landfills in 2011. These are materials that were not being captured for recycling, reuse, or composting in 2011. Chart 2 shows the composition of the waste stream prior to recycling and composting.

The second study, the State of Ohio Waste Characterization Study, was conducted by the Ohio Department of Natural Resources in 2004. The Athens-Hocking Reclamation Center was one of the 11 landfills selected for analysis. Because of data collection problems, the results are only a partial picture of materials in the landfill. They are pictured in charts 3 and 4. Eventually, a new analysis of the local waste stream is needed to track progress towards zero waste.

CHART 3: ATHENS HOCKING SOLID WASTE DISTRICT MAJOR COMPONENT WEIGHT DISTRIBUTION (ODNR STUDY, 2004)

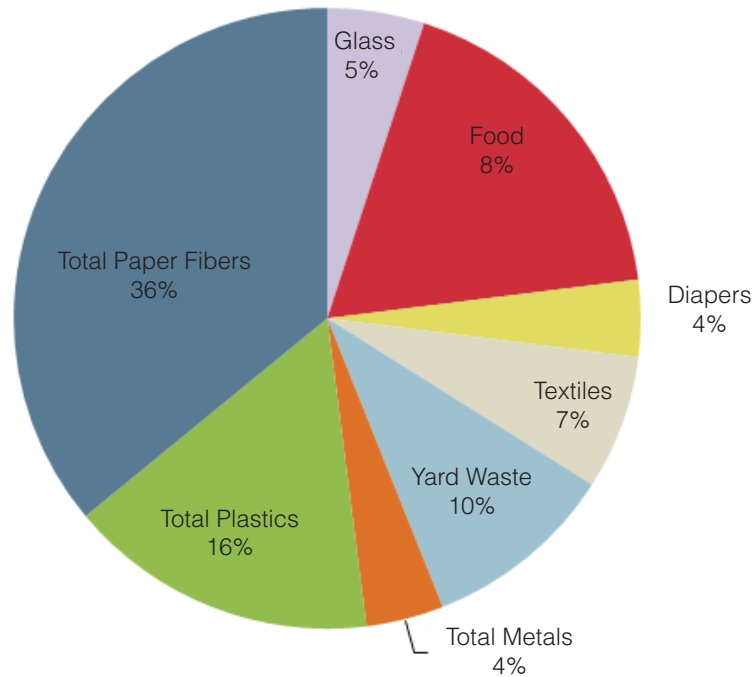
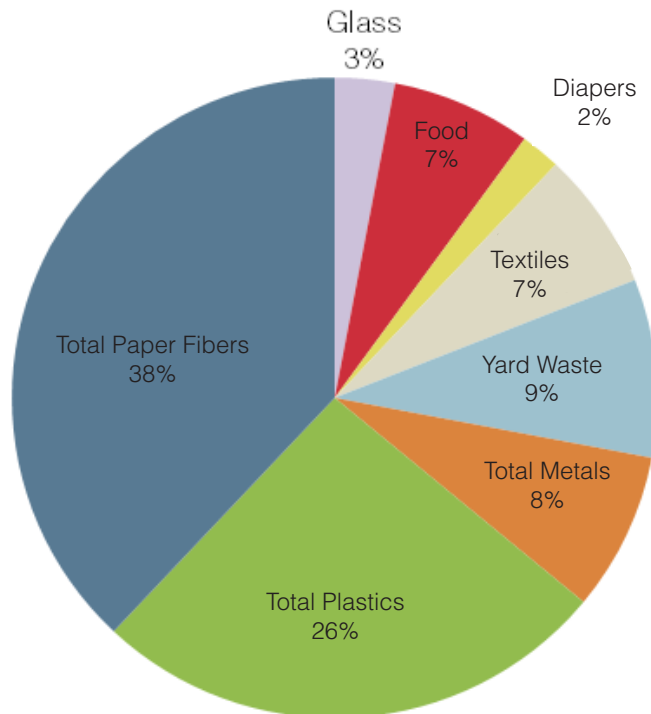


CHART 4: ATHENS HOCKING SOLID WASTE DISTRICT MAJOR COMPONENT VOLUME DISTRIBUTION (ODNR STUDY, 2004)

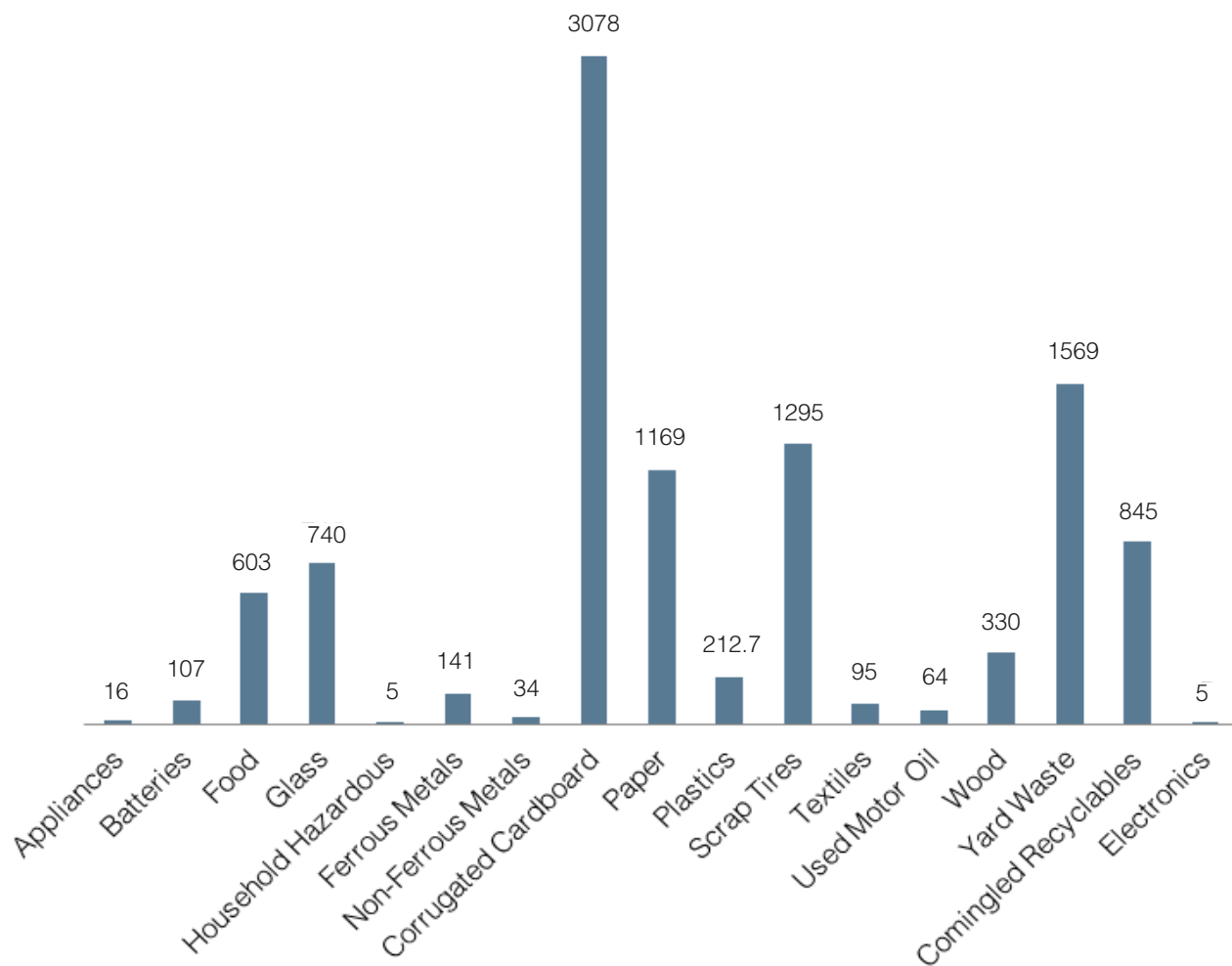


CURRENT CAPTURE RATE

The Annual District Reports (ADR) are the Ohio Environmental Protection Agency's (OEPA) mechanism for measuring how much recyclable material is being captured from the waste stream. The OEPA uses the ADR to track the solid waste districts' compliance with state recycling goals. For residential and commercial waste, the goal is a landfill diversion rate of 25% and access to recycling services for 90% of the population. The ADR includes the total tons of discarded materials generated in the solid waste district. This total includes both landfilled and recycled materials.

According to the 2012 ADR¹, the Athens-Hocking Solid Waste District's (AHSWD) current residential and commercial recycling rate is 14.26%. This is an improvement to the 8.8% diversion rate in 2009². In fact, recycling has likely increased more than 5%, because in 2009 AHSWD was allowed to count the fly ash spread on winter roads as a recycled material. As of 2012, they are no longer able to count that material. Despite the increase, the rate is still well below the 25% state recycling goal. Below is a graph showing the tonnage for the types of materials that comprise recycled commercial and residential material in AHSWD.

2012 COMMERCIAL AND RESIDENTIAL MATERIAL RECYCLED IN AHSWD (IN TONS)



¹ <http://www.epa.ohio.gov/dmwm/Home/SWMgmtPlanning2.aspx>

² <http://epa.ohio.gov/Portals/34/document/general/2009ADRReviewForms.pdf>

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However, this chart is not complete. Tracking all of the materials in AHSWD is a challenge. Currently, the numbers that are tracked are reported voluntarily and are not representative of all of the recycling taking place in Athens and Hocking Counties. A list of entities that reported in 2012 is available through the OEPA¹.

In order to track progress towards zero waste, a unified way to measure and report ALL of the materials that are being recovered, reused or composted in Athens and Hocking Counties will need to be established. With some improvement of information collection, so that all recycling service providers are reached, the Annual District Report can be used as the document that tracks this progress. Such tracking will also give Athens and Hocking Counties a better understanding of what resource recovery services are available and what types of materials the service providers accept.

ACTION: Develop a tracking and reporting system for recycled, reused and composted materials that is easy for local recovery services to use. Local recovery services include waste haulers, thrift stores, material recovery facilities, auto shops that recycle motor oil, and many more.

EXISTING RESOURCE RECOVERY SERVICES & OPPORTUNITIES

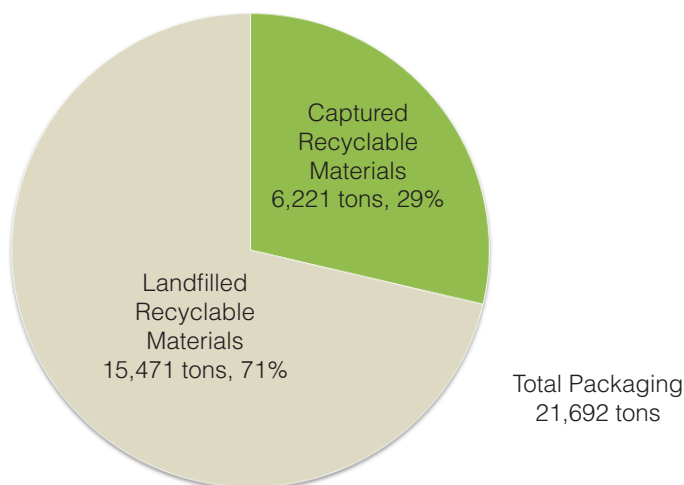
This section of the document addresses five different categories of the waste stream: traditional recyclables, reuse and repair, organics, construction and demolition, and special discards. There are also three additional sections about education and outreach, illegal dumping and burning, and economic development. Each section includes an overview of the programs, some of the services currently available, opportunities for improvement, and action steps that should be achievable within the next 10 years. These action steps were developed by 5 working groups that are listed on the first page of this plan. Some groups were able to set timelines for their action steps. In these cases, it is noted if the step has the goal of being completed within 1, 3, 5, or 10 years.

