



SERDC

Boosting Recycling in Alabama

Alabama 2009 Grant Program Workshops | www.serdc.org

BOOSTING RECYCLING IN ALABAMA

A Recycling Coordinator's Guide to Effective Waste Reduction and Recycling

Developed: by Keefe Harrison for SERDC, 2009

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Table of Contents

Agenda.....	page 5
Who is SERDC?.....	page 7
The History of Solid Waste and Recycling in Alabama.....	page 9
Recycling 101: Glossary of Terms.....	page 13
Recycling 102: Material Collection Specifics by Commodity.....	page 17
Recycling 103: Equipment.....	page 27
Understanding Local Markets.....	page 31
Outlining a Successful Recycling Program.....	page 39
Boosting Participation for Effective Economics.....	page 51
ADEM Grant Funds: Tips for Securing your Grant Application.....	page 59
Important Alabama Contacts and Resources.....	page 67

Agenda

9:30 – 10:00 - Registration, coffee

10:00 – 10:15 - Welcome: Overview of the day's agenda

- Presenter: Mark Lester, SERDC Board of Directors

10:15 – 10:45 - Setting the stage: The history of solid waste in Alabama

- Presenter: Phil Davis, ADEM
- Discuss the development of the current legislation and grant funding

10:45 – 11:00 - Recycling 101: Terms, equipment and material specs

- Presenter: Keefe Harrison, SERDC
- Setting the foundation for the day's discussion, as well as for grant planning

11:00 – 11:30 - Understanding the markets: How to put the numbers to work for your program

- Presenter: Keefe Harrison, SERDC
- Overview of where to find pricing information, how those numbers should work for a program and understanding the long-term picture of markets

11:30 – 12:00 - Outline of a successful program: Short and long term goals for program development

- Presenter: Keefe Harrison, SERDC
- Provide guides for programmatic growth

12:00 – 12:30 - Break, pick up lunch

12:30 – 1:00 - Working lunch: EPA to overview their Municipal Government Toolkit

- Huntsville & Birmingham Presenters: Angela Bivens and Karen Bandhauer, EPA Region 4
- Montgomery & Mobile Presenters: Rhonda Rollins and Jay Bassett, EPA Region 4

1:00 – 1:45 - Building participation: Boosting participation for cost-effective collection

- Presenter: Keefe Harrison, SERDC
- Overview the importance of public information. Highlight communication with elected officials.

1:45 – 2:00 - Break

2:00 – 2:30 - Local highlights

- January 8, Huntsville: Lesa Bellin from Guntersville, AL
- January 9, Birmingham: Susan Carmichael from Montgomery, AL
- January 15, Montgomery: Susan Carmichael from Montgomery, AL
- January 16, Mobile: April Westervelt from Fairhope, AL

2:30 – 3:00 - Grant writing 101: Exactly how to write the grant

- Presenter: Gavin Adams, Montgomery & Birmingham locations. Dee Northcutt, Huntsville & Mobile locations.

After discussing the grant process, we'll use the remaining time to further discussion or answer questions.



Who is SERDC?

The Southeast Recycling Development Council (SERDC) is a 501c3 organization established in early 2005. SERDC's mission is to unite industry, government, and non-government organizations to promote sustainable recycling in the Southeast. We are comprised of members from 11 states including: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia—united to develop and promote sustainable recycling programs.

Our goals are to:

- Increase collection and recovery of quality recyclable materials
- Foster economic development via the recycling industry
- Create a greater awareness of the recycling industry's impact in the Southeast
- Foster communications amongst all stakeholder groups

SERDC is committed to be the regional leader in joining all levels of government with industry, trade associations, and state recycling organizations to make the Southeast the national model and example of sustaining long-term successful recycling programs. The resources we have at hand are vast and exemplary; they only need to be pooled and united to make the southeastern U.S. the leader in the nation.

History of Waste in Alabama

Solid Waste Program History & Major Milestones

- 1969 – Solid Wastes Disposal Act: first statewide legislation on solid waste
- 1982 – Environmental Management Act: created ADEM and consolidated environmental programs
- 1989 – Solid Wastes Disposal Act amendments: state and local SWMP's; local approval
- 1991 – State Solid Waste Management Plan: data resource; numerous recommendations
- 1993 – RCRA Subtitle D: minimum federal requirements for landfills; regionalization
- 2003 – Scrap Tire Environmental Quality Act: SWMP recommendation; imposed fee
- 2008 – Solid Wastes & Recyclable Materials Management Act (SWRMMA)

Solid Waste Program Overview

- Manages permitting and compliance programs for solid waste landfills in Alabama
- Investigates and takes enforcement actions against illegal and unauthorized solid waste disposal sites
- Under recent legislation, will regulate recovered materials facilities (i.e. recycling) and oversee remediation of illegal disposal sites

Regulated Universe

- 176 permitted landfills
- 31 municipal solid waste
- 54 industrial waste
- 91 C/D waste
- ≈ 300 closed landfills
- More than 300 open dump complaints
- Unknown number of recycling facilities

ADEM Solid Waste Staffing

Technical Staffing

- 9 environmental scientists
- 4 environmental engineers
- 2 geologists

Administrative Staffing

- 1 branch chief
- 1 engineering section chief
- 1 materials management section chief
- 1 enforcement/remediation section chief
- 2 attorneys

Solid Wastes & Recyclable Materials Management Act

- Drafted by ADEM staff and introduced in 2008 Legislative Regular Session
- Compilation of previous legislative efforts and recommendations of 1991 State Solid Waste Management Plan
- First statewide legislation passed in 2008
- Signed into law by Governor Riley in mid-April

Major Purposes of SWRMMA

- Provide stable funding for ADEM Solid Waste program
- Establish a grants program to encourage local recycling efforts
- Provide fiscal resources to clean up unauthorized dumps
- Establish a statewide waste reduction and recycling goal

SWRMMA Disposal Fees

- \$1.00/ton fee on MSW disposed in Alabama
- \$1.00/ton or \$0.25/cy on C/D, industrial wastes
- This is a *DISPOSAL* fee -- it does not apply to recycled, reused, or recovered materials
- It DOES apply to all solid wastes disposed of in Alabama landfills, regardless of whether the waste is subject to any other disposal fees

Fee Collection

- Fee collection by the Alabama Department of Revenue
- Effective October 1, 2008
- First quarterly payment due January 20, 2009
- Volumes reported to ADoR for fees should match volumes reported to ADEM
- SWRMMA authorizes cost recovery by landfills

SWRMMA Revenue & Distribution

Fee will generate ≈\$7.6 million based on 2007 reported disposal volumes

- \$3.4 MM (45%) for ADEM Solid Waste & Recycling regulation, education, and outreach
- \$1.9 MM (25%) to establish and enhance local recycling programs
- \$1.9 MM (25%) to clean-up UADs for innocent landowners
- \$380 k (5%) to LF operators and ADoR for administrative costs

ADEM Program Enhancements

- Increase permitting staff and geologist support
 - Improve application reviews
 - Decrease processing time
- Increase number of compliance inspections
 - Currently once per year for all permitted landfills
- Increase to quarterly for MSWLFs
- Semi-annually for C/D and industrial LFs
- Annually for closed landfills, subject to post-closure care
- Improve solid waste compliance
 - Provide for more timely & appropriate enforcement

Alabama Recycling Fund

- Provides grants to local governments and non-profits to develop, implement, and enhance recycling and waste minimization projects
- Regulations adopted by EMC on December 12
- Highlights of final regulations:
 - Annual March 1 grant application deadline
 - Local SWMP must be current to be eligible
 - Two categories of applications based on number of effected households in proposed project

Other Requirements of SWRMMA

- Landfill operator certification required by April 2010
- Post-closure permitting for closed landfills
- Regulation of composting and recycling facilities
- A biennial report on ADEMs implementation of the Act

For More Information

Phil Davis, Chief - Solid Waste Branch
Phone: (334) 271-7755
E-mail: pdd@adem.state.al.us
Recycling@adem.state.al.us

Recycling 101 – Important Terms

Important Recycling Terms – The bulk of this list was adopted from Kentucky DEP Division of Waste Management’s *Community Recycling Guide* found at www.waste.ky.gov/recycling

Coding – In the context of solid waste, coding refers to a system to identify recyclable materials. For example, the coding system for plastic packaging utilizes the “three chasing arrows” with a number in the center and letters underneath. The numbers and letters indicate the resin from which each container is made:

- 1 = PETE (polyethylene terephthalate)
 - 2 = HDPE (high density polyethylene)
 - 3 = V (vinyl)
 - 4 = LDPE (low density polyethylene)
 - 5 = PP (polypropylene)
 - 6 = PS (polystyrene)
 - 7 = Other/mixed plastics
- This code is designed to help sort for recycling.

Collection – The act of obtaining used materials from residential and business sources and hauling them to a facility for processing.

Composite Packaging – In the simplest sense, any type of packaging constructed of more than one material. Also may include some packages composed of multi-layered material.

Contaminant – Any substance that causes other substances to be unfit for use by the introduction of unwholesome or undesired elements. For example, ceramic is a contaminant to be avoided when recycling glass.

Cullet – Furnace-ready, crushed glass, usually added to new raw material to facilitate melting when making glass.

Densify – To reduce recyclables’ volume, by compacting, crushing, baling, or other means. This allows for more efficient storage and transportation.

Detinning – The process of removing the thin coating of tin on steel food cans. This process can be done optionally prior to steel can scrap being recycled.

End User – Mills and other industrial facilities where secondary materials are converted into new materials. Examples include paper mills, steel mills, detinners, and glass manufacturing plants.

Flake – When plastic bottles are collected for recycling they are sorted, ground into small flakes of material, and washed.

Feedstock – A processed material used in manufacturing, which is also called “furnish” for paper mills.

Ferrous Metal – Metal containing iron. Ferrous metals, such as steel, will stick to a magnet.

Generator – An individual, company, organization, or activity that produces wastes or secondary materials.

Market – (1) A firm or operation purchasing secondary materials. (2) The available supply of or demand for goods containing recycled materials. **Intermediary Market** – Scrap dealer, recycling operation, and /or processor that purchase secondary materials from collectors for sale to an end user.

Materials Recovery – A mechanical or labor-intensive process that separates out reusable and recyclable materials such as plastics, metals, glass, and certain grades of paper for the purpose of beneficial reuse.

Mill Scrap – Material generated during primary material manufacturing that is often reused at the point of generation. Also called “Post-industrial Waste”.

Non-Ferrous Metal – Metal that does not contain iron, such as aluminum, copper, or zinc.

OCC – Old Corrugated Cardboard – The official term given to cardboard in the recycling process.

