FEASIBILITY STUDY: OPTIONS FOR IMPROVED RECYCLING IN ATHENS & HOCKING COUNTIES

PREPARED BY THE APPALACHIA OHIO ZERO WASTE INITIATIVE
February 1, 2013
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. AOZWI collaborates with communities to build local wealth and environmental health by increasing waste diversion and supporting the development of a zero waste economy.

FEASIBILITY STUDY COMPONENTS
This study includes four components, completed between January 2012 and November 2012:

- Recycling surveys collected by US mail from Athens and Hocking County residents
- Structured community forums
- Case studies of select rural recycling programs in the state of Ohio
- A preliminary Materials Recovery Facility (MRF) feasibility study

>> KEY CHALLENGES IDENTIFIED
Through the surveys and forums, community members identified key challenges that should be addressed in Athens and Hocking Counties. The top two are:

- LIMITED RECYCLING ACCESS & CONVENIENCE
- LIMITED EDUCATION AND OUTREACH

>> AOZWI RECOMMENDATIONS
In order to address the challenges identified by the community, AOZWI recommends these actions:

- IMPLEMENT NEW RECYCLING PROGRAMS THAT INCREASE CONVENIENCE & EXPAND THE MATERIAL TYPES COLLECTED
- ESTABLISH A MRF THAT MEETS THE RECYCLING & PROCESSING NEEDS OF THE COMMUNITY BY INCREASING CAPACITY & ACCOMMODATING DUAL OR SINGLE STREAM COLLECTION
- EXPAND AND FULLY FUND AN EDUCATION AND OUTREACH PROGRAM

NEXT STEPS
The AOZWI recommends that the AHSWD and its stakeholders review each element of this study, incorporate the findings into their work, and use it to prioritize the development of new programs and infrastructure. Likewise, this study is a stepping stone for the AHSWD to do more in depth research on the programs and infrastructure identified.

Through the support of policy makers and other stakeholders, the AOZWI will use this study to create a zero waste action plan for Athens and Hocking Counties. The plan will lay out steps to reach a 90% diversion rate from the landfill in these counties.
INTRODUCTION
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 was formed in 2010 in response to a number of challenges in Southeast Ohio: low recycling rates, high rates of illegal dumping, and burning. There was a clear need to explore better waste management in the region, and how improved management could benefit communities—through environmental quality, community pride, local jobs, and revenue.

The AOZWI began working in the Athens-Hocking Solid Waste District (AHSWD) in 2010 to address several challenges:

- In 2010, AHSWD had the 3rd lowest residential recycling rate in the state at 8.8%
- AHSWD did not meet residential recycling goals: a 25% diversion rate and access to recycling for 90% of the population
- AHSWD had no education and outreach program or functional website
- There were high rates of illegal dumping and burning
- There was limited, if any, documentation of community recycling needs
- Greater depth of research was needed to explore new recycling programs and infrastructure

To date, AOZWI has directly contributed to the improvement of recycling in the AHSWD through the following efforts:

- Wrote a grant, which the AHSWD submitted and received, to secure 9 recycling roll-offs
  - 90% of the population now has recycling access, bringing AHSWD into compliance with the OEPA
  - Recyclables are being collected in 18 townships, an increase of 8 townships since 2009
  - Recycling access increased from 4 hours per month to one week per month for 13 of 18 townships
- Secured funding for an education coordinator by successfully submitting a grant on behalf of the AHSWD, bringing AHSWD into compliance with the OEPA education requirement
- Worked with Hocking College to develop a website on behalf of AHSWD
- Hosted dumpsite and litter cleanups throughout AHSWD, completely cleaning 3 dumpsites
- Organized a regional summit, drawing over 130 people from 10 states to examine the potential to build wealth by increasing resource recovery
- Organized community forums in Athens and Hocking Counties to identify recycling challenges and desired solutions. Nearly 200 people attended
- Provided technical assistance to emerging, recycling-based, local businesses
- Conducted this feasibility study including community forums, residential recycling surveys, case studies and a preliminary materials recovery facility (MRF) feasibility study

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1 2009 Solid Waste Reduction and Recycling Statistics, Ohio Environmental Protection Agency
2 The Initiative was initially formed in response to low residential recycling rates but is evolving to examine commercial need as well.
3 OEPA State Solid Waste Management Plan 2009
AOZWI is invested in the region and its ability to conserve and recover resources. Waste is a global problem, and is expected to rise from 1.3 billion to 2.2 billion tons annually by 2025. Waste results in diminished landfill space, depleted natural resources, increased greenhouse gas emissions, and lost opportunities for job and revenue creation. AOZWI is committed to making a dent in the global waste problem right here in Athens and Hocking Counties. AOZWI, together with local stakeholders, will develop a zero waste action plan (ZWAP) for Athens and Hocking Counties in 2013. The plan will outline goals and a timeline to reach zero waste, which is defined as diverting 90% of discarded materials from the landfill to reuse, recycling, or composting.