¹ <http://epa.ohio.gov/Portals/34/document/general/2009ADRRReviewForms.pdf>

TRADITIONAL RECYCLABLES

Traditional recycling includes items that are disposed of by households on a daily basis such as cardboard, paper, bottles, cans, newspapers, and jars. This recycling stream is comprised almost entirely of packaging. According to the US EPA, packaging makes up approximately 30% of the United States' waste stream. This percentage can be used to estimate total tons of packaging available for recovery in the Athens Hocking Solid Waste Stream. Thirty percent of the 2012 AHSWD waste stream is just under 22,000 tons. According to the 2012 ADR¹ AHSWD is capturing only about 6,000 tons² of this recyclable material. About 15,000 tons remains to be captured.

2012 MATERIALS PACKAGING RECYCLING RATE IN THE AHSWD



In order to recycle these materials, they are sent to a processing facility or, in industry terms, a Materials Recovery Facility (MRF). The ability to provide recycling services depends on waste and recycling haulers having access to a MRF, and, the MRF's material capacity and ability to sort materials. Once the materials are sorted and processed into bales they are sold as commodities on the open market. The revenues from the sale of the recycled commodities help to pay for the processing of recyclables. The current MRF in Athens and Hocking Counties is at capacity and unable process comingled recyclables.

A new facility is needed if Athens and Hocking Counties want to capture and process these recyclables locally, which provides local jobs and revenue from materials. Having a locally owned and operated MRF also provides greater opportunities for developing recycling systems that meet the needs of local communities and can be sustained long-term. A new facility or transfer station must be developed for traditional recycling rates to improve and to make recycling more convenient to the communities. Two MRF feasibility studies have been developed and both show scenarios that a local MRF is feasible³.

Setting up a local MRF and a system to capture all of the packaging that is recyclable in the waste stream, would help keep existing jobs in the region.

1 <http://www.epa.ohio.gov/dmwm/Home/SWMgmtPlanning2.aspx>

2 This number was determined by adding together glass, ferrous and non-ferrous metals, paper, plastics, comingled recyclables, and cardboard from the 2012 ADR.

3 One study was conducted by GT Environmental and can be found here: <http://www.athenshockingrecycle.org/downloads/MRF%20Study%20Final%20Report.pdf> The second study was conducted by AOZWI and can be found here: <http://ruralaction.org/wp-content/uploads/2013/03/App-D-MRF-Feasibility-Study.pdf>



Baseline for Traditional Recyclables

Traditional Recycling programs vary widely depending on the location within the District due to the limited processing capacity of the existing local facility and its availability for use to local haulers. This has created inconsistency amongst recycling programs (comingled vs. separated) and their local availability. These limitations typically create higher costs for services due to the cost of transporting recyclables farther to a facility with additional processing capacity.

Multi-unit living complexes and public spaces have very limited recycling services, if any. And, businesses also have limited recycling services. All three have great potential for increasing resource recovery due to the population density, the frequency of visitors, and the larger volume of material generated than a typical single residence.

Many private businesses and one nonprofit organization provide recycling services to Athens and Hocking Counties. Recycling providers, who voluntarily reported for the ADR, include Farmer's, Trace's A-1 Sanitation, Rumpke, Vickroy's, and the Athens Hocking Recycling Center (AHRC). For a full list of services, see pages 9 and 17 of the MRF feasibility study.¹ The types of service provided vary widely based on the company providing the service, the contract developed with the municipality (if applicable), the local ordinances, and the location.

Curbside recycling is provided by the AHRC in the City of Athens and immediate surrounding areas; the service is available by subscription in Amesville, Albany, Nelsonville, and The Plains.

Recycling drop-off opportunities are provided by AHRC in 20 locations throughout the AHSWD². These drop-offs service the more rural areas of the counties where curbside recycling is not available. Two drop-offs, one in each county, are permanent and available at least six days per week, every week. Thirteen township drop-offs are available one week per month, and five township drop-offs are available four hours per month.

According to the 2011 ADR, Farmer's Refuse provided curbside pickup and one drop-off location in the City of Logan. This may shift because Rumpke recently purchased farmers. Rumpke has two recycling roll-offs in the City of Nelsonville. Vickroy's Disposal and Trace's A-1 sanitation also recycle some materials within the AHSWD. There are certainly other service providers, but they may not have participated in the voluntary ADR reporting.

Until the recycling processing capacity issue is solved and new shared infrastructure is developed, traditional recycling programs will continue to remain inconsistent throughout the District and the cost of services will restrict the ability of new and existing recycling programs to expand and become more convenient.

¹ <http://ruralaction.org/wp-content/uploads/2013/03/App-D-MRF-Feasibility-Study.pdf>

² Times and locations that recycling rollofs are available and can be found on the AHSWD website: www.athenshockingrecycle.org

ACTION STEPS FOR TRADITIONAL RECYCLABLES

1. DEVELOP A PLAN AND BUSINESS MODEL FOR CONSTRUCTING A NEW MRF OR TRANSFER STATION, WHICH PRIORITIZES JOB RETENTION AND CREATION IN THE REGION, AND IS CAPABLE OF MEETING ALL OF THE DISTRICT'S RECYCLING NEEDS WITH THE ABILITY TO PROCESS COMMINGLED RECYCLABLES.

- a. Engage with local haulers to understand types of incentives they would need to participate in recycling collection and use of the facility for tipping. (1yr)
- b. Identify key partners and build relationships that ensure long-term success of the facility and adequate through-put of materials. (1yr)
- c. Include plans for a buyback program¹ in the design for the MRF. (1yr)
- d. Include plans that allow for expansion to accept additional types of materials (ex. plastics #3-7, aseptic packaging). (1yr)
- e. Explore the costs and benefits of a flow control policy that requires recyclable material generated in the AHSWD be processed in the AHSWD. Special attention should be given to the development of a policy that retains or creates jobs and local business opportunities. (3yrs)

2. EXPAND AND INCREASE CONVENIENCE² OF THE RURAL RECYCLING DROP-OFF PROGRAM.

- a. Transition the remaining 4 hour recycling drop-off sites to week long recycling drop-off sites. (1yr)
- b. Identify additional locations for recycling drop-off sites that can provide access to recycling in rural areas that currently lack recycling services. (1yr)
- c. Develop a business plan for a pay-as-you-throw³ (PAYT) trash and recycling drop-off center that is available to the public 24 hours a day and 7 days a week. Include compacted load capability at sites. Include a plan for security, such as cameras that can be monitored via the internet.⁴ (1yr)
- d. Pilot two new 24/7 PAYT and recycling drop-off centers. Locate one in Hocking County and one in Athens County. Determine pilot sites based on the success of current drop-off sites. (3yrs)
- e. Identify additional recycling drop off locations that can be transitioned to 24/7 PAYT and recycling drop-off centers. (3yrs)
- f. Transition the identified recycling drop-off locations to 24/7 PAYT and recycling drop-off centers, while taking cost and frequency of use into account. (5yrs)

3. PROVIDE TECHNICAL ASSISTANCE TO CITIES AND VILLAGES THAT HELPS TO IMPROVE OR ESTABLISH RECYCLING PROGRAMS.

- a. Provide assistance to cities to implement citywide curbside recycling programs and reduce costs for services. Assist with contract development options, resolutions⁵ and ordinances for new programs and reporting. (3yrs)
- b. Assist rural villages in implementing recycling programs and determining whether a curbside program or drop-off program would be cost effective and meet the needs for the village. (3yrs)
- c. Assist cities, villages, counties and state parks with implementing recycling in public spaces including streets with high pedestrian traffic, public parks, and events. (3yrs)
- d. Create ordinances that require business and multiunit housing to plan for recycling and waste reduction.⁶ Explore local contract options that help to reduce costs for recycling. (3yrs)

1 A case study of a buyback program is included in the appendix.

2 A convenient site is one that is available 24 hours a day and 7 days a week. They should be located in a rural population center, or, in commonly visited locations such as schools, major employment centers, and popular stores.

3 Pay-as-you-throw is a trash system where the user pays more or less based on the amount of trash they generate. This system is in contrast to a more traditional system where a flat rate is charged for trash regardless of how much trash a person generates.

4 See appendix for a case study of a successful program in Logan County, OH.

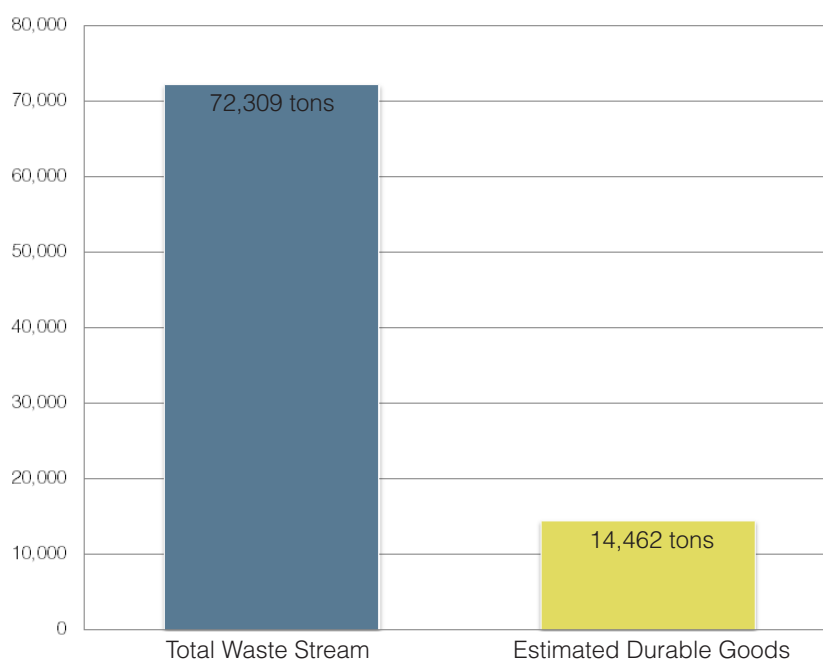
5 A sample resolution in the appendix

6 Hamilton County in Ohio has a multi-unit recycling program that could be looked to as a model.

REUSE AND REPAIR

According to the US EPA, durable goods make up almost 20% of our waste stream. Durable goods include items like appliances, furniture, and other items that can be reused or repaired. Currently there is no reporting system in place to measure the quantity of durable goods kept from the landfill through reuse and repair. The ADR includes only a few miscellaneous categories of reuse, reported mostly by Ohio University. As a result, we cannot accurately estimate the amount of durable goods that remain in the waste stream to capture. Instead, the estimated total tons of durable goods available for capture is pictured in the bar chart.¹ Of all the waste management practices, product reuse and repair generates the greatest economic return and potential for job creation. The materials have the highest dollar value and reuse is the least energy intensive process.

2012 ESTIMATE OF DURABLE GOODS IN AHSWD WASTE STREAM



Baseline for Reuse and Repair

A list of known reuse and repair shops are included in the appendix of this document. However, there are many small operations in the District that are likely not yet included in this list. One of the short-term action steps addresses the issue of establishing a more comprehensive list. In addition to creating and supporting our reuse and repair shops to receive, fix, and sell more items, shops also need assistance diverting materials that are not appropriate for resale from the landfill. Oftentimes, reuse and repair shops receive large volumes of material that are beyond repair or too outdated for reuse. These materials could be processed or sold as feedstock on the open market.

¹ In order to determine the estimate of durable goods available for capture, the US EPA national estimate for durable goods in the waste stream (19.7%) was applied to the total tons of waste in AHSWD.

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ACTION STEPS FOR REUSE AND REPAIR

1. INCREASE PUBLIC USE OF REUSE AND REPAIR SERVICES.

- a. Establish a complete database of reuse and repair shops in Athens and Hocking Counties and make it available on the AHSWD website.
- b. Organize local reuse and repair events such as community-wide swaps, yard sales, and reuse project competitions to raise awareness and community involvement.
- c. In population centers, offer a curbside collection of reusable items 1-2 times per year in the population centers and funnel materials to local reuse and repair establishments.
- d. In rural areas, identify and establish centralized drop-off locations for collection of reusable items 1-2 times per year.
- e. Increase repair services for electronics and appliances by working with high schools, trade schools, and training programs for low-income residents.