ONP – Old Newsprint – The official term given to newspaper in the recycling process.

Office Paper – Used paper generated by offices, including stationery and copy paper.

Pellet – After recovered plastic bottles are ground into flake and washed, the flakes are often melted into pellets for use by manufactures in creating new goods.

Post-consumer Waste – Materials generated by the final consumer (residential or non-residential) after it has served its intended use and has been collected for reuse or recycling. The term does not include those materials and by-products generated from and commonly used within an original manufacturing process.

Primary Material – Virgin or new material used for manufacturing basic products.

Processor – A part of the recycling business cycle where operators store, grade, clean, densify, or package secondary materials for sale to an end user.

Raw Material - An unprocessed natural resource, a processed secondary material, or a product used in manufacturing.

Reclamation – The process of restoring material found in the waste stream to usefulness or productivity. Reclaimed materials may be used for purposes different from their original use.

Reduction – see “**Waste Reduction.**”

Recyclable – The technical ability of a material to be reused in manufacture.

Recycled Content – Percentage of recycled material used to manufacture a product.

Recycling – The diversion of materials from the solid waste stream and the beneficial reuse of such materials. Recycling is further defined as the result of a series of activities by which materials that would become or otherwise remain waste are diverted from the waste stream for collection, separation, and processing. These materials are used as raw materials or feedstock in lieu of or in addition to virgin materials in the manufacture of goods sold or distributed in commerce or the reuse of such materials as substitute for goods made from virgin materials.

Roll-off – A bulk container for holding waste materials. Small roll-offs are picked up and emptied into a waste disposal truck; large ones are mechanically pulled into a roll-off bin truck, trailer, or transfer trailer.

Secondary Materials – All types of materials handled by dealers and brokers that have fulfilled their original function and usually cannot be reused in their present form or at their present location. Also includes materials that occur as waste from manufacturing or conversion of products.

Separation – Sorting material by its physical properties, including color, luster, size, shape, or other surface characteristics.

Shred – To cut or tear into long narrow strips. Cans and paper are often shredded.

Solid Waste Stream – The total flow of solid waste from homes, businesses, institutions, and manufacturing plants.

UBC – Used beverage containers.

Virgin Materials – Any basic materials for industrial processing or manufacturing that have not been previously used.

Waste Reduction – Products or policies that reduce the amount of waste that must be disposed in landfills, incinerators, or waste-to-energy facilities.

Recycling 102: Material collection specifics by commodity

Effectively and responsibly managing a recycling program is greater than buying a baler and tossing in materials. Many communities decide to partner with a commingled collection-based MRF to avoid in-house processing of recyclables. Other communities feel their programs function most efficiently when they can market sorted material directly to a recycler. This material handling guide will help you determine how best to manage your materials. Much of this information is reprinted from Mississippi's material handling guides found online. www.recyclenet.net can be another valuable resource.

Aluminum

Used beverage containers (UBCs) are typically flattened, then baled or compressed into bales, densified into biscuits, or blown into trailers for loose shipment. It is very important that aluminum cans be free of contaminants before further processing. Contaminants to aluminum cans include iron, lead, foil, other metals, paper, plastic, glass, and dirt. Non-container aluminum such as pie pans and frozen food trays should not be processed with aluminum cans. They are considered a contaminant.

Curbside Value Partnership's Steve Thompson reports that the Southeast is fortunate to be home to nearly all of the melting facilities in the U.S. for UBC. This helps Alabama recyclers because these plants want to purchase UBCs from as close to home as possible. Prices move in a fairly constant relationship to virgin prices and are always higher than any other recyclable commodity, sometimes fetching more than \$1.00 per pound.

Possible equipment needs for managing aluminum:

Can Sorter - Aluminum cans should be run through a can sorter to remove debris and ferrous metals. The cans are fed into a hopper and carried up a conveyor belt. Cans are carried past a magnetic device that efficiently removes any steel cans in the material and sorts them into a separate container from the aluminum cans.

Can Handler Basket - These are steel-framed units with nylon netting to contain the aluminum cans. They can generally be purchased with small wheels so they can be rolled from the can sorter to the scales and then to the can flattener/blower.

Can Flattener/Blower - This is a device that aluminum cans pass through in order to flatten the cans to save space. A blower attachment can also be used in order to blow the flattened cans

into a tractor-trailer. They generally weigh several hundred pounds and have a footprint of about 5' X 10'.

Scales - Scales are a necessity if paying out money to individuals bringing cans in for sale. Scales that measure up to 1,000 lbs are the recommended minimum.

Densifier or Baler - Aluminum cans that are not blown into a tractor-trailer can be densified or baled using one of several types of equipment. Some densifiers can compress several hundred pounds to several thousand pounds per hour. Aluminum cans can be baled using a vertical or horizontal baler or specially manufactured can densifiers. Vertical balers can do the job, but look at the specifications extremely close. The stroke of the vertical baler must be of sufficient length to ensure proper compaction of the cans, otherwise the bale may fall apart when removed from the baler. A horizontal baler can produce a fine bale of aluminum cans and would be preferable over that of a vertical baler. The specially designed can densifiers produce a 35-45 lbs./cubic foot brick that allows efficient loading of a tractor trailer or railcar.

Trailer - Forty-five or forty-eight foot van type trailer. Trailer should be in clean and in good condition with swing out type doors.

Can Conveyor - Aluminum cans should run over a conveyor so that personnel can remove debris and contaminants. The cans are then fed into a hopper and carried up a conveyor belt. Cans move across a magnetic head pulley that efficiently removes any steel cans and diverts them into a separate container from the aluminum cans.

Glass

Glass containers are 100% recyclable. The grades of glass include the following:

- Clear (flint)
- Brown (amber)
- Green (emerald)
- Mixed colors

The contamination issues for glass are straightforward. If colors are not kept separated, there may not be as strong a market for the materials. In addition, other contaminants that can cause problems marketing glass include ceramics, mirrors, rocks, cement, metals, window or plate glass, light bulbs or tubes, cookware, drinking glasses, automotive glass, and medical waste glass. Glass must also be kept away from paper and corrugated boxes because broken glass can get imbedded into the paper and cause quality control problems at the paper mill.

Glass is best handled as a bulk material, hauled in the largest loads possible. Typically that means storing glass in large outdoor bunkers (on a concrete pad) until at least 20 or so tons are accumulated. The most efficient transport is then with an aggregate dump trailer, most often used for handling rock and gravel.

A bunker system is a good investment for any community that handles its own glass. A front end loader is usually also necessary for the loading of glass over the high tops of the dump trailers.

Paper

Paper products including old newsprint (ONP), old corrugated cardboard (OCC), sorted office paper (SOP), and mixed office paper are most often baled. Each buyer of recovered fiber may have individual requirements for bale weights and dimensions or quantity accepted in a tractor-trailer.

Quality control is very important in processing most papers for recycling. Generally the buyer of paper fiber will be interested in the baled weight, moisture content, and contaminants.

Moisture content is generally limited to 10% or less. Special equipment is available to check moisture content, but the buyer will generally determine the need for such testing. Since paper is most often bought by the ton, high moisture content would mean that the buyer is paying too much for a load of wet paper.

Contamination is also a serious issue with paper processing. Contaminants to paper are known as outthrows and prohibitive materials. Outthrows are usually paper of a different type, a small percentage of which may be acceptable. It all depends on the grade of paper you are attempting to generate. Outthrows are limited to 2% contamination. Prohibitive materials are usually non-paper items such as metals, plastics, glass, and dirt. Prohibitive materials are often limited to .5% contamination. Sunlight and rain can degrade baled paper stored outside.

Plastic

When collecting and processing PETE and HDPE plastic bottles, several contamination issues need to be considered. These are incompatible resin types, dirt, pumps, hazardous products, and incompatible grades.

An example of incompatible types would be PVC in a PETE line. Although both containers are

similar in look, they are definitely not compatible. When PETE is being melted down for production of pellets or fiber, any PVC in the batch can cause major problems with equipment since PVC melts at a different temperature than PETE. Learn what comes in PVC containers and make sure they do not mix with PETE being baled. Examples of PVC containers may include translucent pharmaceutical bottles, imported mineral water bottles, salad dressing bottles, and cooking oil bottles. Check the code on the bottom of the container. PVC bottles are marked with a "3."

Contamination such as dirt, trash, caps, lids, and pumps are items that need to be monitored during the processing of plastics. Contact the buyer to see what contamination levels they can live with and work to keep it at or under that level. Often this is an educational process with the consumers who are recycling these products. They need to be taught what is acceptable and what needs to be thrown away. Depending on the facility, these contaminants will often be left behind on the conveyor after all other plastics are picked off. The exception would be when the caps, lids, and pumps are not removed from the container prior to recycling, which then requires the recycler to remove these items, therefore slowing down the process. Don't store baled plastics directly on the ground since dirt and rocks will lodge in the bales and become a contamination issue.

Contamination because of incompatible grades is generally limited to HDPE plastics. An example is HDPE milk jugs and HDPE ice cream containers. Both are marked HDPE on the bottom of the container, but are not compatible grades and should not be baled together.

The reason is HDPE can be both blow molded into bottles and injection molded into tubs. The two resins are different in their melt flow index. This can get complicated, so the easiest thing to remember is only accept plastic bottles and not plastic tubs. Incompatible grades can also apply to the color of the plastics depending on the end-use of the material. This color sorting can impact the price you'll receive for your plastic bales. PET is mostly clear, but there is more and more colored PETE coming on the market and the trend is for increasing amounts of colored PETE.

HDPE comes in numerous colors. The highest grade of HDPE is the non-pigmented (opaque) plastic. It also brings the highest dollar value of the HDPE plastics. HDPE that is white, blue, green, red, or any other color is considered pigmented HDPE and carries with it less value. Color sorting the materials will bring a higher value for the bale, while a mixed bale of sorted color is of least value. Check with the buyer before getting started.

PETE PLASTIC (#1) PROCESSING

PETE - Polyethylene Terephthalate PETE bottles consist of soda and custom plastic bottles including:

- clear and green soft drink bottles
- clear and green liquor bottles
- some cooking oil containers
- some coffee containers
- some small water containers

Approximately 25 cubic yards (16 Gaylord boxes) of PET bottles will equal an 800-pound bale of plastics.