AOZWI is coordinated by Rural Action, which is dedicated to improving the social, economic, and environmental justice of the region. Rural Action's partner, the Voinovich School of Leadership and Public Affairs at Ohio University, also has a history of finding locally-based solutions to economic and environmental challenges. AOZWI's work to maximize local, sustainable development in the waste and recycling sector will empower Athens and Hocking Counties to take pride in their communities, use their natural resources wisely, and have adequate incomes to live healthy lives.

STUDY JUSTIFICATION
In the spring of 2012, the AHSWD was still struggling to pass its 2009 solid waste management plan. If the plan had not passed in June of 2012, the OEPA would have written the plan for the solid waste district, eliminating local control of plan content. Reaching consensus on the plan between Athens and Hocking Counties was stymied due to these challenges:

- Disparity between the recycling services offered in the two respective counties
- Decision-makers concerns that elements of the plan would negatively impact one county
- Limited explanation provided about plan impacts, such as a new MRF & a generation fee
- Plan elements had not been adequately researched or supported by data
- No solicitation of community members was completed to align plan with community needs

This feasibility study was developed to address these concerns—to document challenges identified by stakeholders and community, explore solutions, and begin to answer questions about a local MRF. In addition, this study will help the AHSWD make informed decisions about program implementation, enabling them to reach unmet OEPA goals wisely and with community support.

DISTRICT SUPPORT OF STUDY
In March of 2012, the AHSWD board signed a Memorandum of Understanding (MOU) with Rural Action, which demonstrated their support of AOZWI. By signing this MOU, the AHSWD Board endorsed the goals of this research and the associated community dialogue. And, they

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5 As required by HB 592, each solid waste management district must create a solid waste management plan. The plan includes how solid waste district will ensure adequate disposal capacity for the solid waste generated in the District and how they will ensure that residents, businesses, and industries have access to and participate in recycling opportunities.
6 The Memorandum of Understanding is attached as Appendix E.
declared that this data-driven research should be used to inform future solid waste management decisions, such as the implementation of new recycling programs and the opportunities these might create for economic activity and environmental health. AHSWD demonstrated additional support by having an employee or board member at every community meeting hosted in Athens and Hocking Counties.

WHAT TO EXPECT IN THIS SUMMARY
This executive summary provides a brief overview of the existing recycling system followed by a summary of the four study components. The components are:

- Recycling surveys collected by US mail from Athens and Hocking County residents
- Structured community forums
- Case studies of select rural recycling programs in the state of Ohio
- A preliminary MRF feasibility study

Through this study, AOZWI seeks to:
- Establish baseline data of community recycling challenges and desired solutions
- Provide examples of programs that could meet identified challenges
- Explore what conditions must be in place for a MRF to sustain itself
- Build stakeholder and community investment in solution identification and implementation

EXISTING INFRASTRUCTURE AND PROGRAMS
- The Athens Hocking Recycling Center (AHRC)\(^7\) collects source separated material and processes 3,000 tons annually, or 11.5 tons per day, of traditionally recycled material\(^8\).

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

- Recycling drop-off opportunities are provided by the AHRC in 20 locations throughout the AHSWD. 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.

- Recycling Drive Days take place once in the spring and fall in both counties. Hard to recycle materials are collected during those drives.

- Education throughout the AHSWD is provided by a part-time employee of the AHSWD. The grant that initially funded the position ended in October 2012, but AHSWD has agreed to provide funding at least through December of 2013.

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7 The AHRC is a nonprofit that hauls waste and recyclables. It also processes recyclables at the Athens Hocking Recycling Center. The nonprofit is run by the Athens Hocking Solid Waste District.
8 Traditional recyclable materials include items such as paper, cardboard, newspaper, bottles, and cans.
In addition to the public resources available, some private companies provide services within the AHSWD. Farmer’s Refuse provides curbside pickup and one drop-off location in the City of Logan. 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 many other resource recovery services taking place in the AHSWD such as composting, reuse, and recycling construction & demolition materials. For the purposes of this document, AOZWI has included existing services for traditionally recycled items only.