2. CREATE A SYSTEM, PREFERABLY ELECTRONIC, TO TRACK THE NUMBER OF DURABLE GOODS DIVERTED FROM THE WASTE STREAM EACH YEAR THROUGH REUSE AND REPAIR. EXPLORE TRACKING JOBS, ANNUAL REVENUE, VOLUME AND TYPE OF MATERIAL GOING TO LANDFILL REGULARLY, AND CAPACITY FOR TRACKING DONATIONS.

- a. Identify incentives for reporting.
- b. Work with reuse and repair establishments to ensure ease of use and shared purpose for data collected.

3. IMPROVE ORGANIZATION, EXPAND REACH OF SERVICES, AND INCREASE CAPACITY FOR MATERIAL COLLECTION WHEN OFF-CAMPUS STUDENTS MOVE OUT OF OHIO UNIVERSITY AND HOCKING COLLEGE.

- a. Identify an off-campus move out collection coordinator such as the City of Athens Solid Waste Litter Control Officer or a university/college representative.
- b. Establish a committee of reuse and repair operations to establish ground rules and equal opportunity for off-campus material collection.
- c. Seek to increase capacity for off-campus material collection by first engaging local reuse and repair establishments more fully. If necessary, bring in an outside organization to collect remaining material that local organizations cannot use.
- d. Include a waste minimization education component for on and off-campus students.

4. ENGAGE THE COMMERCIAL SECTOR IN REUSE, REPAIR, AND WHEN NOT POSSIBLE, RECYCLING.

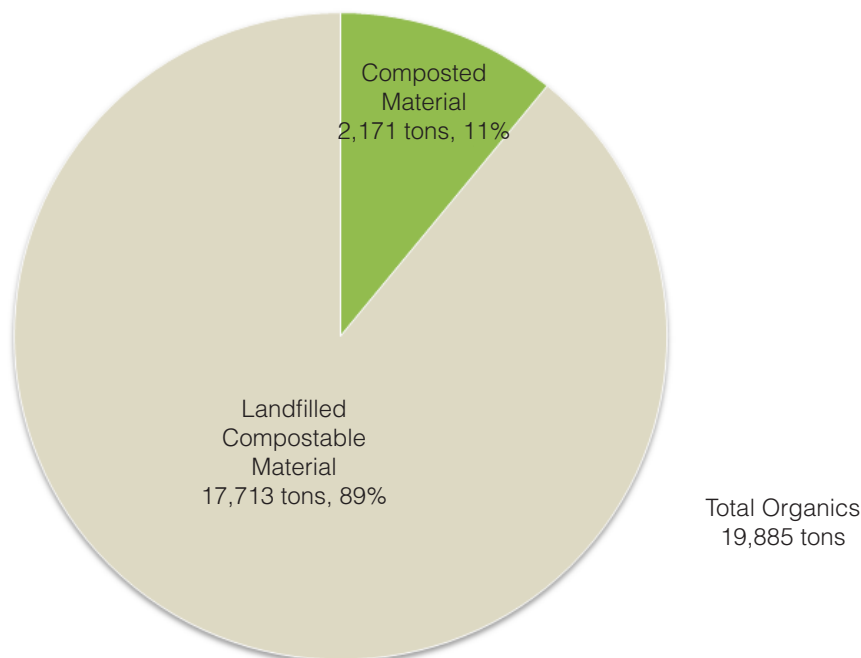
- a. Establish a local materials exchange system amongst for-profit and not-for profit entities with a focus on items that would otherwise be disposed. Possibilities include swaps, craigslist, and formal partnerships.
- b. Establish a program for reuse and repair shops to aggregate and recycle goods that cannot be repaired or reused, such as textiles, ceramics, and electronics.

ORGANICS

The organic waste stream includes items that biodegrade quickly enough to be composted. Yard waste, animal waste, food waste, and certified compostable service ware are included in this category. In the state of Ohio, landfills cannot accept source separated yard waste unless it has been rejected by a composting facility¹. Yard waste is not banned from the landfill, but yard waste diversion programs must be offered locally and at the landfill to conserve landfill space². According to the US EPA, 27.5% of the waste stream in the United States is organics. This estimate is very similar to the ODNR study conducted in 2004 that showed 28% of landfill waste in the Athens Hocking Solid Waste District is food or yard waste. To stay consistent with other categories in this document, the US EPA estimate is applied to AHSWD's organics recycling numbers³ reported in the 2012 ADR. The District is only capturing 11% of the organic waste stream available leaving over 17,000 tons available for capture.

The anaerobic break-down of food waste and other organic material releases methane, a greenhouse gas that according to the US EPA, has a global warming potential 21 times higher than carbon dioxide.⁴ Putting organic material in a landfill restricts air flow and results in high methane emissions. Conversely, composting these organic materials at facilities or in backyards creates nutrient rich soil that enhances gardens for growing food or planting herbaceous species. When rotated regularly and aerated appropriately, composting organic material in backyard piles, windrows, and in-vessel systems eliminates or greatly reduces methane emissions. Furthermore, if biodigestion is how the material is being composted, technology is available to capture the released methane and use it as a local energy and fuel source.

2012 ORGANIC MATERIAL COMPOSTING RATE IN AHSWD



1 Ohio Admin Code: 3745-27-19 Paragraph O – Yard Waste Management

2 Phone conversation with Barry Chapman, OEPA, on July 22, 2013.

3 Yard waste and food waste from the 2012 ADR were the categories that were included in this organics number.

4 <http://epa.gov/climatechange/ghgemissions/gases/ch4.html>

Baseline for Organics

Athens and Hocking Counties have a number of class IV composting sites that accept yard waste including Ohio University, Latta Earth Works, and Horn Excavating. There are also two class II compost facilities in Athens and Hocking Counties that are able to accept food waste in addition to yard waste: Ohio University (accepts university material only) and The Compost Exchange (services residences and businesses in the Athens City area). In addition, many citizens compost in their own backyard. Community Foods Initiatives (CFI) hosts backyard composting workshops regularly for the community. In addition, AOZWI, and the AHSWD are available to support residents who would like to start composting by providing information, workshops, and advice.

ACTION STEPS FOR ORGANICS

1. PROMOTE EXISTING COMPOSTING RESOURCES THROUGHOUT ATHENS AND HOCKING COUNTIES

- a. Maintain an up-to-date guide of services available.
- b. Expand backyard composting and vermicomposting education efforts with attention to pest control in tight quarters.

2. IDENTIFY THE GAPS IN COMPOSTING SERVICES SUCH AS PROCESSING FACILITIES, MATERIALS ACCEPTED, COLLECTION, AND HAULING IN ATHENS AND HOCKING COUNTIES.

- a. Support entrepreneurs to diversify existing composting services and offer locally-made supplies such as tumblers and multi-pallet systems.
- b. Explore a partnership between Ohio University and area residents and businesses to expand AHSWD's ability to capture organic material. Ensure impact to local businesses is taken into account.

3. INCREASE COMMERCIAL AND RESIDENTIAL CURBSIDE SERVICES.

- a. Survey residents and businesses to gauge interest in curbside composting service.
- b. Recruit and/or support an existing local compost hauling service to offer a collection program for residents and businesses in the District.
- c. Once proper infrastructure is in place, set goals to increase residential composting every year for the next 10 years.

4. EXPLORE THE POTENTIAL FOR CAPTURING METHANE FROM ORGANIC MATERIAL THROUGH ANAEROBIC DIGESTION AND THE USE OF THE METHANE AS A FUEL SOURCE.

5. ASSUMING PROPER INFRASTRUCTURE IS IN PLACE, BUILD POLITICAL SUPPORT TO BAN ALL ORGANICS FROM THE LANDFILL AT THE STATE LEVEL.

CONSTRUCTION AND DEMOLITION

According to the US EPA, construction and demolition debris (C&D) includes the "debris generated during the construction, renovation, and demolition of buildings, roads, and bridges. C&D materials often contain bulky, heavy materials, such as concrete, wood, metals, glass, and salvaged building components."¹ Construction and Demolition waste was excluded from the *US EPA study Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2011*. It also was not listed as one of the waste composition categories in the 2004 ODNR waste stream study of the AHSWD, because C&D waste has its own separate landfill cell.

However, the ability to recover construction and demolition materials is a key element of the journey towards zero waste. Road construction is a constant in the region and institutions such as Ohio University are regularly building new or refurbishing old buildings. According to the American Institute of Architects, anywhere from 25 to 40 percent of the national solid waste stream is building-related waste and only 20 percent of C&D waste in the U.S. is actually recycled.²

Advantages of recycling C&D material include reduced environmental impact from extraction of raw materials, reduced energy costs, new jobs in the recycling industry, and in some cases, money saved by contractors.

Baseline for Construction and Demolition

Several local thrift shops, such as Habitat for Humanity's ReStore and ReUse Industries, accept donations of flooring, crown molding, fixtures, and other items that can be used in new construction. In addition, Kilbarger's recycles separated concrete, block, asphalt, and brick. Killbarger's Construction Inc. owns and operates a Demolition Landfill in Nelsonville, OH. Meigs County is home to Jeffers C&D Disposal Facility in Pomeroy, OH. There are also two C&D facilities in Lancaster, OH: M&B Demolition Disposal Inc. and Walnut C&D LLC. The C&D landfill in Nelsonville is nearing the end of its life with only about 5 years of space remaining.

ACTION STEPS FOR CONSTRUCTION AND DEMOLITION

1. PROMOTE EXISTING AND CREATE NEW INFRASTRUCTURE TO INCREASE RECYCLING OF C&D MATERIAL

- Create a guide of all deconstruction, construction and demolition recycling options in Athens and Hocking Counties.
- Research demand for regional construction and demolition recycling services to determine feasibility for new services and facilities.
- Promote the development of these types of processing facilities and services through technical assistance, grant writing, and business planning support.
- If demand and feasibility is demonstrated, work with interested parties to establish a processing facility for construction and demolition waste that incentivizes material separation but that can handle mixed material.

2. CREATE POLICIES AND PROVIDE GUIDANCE TO INCREASE C&D RECYCLING.

- Work with cities, villages, and large for-profit and not-for-profit organizations to develop contracts and policies requiring contractors to sort, track, and recycle construction and demolition materials where services are available.
- Create incentives and provide clear guidance for contractors to recycle construction and demolition materials.
- Work with haulers to improve the ease of collection and transport of C&D material.

¹ <http://www.epa.gov/epawaste/conserve/imr/cdm/index.htm>

² http://www.aia.org/aiaucmp/groups/ek_public/documents/pdf/aiap072739.pdf,

SPECIAL DISCARDS

Special discards generally include items that are hard to recycle, such as household hazardous waste, chemicals, fluorescent tube light bulbs, paint, textiles, rigid plastics, and batteries. Household hazardous waste was not included in the US EPA or ODNR study, so there is no estimate for the percentage of the waste stream this material comprises. Tires are also generally included in this category. Other special discards include irreparable appliances like stoves, washers and refrigerators; these are also known as “white goods.” In 2012, the ADR reported that 5 tons of household hazardous waste, 16 tons of white goods, and 1,295 tons of tires were collected in the AHSWD.

This group of items is of particular concern because of the limited recycling opportunities available and the potential negative environmental impact such materials could have if not recycled or disposed of properly. Since these items are common, there is great opportunity for repairing and recycling white goods and several businesses and organizations provide such services. Consumers can also be educated to rethink purchasing products like chemical cleaners, and work can be done to redesign such products. Tires are abundant, and have a resale value when recycled and sold as commodities such as running track surfaces and mulch.

Baseline for Special Discards

Opportunities to recycle household hazardous waste are few and far between. The City of Athens hosts a collection on one day every other year that is open only to Athens City and Athens township residents. Places like Lowe’s and Radio Shack accept compact fluorescent lights and batteries. AOZWI has a recycling guide¹ that identifies places to recycle different materials in the Athens and Hocking County area. Twice a year the AHSWD holds a special collection day in each county, accepting materials such as broken appliances, mattresses, and tires, for a fee. Scrap metal and electronics are accepted at no charge.