Bales must be:

- clean and dry
- secured with 10-gauge galvanized baling wire
- stored out of the sunlight and weather
- loaded, shipped, handled, and stored maintaining integrity
- dense (at least 10 lbs. per cubic foot)
- a standard size

When loading tractor trailers for shipment remember:

- stack bales properly to facilitate unloading
- load 40,000 lbs., smaller loads with pre-approval
- note trailer number on Bill of Lading
- truck driver must sign the B.O.L.
- inform buyer of the approximate load weight to avoid freight chargebacks

Unacceptable Bales

All bales of material must not exceed 2% contamination. Contamination in this case includes all of the following:

- any PVC bottles
- any other type of plastic (HDPE, LDPE, PP, PS)
- other PET plastic that is not specified above, i.e. scoops, tubs, etc.
- material that has deteriorated due to sunlight
- dirt and mud
- stones, grease, and glass
- excessive paper
- free flowing moisture (i.e. motor oil, cooking oil, water, detergent, or any other liquid)
- any bales that cannot be processed
- bottles of hazardous material or residue

- bottles that contained pesticides or herbicides
- medical waste

HDPE PLASTIC (#2) - Natural Colored Bottle Processing

HDPE - High Density Polyethylene - Natural Colored Bottles

HDPE natural bottles consist of post-consumer, blow molded, translucent bottles with necks.

This grade of plastic consists of:

- milk containers (natural)
- some juice containers
- some water containers

Bottles should be rinsed with caps or closures removed.

Approximately 40 cubic yards (25 Gaylord boxes) of HDPE bottles will equal an 800-pound bale of plastics.

Bales must be:

- clean and dry
- secured with 10-gauge galvanized baling wire
- stored out of the sunlight and weather
- loaded, shipped, handled, and stored maintaining integrity
- dense (at least 10 lbs. per cubic foot)
- a standard size

When loading tractor trailers for shipment remember:

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- inform buyer of the approximate load weight to avoid freight chargebacks

Unacceptable Bales

All bales of material must not exceed 2% contamination. Contamination in this case includes all of the following:

- any other type of plastic (PETE, PVC, LDPE, PP, PS)
- other HDPE plastic that is not specified above, i.e. detergent bottles, tubs, etc.

- material that has deteriorated due to sunlight
- dirt and mud
- stones, grease, and glass
- excessive paper
- free flowing moisture (i.e. motor oil, cooking oil, water, detergent, or any other liquid)
- any bales that cannot be processed
- bottles of hazardous material or residue
- bottles that contained pesticides or herbicides
- medical waste

HDPE PLASTIC (#2) - Mixed Colored Bottle Processing

HDPE - High Density Polyethylene - Mixed Colored Bottles

HDPE pigmented bottles consist of post-consumer, blow molded, bottles with necks.

This grade of plastic consists of:

- detergent bottles
- some juice containers
- pigmented milk containers (yellow or white)
- some shampoo bottles
- well-drained motor oil bottles

Bales must be:

- clean and dry
- secured with 10-gauge galvanized baling wire
- stored out of the sunlight and weather
- loaded, shipped, handled, and stored maintaining integrity
- dense (at least 10 lbs. per cubic foot)
- a standard size

When loading tractor trailers for shipment remember:

- stack bales properly to facilitate unloading
- load 40,000 lbs., smaller loads with pre-approval
- note trailer number on Bill of Lading
- truck driver must sign the B.O.L.

Unacceptable Bales

All bales of material must not exceed 2% contamination. Contamination in this case includes all of the following:

- any other type of plastic (PETE, PVC, LDPE, PP, PS)
- other HDPE plastic that is not specified above, i.e. tubs, etc.
- material that has deteriorated due to sunlight
- dirt and mud
- stones, grease, and glass
- excessive paper
- free flowing moisture (i.e. motor oil, cooking oil, water, detergent, or any other liquid)
- any bales that cannot be processed
- bottles of hazardous material or residue
- bottles that contained pesticides or herbicides
- medical waste

Equipment for Processing Plastics

Several pieces of equipment may be necessary for processing plastics:

- Plastic Perforator/Flattener - This piece of equipment will simultaneously perforate and flatten containers. This can be important since it will often reduce the time it takes to bale plastics and improves the integrity of the baled plastic. It improves the baled plastic because the bale no longer contains any appreciable amount of trapped air in the containers. This can be important on a hot day when those bottles that are not perforated begin to expand from the hot air trapped inside putting additional pressure on the bale wire. If sufficient size or quantity of bale wire is not used, the bottles can expand to the point that the bale breaks open.
- Baler - PETE and HDPE bottles should be baled in a horizontal baler if possible. Horizontal balers will do the best job and should be considered strongly if you can afford the cost. Vertical or downstroke balers can do the job, but you'll need to look at the specifications on the baler very carefully. The stroke of the vertical baler must be of sufficient length to ensure proper compaction of the plastic bottles in order to get a sufficient bale weight. If a vertical baler must be used for plastics, acquire one that has at least 90,000 psi platen pressure to ensure plastic bales of 650 pounds or greater. A horizontal baler can easily provide bales in excess of 700 pounds or larger, which is what brokers and end-users prefer.

Several things to keep in mind while baling plastics include how much plastic is needed to make a bale, how much bale wire is needed per bale, where can baled plastics be stored, and how much plastic is needed for a typical truck load.

It takes 15 cubic yards of plastics to make a 700-pound bale. Typically, 22 Gaylord boxes (3' X 3' X 4') of uncrushed plastic bottles will produce a 700-pound bale. These numbers will change some since PETE and HDPE are of a different weight.

It will take a minimum of six bale wires per bale of plastic. The bale wire should be 10-gauge to reduce the chances of the wire breaking. Double up on 12-gauge wire if 10-gauge is unavailable.

Plastic bottles will degrade while unprotected outside. The following is the maximum time to leave bales of plastics outside in the weather and sunlight:

- PETE - six months
- HDPE – one month
- PVC – six months
- LDPE - one month
- PP - one month
- PS - six months

The typical truckload of plastics will be around 40,000 pounds. It is important that the baler can produce bales of at least 600 pounds or greater due to the limited number of bales that can be placed on a tractor-trailer. If additional capacity is needed, request a 53-foot trailer. Density of bales is very critical. The target is 10 to 15 pounds per cubic foot.

Steel

Steel containers and cans generally include food containers, aerosol containers, and paint cans. Steel containers and cans are typically flattened, then baled or compressed into biscuits. It is very important that steel containers and cans be free of any contaminants before further processing.

Steel mills are generally tolerant of small levels of foreign matter, but processors should guard against contaminants as much as possible. Contaminants to steel containers and cans include liquids (paint and other residues), dirt, mud, plastics, and other debris. Paper labels and plastic nozzles from aerosol containers are not much of a concern since they are burned off in the extreme high temperatures of the steel furnace. Paint cans that have a thin skin of dry paint on the sides and bottom are acceptable, as is the paper label. Processed steel containers and cans should be free of other ferrous scrap metal.

The processing of steel containers and cans for recycling will generally require the purchasing of some of the following equipment:

Can Sorter - Often times steel cans are collected commingled with aluminum cans and should therefore be run through a can sorter. The cans are fed into a hopper and carried up a conveyor belt. Cans are carried past a magnetic device that efficiently removes the steel cans from the aluminum cans and puts them into a separate container from the aluminum cans.

Can Handler Basket - These are generally round steel-framed units with nylon netting to contain the steel containers and cans. They can generally be purchased with small wheels so they can be rolled from the can sorter to the scales and then to the baler.

Scales - Scales are a necessity if the facility will be paying out money to individuals bringing cans in for sale. Scales that measure up to 1,000 lbs. are the recommended minimum.

Baler - Steel containers and cans should be baled in either a vertical or horizontal baler. Vertical balers can do the job but the specification on the baler will need to be carefully reviewed. The stroke of the baler must be of sufficient length to ensure proper compaction of the containers and cans, otherwise the bale may fall apart when removed from the baler. A horizontal baler can produce a fine bale of steel containers and is the recommended equipment for this activity. Local markets for steel will general accept the material either whole, loose, flattened, or baled, so exact specifications are not required. Marketing steel materials directly to the steel industry is a different matter and may require specific bale sizes and weight.

Recycling 103: Equipment

The equipment needed for a recycling program varies greatly from one town to another. The information listed below overviews many of the more common pieces. The prices listed are provided for comparison only and should not be used for developing quotes or grant applications. Please contact vendors specifically for actual quotes.

Mississippi also maintains a directory of Recycling Container and Trailer Manufacturers: deq.state.ms.us/MDEQ.nsf/page/Recycling_RecyclingContainerTrailerManufacturersWebsites

Eighteen-gallon curbside recycle bins

- These bins average \$7.50 each.
- Weekly collection needed to prevent overflow and keep participation rate high.
- Will typically not hold a household's weekly recycling supply, so many times two bins per household are necessary.

Sixty-five-gallon capacity rolling carts

- These containers average \$45.00 each.
- Some, but not all, are designed for use in automated collection systems.
- Can be used in drop-off situations and collection of material from commercial or institutional sources, as well as residential.

Ninety-five-gallon carts

- These bins often cost \$65.00 each and are the largest size of roll carts.
- Some, but not all, are designed for use in automated collection systems.
- Can be used in drop-off situations and collection of material from commercial or institutional sources, as well as residential.

Six-yard-dumpsters

- Average about \$800.00 each.
- Need a front-load compactor truck to empty.

Eight-yard-dumpsters

- These containers cost around \$1,000.00 each.
- Need a front-load compactor truck to empty.
- Some programs choose to lease rather than buy this type of equipment.
- Communities often rely on open top or side open eight-yard collection dumpsters to collect sorted material.

- If these containers are used for collecting cardboard, boxes must be properly broken down to avoid overflow

Forty-yard roll-off containers

- These containers can often be compartmentalized to accept multiple types of materials.
- Many programs choose to lease rather than buy this type of equipment.

Forklifts

- Sell for the high \$20,000 range, but usually there is a good market for used forklifts that cost less.
- Programs that use Gaylord containers or other containers on pallets should have a forklift or a pallet jack.
- Forklifts can use different fuels or electric power depending where they are used. Typically, electric or propane driven forklifts are best for indoor uses.

Bobcat steer loaders

- These generally sell for something like \$38,000.
- Can be fitted with forklift blades and other front attachments that allow covering different material handling needs

Gaylords

- These boxes generally sell for \$5.00 to \$7.00.
- A Gaylord box is 48" x 40" x 36" and fits neatly on a standard pallet.
- In covered facilities, these large, reusable cardboard boxes can be effective and inexpensive collection tools.

Trailers

- Trailers vary in price, often between \$5,000 and \$25,000 a piece.
- Recycling trailers are available in a variety of styles and sizes, including basic bin style, removable multiple bins, and hydraulic compaction trailers.
- Facilities who manage their own sorting floor often use compartmentalized trailers that can be hauled by a pick-up truck with a standard hitch.
- Trailers often work well for special event recycling.