FEASIBILITY STUDY METHODOLOGY

The components of this feasibility study were completed between January 2012 and November 2012.

The study was holistic, capturing quantitative and qualitative data with a unique focus on community engagement. Community engagement is crucial to advancing solid waste and recycling management in Athens and Hocking Counties. Few solid waste districts engage with the community to the extent that AOZWI did this year. The residential recycling survey and the community forums were a deliberate effort to hear and document the needs of the community. Case studies and the preliminary MRF feasibility study were conducted to identify potential solutions to the identified community needs.

Residential Recycling Survey Methodology - Appendix A

- February 2012: The survey was mailed to 2,961 single family residences in Athens and Hocking Counties in proportion to the population of each township
- April 2012: 709 residents, or 25.3%, returned completed surveys
- The survey provided baseline data about residents’ recycling habits and the recycling challenges residents face

Community Forum Methodology - Appendix B

- April and May 2012: Eight forums were held in each school district in Athens and Hocking Counties
- September and November 2012: Two follow-up forums were held, one in the City of Athens, and one in the City of Logan
- Attendees included residents, elected and agency officials, nonprofit organizations, students, and small business owners
- The forum was advertised openly
- The community forums focused on two key themes: What recycling challenges do you face? How would you like those challenges to be addressed?

9 The forums solicited mostly residential recycling challenges. This is a starting ground. AOZWI recognizes the gap in data about commercial recycling challenges. Identifying and seeking solutions to these challenges is a part of the third phase of work.
Case Study Methodology -- Appendix C

- Eleven case studies were conducted of select rural Ohio recycling programs between March and July 2012
- Case studies were selected based on applicability to a rural setting and guidance from the OEPA
- Data was collected through a financial information form and phone interviews

Preliminary MRF Feasibility Study Methodology--Appendix D

- The MRF Feasibility Study was conducted because the 2009 Solid Waste Management Plan included building a MRF
- No data existed demonstrating if a MRF could recover initial startup costs and remain self-sustaining thereafter
- Eight scenarios were tested as a part of this study. Each examined a different combination of financing options, equipment startup costs, and type of recycling stream (single or dual)
- The scenarios that were tested took into consideration the needs and challenges faced by the AHSWD

Each of these feasibility components helped identify key challenges in the AHSWD, as well as options to turn those challenges into areas of excellence within the AHSWD. These challenges and solutions are documented in the following two sections.
KEY CHALLENGES IDENTIFIED

Recycling Challenges -- Appendix A + B
The residential recycling surveys, and the 10 community forums allowed AOZWI to identify the challenges that are most important to the residents and stakeholders in Athens and Hocking Counties. The most important challenges to address are readily apparent because each study component—the survey, the eight initial community forums, and the two follow up forums—included the same top two challenges. Most of the other key challenges listed were also identified in each of the study components, but their level of priority varied. It is significant to note that in spite of the fact that each study component had a different audience and a different methodology, the top two challenges were identified in both components.

TOP TWO CHALLENGES IN THE AHSWD

LACK OF RECYCLING ACCESS AND CONVENIENCE

LIMITED OUTREACH AND EDUCATION

TOP 8 CHALLENGES IDENTIFIED BY STUDY COMPONENT

<table>
<thead>
<tr>
<th>RESIDENTIAL RECYCLING SURVEY APPENDIX A</th>
<th>8 INITIAL COMMUNITY FORUMS APPENDIX B</th>
<th>2 FOLLOW-UP COMMUNITY FORUMS APPENDIX B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pickup not available in my area</td>
<td>Lack of recycling access and</td>
<td>Limited education and outreach</td>
</tr>
<tr>
<td></td>
<td>convenience</td>
<td></td>
</tr>
<tr>
<td>Lack of information about where and how to recycle</td>
<td>Lack of recycling education and</td>
<td>Limited recycling access and</td>
</tr>
<tr>
<td></td>
<td>outreach</td>
<td>convenience</td>
</tr>
<tr>
<td>Too much separation required</td>
<td>Financially challenging to recycle</td>
<td>Gaps in policy</td>
</tr>
<tr>
<td>Inconvenient</td>
<td>Lack of citizen participation</td>
<td>Illegal dumping and burning</td>
</tr>
<tr>
<td>Problems with drop-off site</td>
<td>High rates of illegal dumping and</td>
<td>Economic constraints</td>
</tr>
<tr>
<td></td>
<td>burning</td>
<td></td>
</tr>
<tr>
<td>Costs too much</td>
<td>Limited materials accepted</td>
<td>Limited materials accepted regularly</td>
</tr>
<tr>
<td>Takes too much</td>
<td></td>
<td>Underdeveloped relationships</td>
</tr>
<tr>
<td>Limits on types of material accepted</td>
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</tbody>
</table>