Tire recycling opportunities are offered most often in Athens County by the Athens City-County Health Department. Tire Amnesty Grants from OEPA fund these efforts. Tire collections are hosted in different townships throughout the year.

¹ <http://ruralaction.org/wp-content/uploads/2013/06/Recycling-Guide-for-Athens-and-Hocking-Counties.pdf>

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ACTION STEPS FOR SPECIAL DISCARDS

1. INCREASE SELECTIVE USE AND PROPER DISPOSAL OF SPECIAL DISCARDS.

- a. Identify and promote existing special discards recycling opportunities such as electronics, battery, and light bulb collection services.
- b. Promote the use of nonhazardous goods and educate about proper and legitimate disposal of hard-to-recycle materials.

2. INCREASE FREQUENCY OF SPECIAL DISCARD COLLECTION.

- a. Explore best practices and services from around the nation for recycling special discards.
- b. Explore feasibility of and demand for a center for hard-to-recycle materials (CHARM) and increase regional partnerships to use facility.
- c. As a bridge to a CHARM, identify hubs that can collect and store certain types of hard-to-recycle materials until the biannual collection days.
(L)If feasibility is demonstrated, build a CHARM that is open regularly to the public. A case study of a CHARM in Logan County is included in the appendix.

3. EXPLORE BEST PRACTICES FOR EXTENDED PRODUCER RESPONSIBILITY (EPR).

- a. Explore successes and challenges of EPR policies at the local and state level with special attention to impact on local economy.
- b. Create appropriate local and state-wide EPR policies.¹

¹ One example of such a policy would be charging an upfront disposal fee when a hazardous good or hard-to-recycle item is purchased.

EDUCATION AND OUTREACH

Through community engagement, residential surveys, and 10 community meetings held in Athens and Hocking Counties in 2012, AOZWI found that one of residents' top priorities is improving recycling and waste reduction education in Athens and Hocking Counties. For this reason, this section of the plan focuses specifically on education and outreach.

Education, awareness, and outreach are the foundation for successful waste reduction and landfill diversion efforts. Providing frequent interactive programs, convenient assistance, and consistent messaging allows residents and businesses the ability to fully participate in recycling programs. When education and outreach efforts are lacking, waste reduction falls from the forefront of people's minds, and residents and businesses forget the recycling services available to them. Education and outreach will be a key element of promoting the use of new programs established through this zero waste action plan, and changing the waste consciousness of Athens and Hocking Counties.

Baseline for Education and Outreach

The AHSWD currently employs a part-time education coordinator, and AHSWD puts regular announcements on their website and in the Athens Messenger to notify people of recycling pickups. Rural Action and the AOZWI also offer several different education and outreach services through the Ohio Stream Restore Corps, an AmeriCorps program that includes waste reduction and recycling education for schools, businesses, and residents. Many tools and resources are available on Rural Action's website including a local recycling guide¹ and Do-It-Yourself zero waste event guide². Other educational programs and opportunities are performed by various organizations in the two counties but on an infrequent basis.

Recycling programs in the school systems within the two counties vary. An initial assessment of recycling programs in Athens County schools was performed in 2011 but is now outdated and needs to be updated. The list is in the appendix. Hocking County schools also need to be interviewed to understand recycling programs and needs. Creating consistent recycling programs and services in the schools is needed.

1 <http://ruralaction.org/wp-content/uploads/2013/06/Recycling-Guide-for-Athens-and-Hocking-Counties.pdf>

2 <http://ruralaction.org/wp-content/uploads/2012/01/Zero-Waste-Event0Guide-2.26.13.pdf>

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ACTION STEPS FOR EDUCATION AND OUTREACH

- 1. DEVELOP AND FUND A FULLTIME¹ EDUCATION PROGRAM WITHIN ATHENS AND HOCKING COUNTIES. EDUCATION PROGRAM WILL REQUIRE AT LEAST TWO EMPLOYEES. (1 YR)**
- 2. DEVELOP AND PROVIDE CROSS-CURRICULUM WASTE REDUCTION AND RECYCLING CURRICULA THAT MEET CURRENT OHIO ACADEMIC CONTENT STANDARDS IN ATHENS AND HOCKING COUNTY SCHOOLS. (5 YRS)**
 - a. Work with teachers to understand needs and garner support.
 - b. Review Ohio Academic Content Standards to determine grade-level appropriate waste-related curriculum.
 - c. Develop materials to increase ease of implementation.
 - d. Integrate school recycling and compost programs into educational materials
Provide teacher training.
- 3. DEVELOP A MULTI-FACETED AND INCLUSIVE COMMUNICATION STRATEGY WHICH INFORMS THE PUBLIC OF WHY, WHAT, WHEN, WHERE, AND HOW TO RECYCLE. (1 YR)**
 - a. Update, maintain, and promote user-friendly website for traditional recyclables.
 - b. Use print, radio, and other media outlets for communication.
 - c. Maintain a comprehensive recycling guide that includes where to recycle a variety of items such as scrap metal, appliances and hazardous waste.
 - d. Offer zero waste event resources.
 - e. Make educational resources and activities publicly available.
 - f. Maintain 2-way communication with officials about service gaps and options, as well as community demand.
- 4. PROVIDE INTERACTIVE OUTREACH PROGRAMS THAT ENGAGE RESIDENTS IN REDUCING WASTE, AND REUSING AND REPURPOSING MATERIALS. (5 YRS)**
 - a. Provide programming curricula to community groups.
 - b. Provide local businesses with information on how and why to conduct waste assessments.
 - c. Train and engage adults to be personal waste reduction champions, community educators, and volunteers.
 - d. Provide waste-related educational programming at community events such as festivals and sporting events.
 - e. Recognize, promote, and reward waste reduction efforts in businesses and events.

¹ In order to accomplish these action steps, the working group believes 2 staff members would be required. One to focus on adult education for residents, organizations, and businesses, and a second person to focus on school-based education.

ILLEGAL DUMPING AND BURNING

Dumping waste, such as discarded trash, oil, appliances, scrap tires, furniture and other items on private or public land and waterways is strictly prohibited as stated in Ohio Revised Code 3767.32. This code also prohibits unauthorized persons from knowingly placing litter and household wastes in a private trash receptacle, unless he or she has authorization to use the trash receptacle or the waste materials were generated on public property where the receptacle is located.

Burning waste is also regulated. According to the Ohio Revised Code, a person may not burn household trash, packaging materials, coated or laminated paper, painted or treated wood, coated or treated cardboard, animal, vegetable, and kitchen waste, plastics, wire and metals, rubber, including tires or oily rags.¹

In addition to being against the law, illegal dumping and burning have serious health and social costs. For example, the dioxins that result from burning plastics are a known carcinogen² and illegal dumping decreases property values.³

Baseline for Illegal Dumping and Burning

The Athens City County Health Department works with the SEPTA Correctional Facility, the Athens Municipal Court Diversion Program, Athens County Prosecutor Diversion Program, Athens County Sheriff's Office, Township Trustees, the County Engineer's Office, Wayne National Forest, and the AHSWD to clean up dumpsites regularly on the weekends. AOZWI also has an Ohio Stream Restore Corps AmeriCorps members dedicated to cleaning up litter and illegal dumpsites within Athens-Hocking watersheds. The Athens County Sheriff's Office has a part-time officer who does some work on illegal dumping but funding for this position has been inconsistent. In Hocking County, dumping cases are reported directly to the OEPA, and the OEPA investigates the situation and will notify property owners. The Hocking County Sheriff's Office also receives occasional calls. Prosecution rarely happens in Hocking County because the case has to go through the state, a more complicated process than addressing the issue at the local level.

In Athens County, the health department is responsible for keeping track of dumpsites, cleanups, and tire collections, and reporting them to the AHSWD. In Hocking County, the OEPA tracks the information.

¹ ORC 3734.01, 3734.02, 3734.70, and 3734.73

² United States Environmental Protection Agency. (2003). The Hidden Hazards of Backyard Burning. Accessed March 23, 2011. <www.epa.gov/osw/nonhaz/municipal/backyard/pubs/residents.pdf>

³ United States Environmental Protection Agency, Region 5. (1998). Illegal Dumping Prevention Guidebook. Accessed March 27, 2011. <www.epa.gov/reg5rcra/wptdiv/illegal_dumping/downloads/il-dmpng.pdf>

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ACTION STEPS FOR ILLEGAL DUMPING AND BURNING

1. RAISE AWARENESS OF ILLEGAL DUMPING AND BURNING AND INCREASE ATHENS AND HOCKING COUNTIES' ABILITY TO RESPOND EFFECTIVELY.

- a. Identify one existing phone number in Athens and one in Hocking County for citizens to report illegal dumping and burning. Advertise it widely. **(1 YR)**
- b. Provide training for people and organizations on the proper response to a found dumpsite so people are safe and evidence can be used to identify a suspect. **(1 YR)**
- c. Provide education on the impacts of illegal dumping and burning. **(1 YR)**
- d. Run announcements in the paper about cases of illegal dumping including information such as fines charged, number of cases tried, and people's name when allowed by public records law. **(3 YRS)**
- e. Share Lawrence-Scioto illegal dumping enforcement success¹ with local officers, prosecutors, and judges and demonstrate connection of illegal dumping to other more serious offenses. **(3 YRS)**

2. ENGAGE CITIZENS AND ORGANIZATIONS IN A FOCUSED EFFORT TO CLEAN UP AND PREVENT ILLEGAL DUMPING.

- a. Promote Keep Southeast Ohio Beautiful Affiliate and encourage additional organizations to join as partners. **(1 YR)**
- b. Continue to host regular cleanups. Make a special effort to engage local people, raise local support, make cleanups fun, and share the progress made after each cleanup on the web, in the newspaper, and on the radio. **(1 YR)**
- c. Seek the most economic and effective options to discourage illegal dumping². **(1 YR)**
- d. Encourage townships to take advantage of funding through the AHSWD to prevent illegal dumping and burning, clean up illegal dump sites, and host at least one community-wide cleanup annually. **(1 YR)**

3. MAINTAIN A MAP OF ILLEGAL DUMPSITES AND MONITOR SITES.

- a. Develop a marking system in the field so all partners know if a site has already been documented. **(1 YR)**
- b. Consolidate and expand existing dumpsite maps and turn them into a live online document that all partners working on dumpsite removal can view and can be given special access to update when appropriate. **(3 YRS)**
- c. Identify priority dumpsites and place cameras at them. Ensure the footage can be monitored remotely by an existing staff person.³ **(3 YRS)**

¹ Lawrence-Scioto has a very strong program that is included in a case study in the appendix.

² Examples include creating berms, using downed trees and rocks, or reclaimed gates. Signs should be avoided as they increase illegal dumping and new gates are unnecessarily costly.

³ Two preconditions should be in place: identification of an organization that will own and monitor cameras, and a plan for securing and replacing cameras when needed.



ECONOMIC DEVELOPMENT AND FINANCIAL RESOURCES

In order to make many of the action steps in this plan a reality, funding and entrepreneurial support is crucial. Local economic development is one of the four overarching goals of this plan. To that end, the following action steps were created.

ACTION STEPS FOR ECONOMIC DEVELOPMENT AND FINANCIAL RESOURCES

1. SPEAK TO EXISTING BUSINESSES IN THE SECTOR TO BUILD RELATIONSHIPS AND CREATE NEW OPPORTUNITIES FOR BUSINESS EXPANSION, DEVELOPMENT, AND COLLABORATION.

- a. Create an inventory of business opportunities and create basic business models.
- b. Communicate what recycled material is available and its value in terms of money and job creation.
- c. Identify and survey existing businesses using recovered materials to find out what types of materials are being used and are needed.

2. COMPLETE A COMPARATIVE ANALYSIS OF MULTIPLE SCENARIOS FOR RECYCLING PROCESSING INFRASTRUCTURE.

3. INCREASE AWARENESS AND ACCESS TO RESOURCES FOR STARTING AND EXPANDING BUSINESSES.

- a. Create a plan of action for capital access.
- b. Scan all funding sources¹ that are available and relevant and what their requirements are.
- c. Identify an existing person or establish a position to provide grant support and expertise.
- d. Benchmark current business models and how other programs and businesses in the sector have funded themselves.