Vertical balers

- These balers often sell in the \$11,000 - \$12,000 range. Look for good used models for less.
- Vertical balers are most often used for easily compactable materials such as cardboard.
- Sometimes, paper dealers will set balers at no cost at a recycling facility in exchange for the discounted cardboard or other materials. If you have no means to buy a baler, it is a good idea to check with local processors.

Horizontal balers

- These balers often sell in the \$30,000 - \$75,000 range.
- Programs that plan to bale plastics often need the compaction ability of a horizontal baler.
- More advanced versions, including auto-tie single-ram balers, often range from \$100,000 - \$200,000.

Feed conveyors for balers

- These balers often sell in the \$18,000 - \$30,000 range.

Simple single-stream systems without the baler

- This system often costs programs something in the range of \$1.8 million.
- Approved for low-volume rated equipment only.

Complete glass crushing systems

- The equipment for this process often costs near \$160,000. Smaller systems can be quite a bit cheaper, but will deliver a less-quality product.

Platform scale

- These small scales generally run \$1,500 to \$3,000.
- They are appropriate for weighing bales and Gaylord containers of materials.

Drive-over truck scales

- These scales often cost \$23,000 – \$29,000, not including installation.

Understanding Local Markets

The term “markets” has several different meanings. From a community standpoint, it could be the access to a Material Recovery Facility (MRF) or material processor who will buy the commodity and put the material into the recycling process. But that company who buys material will base their prices off the market. And then of course there is the end market – the final home for that recycled material.

Why should I consider markets from the get go?

Before you work to expand your recyclable collection, be sure you know where your material will end up. That will help guide your program’s operations and material collection decisions. You’ll only want to accept recyclables that you can quickly move through to a processor.

Transportation is an issue, too. Knowing where your markets are can help you answer some important questions such as: How must my material be prepared? Will I need a baler? What types of trucks, trailers, or equipment are required? Will the market pick up materials or must my program deliver them? Where is the price of the material set – at pick-up or delivery?

Talking to your nearest MRF and neighboring programs will help you understand what resources are available to you.

How do I know if I’m getting a good price?

First, take a look at current market prices and reflections published in journals like *Waste News*¹ and *Resource Recycling*². Both offer regular updates on material prices paid, generally by bale price. SCRAPindex.com and recyclenet.net can also be good resources. The Official Board Markets “Yellow Sheet” is the main source of paper pricing. It is expensive for a community, but often prices are pegged to those numbers. For instance, you may receive a quote that says, “90% of Yellow Sheet for OCC.”

Then call a recycler of a specific commodity and ask specific questions. Many buyers of commodities will work with you to help your program increase efficiency, co-op (or partner) with neighboring communities, or improve collection technique. How do you find a recycler near you? Contact one of the following commodity groups for a listing of processors in your area:

- **Glass Packaging Institute (GPI):** www.gpi.org
- **Association of Postconsumer Plastic Recyclers (APR):** www.plasticsrecycling.org
- **American Forest and Paper Association (AF&PA):** www.afandpa.org
- **Institute of Scrap Recycling Industries (ISRI):** www.isri.org
- **Steel Recycling Institute (SRI):** www.recycle-steel.org

¹ Waste News: www.wastenews.com

² Resource Recycling: www.resource-recycling.com

What should I ask a potential recycling partner?

EPA WasteWise³ suggests that recycling programs ask potential buyers of recyclables the following questions:

- What types of recyclables will the company accept, and how must they be prepared?
- What contract terms will the buyer require?
- What type of contract will be required?
- Who provides transportation?
- What is the schedule of collections?
- What are the maximum allowable contaminant levels, and what is the procedure for dealing with rejected loads?
- What are the maximum allowable levels for food, chemicals, or other contaminants?
- Are there minimum quantity requirements?
- Where will the waste be weighed?
- Who will provide containers for recyclables?
- Can "escape clauses" be included in the contract?

Considerations for each of these questions can be found at: wastewise.tms.icfi.com/plan/feasible.htm

Recy-culator

Looking to justify your recycling program? Maybe the Recy-culator from Curbside Value Partnership can help! Just type in some basic collection and community information (or even goals!), and this free tool can help estimate:

- Money saved
- Landfill space reserved
- Trees not harvested
- Energy conserved
- Gas reserved

Put this free tool to work for your program by visiting:
www.recyclecurbside.org/content/u/recy-culator

³ EPA WasteWise: www.epa.gov/epawaste/partnerships/wastewise/index.htm

Looking for markets?

Remember it may be in your best interest to partner with a neighbor.

Baldwin County Transfer Station
1071 N. Holly St.
Loxley, AL 36551
(251) 988-8125

Smith Center
926 Selma Highway
Prattville, AL 36067
(334) 365-4054

National Gypsum Company
4811 US Highway 78 West
Oxford, AL 36203
(256) 831-6900
Paper products only

Red Hot Recycling
6989 US Highway 78 East
Anniston, AL 36207
(256) 831-0310
Metal and car parts only

Specialty Recycling Service
PO Box 587
Bynum, AL 36253
(256) 831-7530

Magnolia Landfill
15140 County Road 49
Summerdale, AL 36580
(251) 988-8125

Waste Recycling Inc of Anniston
PO Box 2614
Anniston, AL 36202
(256) 236-1991

Hamby Salvage Inc
4225 Veterans Memorial Parkway
Lanett, AL 36863
(334) 576-211
Many types of metals

Recycle America of Birmingham
Notes 9 S. 41st St.
Birmingham, AL 35222
(205) 591-8201

Valley Recycling
PO Box 774
Valley, AL 36854
(334) 756-9199

Clanton Recycling Center
810 Furniture Ave.
Clanton, AL 35046
(205) 755-8769

Clay County Recycling Center
86838 Highway 9
Lineville, AL 36266
(256) 276-0297

Tennessee Valley Recycling
700 W. 20th Court
Sheffield, AL 35660
(256) 381-7145

Pugh and Son Inc
County Road 29
Evergreen, AL 36401
(251) 578-4457
Metals only

Andalusia Recycling Center
301 Progress Drive
Andalusia, AL 36420
(334) 222-0862

Regional Recycling
1124 Union St.
Selma, AL 36701
(334) 874-9610
Metals only

Wesson Recycling
3196 Notasulga Road
Tallasse, AL 36078
(334) 283-8238

S P Recycling Corporation
200 7th St. West
Birmingham, AL 35204
(205) 788-323

Wetumpka Recycling Center
205 E. Charles Ave.
Wetumpka, AL 36092
(334) 567-1334

Giant Resource Recovery
1229 Valley Drive
Attalla, AL 35954
(800) 637-4023

Fayette County Recycling Center
511 6th St. Southeast
Fayette, AL 35555
(205) 932-7461

Waste Recycling Inc.
PO Box 9821 County Road 10
Dothan, AL 36304
(334) 983-4522

Amerisouth Recycling Inc
501 6th St. South
Birmingham, AL 35233
(205) 320-1007

Corporate Recycling Services
PO Box 380174
Birmingham, AL 35238
(205) 699-2130
Accepts mostly paper

Blount Recycling LLC
928 County Line Road
Trafford, AL 35172
(205) 647-3200
Accepts metals & tires

Birmingham Recycling
PO Box 320205
Birmingham, AL 35232
(205) 326-0005

Tech Birmingham
505 20th St. North Suite 230
Birmingham, AL 35203
(205) 241-8131
Electronics only

Vulcan Recycling 2520 2nd St. West Bldg 10 Birmingham, AL 35204 (205) 323-3400	Florence Recycling Center 201 Railroad Ave. Florence, AL 35630 (256) 760-6463	Waste Recycling Inc of Opelika PO Box 363 Opelika, AL 36803 (334) 845-2921
Evergreen Recycling Center PO Box 216 New Hope, AL 35760 (256) 725-4711	Athens-Limestone Recycling Center 15896 Lucas Ferry Road Athens, AL (256) 233-8746	BFI - Huntsville 1004 A Cleaner Way Huntsville, AL 35805 (256) 881-2347
Huntsville Recycled Fibers 205 Wholesale Ave. Huntsville, AL 35811 (256) 533-9888 Paper Only	Guntersville Recycling Center 3450 Wyeth Mt. Road Guntersville, AL 35976 (256) 571-7598	BFI - Mobile 3720 Varner Drive Mobile, AL 36616 (334) 666-5724
Alabama Recycling 4040 Northern Blvd. Montgomery, AL 36110 (334) 277-0032	Newark Group 1750 9th St. Bldg 44 Brookley Complex Mobile, AL 36615 (334) 432-1000 Paper Only	Mobile, City of - Metro Recycling 1451 Government St. Mobile, AL 36604 (251) 478-3333
BFI - Montgomery 1121 Wilbanks Montgomery, AL 36108 (334) 834-5580	EPSI - Earth Protection Services Inc 1400 Coliseum Blvd. Montgomery, AL 36110 (334) 271-7993 Batteries, CPU, Ballasts, Etc.	Montgomery, City of - Sanitation 934 N Ripley St. PO Box 1111 Montgomery, AL 36101 (334) 241-2925
McInnis Recycling 4341 Norman Bridge Road Montgomery, AL 36105 (334) 281-6888	United Plastic Recycling PO Box 11671 Montgomery, AL 36111 (334) 288-5002	Southeast Recycling Corporation PO Box 4334 Montgomery, AL 36104 (334) 514-2666
Childersburg Recycling Center 118 6th Ave. Southwest Childersburg, AL 35044 (256) 378-5521	Childersburg Recycling Center 118 6th Ave. Southwest Childersburg, AL 35044 (256) 378-5521	Troy Recycling Center PO Box 549 Troy, AL 36081 (334) 670-6054
Talladega Recycling 242 East St. North Talladega, AL 35160 (256) 315-3848	Tuscaloosa Iron & Metals Co 2701 31st St. Tuscaloosa, AL 35401 (205) 758-6711 Metals Only	Sylacauga Recycling PO Box 390 Sylacauga, AL 35150 (256) 249-6254
Farley Recycling Center 507 W. 20th St. Jasper, AL 35501 (205) 221-1222 Metals Only		Waste Recycling Inc - Tuscaloosa 2661 Elm St. Tuscaloosa, AL 35401 (205) 758-1838

Source: ADECA's Collection of Recovered Materials Processors

The Power of Participation

In their *REACT* guide for recycling coordinators, North Carolina's RE3.org campaign studied an important question. Would it be better to try to get 10% more for recyclable materials or increase the number of participants by 10%? For this example, they looked at a town of 6,000 households with a 55% participation rate and found:

If the town receives 10% more for recyclable materials, the new revenue from materials will be \$27.50 per ton. The existing revenue of \$15,468.75 would then increase to \$17,015.63 with a total improvement of \$1,546.88.