10 In the residential recycling survey, the most significant challenge was written as “Lack of pickup in my area.” The second most significant challenge was written as “Lack of information about where and how to recycle.”
MRF Challenges -- Appendix D

- The current MRF is at capacity. It cannot accept additional materials and therefore cannot contribute to increases in recycling rates.
- The current MRF can only process material that is source separated (plastics, aluminum cans, paper, glass, and cardboard must all be separated).
- The current MRF is in a floodplain with no room to expand. This limits safety and damage-control of the facility, and does not allow capacity expansion.

POTENTIAL SOLUTIONS
In order to identify solutions to the above challenges, AOZWI completed two additional study components: 11 case studies of select rural Ohio recycling programs and a MRF feasibility study. This section provides a brief synopsis of each of the case studies and the MRF feasibility study.

Attributes of Exemplary Rural Recycling Programs

THE 11 CASE STUDIES IDENTIFIED FIVE ATTRIBUTES THAT MAKE A RURAL RECYCLING PROGRAM EFFECTIVE:
Case Study Summaries -- Appendix C

1. LOGAN COUNTY PAY-AS-YOU-THROW DROP-OFF PROGRAM: Recyclables are deposited for free in clearly marked roll-off containers in one of 14 communities. Specific Pay-As-You-Throw (PAYT) trash bags can be disposed of on-site, which customers purchase at an on-site vending machine or at area grocery stores for $2.00.

2. LOGAN COUNTY CENTER FOR HARD TO RECYCLE MATERIALS (CHARM): A convenient drive-thru provides an outlet for residents to recycle or properly dispose of Household Hazardous Waste (HHW) and other hard-to-recycle items.

3. ADAMS BROWN BUY BACK PROGRAM: Residents and businesses of Adams and Brown County have the opportunity to sell non-ferrous material at two buy-back locations.

4. LAWRENCE-SCIOTO COUNTY ANTI-ILLEGAL DUMPING PROGRAM: One of the most successful rural, anti-illegal dumping enforcement programs in the state.

5. MONTGOMERY COUNTY MATERIAL REUSE FACILITY (MCMRF): A facility for Montgomery County to collect reusable materials from over 500 organizations and individuals and then redistribute them to over 600 benefactors.

6. HAMILTON COUNTY RESIDENT RECYCLING INCENTIVE PROGRAM: In this program, the higher the rate of recycling a community achieves, the more dollars they receive to use for recycling related expenses, including outreach, education, and subsidizing curbside recycling programs.

7. CITY OF HURON CURBSIDE COMPOST PROGRAM: A nine-month per year program that collects food scraps and yard waste from residents.

8. RE:CREATE PROGRAM: Youngstown State University (YSU) and Mahoning County Solid Waste Management District collaborate to provide a materials reuse program.

9. BUTLER COUNTY POLLUTION PREVENTION INTERNSHIP PROGRAM: The program provides Butler and Hamilton County industrial and manufacturing companies with a summer intern for 12 weeks to help companies find ways to reduce waste and increase efficiency.

10. SOUTHEASTERN OHIO JOINT SOLID WASTE MANAGEMENT DISTRICT ENVIRONMENTAL EDUCATION PROGRAM: The program is contracted out by the district and covers a range of recycling topics for kindergarten through 12th grade, adhering strictly to the state proficiency standards, as well as school district curriculum guidelines.

11. VANWERT COUNTY RURAL RECYCLING PROGRAMS: The programs include a curbside recycling program, a drop-off recycling program, a drive-thru recycling program, a yard waste compost facility, and a small Materials Recovery Facility (MRF).
RECOMMENDATIONS FOR PROGRAM IMPLEMENTATION

After considering the existing infrastructure, the challenges identified by the community, and the potential solutions, AOZWI recommends that the AHSWD implement the following two programs:

A PROGRAM THAT INCREASES ACCESS TO AND CONVENIENCE OF RECYCLING THROUGHOUT ATHENS AND HOCKING COUNTIES.