NEXT STEPS

In order to accomplish the goals set forth in this plan, new creative partnerships between public and private entities will be required. AHSWD will also need to look to neighboring counties who share similar challenges to work together to address some of those challenges. Regional collaboration will be key.

A committee that oversees the implementation of this plan and the measuring of its progress will be established following the adoption of this plan. This committee will be responsible for keeping the plan at the forefront of decision making in Athens and Hocking Counties and engaging the public in meeting the goals of the action plan.

¹ An initial brainstorm of funding sources available is in the appendix



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GLOSSARY

ADR: Annual District Report; a report submitted annually to OEPA by each Solid Waste Management District regarding their waste diversion.

Aggregate: To collect materials to form a total quantity.

AOZWI: Appalachia Ohio Zero Waste initiative which is coordinated by Rural Action in partnership with the Voinovich School of Leadership and Public Affairs at Ohio University and funded by the Sugar Bush Foundation, a supporting organization of the Ohio University Foundation.

Baseline: A measurement, calculation, or collection of information used as a basis for comparison.

Best Practices: A method or technique that has consistently shown results superior to those achieved with other means, and that is used as a benchmark.

Capture: To succeed in representing or describing.

Capture Rate: The percentage of discarded materials actually recovered from a household or business for recycling, compositing, reuse, or repair.

CHARM: Center for Hard-to-Recycle Materials.

Collective Impact: The commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem. Kania & Kramer (2011) p. 36

Commingled Recycling: a system in which all paper fibers, plastics, metals, and other containers are mixed and collected in a single bin, instead of being sorted by the recycling participant into separate commodities (newspaper, paperboard, Corrugated fiberboard, plastic, glass, etc.) and handled separately throughout the collection process.

Commercial: Recycling sector that includes businesses or organizations that provide goods and/or services.

Commodities: Marketable items produced or reclaimed to satisfy wants or needs.

Deconstruction: The taking apart of a building in order to reuse or recycle the original construction materials.

Diversion Rate: The percentage of waste materials kept from traditional disposal methods such as landfilling or incineration.

Dual Stream: The separation of recyclable materials into two processing categories: mixed paper and containers.

Durable Goods: Goods that do not quickly wear out or ones that yield utility over time rather than being consumed in one use.

EPR: Extended Producer Responsibility is a policy in which the manufacturer is responsible for proper disposal or recycling of an item.



Feasibility Study: An analysis of the viability of an idea.

Feedstock: Recycled material that is available to be processed into a new product.

Flow Control Policy: Local ordinance controlling, or giving a municipal official authority to control the collection and/or disposal of municipal solid waste produced in a specific geographical area.

Hauler: Private or public entity that picks-up and disposes-of waste.

MRF: Material Recovery Facility. A recycling facility that sorts and processes collected mixed recyclables into individual streams for market.

ODNR: Ohio Department of Natural Resources

OEPA: Ohio Environmental Protection Agency

Organics: Food scraps or yard waste.

PAYT: Pay-As-You-Throw. A per-unit pricing model for waste disposal. It is often combined with free recycling.

Residential Curbside: Residential recycling program that involves individual household pick-up.

Residential Drop-off: Residential recycling program that involves centralized collection area where residents drop off their own recyclables.

Rigid Plastics: Large, bulky, hard-to-recycle plastic products, often made of number 3-7 plastic.

Roll-off: Open top dumpster characterized by utilizing wheels to roll the container into place.

Rural: Area with low population density and small settlements.

Single Stream: Also known as commingled, involves the collection of all allowable, recyclable materials in one container.

Stakeholder: An entity who affects or can be affected by an organization's actions.

USEPA: United States Environmental Protection Agency

Vermicomposting: The process of composting using various worms.

Waste Assessment: Involves observing, measuring, recording data, and collecting and analyzing waste generated.

Waste Stream: As defined under the Environment Protection Act 1993, waste means any discarded, rejected abandoned, unwanted or surplus matter, whether or not intended for sale, or recycling, reprocess, recovery or purification by a separate operation from that which produced the matter; therefore, a waste stream is the movement of waste from the source through to final disposal.



Zero Waste: 90% diversion of waste materials from landfill.

ZWAP: Zero Waste Action Plan; an implementation plan in order to move towards achieving “zero waste.”

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REUSE AND REPAIR

REPAIR SHOPS

Bicycles:

Cycle Path Bicycles of Athens (740) 593-8482
Athens Bicycles (740) 594-9944
Pedaler & the Packer (740) 592-4630

Appliances:

Four Seasons Alliance Repair LLC (740) 594-2072
B & R Appliance Repair (740) 698-5110
Kochis Appliance Service (740) 594-1865
Tri County Appliance (740) 593-5867

Electronics/TV:

Tv Supply Company (740) 593-3493
A Direct Dish Satellite Tv (740) 594-1013
Sears (740) 594-8400

Computers:

Pilos PC (740) 592-0564
Paul's Quantum Mechanics (740) 591-9604
Whitmore Computer Sales & Service (740) 593-3683
Matrix J Technologies (740) 592-2000
Computer Services (740) 593-1608
Computer Works 740-385-0910



REUSE FACILITIES IN ATHENS COUNTY

Athens Co. Habitat for Humanity ReStore
309 W. Union St.
Athens, OH 45701
740-589-5865
Tuesday - Friday 9:00 AM - 5:00 PM Saturday: 9:00 AM - 4:00 PM
New and gently used building materials and furnitures

Goldie's Goodies Shop
77 W. Washington St.
Nelsonville, OH 45764
740-331-2526
Mon- Sat. 10:00 AM - 4:00 PM

Goodwill
743-D East State St.
Athens, OH 45701
740-592-4105
Mon-Sat. 9AM-8PM Sun. 12PM-6PM
Clothing, used furnitures and household items

New-To-You Shoppe
90 Columbus Circle
Athens, OH 45701
740-592-1842
Mon- Sat. 9:00 AM - 5:00 PM
NewToYouShoppe4u@yahoo.com

ReUse Industries Store
74815 U.S. Highway 50
Albany, OH 45710
740-698-8200
Friday and Saturday 9:00-4:00
Anything in good working condition
Reuseind@gmail.com

ReUse Thrift Store-Athens
100 Columbus Rd.
Athens, OH 45701
740-594-5103
Mon-Sat. 9AM-6PM Sun. 12PM-5PM
Anything in good working condition
Reuseind@gmail.com

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REUSE FACILITIES IN HOCKING COUNTY

Goodwill
36 Hocking Mall
Logan, OH 43138
740-380-9012
Mon-Sat. 9AM-8PM Sun. 12PM-6PM
Clothing, used furniture and household items
Renee Supper, manager

Logan Community Thrift & Consignment
703 W. Hunter St.
Logan, OH 43138
740-823-1705
Mon-Sat. 10AM-6PM Sun. 12PM-6PM
Clothing, used furnitures and household items.
Candy Sego, Owner

Smith Chapel Food and Clothing Ministry
1333 East Front St.
Logan, OH 43138
740-974-1356
Wednesday and Fridays 9:00-4:00
Clothing, used furnitures and household items.
Dannie and Jane Devol, Founders

Computer Works
40 N Market St.
Logan, OH 43138
740-385-0910
Mon-Fri. 11AM-7PM 2:30-3:30 off for lunch
Repair and recycle computers
Christy Boysel, CEO
christy@tcwlogan.com

Little Red Outlet
16119 Water St.
Laurelville, OH 43135
740-332-3506 | 740-412-2664
Hours vary, call first
Sell and repair dented or used household appliances
Dave Hatz, owner

Hill Top Auction
14793 Cohagen Rd,
Logan, OH 43138
740-385-7074
Every Fridays 6:30 PM
Auction House
Clyde Beougher

Hocking Hills Auction Center
12531 State Route 664 South
Logan, OH 43138
740-385-9317
Every Saturdays 6:00 PM
Auction House
Bonnie Beougher

2011 EDUCATION BASELINE ATHENS COUNTY

School	Recycling Program	Recycling Education	Challenges
Morrison Elementary	Yes, students with multiple disabilities collect	Some classroom presentations done by special ed. Teacher	minimal support from administration and custodial staff. Lack of sorting in many classrooms.
West Elementary	Yes, 6th grade students collect	there are a few recycling components to the 6th graders curriculum They are also starting a compost garden	Recycling Pick up times. Not all classrooms sort properly. Lack of support from custodial staff is a factor.
East Elementary	Yes	Teacher/Classroom basis	Sorting in the classroom
Chauncey Elementary	Yes	Minimal	level of classroom participation varies
The Plains Elementary	Yes	Great fourth grade example with use of smart board lesson plans.	Time of pick-up
Athens Middle School	Yes, it is organized the special education teacher	There are recycling components to the Family & Consumer Science classes	Storage issues
Athens High School	Yes, it is organized the special education teacher. It was once a component of the honors Ecology class	Once was part of Ecology course	Lack of cooperation from custodial staff, refusal to recycle lunch time refuse
Alexander Local Schools	Yes, Alexander Leo Club	Education through awareness, and visibility of club	Manpower and time
Nelsonville York City Schools	Yes, cardboard by custodial staff, Students with multiple disabilities collect in Elementary	Many starts and stops but no continuous curriculum at any level	Time and transportation of the recyclables
Federal Hocking Local Schools	Yes, Paper and cardboard, done by the students, program is done weekly basis from collection points in all classrooms and kitchen	Yes in the Science Curriculum	Transportation of recyclables
Trimble Local Schools	No	Components of the environmental sciences classes	Support, Vision, Bins

What Master Recyclers Say About The Class



“ This class was excellent all the way around. The information on various topics delivered by the facilitators was strongly reinforced by using presentations, community speakers and industry professionals. Fieldtrips were relevant and impressive. Environmental Services staff was professional, on task, committed, friendly & humorous. ”

“ The program exceeded my expectations. I've been a recycler for a long time, but I've learned how much more we can do. It was also just plain fun! The fieldtrips were great. ”

“ This was an amazing class. I came home full of interesting info to share, excitement, and hope. All the presenters were wonderful. ”

Get Involved!



A Master Recycler teaching people about backyard composting



A speaker teaches a Master Recycler class about local green building projects

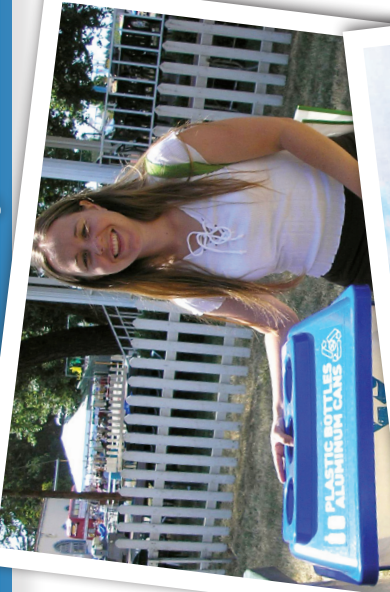


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Master Recycler Program



Learn from the experts.
Share with your neighbors. Make a difference.

About the Program



At one of the class tours we see workers sort recyclables at a material recover facility.

The course includes eight 3 hour weekly evening sessions and three weekend field trips over the course of eight weeks. The classes and fieldtrips feature presentations and talks from over 20 experts in the industry. The class is usually offered twice a year. Topics covered in the class include:

- Overview of solid waste in Marion County
- Collection, transfer and disposal methods
- Solid waste hierarchy (the 3 R's and more)
- What can be recycled & how recyclables are collected and processed
- Local businesses that are leading the way in environmental stewardship

What do Master Recyclers do?



After completing the training, participants undertake 30 hours of community "payback" through independent projects and outreach events. The following list is not comprehensive and many Master Recyclers develop their own "self-contained" projects.

Create projects that focus on waste prevention and recycling at work, home, school, in their place of worship, and in the community.