But if the town got 10% more participants for a new participation total of 3,630 households (60.5%), what would the effect be?

The new participation rate would result in the recycling of 680.63 tons (or 61.88 new tons at \$25 recycling revenue rate would equal \$17,015.75 or an increase of \$1,547 in revenue. In addition, the town would save \$1,856.40 in avoided disposal costs. Greater participation has a two-fold impact – more recycling revenue and less disposal costs.

Conclusion: The net improvement over the old program is \$3,403.37, or about \$1,856 more than if the price paid for the materials alone went up.

Source:
www.epa.gov/region4/waste/rcra/mgtoolkit/improving.html

www.re3.org/React/2.pdf

What are the factors behind a good market price?

What helps you get a good return on your material? Full trucks and clean loads. Your goal as a program should be to have high community participation and low contamination rates so that your routes make the most of hopper space – trucks coming back in partially full or full of non-recyclable materials are missing the opportunity for economic return. The same is true for drop-off centers – the more clean material you move through, the better your economic investment will pay off. Clean material can make a significant price difference in your program. Why is that? Less handling of the material.

How do you build high participation and low contamination? Education, outreach, signs, and communication. Communicating the specifics of your program and encouraging stronger participation are smart ways to invest in your program.

When marketing baled material directly to a recycler, be prepared for them to ask you how often you can get a tractor trailer load full of clean bales to them. If your community, like many others, doesn't manage a tractor-trailer load of a single commodity on a regular basis, maybe it's time for you to consider regionalization.

How can regionalization help communities like mine?

It is always a good idea to try to join forces with other local governments in your area to help your program be as effective as possible. Regionalizing your efforts can take many forms. Not all of them may prove feasible, but the ones you choose will be extremely helpful.

Here is a list of some regionalization examples to consider:

Networking

Regular meetings with fellow local recycling coordinators are excellent ways to share information about markets, program initiatives, financing, and grant ideas. The best recycling programs are ones that regularly seek to learn from others.

Joint Contracting

Markets prefer large, singular sources of supply over many small sources. Combining your materials with others local programs in one “request for bids” or “request for proposal” will help attract better offers.

Marketing Cooperatives

Similar but broader than joint contracting, marketing cooperatives are formal arrangements across the range of materials collected by regional programs. By establishing an ongoing framework for joint marketing, cooperatives keep you from having to reinvent the wheel with every material contract.

Shared Facilities

Material recovery facilities or other large scale processing centers can be expensive and often beyond the means of smaller communities. By working together to capitalize and run a MRF, local recycling programs can procure much-needed processing capacity and an advantage in the marketplace.

Solid Waste Authorities

Communities in a given area with common needs may find it best to form a legal organization that takes care of those needs. An authority can be a good way to organize, finance, and govern a set of combined facilities, such as a MRF, landfill, and a compost yard all

Does partnering up really help? You bet!

The Recycling Marketing Cooperative of Tennessee (RMCT) works to partner up rural Tennessee communities for increased recycling returns.

In 2005, RMCT partner communities saw economic successes including:

- 600 tons of material per month was recycled instead of landfilled
- An average of \$42,000 of revenue generated for most participating recycling programs
- An average of \$18,000 of landfill tipping fees saved for each participating recycling program.

Alabama communities can use the RMCT model as one to help build regional partnerships.

Visit RMCT at www.rmct.org .

Source: EPA Region 4 MGTK

accessible and shared by number of local governments. Authorities can also be good ways to cover ongoing capital and operational costs through the ability to raise and collect fees.

Are there markets for materials in Alabama?

The Southeast has plenty of manufacturing, and many of those companies process or use recycled content. Even those you might not think of as “green” see recycled content sources as an economically viable option for their production. When those companies seek out and use recycled content it strengthens the economic impact of our communities. Why? Recycling creates jobs – people haul, sort, and remanufacture the material right here in the Southeast.

For instance, in their MGTK, EPA Region 4 reports: “Spartanburg, South Carolina, will soon become home to the world’s largest PET plastic recycling plant. At full capacity, the facility is expected to produce approximately 100 million pounds of food-grade recycled PET annually. This production rate will help Coca-Cola meet their goal to recycle or reuse all the plastic bottles used in the U.S., but is also expected to put a strain on the currently tight recycling market. The plant will also be adding a significant number of jobs to the area.”

What’s more, when companies from our region of the country use recycled content material from nearby locations, they cut down on transportation costs making for a strong economic return. That, of course, leads to reduced fuel consumption and pollution prevention. But by becoming a stronger company, that organization is more likely to grow adding jobs and tax revenue to a community.

Alabama: Home to large scale recycling

With more than 300 employees, KW Plastics in Alabama is among the largest HDPE plastics recyclers in the country. In order to run at full steam, they must pull recycled materials from across the country and even from out of the country. From their home state of Alabama, they are only able to collect approximately 370,000 pounds of recycled plastic annually—enough to run the plant for approximately one day. KW Plastics is just one of many Southeastern recycling businesses that would benefit and potentially grow if regional recycling collection totals increased.

Source: EPA Region 4 MGTK

Redirecting Material from Landfills

Where are these commodities? Some are in the recycling stream but many more are in the landfill. In fact, Curbside Value Partnership estimates that the eight states that make up EPA Region 4 dispose of \$1.2 billion worth of recyclables each year.

Looking at Alabama's neighbors, we see recycling's value and potential:

- Georgia reports that it annually spends \$100 million to landfill \$300 million worth of recyclables. Think of the potential.
- South Carolina reports that 2006 saw \$69 million in tax revenue from recycling alone. That's a significant number.
- In North Carolina, Ensley Corp. President Dwight Ensley reports: "There are enough plastic bottles going into the landfills of the Carolinas to run our plastic recycling plant 24 hours per day, 7 days per week. But due to low recycling rates, we must ship plastic from all over the U.S. including the West Coast, the Upper Midwest, and New England, as well as Canada, Mexico, and Puerto Rico. Although we are located in the Southeastern United States, less than 50% of our supply comes from this region."

Outlining a Successful Recycling Program

EPA REGION 4'S MUNICIPAL GOVERNMENT RECYCLING TOOLKIT

EPA Region 4 recently released the Municipal Government Toolkit (MGTK) that is a valuable tool for any Southeastern recycling program.

The MGTK provides a centralized Web-based resource for recycling-related information including economic data, sample legislation, waste reduction efforts, guidance resources, and case studies regarding the impacts of recycling in the Southeast.

The Web site focuses on six areas related to recycling in our region: economic impacts, climate change aspects, community benefits of recycling, and recycling hot topics, as well as modules on starting a recycling program, and improving a recycling program.

www.epa.gov/region4/recycle

A successful program

What does a successful recycling program look like? The answer is different in each community. But successful programs have a few things in common. They have the support from their elected officials. They communicate regularly with the public. They remain flexible to react to industry changes. And they constantly look for ways to improve.

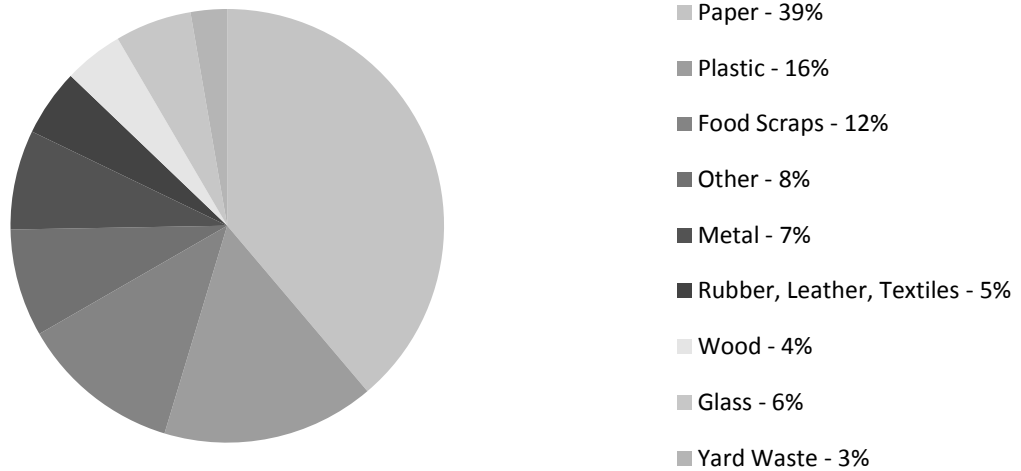
By outlining short and long term program goals, you can help to ensure that your community's program will be a champion example of the state.

Where to start?

Let's start by taking a look at your waste stream. Before planning ahead, we need to know what's what. Start with your waste stream – what and in what quantities does your community throw away?

Not sure what's in your waste stream? In 2005, Georgia conducted a lengthy waste characterization study to find out exactly what's in their waste stream. Looking at their numbers can be a very helpful start.

Georgia's 2005 Waste Characterization Study



What makes your community different?

Using Georgia's figures as a base for your own, think about what makes your community unique. Consider questions such as:

- What manufacturing operations are in town? What do they produce? What wastes do they generate?
- What types of agriculture are in the area? What programs exist to help those farmers manage their bio-wastes?
- Is my community rural or urban? What's the economy like in my part of town?
- Are there business parks with easy access to lots of paper?
- Is there an active downtown that may be easy to tap for route in-fill?
- What's going on at the local college or university? Would there be a partnering option there?
- Are residents used to hauling their trash? Could a drop-off center be expanded to include recycling?
- How close is a major transportation corridor? For instance, those communities along the

Conversion Rates

Mississippi has a handy tool to help you convert recycling totals into tons. Their conversion rates cover yard waste, phone books, appliances, glass, plastic, aluminum, steel, paper, cardboard, and more. Go to: deq.state.ms.us/MDEQ.nsf/page/R recycling_MaterialDensityandVolumeConversion

routes towards Atlanta may be able to leverage partnerships with other communities.

How can you move materials through the fastest?

Now that you know what you have and have a fresh perspective on what your community looks like, the next step is to match your assets with local markets. The goal of a recycling program isn't necessarily to take every possible commodity. A strong program should start first with the materials that they can collect a lot of and move through the easiest. For much of Alabama, this probably includes aluminum, steel, HDPE plastic, PETE plastic, newspaper, and cardboard.

Bigger Recycling Bins Help Show a Commitment to Recycling

Nearly four years after the transition of their curbside program from 18-gallon recycling bins to 95-gallon carts, the city of Norfolk, Virginia experienced a jump in participation from 25% in 2004 to 56% in January 2007.

Nicknamed "The Big Easy," the service features collection of recyclables in blue, 95-gallon rolling carts that resemble the city's refuse containers.