AN EXPANDED AND FULLY FUNDED EDUCATION AND OUTREACH PROGRAM

The following programs are good models to increase recycling access and convenience, and increase education and outreach. These programs are not being offered as turn-key solutions to the challenges faced by the AHSWD, but instead offer a framework from which the AHSWD can establish a similar program that is adapted to the unique needs of this community.

LOGAN COUNTY PAY-AS-YOU-THROW (PAYT) DROP-OFF PROGRAM

<table>
<thead>
<tr>
<th>WHAT'S SO GREAT ABOUT THIS PROGRAM?</th>
<th>DOES THE COMMUNITY SUPPORT THIS PROGRAM?</th>
<th>DOES THIS PROGRAM MEET AN IDENTIFIED COMMUNITY NEED?</th>
</tr>
</thead>
<tbody>
<tr>
<td>It contributes to the district diversion rate growth from 18% in 2007 to 41.77% in 2011, exceeding OEPA goals.</td>
<td>A PAYT program like Logan County was the #1 most desired new program at follow-up community forums (Appendix B)</td>
<td>This program increases recycling access, which was one of the top two priorities at the community forums. (Appendix B)</td>
</tr>
<tr>
<td>Residents report they save as much as $175 annually on trash disposal costs.</td>
<td>A PAYT program like Logan County was the 8th most mentioned of 28 ideas for new programs at the initial community forums. (Appendix B)</td>
<td>This program alleviates some residential and city financial constraints, a key challenge identified in community meetings and surveys, through reduced trash costs and money given back to the community. (Appendix B)</td>
</tr>
<tr>
<td>Local citizens engage by monitoring recycling drop-off locations.</td>
<td>48.6% of residential survey respondents were interested in a PAYT system (~33% were unsure, only ~18% were not interested) (Appendix A)</td>
<td>This program engages citizens as site monitors addressing the lack of citizen involvement mentioned as a key challenge in the residential surveys and community forums. (Appendix A and B)</td>
</tr>
<tr>
<td>$5 dollars/ton is given back to the communities with PAYT drop-off programs</td>
<td>At all community forums, increased education and outreach, including when and how to recycle, was the #1 or #2 priority of attendees. (Appendix B)</td>
<td>This program includes clear avenues for informing the public of where and how to recycle—one of the top two challenges identified at the community meetings and through surveys. (Appendix A &amp; B)</td>
</tr>
</tbody>
</table>
**LAWRENCE-SCIOTO COUNTY ANTI-ILLEGAL DUMPING PROGRAM**

### WHAT’S SO GREAT ABOUT THIS PROGRAM?

136 cases were investigated, 64 cases were tried in court in favor of the District, and 72 cases were resolved outside of court.

The enforcement officer is commissioned by each county’s sheriff.

Major improvement in cleanliness of two counties, and a shift in people’s mindset.

The District employs a full time educator who spends 50% of his/her time doing school programs on litter prevention, illegal dumping, and burning.

Appendix C

### DOES THE COMMUNITY SUPPORT THIS PROGRAM?

Attendees at the follow-up community forums stated that they want additional illegal dumping and burning enforcement in the AHSWD. (Appendix B)

Additional illegal dumping and burning enforcement was the 2nd most frequently desired new program mentioned at the initial community meetings. (Appendix B)

We already know illegal dumping programs are well received by the community. At the initial community forum, attendees were very pleased with the work on illegal dumping in Athens County. It was the 3rd most mentioned ongoing program that participants support. (Appendix B)

At all community forums, increased education, and outreach was the #1 or #2 action priority for attendees. (Appendix B)

### DOES THIS PROGRAM MEET AN IDENTIFIED COMMUNITY NEED?

At the community forums, illegal dumping and burning was one of the top 5 challenges identified. This program would ramp up enforcement and decrease incidences. (Appendix B)

* Lack of citizen motivation was identified as a challenge in the surveys and all community forums. Strict enforcement usually motivates residents to engage in appropriate waste management behaviors. (Appendix A and B)

* A full time educator would help meet the need to improve education and outreach—the #1 or #2 need expressed at all community meetings and in surveys. (Appendix A and B)

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**ADAMS BROWN BUY-BACK PROGRAM**

### WHAT’S SO GREAT ABOUT THIS PROGRAM?

The program pays out $1,426,151 to the community annually.