Educate the public on the hazards of and alternatives to common household chemicals at Household Hazardous Waste Collection Events.

Speak to groups about recycling and reducing waste at home and work.

Volunteer to educate the community at local events and festivals.

Organize neighborhood cleanup events.

Work with schools, scout groups, and others to help improve their recycling programs.

Lead tours of the recycling center.

Program Benefits Include:



Master Recycler certification (upon completion of the 30 hours of volunteer payback)



Monthly newsletter featuring volunteer opportunities and waste reduction news.



Project support and networking opportunities.



The opportunity to make a difference by reducing waste in your community.

“

The class was very comprehensive, informative and fun! Very enthusiastic speakers!

”

“

This class far exceeded my expectations; in fact, it took me by surprise.

”

“

I loved the class and recommend it highly. It included so much more than I was expecting. I would tell anyone interested in the class that the name of it is only a very slight indication of the information that is imparted.

”

ADAMS BROWN RECYCLING BUY-BACK PROGRAM

SUMMARY

Adams Brown Recycling (ABR) is a division of Adams Brown Community Action Agency (CAA), a 501(c)(3) non-profit corporation, whose long-term goal is to reduce poverty. One of the functions of the recycling center is to run a buy-back program for non-ferrous metals. There are two buy-back locations, one in Adams County and one in Brown County, with the Brown County location being the largest and primary location. Residents and businesses of Adams and Brown County have the opportunity to sell their recyclable non-ferrous material at both buy-back locations. Conveniently, the Brown County buy-back collection and storage area is attached to the Community Action Agency's Material Recovery Facility (MRF), which allows for efficient processing of the collected metals along with other types of materials to be recycled as well. It is not typical for a Solid Waste Management District (SWMD) and a Solid Waste Authority (SWA) to operate a buy-back; usually this is seen only in the private sector. The buy-back program, however, started in the early 1980s prior to private sector development. The buy-back program not only puts money back into the community but also provides a revenue system to help subsidize other recycling programs such as the household recycling program that came later, when Ohio's House Bill 592 was passed.

PROGRAM STATISTICS

- ◆ *Program Diversion:* 997 tons of non-ferrous materials
- ◆ *Targeted Materials:* non-ferrous materials, which includes items made of or containing aluminum, copper, brass, lead, and zinc.
- ◆ *Jobs:* 7 fulltime positions
- ◆ *Ownership:* Adams Brown Community Action Agency
- ◆ *Year established:* Early 1980s
- ◆ Adams Brown Community Action Agency serves the recycling needs of both Adams and Brown Counties in collaboration with the Adams Clermont Solid Waste Management District and the Brown County Solid Waste Authority.
- ◆ *Population:* Brown County SWA: 44,846; Adams Co.: 28,550; Clermont Co: 197,363
- ◆ *District Diversion Rates:* Brown County SWA: 13.12%; Adams Clermont Joint SWMD: 44.10%

FINANCIALS-2011

- ◆ *Total Payout to community:* \$1,426,151
 - ◆ *Total program operating costs, including payout:* \$1,628,743
 - ◆ *Sale of Material @ 20% average profit margin:* \$1,713,381
-

What Makes It Work?

KEY PARTNERSHIPS

The Brown County Solid Waste Authority and Adams Brown Community Action Agency are the main partners. Although the Brown County SWA runs the buy-back program, the employees work for the Adams Brown CAA, which contracts with the SWA. The SWA and the CAA pride themselves on their relationships with key stakeholders and their ability to deliver a successful program that has a lasting positive economic impact for the community.

OUTREACH

The District has a full-time education specialist who spends time in schools and with civic groups. They have a large presence at the county fair and in a few media outlets. But mostly, word-of-mouth promotes the use of the buy-back program. All of the outreach is for recycling in general, not specifically the buy-back program. Occasionally they will advertise the buy-back program. The opportunity to sell material for cash has been in existence long enough that minimal promotion is needed.

MANAGEMENT

Staff size on a daily basis is 1-2 buyers, 2 processors, and a “volunteer” or two from Brown County Job and Family Services or the Alternative Sentencing Program. Staff training is a major necessity, especially for the buyers. In order for the buyers to purchase the material at a competitive price, it is important that they be well trained in metals identification and grading. The plant operator and the material marketer are the program’s most important positions. The plant operator oversees the operation of the entire facility, both buy-back and MRF, while the material marketer monitors the end markets in order to compare prices with brokers. It may be necessary to store materials in order to wait for the best market prices. If the markets trend up, the District makes more straight loads, which means holding the material longer and therefore limiting space for additional materials. However if the markets trend down, the District makes mixed loads and sell them more frequently. The more concentrated the load, the more it is worth so straight loads are ideal but this requires space for storage and the money is tied up longer, which could be an issue if the market fluctuates.



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Nuts and Bolts

MATERIALS COLLECTED

The District collects non-ferrous metals—which are any metals that a magnet will not pick up—and they buy based on a per-pound price, which fluctuates with the end market. Non-ferrous metals include: aluminum, copper pipe and wire, starters and alternators, zinc, magnesium and lead acid batteries. The non-ferrous metals collected are stored in heavy duty, pallet sized, corrugated fiberboard boxes. Buyers are stationed in the buy-back area to minimize interference with the MRF side of the operation. After unloading what someone brings in, they weigh it and the weight will determine the amount of money that is paid for the material. The process requires a significant amount of personal information to be collected from the customers to fight theft.

INFRASTRUCTURE AND COSTS

The District has a steel frame, clear span building that houses the buy-back program and MRF. The buy-back section is an enclosed drive thru, totaling 6,000 square feet, allowing all the unloading to be done inside. Most of the plant does other resource recovery tasks besides the buy-back, so space for storage is an issue. Currently, the program diverts approximately 1,000 tons of non-ferrous materials per year. In terms of costs, starting a buy-back program can be expensive. The biggest issue is cash flow. Most recently, ABR has paid customers \$0.58 per pound for aluminum cans and sold 40,000 pound loads, resulting in a tie-up of \$23,000 per full load of aluminum cans. Not only is equipment essential for running a buy-back, but it is estimated that at any given time, a buy-back program needs to have at least a \$100,000 cash flow. For example, ABR reports at times having up to \$300,000 in outstanding balances due to the lag time between shipping materials and receiving payment for it.

POTENTIAL START-UP COSTS:

- ◆ \$5,000-\$10,000 Used Forklift
- ◆ \$2,000 Scale
- ◆ \$2,000 Cash Register
- ◆ \$5,000-\$10,000 Down Stroke Bailer
- ◆ \$5,000 Miscellaneous supplies such as banding and shrink wrap
- ◆ \$100,000-\$300,000 Cash Flow

POSSIBLE APPLICATIONS

- ◆ Buy-back programs tend to be successful programs in rural areas. In general, if there is 15-20 mile gap between buy back locations, or 20,000 or more people not being serviced by another recycler, this may indicate that a buy-back center would be successful.
 - ◆ Could possibly be expanded to buy back other commodities such as paper.
-

OF INTEREST

- ◆ Security against theft is important. Potentially, districts could have many thousands of dollars worth of hard to identify and easily sold metals in their possession.
- ◆ Space to store materials is also important. For every category of materials that a program wants to market in straight truckloads, approximately a semi-trailer worth of storage space is needed. Most programs underestimate this need.
- ◆ Residents report being pleased with the cleanliness of the plant and also the friendly, courteous service.
- ◆ The State of Ohio has passed a new law requiring all buy-back programs to photograph all customers and upload the information to a state-wide database. The photographing is slated to begin in 2013 while the database will go live in 2014. This new law has the potential to increase start-up costs for new buy-back programs and to impede current ones, with software packages estimated to cost \$15,000.

For more information please contact:

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Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University
for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.



LAWRENCE-SCIOTO COUNTY JOINT SOLID WASTE MANAGEMENT DISTRICT'S ANTI-ILLEGAL DUMPING ENFORCEMENT PROGRAM

SUMMARY

The Lawrence-Scioto County Joint Solid Waste Management District (SWMD) has one of the most successful rural, anti-illegal dumping enforcement programs in the state. In the six years since the program's inception, there has been a major improvement in the cleanliness of the two counties and an ongoing change in the mindset of the public. The program is run by the SWMD's enforcement officer. While the officer is an employee of the District, one of the keys to the program's success is the officer's commission by each county's sheriff, giving the officer full jurisdiction in both counties. Through a hard-earned, multifaceted collaboration, the Lawrence-Scioto Solid Waste Management District enforcement officer works to uphold the law.

PROGRAM HIGHLIGHTS

- ◆ *Program Diversion:* In 2011, 136 cases were investigated. 64 cases were tried in court, in favor of the District, while 72 cases were successfully resolved outside of court.
- ◆ *Targeted Materials:* Illegal dumping
- ◆ *Jobs:* 1
- ◆ *Coordination:* Lawrence-Scioto Solid Waste Management District
- ◆ *Year established:* 2006
- ◆ *2010 Population:* 139,078, two-county district with 14 Townships
- ◆ *2010 District Diversion Rate:* 12.07%

FINANCIALS-2011

- ◆ Landowners pay \$12 a year for all of the District's recycling services, including the enforcement program.
- ◆ The enforcement program comprises approximately \$70,000 of the District's total annual budget. This includes the officer's salary, fringes, and supplies.



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What Makes It Work?

KEY PARTNERSHIPS

This program would not be possible without support from law enforcement, community members, and the legal system. The enforcement officer is a full time position under the authority of the district coordinator with support from the District's Board of Directors. Over the course of 6 years the program has gained the support of the county sheriffs, the county prosecutors, and many of the county judges.

OUTREACH

The District also employs a fulltime educator whose main focus is in-school presentations. Approximately 50% of the educator's total presentation time is devoted to discussion of litter prevention and illegal dumping and burning. By teaching children about litter prevention and illegal dumping, it is the hope that they can help change the mindset of the local population in regards to what is right and wrong when it comes to proper waste disposal and recycling. Students really react positively to physically cleaning up their surroundings and it helps them become aware that litter is an issue.

MANAGEMENT

The enforcement officer is commissioned by the sheriffs of both counties; however the officer is an employee of the SWMD and is completely under the authority of the district coordinator. The officer's sole responsibility is the enforcement of illegal litter issues. The enforcement officer also has access, granted by Sheriff Jeffery Lawless' department of Lawrence County, to the Ohio Attorney General's website, which contains personal information, such as license plate numbers and warrants for arrest. The officer can use this highly sensitive information against offenders.



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Nuts and Bolts

INFRASTRUCTURE

As an employee of the District, the enforcement officer drives a vehicle that belongs to the SWMD and it is labeled: Solid Waste District Enforcement Officer. The vehicle is equipped with lights and a siren. Lawrence County donated the radio that allows the officer to be in contact with the sheriff departments. The enforcement officer also has handheld radios that allow contact with the District office. If someone calls the department with a complaint, the officer can be notified immediately. Other equipment includes three motion detectors with wireless cameras that allow the officer to download pictures to a laptop, a tape recorder, a handheld evidence camera, binoculars, and a firearm. The enforcement officer usually handles two to three calls a day for enforcement issues. All cases are called in by the public; the officer does not patrol looking for infractions.

CASE MANAGEMENT

The most common offences are open dumping, such as litter and trash out back doors, and trash burning. It is not mandated that you have to have your trashed hauled in the two counties. The cases are tried in a combination of municipal and common pleas courts. Littering and clean air violations are for municipal court, while open dumping is a felony and is tried in a common pleas court. A typical sentence for a dumping violation, especially from Judge Capper of Lawrence County, is \$250-\$500 in fines, \$200 in court fees, \$106.32 restitution, which is paid directly to the SWMD, 12 days in jail or 30-60 days of community service, and 1 year of probation. Community service is often served with the District's Litter Control Crew. Such a good relationship with the judicial system means that the Districts usually get what they ask for in terms of retribution from offenders. If the offender is taken to court and is convicted of illegally dumping, in addition to the hefty fines, jail time and community service, the offender also has to clean-up the infraction to the satisfaction of the enforcement officer who reports back to the presiding judge.