With the new service, additional materials such as corrugated cardboard, magazines, office paper, and discarded mail are accepted and the city saved \$100,000 in tipping fees (fees paid per ton to dispose solid waste) in January 2007 due to the 57% participation rate.

Source: EPA Region 4 MGTK

How do you know what materials you can move through the fastest? It goes back to the previous chapters on markets. Finding out who will take what materials and in what way will help you shape how to start or improve your program.

What are my short- and long-term goals?

When it comes to growing a program, EPA's Full Cost Accounting⁴ for solid waste and recycling programs can help you make the most of your money. What is full cost accounting? EPA describes it like this: "Full cost accounting provides a common-sense approach to:

- Identifying and assessing the cost of managing solid waste operations, and
- Aiding decision-makers with short- and long-term program planning to help identify measures for streamlining and improving operations."

What's involved in a residential program?

Residential programs collect materials from households using curbside collection, drop-off centers, or both. But effective programs include more than just putting out bins or carts. Communities should be prepared to engage in

⁴ EPA's Full Cost Accounting: www.epa.gov/epawaste/conserve/tools/fca/index.htm

regular communication with the public to keep interested people informed, educate those new to the community, and appeal those who are not currently recycling.

They should also be ready to discuss their value with elected officials. Building support from the top down is equally important.

Is a curbside collection program for me?

Curbside collection programs most often collect single stream, or commingled. Some communities still operate curb-sort programs where recycling employees sort the materials in the bin into a compartmentalized truck. Still other communities operate using both techniques – maybe they pull out one commodity, such as cardboard, and commingle the rest.

While most curbside programs target residential communities, some tie in business recycling into residential routes. Infilling a residential route with business parks or down town buildings can help programs maximize collection space.

How you decide to manage your curbside program will depend in large part how you can move through and market materials.

Curbside collection programs often manage the following equipment:

- Collection bins. 18-gallon bins are a minimum. Many communities see a strong return from larger containers or multiple bins. Roll carts can allow for easy transition to future automated commingled collection.
- Curbside collection trucks. Rear-load compactor trucks are often used for programs that use laborers to empty bins. Compartment trucks allow for curbside sorting. In an automated system, the driver will maneuver the side arm to lift, empty, and replace the collection container.

What should be included at a strong drop-off center?

Drop-off recycling centers often target rural communities but can also serve populated areas. While participation rates at drop-off centers are often capped by the distance and difficulty perceived by the recycler, they can often have fairly low contamination rates. This is especially true where facilities are staffed and the attendants are helpful. Unstaffed locations often have to deal with illegal dumping, higher contamination rates,

Recycling Program Planning Guide

In their Community Recycling Guide, Kentucky recycling officials outline effective recycling program among other handy things. Download this free resource at:
www.waste.ky.gov/recycling

and lower participation. Good, clear signage is a must at unstaffed centers.

Communities that require residents haul their trash can often easily expand the drop-off locations to include recyclables. Smaller collection facilities may need a single covered trailer designed to collect commodities separately. Larger facilities may look instead towards eight- or 40-yard dumpsters to collect sorted materials.

How many drop-off centers does your community need? A lot has to do with wise placement for easy access. Mississippi encourages their recycling coordinators to have one drop-off location per every 3,000 to 3,500 people.

EPA Region 4's MGTK⁵ encourages recycling coordinators with drop-off centers to ask themselves the following questions:

- Have you provided the public with adequate facilities to drop off recycling? Where are these facilities located? Schools are a prime spot for recycling with the opportunities to educate children and easy access for parents to drop off home recycling. School yards also often have large parking lots and ample space for storage bins. Fire departments are also popular spots, as they receive high visibility in the community, and the funds are often returned to the community through charitable purposes. Washington County, Kentucky has seen success with their drop-off bins located at local churches. Members of their community often frequent the local church they attend upwards of twice of week. This tactic targets all ages.
- How many drop-off facilities do you have throughout your community? Does everyone have easy access? Regardless of whether your community is extremely remote or just the opposite and in an urban location, drop-off facilities can make an impact on recycling numbers. In Oxford, Mississippi, the city saw a 308,750-pound boost to their recycling numbers in 2006-2007 simply by adding in a second drop-off center.

Many drop-off facilities contract with a hauler to remove and recycle all or some of their sorted materials. See contracting information below.

Drop-off facilities often maintain the following equipment:

- Trailers. Facilities that manage their own sorting floor often use compartmentalized trailers that can be hauled by a pick-up truck with a standard hitch.
- Gaylords. In covered facilities, these large, reusable cardboard boxes can be effective and inexpensive collection tools. A Gaylord box is 48" x 40" x 36" and fits neatly on a standard pallet.
- Eight-yard dumpsters. Communities often rely on open top or side open eight-yard collection dumpsters to collect sorted material. These containers are not well-suited for

⁵ EPA's MGTK Drop Off Center Information:
<http://epa.gov/region4/waste/rcra/mgtoolkit/improving.html#techniques>

collecting cardboard. Be sure to communicate with your recycler to discuss moisture concerns for specific materials.

- Roll-off containers. Forty-yard containers can often be compartmentalized to accept multiple types of materials. Often smaller roll-offs are more easily accessible and are better fits for a drop-off center.
- Attendant's booth. Staffed recycling centers have the most effective and public-friendly recycling.
- Forklift. Programs that use Gaylord containers or other containers on pallets should have a forklift or a pallet jack.
- Pick-up truck. Facilities that use trailers often use in house trucks to move the trailers.
- Front-load or roll-off truck. Programs that do not contract with a hauler should be prepared to empty and haul material in house.
- Compactors. While not necessary, many drop-off centers utilize a compactor on-site for bulky materials like cardboard.

Home Grown Greatness

Do you know Auntie Litter, the award-winning, nationally acclaimed recycling and anti-litter guru? She's from Alabama, of course! Visit the resources associated with Auntie Litter at www.auntielitter.org.

Should I bale and market my material myself?

Before buying a baler and deciding to manage and market materials in-house, ensure that you understand the specifics of handling a material. The best way to do that is to communicate with the recycler you anticipate working with. They'll walk you through equipment options and baler specs.

How can I build support from schools?

As EPA Region 4 points out in their school recycling Web page⁶, a lifelong support of recycling often starts with what students learn and practice in school. This site includes examples from many Southeastern states.

School Chemical Cleanout

Sometimes partnering with schools for waste reduction programs can include specific approaches – such as chemical clean outs. EPA's SC3 campaign can give you the free tools to make it a snap.

www.epa.gov/epawaste/partnerships/sc3

⁶ School Recycling Resources for Southeastern States www.epa.gov/region04/recycle/schools.htm

Harness the Power of Recycle Guys

Looking for free, award-winning materials that resonate with kids? You're in luck! The Recycle Guys were created by South Carolina and have been boosting recycling rates for years. Look for their materials and information about how to adopt the free campaign at:
www.scdhec.net/environment/lwm/recycle/resource_center.htm

North Carolina is just one of many states to adopt the campaign and you can see their materials here:
www.recycleguys.org

Many communities find success when they assist schools in a specific recycling partnership. One example would be school milk container recycling. Those little cartons we all associate with school cafeterias are being replaced with small HDPE bottles. Along with that switch comes a recycling opportunity and free resources⁷ to help make it happen.

The City of Fairhope⁸ has had a successful school recycling program for years. Recycling coordinator April Westervelt explains that they build momentum by kicking off the school year by awarding the school with the highest recycling rate of the previous year a prize. The schools get to choose the prize of choice, but past options have included everything from a school-wide cotton candy party to a recycled content bench for the school grounds. This prize often gains free press and builds even further enthusiasm. To maintain progress throughout the year, they give report cards to the schools. How does the City of Fairhope promote program to schools? They tout recycling as cost avoidance, community service, and a way to get free support like those benches.

Is my community ready to manage construction and demolition waste?

As EPA describes on their construction and demolition (C&D) Web site⁹, "C&D materials consist of 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." It's the bulky and heavy that should raise your interest level. Keeping bulky, heavy, and often readily recyclable materials out of your landfill is a wise investment.

⁷ School Milk Jug Recycling Materials: www.nutritionexplorations.org/sfs/schoolmilk_recycling_faqs.asp

⁸ City of Fairhope Recycling : www.cofairhope.com/publicworks.html

⁹ EPA C&D Web site: www.epa.gov/epawaste/conserve/rrr/imr/cdm/index.htm

Susan's Sassy Guide to Dealing with the Funky Stuff!

Susan Carmichael with Montgomery Clean City Commission (MCCC) has a lot of experience dealing with non-traditional materials. Most people agree that it's just fine to learn from your neighbor's hard work – here's a good place to start.

Rechargeable Battery Recycling Program

Through the Rechargeable Battery Recycling Corporation, MCCC has purchased buckets so the local Radio Shop can recycle all of the rechargeable batteries that they had previously taken to the landfill. To date, 7,439 pounds of batteries have been sent to Rechargeable Battery Recycling Corporation (RBRC) for recycling. See more about RBRC at www.rbrc.org.

Tire, Battery, and Oil Amnesty

Three years ago, MCCC formed a partnership with Bridgestone Firestone Service Centers in Montgomery. This year they again agreed to take old tires, batteries, and oil from local residents free of charge for the entire year! So, now everyday is a *Tire, Battery, and Oil Amnesty Day*.

Oil Recycling

MCCC, in cooperation with the Sanitation Department, continues to collect used motor oil the first Saturday of each month at its Saturday drop-off point located at the North Parking Lot of Cramton Bowl. As of June 2008, MCCC has collected 2,704 gallons of oil.

Mobile Phone Recycling

Mobile Phone Recycling began five years ago, and MCCC has collected numerous boxes of used cell phones to date. Phone owners are asked to donate their old mobile phones to help raise funds for Education Services. MCCC placed boxes of mailer envelopes in all the libraries for easy collection. They are partnering with Sprint and Keep America Beautiful (KAB) in a new program called "Wipe Out Wireless Waste!" See more about this KAB program at www.kab.org/woww

Christmas Tree Recycling

The MCCC oversees all aspects of the Christmas tree recycling program. All old trees can be brought to the Saturday trash collection points. This year approximately 1,578 trees were either chipped or used for fish hatcheries in local lakes.

Susan's Sassy Guide Continued...

Printer Cartridge Recycling Program

MCCC has enlisted the support of all City of Montgomery employees in its effort to keep printer cartridges out of the landfill. City employees are asked to drop their spent cartridges in the box from the replacement cartridge and place it in the city hand mail system for delivery to MCCC. MCCC staff members then box them up for shipment to a printer cartridge recycling company that pays MCCC for the cartridges. In 2007, they recycled 416 cartridges and earned \$366.75, and since the inception of the program, they have recycled 1,949 cartridges from the city offices.