Adams Brown has a 20% profit margin and this money is used to subsidize other important, but not cost effective, recycling programs.

The revenues help the AHSWD fund a full-time educator dedicated to school programs and civic engagement.

The monetary incentive sparks word-of-mouth promotion of the program, reducing some of the need for spending dollars on advertising.

Appendix C

### DOES THE COMMUNITY SUPPORT THIS PROGRAM?

31.7% of residential survey respondents are interested in hazardous waste disposal, the 5th most important interest of all respondents. (Appendix A)

At the initial community forums, a program that accepts all types of household materials was the 3rd most desired program. (Appendix B)

At the follow-up community forums, a Buy-Back was the 3rd most frequently requested program. (Appendix B)

At all community forums, increased education and outreach, including when and how to recycle, was the #1 or #2 priority of attendees. (Appendix B)

### DOES THIS PROGRAM MEET AN IDENTIFIED COMMUNITY NEED?

The residential survey and community forums all showed the the limit of materials regularly accepted was a key challenge. This facility would allow regular collection of a wider range of recyclable materials. (Appendix A and B)

The residential and community forums all showed that economic constraints are a key challenge. The AHSWD could make a profit. (Appendix A & B)

This program includes clear avenues for informing the public of where and how to recycle—-one of the top two challenges identified at the community meetings and through surveys. (Appendix A & B)
### WHAT’S SO GREAT ABOUT THIS PROGRAM?

According to the HHW 2011 Report, the cost of City of Athens hazardous waste collection day was over $14,000. This does not include costs for the 4 Recycling Day Drives that also collect hard to recycle material in Athens and Hocking. Net cost to run Logan County CHARM, accepting all materials, is $7,382.79.

Residents, businesses, and organizations have regular opportunities to dispose of waste throughout the year, rather than just twice like the AHSWD.

The program recycled over 60 tons of material in one year compared to 12 tons documented by AHSWD.

It includes effective education and outreach including radio ads, fliers at local scrap yards, “What do I do with...” section on District website, and frequent interaction of District staff with the public.

Appendix C

### DOES THE COMMUNITY SUPPORT THIS PROGRAM?

- 31.7% of residential survey respondents are interested in hazardous waste disposal, the 5th most important interest of all respondents. (Appendix A)
- At the initial community forums, a program that accepts all types of household materials was the 3rd most desired program. (Appendix B)
- At the follow up community forums, a CHARM was one of the most frequently requested programs. (Appendix B)
- At all community forums, increased education and outreach, including when and how to recycle, was the #1 or #2 priority of attendees. (Appendix B)

### DOES THIS PROGRAM MEET AN IDENTIFIED COMMUNITY NEED?

- The residential survey and community forums all showed the limit of materials regularly accepted was a key challenge. This facility would allow regular collection of a wider range of recyclable materials. (Appendix A and B)
- The residential and community forums all showed that economic constraints are a key challenge. This program would cut costs for the district by a minimum of $6,500. But the number is likely much higher when Recycling Day Drives costs are factored in. (Appendix A & B)
- This program includes clear avenues for informing the public of where and how to recycle—one of the top two challenges identified at the community meetings and through surveys. (Appendix A & B)
RECOMMENDATION FOR A NEW OR UPGRADED MATERIALS RECOVERY FACILITY (MRF)
The Appalachia Ohio Zero Waste Initiative tested the economic viability of a MRF under 8 different scenarios. Each scenario examined a different combination of financing options, equipment startup costs, and type of recycling stream (single or dual). They are depicted in the chart below. The model used to test these scenarios was designed to be a living tool that can test additional scenarios.

![Figure 1 Overview of Financial Scenarios](image)

RECOMMENDATION FOR A NEW MRF
It is outside the scope of this study to determine which of the proposed scenarios would best fit the needs of AHSWD. However, it is recommended that a new or expanded MRF be built and operated to serve Athens and Hocking Counties. The basis of the recommendation stems from the key finding of the feasibility study that, under all the scenarios considered, the MRF has the potential to achieve cash breakeven within the first two years of operation, and maintain economic sustainability thereafter. Assumptions underlying the model were based on current feedstock levels and historical averages for commodity prices. Relative to these assumptions, each of the 8 scenarios modeled passed the test of economic feasibility, and have the potential for sustainability.
## Athens-Hocking Materials Recovery Facility