POSSIBLE APPLICATIONS

- ◆ Illegal dumping is a major issue in most rural counties. While most SWMDs are trying to do something about it, cleaning up the environment and changing the mindset of the public takes a commitment from all local stakeholders.
- ◆ This type of program might be very useful in an area that does not mandate trash hauling.

OF INTEREST

- ◆ Under Ohio Revised Code the law states that one can dispose of material generated on one's own property, such as grown "vegetation," however, anything else that is discarded is considered litter. If someone else dumps something on one's property, even if the property owner does not do the dumping, the property owner is responsible for breaking the law.
 - ◆ The District does not have a landfill; therefore there is no generation fee to fund recycling programs. Instead, the District is funded through a property tax line item that exists on any newly acquired or improved piece of property. Landowners pay \$12 per year for all the District's recycling services, including the enforcement program.
-

ACKNOWLEDGEMENTS

Lawrence-Scioto County Joint Solid Waste Management District would like to acknowledge its staff and partners that make this program a success. County Prosecutor J.B. Collier, Jr. and his staff: Brigham Anderson, Mac Anderson, Bob Anderson, and Jeff Smith, are pivotal partners in the program as they prosecute all illegal dumping cases in Lawrence County. Lawrence County Judge—Judge Donald Capper—is also a supporter of the program, and is often the presiding judge for the illegal dumping cases. He is also a supporter of the District's other programs, often as a volunteer for such things as litter clean-ups.

For more information please contact:

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LOGAN COUNTY RECYCLING CHARM FACILITY

SUMMARY

The Logan County Solid Waste Management District (SWMD) operates a Center for Hard to Recycle Material (CHARM). As a convenient drive thru, CHARM provides an outlet for residents to recycle or properly dispose of Household Hazardous Waste (HHW) and other hard-to-recycle items. This has become a more affordable and effective option than occasional large-scale collections because it allows the rural county to recycle difficult materials throughout the year with low maintenance, little staff time and few expenses. Although the HHW drop-off is limited to residential customers, other types of hard-to-recycle materials are accepted from small businesses, schools, farm operations, non-profit groups, churches, and governmental agencies. In 2007, Logan County passed a resolution to become zero waste by 2020. This means a 90% diversion of residential and commercial material from the waste stream. Prior to expanding infrastructure with state-of-the-art drop-off locations, a material recovery facility, and CHARM, Logan County's diversion rate was 18%. In 2011, Logan County had a commercial and residential diversion rate of 41.77%.

PROGRAM STATISTICS

- ◆ *2010 Program Diversion:* 24.93 tons
- ◆ *2011 Program Diversion:* 60.40 tons
- ◆ *Targeted Materials:* Household Hazardous Wastes, electronics, batteries, scrap tires, used oil-based paints, used motor oils, and mercury devices
- ◆ *Ownership:* Publically owned and operated by the Logan County SWMD
- ◆ *Year established:* 2009
- ◆ *Single County SWMD*
- ◆ *2010 County Population:* 46,582
- ◆ *2010 District Diversion Rate:* 41.77%

FINANCIALS-2011

- ◆ *Revenue:* \$8,280.80
 - Fees for material collection: \$7,008.65
 - Lead-acid battery recovery: \$854.90
 - Used oil recovery: \$390.00
 - Cell phone recycling: \$27.25
- ◆ *Expenses:* \$15,663.59
 - HHW Disposal: \$5,415.44
 - Scrap tire recycling: \$2,744.00
 - Florescent light recycling: \$824.36
 - Mercury Recycling: \$1,175.00
 - Household battery recycling: \$2,069.40
 - CHARM flyers & receipts: \$482.39
 - Advertising: \$375.00
 - Equipment & supplies: \$450.00
 - Personnel: \$2,128.00
- ◆ *Net Cost to Run CHARM:* \$7,382.79

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What Makes It Work?

KEY PARTNERSHIPS

The primary relationships that make CHARM so successful are the connections between the District and the companies it contracts with to recycle material. A few of the companies have worked with the District since the beginning of the program, while other providers have changed due to fluctuating markets, regulations, and funding. R & R Tire Disposal of Lima supplies CHARM with a semi-trailer that is left on the premises for the entire season. By charging so much per ton of material for whatever is on the trailer, R & R Tire Disposal has allowed the District to vary the cost of tire disposal for customers based on the size of the tire. The District's prices are approximately half of what commercial tire companies in the area charge. Halo Environmental of Springfield is contracted with the District to pick up used motor oil, for which they pay the District 20 cents a gallon, and then refine the oil to be used again. Halo Environmental is flexible and convenient, and will also take used gas and other automobile fluids at no cost. Warehouse Energy of Columbus is the District's battery contractor. They pick up lead acid batteries from automobiles and gel batteries, and pay the District 20 cents per pound. In 2012, the District contracted with Green Star Recycling of Indiana for electronics. Green Star Recycling provides the storage space, skids, yard boxes, and transportation while paying the District 1.5 cents per pound for all electronics. The District has gone to a year-round drop-off option for electronics that has resulted in the collection of over 100,000 pounds in its first eight months. This is a significant increase from the year before. The District also stores donated construction materials for Habitat for Humanity of Logan County and will also work with customers to find outlets for materials that CHARM cannot accept.

OUTREACH

There are several components to the District's outreach program, including a well-established and strong recycling program in the schools, a digital comment box, frequent staff interactions with the public and regular distribution of fliers. Radio ads introducing the concept to residents were particularly important at the program's onset and continue to be a vital outreach tool. The District has included a new section on their website titled "What do I do with..." that outlines the available recycling avenues for materials the public has asked about. The District also makes sure that all of the local scrap businesses have CHARM brochures to handout to direct people in their recycling needs. The District has worked hard to make recycling a safe and enjoyable experience.

MANAGEMENT

CHARM is located on the same property as the Logan County Material Recovery Facility (MRF), leading to efficient turn-over of recyclable materials. In 2011, CHARM was open 14 days—alternating between Wednesday afternoons (4pm to 7pm) and Saturday mornings (9am until noon). Unlike most Solid Waste Districts, which focus on one to two large collections a year of hard-to-recycle materials, Logan County has created a system where at least some material is collected all year, such as electronics, and stored until ready for transport. This system provides residents with ample access to collection, is low maintenance for the District because the storage is in place, and the collection of the materials provides a small amount of revenue for the District as well. This type of system is also cheaper to operate than the one-day mass collections that take place in other districts, making CHARM an all-around benefit for Logan County.

Nuts and Bolts

MATERIALS COLLECTED

The Logan County CHARM is one of the most comprehensive hard-to-recycle material collection facilities in the state. HHW can only be collected from households due to Ohio Environmental Protection Agency rules. Subcategories of HHW include: cleaning and garden products, chemicals, and health care products. There is a \$0.25 per pound fee for recycling HHW. Electronics, however, can be collected every day at the District Office or at CHARM during operating days and hours. The only fee associated with electronics collection is a \$10 fee for televisions. All batteries are accepted at no cost. Scrap Tires are also collected, though residents may only transport nine tires at a time without an Ohio Transporter's License. There are fees associated with tire drop-off, depending on the size of the tire, ranging from \$1.50 to \$25 each. Oil-based paints, including spray paints in cans, stain, varnish, shellac, turpentine, mineral spirits, linseed oil, water sealant and used vehicle fluids such as motor oil, brake fluid, antifreeze, and transmission fluid, are accepted for recycling. There is a \$0.25 per pound fee for paints while used vehicle fluids are free. Rounding out the comprehensiveness of this program is the collection of mercury containing devices. These devices—such as thermometers, barometers, mercury switches, and mercury-containing batteries—are all accepted at no charge. In terms of employee management, CHARM is supervised by one, fulltime district employee. This allows for consistent workflow and supervision. For each day the facility is open, assistance is also provided by “volunteer” workers from Municipal Court and Employment Services. In 2011, 392 work hours were required to operate CHARM.

INFRASTRUCTURE AND START-UP COSTS

The drop-off process is convenient; it is open rain or shine since it is a covered drive thru facility. The building is a stand-alone, open-air unit, with CHARM covering 2,500 square feet. No reservations are necessary; one simply drives to CHARM and follows the route marked with traffic cones on the property. Workers unload the material from the vehicle, weigh materials that have associated per pound fees, receive payment (if applicable), and provide customers with receipts. While the flow of operations is important, there are other pieces of infrastructure that are required to run a smooth operation. Luckily, most of the large items, such as storage trailers and pallets, are provided by the contracted companies that pick up the materials. In order to ship any hazardous materials, they must be packaged according to standards set by the U.S. Environmental Protection Agency. The District uses polypropylene 55 gallon barrels, fiber barrels, pallets, and lined boxes for shipment of most materials.

POSSIBLE APPLICATIONS

- ◆ The comprehensiveness of this program could be enhanced with the collection of white goods, such as appliances. Other districts, such as Brown County, provide for the collection of appliances and include Freon removal at no charge.
- ◆ A large facility that has ample space for storing reuse materials could also broaden the scope of a hard-to-recycle materials program.

OF INTEREST

- ◆ The total number of vehicles CHARM is seeing has decreased in the first part of 2012. This is thought to be because of the new system for electronics drop-off, which includes the ability to drop-off electronics when the District office is open.
- ◆ In 2006, the District reports that the HHW program cost over \$46,000 and captured only a fraction of the available material. With the opening of CHARM in 2009, that cost has dropped to only \$7,382.79 in 2011.



**For more information please contact: Alan Hale, District Coordinator,
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LOGAN COUNTY RECYCLING AND PAY-AS-YOU-THROW (PAYT) DROP-OFF PROGRAM

SUMMARY

The Logan County Solid Waste Management District (SWMD) operates a system of recycling drop-off locations strategically located throughout the county. Citizens can bring traditional household recyclable items and household trash to these locations for disposal. Recyclables are deposited in clearly marked roll-off containers. Specific Pay-As-You-Throw (PAYT) trash bags can be purchased at an on-site vending machine or at area grocery stores. These bags can then be used to dispose of household trash in the PAYT, on-site dumpster. These green trash bags cost \$2.00 each, and over \$150,000 worth of bags was sold in 2011. An on-site surveillance system monitors the site for illegal dumping. There are also local citizen monitors, who are paid \$100 every three months for three visits per week, to alert management electronically about drop-off site issues or deficiencies. There are 14 drop-off locations in Logan County and each is open 24 hours a day, seven days a week. In 2007, Logan County passed a resolution to become zero waste by 2020. This means a 90% diversion of residential and commercial material from the waste stream. Prior to expanding infrastructure with state-of-the-art drop-off locations, a material recovery facility, and a Center for Hard to Recycle Material, Logan County's diversion rate was 18%. In 2011, Logan County had a commercial and residential diversion rate of 41.77%.

PROGRAM HIGHLIGHTS

- ◆ *Program Diversion:* 2,520 tons in 2011
- ◆ *Targeted Materials:* Household recyclables and household trash
- ◆ *Jobs:* 8
- ◆ *Ownership:* Publically owned and operated by the Logan County SWMD
- ◆ *Year established:* 2007
- ◆ Single County SWMD
- ◆ *Population:* 46,189
- ◆ *District Diversion Rate:* 41.77%
- ◆ Program open to residential and business customers as well as tourists visiting the area

FINANCIALS-2011

- ◆ *PAYT Revenue:* \$159,840 (green bag sales)
 - ◆ *PAYT Expenses:* \$53,362
 - ◆ *Total PAYT Revenue:* \$106,478
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What Makes It Work?

KEY PARTNERSHIPS

Logan County uses citizen monitors to keep an eye on drop-off locations, including reporting when it is time to exchange roll-off containers and if there are any other site issues such as illegal dumping, litter, or vandalism. The camera surveillance system records license plates and the general vicinity of the drop-off sites so that daily activities can be tracked. If the need arises, the SWMD has a special relationship with the county prosecutor that aids in expediting illegal dumping cases caught on camera.