Telephone Book Recycling

This has been a collaborative effort between MCCC and local recycling companies in collecting and recycling outdated telephone directories and multiple listing directories each spring. This year they recycled more than 107,600 lbs. of books. A grant from BellSouth covers most of the expense of this program.

Electronic Recycling Event

On an overcast Saturday in April, MCCC staff members, volunteers from the Unitarian Universalist Fellowship of Montgomery, and Creative Recycling, a Georgia-based electronics recycling group, met in the parking lot of Paterson Field for their second Electronics Recycling Event. People came with their old computers, monitors, cell phones, printers, Blackberries, scanners, etc., to take advantage of this opportunity to dispose in an environmentally responsible manner. For a \$5.00 fee, Creative Recycling even took old TVs. These events have proven so popular, MCCC is planning to hold Electronic Recycling Events at least three times a year.

Zootrients

Funded by a grant to increase recycling, *Zootrients* includes composting animal and yard wastes at the Montgomery Zoo. *Zootrients* is a fully composted blend of animal manures mixed with straw bedding, grass, leaves, and wood chips from the grounds of the zoo. Finished compost is dark, rich humus with some woody material remaining. All the non-primate herbivore (plant eaters) animals are willing to "do" their part! These animals include elephants, hippos, zebras, and giraffes among others. This program has decreased the waste haulers fee and the depositing of animal waste and green waste in the local landfill. Proceeds from the sales of this compost are being used to buy feed and bedding for the animals.

What about metals and white goods?

With metal markets often the strongest of the recycling commodities, it's common for communities to recycle white goods. Diverting their bulk and weight from disposal can ease a tipping fee budget.

Who can I go to for information about electronics recycling?

EPA's eCycling¹⁰ materials include regulations and standards for communities looking to recycle electronics.

If you'd like to look closer to home for ideas, standards, and how-to's, here are some resources from other Southeastern states:

- Georgia: p2ad.org/documents/escrap_home.html
- Mississippi: www.deq.state.ms.us/MDEQ.nsf/page/Recycling_Computers_ElectronicsFAQs
- North Carolina: www.p2pays.org/electronics

One Electronics Collection Option: Year Round Pick Up

The City of Fairhope collects computer equipment year-round at a community drop-off center. Twice a year, they also host "amnesty days" where households and businesses can drop off any sort of electronic equipment. Not only that, the community partners with schools, Goodwill, and businesses to pick up large amounts of electronics.

How can I best collect materials from special events?

Away from home recycling is a growing focus point for the recycling community. One way your program can boost recycling totals and help build community support for recycling is to offer event recycling. Your program could be as simple as providing a trailer that events can check out for free. You deliver empty, pick up full. It can also be more involved such as partnering with sporting events.

Either way, EPA's Recycle on the Go¹¹ program has free how-to guides, promotional materials, and success stories to make your job easier. Recycle on the Go focuses on these locations:

- Convention Centers
- Parks
- Shopping Centers
- Special Events
- Stadiums
- Transportation Hubs (Airports, Bus and Rail Stations, Highway Rest Stops)

¹⁰ EPA eCycling: www.epa.gov/epawaste/conserve/materials/ecycling/rules.htm

¹¹ EPA Recycle on the Go: www.epa.gov/epawaste/conserve/rrr/rogo/index.htm

Writing an effective contract: Tips for a strong partnership

EPA WasteWise Resource Management¹² encourages communities who contract for solid waste and/or recycling services to think of their contract not just as a way to move trash but instead to manage resources. What’s the difference? Here’s how they explain it: “Unlike traditional solid waste service contracts, resource management (RM) compensates waste contractors based on performance in achieving your organization’s waste reduction goals rather than the volume of waste disposed. As a result, RM aligns waste contractor incentives with your own goals as you both explore innovative approaches that foster cost-effective resource efficiency through prevention, recycling, and recovery.”

This chart, adopted from EPA WasteWise, further explains the differences:

<i>Feature</i>	<i>Traditional Hauling and Disposal Contracts</i>	<i>RM Contracts</i>
Contractor Compensation	Unit price based on waste volume or number of pick-ups.	Capped fee for waste hauling/disposal service. Performance bonuses based on value of resource efficiency savings.
Incentive Structure	Contractor has a profit incentive to maximize waste service and volume.	Contractor seeks profitable resource efficiency innovation.
Waste Generator-Contractor Relationship	Minimal generator-contractor interface.	Strategic alliance: waste generator and contractor work together to derive value from resource efficiency.
Scope of Service	Container rental and maintenance, hauling, and disposal or processing. Contractor responsibilities begin at the dumpster and end at landfill or processing site.	Services addressed in traditional hauling and disposal contracts plus services that inform and influence waste generation (i.e. product/process design, material purchase, internal storage, material use, material handling, data management, reporting).

Source: EPA WasteWise

Looking for a local example of contracted collection done well? Visit Huntsville Solid Waste Disposal Authority¹³. They operate their curbside program through BFI/Allied Waste. Their program has been

¹²EPA Resource Management Hauler Contracting: www.epa.gov/epawaste/partnerships/wastewise/wrr/rm.htm

¹³ Huntsville Solid Waste Authority: www.swdahsv.org/

operating for a decade, and they've learned a lot along the way. What tips does program manager Dixie Bray suggest to other communities working on a hauler contract? She encourages you to:

- Identify your goal. Is it to provide comprehensive recycling or to pick up trash?
- If you don't have a market, don't pick it up.
- Remain flexible and ensure that your contract is amenable to change.
- Be sure your contract is super-clear as to everyone's responsibilities. Outline consequences if objectives are not met.

Boosting Participation for Effective Economics

What's the value of outreach?

Communicating with your public is more than clip art and factoids. When you promote your recycling program, you're really working to increase participation and decrease contamination. What happens when you successfully do those two things? Right. Your program gets more cost efficient.

Why is that? The fixed costs of recycling can be high – trucks, man power, equipment, buildings. But you can adjust the variable costs. When your trucks come back less than full, your variable costs are higher than they should be.

How much should my community invest in outreach?

When you invest in outreach with your public, you're making a sound investment. How much should you consider spending? In their *Recycling Professionals Certification Training Manual*, South Carolina encourages communities to allocate about \$1.00 per household per year. If changes are occurring to a program, then the figure would be higher than that.

EPA's Resource Conservation Challenge has free outreach materials

A quick trip to www.epa.gov/epawaste/rcc will help recycling programs round up free PSAs, posters, and ideas for boosting participation.

What are the two types of people in your town?

There are two types of people in your town – those who recycle and those who do not. The same message may not reach each group – in fact it often does not. Telling your public what, where, and when to recycle is a great way of appealing to those who want to recycle. Convincing the non-recyclers to start takes understanding the barriers these groups have and planning a way to help them overcome those perceived and actual barriers.

How do you design a recycling campaign?

In the old days, promo materials for recycling programs looked about the same: blue, green, a picture of the earth, a sapling, and a cute little kid. Now we know that it takes a little more creativity to reach our audience.

Where do you start? You start not by making an ad or sign, but by evaluating your audience. Host a couple of focus groups (a classroom, a club, a church group, people at the mall) and try to figure out what the perceived and actual barriers to recycling are. Not everyone will have the same barriers so as you talk to people, try to find relationships between pockets of your population and their reaction to your community's recycling program.

How do you know what your public thinks they know?

Understanding the public's perception to your program will help you define your audience, craft a message, and plan an outreach approach. What sorts of things do you want to find out? Here's a start:

- Who recycles regularly? Most research shows that 60-somethings have high participation rates and kids in elementary school love to recycle. Those 18-35 year olds tend to participate less frequently. South Carolina's 2006/2007 "Residential Recycling Study" found that people who classify themselves as light or non-recyclers tend to live in rural areas, come from lower income households, have lower education levels, and only have access to drop-off recycling facilities.
- Who thinks recycling is hard? Is it really hard (little or no access) or is it a perceived difficulty (I get tired of tossing my can into a different bin)?
- Do people know when, where, and what to recycle?
- What myths do people have about recycling?

How do you reach the recycling enthusiast?

When working to improve your recycling outreach, it's often easiest to make sure you're reaching the audience who want the information. You'll want to be sure that people know when to recycle, where to recycle, and what to recycle. How do you do that? Here are some basics:

- **Signs on bins.** Clear signage at drop-off centers is a must. Photos help with language barriers. Some communities go so far as to create stickers for every curbside bin, but those can become outdated as your program grows.
- **Brochures or fliers.** A program overview can be handy for distribution at festivals, workplaces, or by your drop-off center attendants. They help interested people know the basics and can reduce contamination.
- **Annual newsletter.** If you operate a curbside program, have your collection crew tape a one-page newsletter directly to the container. Many programs use utility bill stuffers as an

inexpensive distribution method. A well-designed large ad in the paper can serve the same purpose. Highlighting local recycling success stories can be a fun twist.

- **Web site.** While a Web site won't often convince the non-recycler to start recycling, it's often very handy for helping dedicated members of your public get the information they crave. Remember, public advocates can be a communication tool for your program. Don't feel up to designing a Web site? Hire a part-time college student to get the job done!
- **Welcome package.** Does your community have a service that contacts new residents? Be sure your recycling information is included in that basket of goodies!
- **Helpful attendants at drop-off centers.** Want to know the public face of your recycling program? Look at your attendants. Those are the people your public associate with your program. The more you can encourage them and help them educate others, the stronger your program will be.
- **Publicize program changes.** Add a new material? Get the word out! Not only will this reduce contamination, it helps the public to understand that their community is committed to having a fresh program.

How about those who are not so enthusiastic?

In their MGTK, EPA Region 4 reminds us that:

When speaking to non-recyclers, it's often better to appeal to their sense of positive gain more than address what they're missing by not recycling. How can you achieve this? Here is a list of ways you can help make recycling the social norm:

- *Non-recyclers often don't see the immediate benefit of recycling so getting your message across via a different voice can be influential. How can you help church leaders, civic group leaders, and business bureaus to voice your information? Hearing a message from a respected, but unexpected person can make a world of difference.*
- *What is on the side of your recycling trucks? If they are not promoting recycling, they should be! This serves as a reminder, or prompt, that recycling is available in your community. It also helps to stress that your program is current. Remember that people pay big bucks to advertise on the sides of busses and trucks – you get to do it for next to nothing!*
- *Encourage a commitment to recycling – and then publicize it! Getting permission to print a new recycler's name in the newspaper (or your newsletter) can help form a long lasting commitment.*

- *Have you thought about incentives? Some communities offer monthly cash prizes to randomly selected citizens who put full, contaminate-free recycling containers on the curb. Do you work with a hauler? Write a citizen incentive program into your contract.*
- *Recycling factoids appeal to current recyclers but rarely do they sway the mind of a staunch non-recycler. Make sure that your outreach materials use diverse approaches. EPA Region 4's Municipal Government Toolkit offers current information on recycling impact on your community, the climate and energy use, and the economy.*
- *Consider that elected officials might fit into your non-recycler category.*

What's this I've heard about social marketing?