<table>
<thead>
<tr>
<th>Why Do We Think a MRF Would Be Successful in Athens and Hocking Counties?</th>
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</thead>
<tbody>
<tr>
<td>There is enough recyclable material available to meet the 25 tons per day that would be necessary for the MRF to be financially sustainable. There is also enough material to expand processing to 70 tons per day.</td>
</tr>
<tr>
<td>The initial start up costs will be recouped in 1-1.5 years depending upon the scenario that is chosen.</td>
</tr>
<tr>
<td>The MRF could sustain itself without subsidies from generation, or tipping fees.</td>
</tr>
<tr>
<td>The closest processing facility is located 75 miles away; haulers would save costs by hauling material to this MRF.</td>
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<tr>
<td>Because of reduced transportation costs, additional haulers may be interested in offering recycling services.</td>
</tr>
<tr>
<td>See Appendix D</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Does the Community Support Building or Upgrading a MRF?</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to increase recycling access, upgrading or building a new MRF was the 4th most frequently made recommendation at the follow-up community forums. (Appendix B)</td>
</tr>
<tr>
<td>Many attendees at the initial community forums wanted to increase job creation by recycling waste materials. One way they thought this could be done was by building or upgrading a MRF. (Appendix B)</td>
</tr>
<tr>
<td>Attendees at the initial community forums stated that the new rural recycling drop off program, mentioned in the Existing Infrastructure section of this document, is the best program operated by the AHSWD. It makes sense to expand and improve this program. (Appendix B)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Could a New or Upgraded MRF Help Meet Identified Community Needs?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased capacity at a MRF would allow the expansion of a rural recycling program and increase recycling access. The program can only be expanded to accept more material if there is a more cost effective way to manage the materials. A local MRF would eliminate the dollars currently spent trucking the materials to Columbus. (Appendix D)</td>
</tr>
<tr>
<td>A local MRF would decrease costs for local haulers and has the potential to increase job creation in the region through material management, and recycling-based spin-off businesses. This would help address financial constraints, a key challenge identified at the forums and in the survey. (Appendix D)</td>
</tr>
<tr>
<td>A upgraded/new MRF would increase local recycling capacity, and therefore enable AHSWD to meet its OEPA mandated recycling goals. (Appendix D)</td>
</tr>
<tr>
<td>If AHSWD maintains control of the MRF, revenue could be used to fund an expanded education and outreach program—one of the top two needs identified by the community in surveys and meetings. (Appendix A and B)</td>
</tr>
</tbody>
</table>
NEXT STEPS
The AOZWI recommends that this study be used to advance solid waste and recycling practices in the AHSWD. We believe that the unique community engagement process that was a part of this study has created a body of common goals and desired solutions. Stakeholders and community members are invested in the process of improving recycling in AHSWD. This study may also be used to shape public policy, spark economic development, and leverage funding.

AOZWI further recommends that AHSWD and its stakeholders review each element of this study, incorporate it into the work of the AHSWD, and use it to prioritize the implementation and development of new programs and infrastructure. Likewise, this study may be used as a stepping stone for the AHSWD to do more in depth research of the programs and infrastructure recommended in this study.

Through the support of policy makers and other stakeholders, the AOZWI will use this study as a launching pad for the creation of a zero waste action plan for Athens and Hocking Counties. The plan will lay out steps for reaching a 90% diversion rate from the landfill in these counties. The AOZWI will convene working groups in 2013 to develop this plan of action. Working groups will focus on education, recycling access, business development, and illegal dumping and burning. The AOZWI invites policy committee members of the AHSWD to join each working group, so that the action plan can inform the future of solid waste and recycling management in AHSWD.

The AOZWI is dedicated to improving waste and recycling management in the region for the betterment of the people’s livelihood, environment, and community pride. Since AOZWI began working in the AHSWD in 2010, marked improvement in the AHSWD has been made. These improvements include:

- Almost 200 people attended community forums
- The recycling rate has increased from 8.8% in 2009 to 17.5% in 2011
- 13 townships have access to recycling services one week per month, an increase from 4 hours per month
- AHSWD is now in compliance with its OEPA goal to give recycling access to 90% of the population
- AHSWD is now in compliance with its OEPA goal to provide recycling education

The AOZWI looks forward to continuing to work with the AHSWD and the community to improve recycling and waste management in Athens and Hocking Counties in the years to come. This study is just the beginning of the benefits of stakeholder collaboration.