OUTREACH

There are several components to the District's outreach program, including a well-established and strong recycling program in the schools, a website comment box, staff interactions with citizens at public events, and routine fliers. Radio ads introducing the concept to the public were particularly important at the program's onset and continue to be an important outreach tool. There is also an incentive program through which any community with a drop-off site now gets \$5/ton for diverted recyclables. Encouragement from the public comes in the form of positive feedback concerning the cleanliness and attractiveness of the drop-off sites, along with appreciation for a reduced trash bill. The District has worked hard to make recycling a safe and enjoyable experience.

MANAGEMENT

The drop-off program works in concert with the MRF that is owned and operated by the Logan SWMD. Logan SWMD transports roll-off containers and processes recycled materials. The sale of processed recyclables has helped to pay for the recycling and PAYT drop-off program. A major component of the Logan SWMD management philosophy is the concept of social marketing—engaging with the community, explaining the concept of zero waste, the drop-off program, PAYT trash disposal, and listening to what the community wants. Another important factor in the success of this program is Logan SWMD's attention to detail and aesthetics in building and landscaping each drop-off location. These sites are far from resembling tin cans in an abandoned parking lot. Each site is landscaped to resemble a park or garden, making the trip to the recycling center a pleasant and enjoyable one. The program works so well that approximately 60% of the total diverted material in Logan County comes from the drop-off locations.



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Nuts and Bolts

MATERIALS COLLECTED

Recycled materials include paper products (magazines, newspaper, and paperboard), corrugated cardboard, #1 and #2 plastics, aluminum cans, bi-metal cans, plastic bags, and household batteries, while PAYT dumpsters collect household trash in green PAYT bags.

INFRASTRUCTURE AND START-UP COSTS

Each site is situated on a concrete pad ranging from 4,000 to 6,000 square feet and includes three 30-yard roll-off containers. Each container costs approximately \$4,695. There is one for cardboard, one for all other fibers, and one for containers such as bottles, cans. Locally made signs differentiate the containers. Each site also has one to three rented dumpsters for PAYT trash bags and a PAYT trash bag vending machine in a covered shed that is also used to hold deposited batteries, plastic bags, and to house the surveillance system. The vending machine and shed cost approximately \$6,700. There are also several 60 gallon recycling containers for elderly and handicap use, along with four cameras, one to captures license plates and the other three to monitor general site activity. The monitoring equipment and lighting at each site is worth \$5,000 to \$7,000. Each drop-off location costs approximately \$60,000-65,000 to construct.

POSSIBLE APPLICATIONS

- ◆ Multifamily housing units and apartment complexes, which are generally underserved, could benefit greatly from in-house recycling drop-offs and PAYT vending machine for trash bags.
- ◆ Tourist areas without permanent waste collection are ideal locations for a PAYT system.
- ◆ Rural locations without access to curbside waste or recycling collection are prime candidates for PAYT drop-off sites.

OF INTEREST

- ◆ On average the District diverts 3,000 tons (including curbside, not outlined here), which is processed at the local MRF operated by the SWMD. The revenue from the sale of materials offsets the cost of the program.
- ◆ Vandalism and theft, such as broken vending machines and stolen money have been an issue. A credit-card system is now in place at eight sites to eliminate the use of cash.
- ◆ Residents report they save as much as \$175.00 annually on waste disposal costs.

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**For more information please contact: Alan Hale, District Coordinator,
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1100 S. Detroit St., Bellefontaine, Ohio 43311
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www.logancountyrecycles.com**

Appalachia Ohio Zero Waste Initiative
Rural Action, P.O. Box 157 Trimble, Ohio 45782
Telephone: 740.767.4938
<http://ruralaction.org/programs/zerowaste/>

Prepared by the Voinovich School of Leadership and Public Affairs at Ohio University
for the Appalachia Ohio Zero Waste Initiative and the Ohio Environmental Protection Agency.



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SOUTHEASTERN OHIO JOINT SOLID WASTE MANAGEMENT DISTRICT'S ENVIRONMENTAL EDUCATION PROGRAM

SUMMARY

The SouthEastern Ohio Joint Solid Waste Management District's (JSWMD) Environmental Education Program is a unique effort to educate the area's youth in all facets of solid waste management. The program is comprehensive in nature, covering a range of recycling topics for kindergarten through 12th grade, and adheres strictly to the state proficiency standards as well as school district curriculum guidelines. Unlike traditional curriculum that focuses only on residential recycling, the JSWMD's education program is customized to the specific education requirements of each grade level and classroom. For example, high school curriculum focuses on manufacturing, technology, and business operations of the solid waste industry while elementary curriculum focuses on litter prevention. The District has one full-time educator who is a contract employee of GT Environmental, Inc.

PROGRAM HIGHLIGHTS

- ◆ *Targeted Audience:* School children, grades K-12
- ◆ *Jobs:* 1 full-time employee
- ◆ *Ownership:* Curriculum produced initially by the District. Annual updates by GT Environmental, Inc., based on JSWMD's direction
- ◆ *Year established:* 2007
- ◆ *2011 Population:* Serving 6 Counties in Southeastern Ohio for a total population of 232,280
 - ◇ Guernsey
 - ◇ Monroe
 - ◇ Morgan
 - ◇ Muskingum
 - ◇ Noble
 - ◇ Washington
- ◆ *2010 Residential & Commercial Diversion Rate:* 13.12%
- ◆ *2010 Industrial Diversion Rate:* 75.30%

FINANCIALS-2011

- ◆ *2012 Contract fee:* \$38,500
 - ◆ *School Fieldtrip costs:* \$3,000-\$4,000 per year
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What Makes It Work?

KEY CONTRACT

The JSWMD works closely with GT Environmental, Inc. in order to provide top-notch solid waste education programs in the schools throughout the six-county District. In a four-year period they have provided almost 20,000 students with educational programming. GT Environmental, Inc. is responsible for employing an educator, and tracking the required education performance standards in order to suggest changes to the curriculum. Over the course of this six-year relationship, some changes to the performance standards have affected the delivery of programs, but there has not been a significant overhaul of the program material.

OUTREACH

Fifteen years ago there were limited environmental services, such as trash hauling and recycling, available in the District. Today, residents have access to a multitude of recycling services. The education program has created a mindset change that has helped to decrease illegal dumping and has worked to inform students of the environmental services currently available. Outreach for the program is done primarily through teachers' word-of-mouth. Since the presentations are based on the needs of their curriculum and include hands-on learning through site visits, teachers are pleased with the outcome of the program. The program has grown based on the satisfaction of the school districts.

MANAGEMENT

In order to run a six-county JSWMD, each county must receive proportionate services. The counties are entitled to a certain number of presentations a year based on population. The contract with GT Environmental, Inc. is for a minimum of 195 presentations, but the educator usually performs over 200 a year. The program benefits from the District's reliable education performance standards data and GT Environmental, Inc.'s quality services that conform to the District's standards and level of service in each county.



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Nuts and Bolts

PROGRAM DELIVERY

Most of the programs are done in the classroom, but the educator also delivers some programming to civic organizations and community events—such as Earth Day—and conducts some programs at area summer camps. The educator is able to customize presentations and programming to address topics of interest as long as it continues to meet the framework of the education performance standards. The Environmental Education program usually consists of one to two days of classroom instruction followed by a one day fieldtrip to experience hands-on what they have learned.

INFRASTRUCTURE AND COSTS

The program was originally funded by a grant from the Ohio Department of Natural Resources (ODNR) and by the District's supplemental budget. The District and ODNR provided educators and programs at a combined cost of \$276,000 a year. This grant program administered by ODNR, however, ended statewide in 2006 and afterward the District was only able to fund 175 presentations a year. In 2007, to streamline efforts while maintaining quality programming, the District entered into a contract with GT Environmental, Inc. to provide one educator for the entire District. Through the contract, the District is able to provide more educational programming at a reduced cost from previous years. The contract fee is renegotiated annually and in 2012, the District's contract with GT Environmental was \$38,500. This equates to approximately a sixth of the cost from 2006 despite the addition of more programming. As a supplement to the educator, the District also provides funds for fieldtrips to recycling and waste reduction industries. This amounts to approximately \$3,000 to \$4,000 annually.

POSSIBLE APPLICATIONS

- ◆ This type of contract could work in any JSWMD's school districts.
- ◆ The education and outreach contract system could include services to the broader public that would educate communities and businesses on access to programs and services that could help them reduce waste and increase recycling.

OF INTEREST

- ◆ Due to budget cuts, the District's Environmental Education Program is the only program of its kind available to school districts located in the six counties. Between adherence to the performance standards and prioritizing fieldtrips, the school districts are very content with the program.
 - ◆ In addition to school-based curriculum, the content has been modified for presentations to civic organizations.
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For more information please contact:
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POTENTIAL SOURCES OF FUNDING/CAPITAL

Below is a brainstorm of general sources of funding that was compiled by the Business Development Working Group during their first meeting on November 8, 2013.

Sources of funding: Investment; Loan; Community Reinvestment Act credits; Supporters, gifts, and sponsorships; Grants and foundations; Fundraising; Public funds; Customer value revenue; Tax incentives; Memberships; Bonds/levys; Reinvestment of avoided costs; Strategic partnerships; Revolving loan funds; Community Development Block Grant; Resource deposit; Recycling loop business partnerships; EB5; Venture capital.

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SAMPLE ZERO WASTE RESOLUTION

WHEREAS – fill in enabling statute that gives authority to enter into this resolution

WHEREAS, _____ is committed to protecting and enhancing environmental quality in the county now and for future generations; and

WHEREAS, the placement of materials in waste disposal facilities, such as landfills and incinerators, is costly to taxpayers, causes damage to ecosystem health, wastes natural resources, and transfers liabilities to future generation; and

WHEREAS, an estimated 72,000 tons of waste is generated in Athens and Hocking County each year by residents, businesses, and institutions, and approximately 85% of this amount is sent for landfill disposal; and

WHEREAS, a resource recovery-based economy will create and sustain more productive and meaningful jobs; and

WHEREAS, waste prevention, reuse, recycling, and composting are material management options that conserve resources while reducing environmental impacts; and

WHEREAS, through the application of various programs and policies, the majority of resources can be recovered; and

WHEREAS, with the acknowledgment that government must lead by example by establishing criteria needed to eliminate waste waste; and

WHEREAS, the Athens-Hocking Zero Waste Action Plan dated Decemeber 2013, outlines a method to eliminate waste and pollution resulting from the traditional disposal of resources to our common environment (land, air, and water); now

THEREFORE, be it resolved that _____ supports the implementation of the Athens Hocking Zero Waste Action Plan dated December 2013.

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SAMPLE LETTER OF SUPPORT

Month, Day, 2014

Supporting Organization
Address

To Whom it May Concern:

We are pleased to offer this letter of support for the Athens-Hocking Zero Waste Action plan and its vision to boost the local economy, improve quality of life, and improve the environment by striving for zero waste.

The plan was drafted by the Appalachia Ohio Zero Waste Initiative following an extensive community engagement process, including surveys and ten community meetings. The plan was then reviewed and revised by five working groups that were comprised of local experts in the field and Athens Hocking community members.

As a result of this inclusive process, we feel that the plan represents the waste reduction and resource recovery needs of a broad base of constituents in Athens and Hocking Counties. In addition to representing community needs, this plan also includes steps that will improve the 2012 resource recovery rate of 14.26%, which is well below Ohio Environmental Protection Agency recycling goal of 25%. Steps must be taken to not only meet, but to exceed this goal. The plan's steps to increase resource recovery, reduce waste, and spur on the local economy will enable Athens and Hocking to exceed this goal.

Resource recovery, waste reduction, and economic development are also important to the work of *<insert the name of your organization here>*. *<Insert a sentence or two about why this is important to the work of your organization and how it will advance your goals>*.

In order to advance the goals of the Athens-Hocking Zero Waste Action Plan, meet the needs of constituents, decrease the volume of valuable material going to the landfill, and advance the work of *<insert the name of your organization here>*, we endorse the action steps outlined in the plan and will support its implementation in Athens and Hocking Counties.

Sincerely,
Name
Title
Organization