Reaching out to appeal to the non- or light-recycler takes more creativity. That's where the concepts of social marketing can help you. What is social marketing? It's the idea that we're working to change behavior, not sell a product, so our communication approach should be different than that of standard marketing. Here's an overview of the steps:

- **Identify an audience.** Is it a neighborhood, a generation, a business type, or something else all together?
- **Identify the barriers to behavior.** Surveys, face-to-face interviews, and focus groups can help.
- **Outline an approach to increasing participation.** Are you going to appeal for help from local clergy? Start a school recycling program? Work with the Lions Club? Partner with grocery stores to collect bags and film? Network construction companies with C&D recycling facilities? Partner with a local college for increased resources?
- **Test that approach.** It's easy to skip this step, but it's worth the effort!
- **Roll out the outreach technique.** Who in your community can help you spread your message?
- **Regularly monitor the results.** You may need to tweak your message or approach to remain flexible.

Curbside Value Partnership

Looking for fresh tools to help build public support? Be sure to go to www.recyclecurbside.org for PSAs, outreach ideas, conversion tools, Web-based seminars, and other handy materials. Curbside Value Partnership is gaining partners across the Southeast. You'll probably see references from many Georgia towns there.

What does that mean to you? It means that after you've established the basics above, you can work at identifying approaches that may best help you increase participation. Some key social marketing terms include:

- **Commitment.** Studies show that getting a written commitment can help keep people involve. Need ideas? How about a sticker that people can put on their trash can that says, "This family recycles!" Or take names of people who plan to recycle more while at a local festival, then print those names in the paper (with permission). We love to see our name in print! This works really well with businesses in a partnership with the chamber of commerce.
- **Social Norms.** When people feel that their neighbors do something, it makes them more likely to participate. Why? It feels normal, expected, and accepted. Think of it like positive peer pressure. Some communities choose to partner with the local newspaper to highlight one family each month who does a good job recycling. This helps recycling feel normal, helps to encourage participation, and is free press for you!
- **Prompts.** Signs on bins, ads on recycling trucks, and articles in the paper all act as prompts to remind people that recycling is something they've committed to and that it's part of the social norm.
- **Communication.** Talk to your public, and when you do, know your audience - including their beliefs, attitudes, and behavior. Use a credible source and look for partners such as clergy, elected officials, teachers, and club leaders. Always include your phone number and Web site, but remember that only the dedicated persons will make the effort to call.

What about incentives?

In their *REACT* workbook, the RE3.org campaign sites the success of cash incentives. Many communities include cash-type incentives as a component of their hauler contract. Here's an example from RE3.org:

Monroe city officials launched a new program in late 2004 to increase recycling rates. It's a year-long incentive-based program aimed at reducing the city's waste volume. Families agree to be in the program and are eligible for cash prizes ranging from \$25 to \$75, earning points for the amount of recyclables and trash-to-recyclables ratios. Each month the program eligible pick-up routes rotate to give all citizens a chance to participate. The monthly winner is featured in the local newspaper. At the end of the year, the overall winner gets a cash prize of \$500 from BFI, the city's trash and recycling hauler.

Source: RE3.org

RE3.org cites Charlotte, NC as a good example

To discover why Hispanic residents were not participating in north Charlotte's "Curb It!" curbside recycling program, the city held focus groups with these citizens. It turned out that many Hispanics did not know that they could recycle, or that it was free.

To encourage Latinos to recycle, the city came up with the "Score a Goal with Recycling" program. At the program "kickoff" held at the Latin American Festival, magnets were distributed listing items that could be recycled and how to recycle them. Focus group participants and Spanish-speaking employees helped develop program materials. Charlotte worked with churches to place recycling messages in church newsletters in both English and Spanish. The program used incentives to encourage recycling, and community members could win only if they put out their bin.

City officials continued to promote the "Score a Goal" program by giving presentations at apartment complexes with large Latino populations and at Hispanic-centered events. Community support and commitment is essential to recycling promotions. By developing messages aimed at a particular low-participating group, Charlotte's campaign has the elements of success.
www.curbit.charmeck.org

Are your elected officials supportive?

The EPA Region 4 MGTK reminds us that building support from elected officials is crucial to developing the upper-level program support needed for your recycling program to flourish. When looking to improve your program, consider the following questions:

- **Does your city and community council have a good understanding of the local and regional impact of recycling?** Sure recycling is good for the environment, but do your city or county officials understand its impact on energy use? If not, EPA Region 4's Municipal Government Toolkit has extensive climate and energy information that can help ensure your governmental partners understand the modern picture of recycling. The EPA WARM model¹⁴ can further evaluate your community's energy and green house gas savings.

¹⁴ EPA WARM Model: www.epa.gov/climatechange/wycd/waste/calculators/Warm_home.html

- **Do they know that regional markets are strong and that recycling has a strong impact in the local and regional economy?** EPA's Jobs through Recycling¹⁵ site reports that for every job collecting recyclables, there are 26 jobs in processing the materials and manufacturing them into new products. The Southeast has a strong focus on manufacturing and recycling supports local jobs. Remember that recycling adds up to tax revenue.
- **Do your leaders know of recycling businesses located within or near your community that benefit from your recycling program?** Partnering with a recycler or an end user/manufacturer in your area can help capture the ear of an elected official.
- **Your elected officials might be interested to learn that recycling helps improve your public's perception of their community.** For more information on the social impact of recycling, see EPA Region 4's Community Development and Recycling¹⁶ link. This resource is part of the Municipal Government Toolkit.

Remember, recycling is a growing industry with strong potential. Your council members are interested in growing businesses that result in more tax revenue and jobs. Conveying the value of recycling to elected officials is not always easy. Many officials are not aware of the powerful dynamics of the recycling industry. By arming yourself with the facts, you are one step closer to getting the support you need to make recycling a reality.

¹⁵ EPA Jobs Through Recycling: www.epa.gov/epawaste/conserve/rrr/rmd/index.htm

¹⁶ MKTK Social Impact Fact Sheet: www.epa.gov/region4/waste/rcra/mgtoolkit/Community.html

ADEM Grant Funds: Tips for securing your grant application

What will help your grant stand out from the rest?

ADEM will be looking for communities who manage the following:

- Establish Contact with Recycling Markets/Evaluate
- Build/Reinforce Support from Elected Officials
- Build/Reinforce Support from the Community
- Identify/Evaluate/Select/Modify Collection Techniques
- Develop/Write/Evaluate a Strong Contract
- Target Non-Recyclers and Maintain Creativity

Can you please outline exactly what is meant on the grant application?

Applicant Information

- Lead Applicant Name/Entity
 - Who is applying?
- Regional Planning Commission(s)/Areas(s)
 - Who is involved and what areas are to be served?
- Physical Address
 - Of lead applicant (no P.O. boxes) Records should be kept here

Contact Information

- Contact Person
 - Provide name/e-mail – contact should be involved in project and able to answer questions, know all details
- Agency name, Federal ID number, address, phone, fax
 - NOTE: The contact information will be available for review by anyone. This may result in vendor and other interested party calls. The contact should have the authority and knowledge to respond to inquiries.

Project Costs

- Total estimated cost of project
 - Should include all categories, especially those for which funding will be requested. Existing resources should not be included.
- Grant amount requested
 - Total Request entered here, full description, and accounting to be included in project description. All spending subject to auditing with records of expenditures maintained.

General Project Information

- Estimated quantity of material recycled/reused
 - Total in tons listed here, full breakdown by material type in attachments and described in project description
- Estimate of out-of-state material quantity
 - Especially important for border communities, used to determine benefit to Alabama recycling/reduction efforts
- Types of materials to be recycled
 - Brief listing of material types (Al, paper, plastic, glass, etc.)
- When will project be fully implemented
 - When will materials collected begin to be put to end use application (activities beyond accumulation)
- Number of households covered by project
 - Number will differ depending on how project is designed
 - (Curbside vs. drop-off, single/multiple family residence)
- When was your SWMP approved
 - SWMP must include recycling component or be included in proposal (SWMP revision must then be complete before funding remainder of project)
- Is proposed project consistent with SWMP
 - Proposal must be consistent before funding, funding available for revision
- Existing recycling efforts in SW jurisdiction
 - All existing efforts should be listed including name, location, materials accepted, and area of operation if limited to specific city/county, etc.
 - Should include local recycling centers, businesses, agencies, etc.
- Estimated percentage rate of recycling in area
 - Households that are currently participating in existing programs
- Types of materials currently recycled in area
- Existing ability to recycle individual recyclable types and estimates of recycling rates if known
- Does proposal include education/outreach
 - Answer, then describe in detail in project description and attach materials if existing
- Does the project require advance funds
 - Project must be consistent with SWMP for advance funds
 - Need for advance funds must be documented and receive departmental approval
- Does the project area have SW collection service

- If yes, distinguish between curbside or collection centers
- If so, how many households are served
- Is application for regional project with more than one applicant/what jurisdictions
 - List here and describe in detail project description
 - Who will be responsible for what activities
- What differences will exist among differing jurisdictions
 - Copies of signed agreements must be attached
- Each applicant must have contact information provided
 - Reporting must be done separately if jurisdiction(s)is/are not covered by the same SWMP

Project Description

- Project costs
 - Complete breakdown and description of items to be funded including those covered by other funding sources
- Revenues
 - Anticipated return from marketing of recovered materials broken down by material type and destination(s)
- List of recycling facilities/services for materials
 - Include all utilized and those available within the RPDC not utilized at present
- Education and outreach efforts
 - Include existing or planned whether or not funded by proposal
 - Should include activities, if any, targeted to households, businesses, schools, agencies, etc.
 - For existing activities to be utilized, attach outreach documents and/or plans
- Existing interaction with SW management or recycling infrastructure
 - Describe ongoing activities regarding SW collection and/or recycling
 - Include company name and contact information
 - Include funding/revenues received
 - Include current costs/expenditures

Attachments

- Any existing or proposed contracts
 - Related to SW collection, recycling, education and outreach, etc.
- Requests for proposals
 - Including those for activities listed above
- Agreements
 - Especially those required for joint applications
 - Other agreements to provide resources and/or services
- SWMP revisions
 - Especially those to include recycling whether finalized or in-draft form

- Drafts required if available and funding requested for revision
- Recycling business plans
 - Extremely important
 - Should include material types, efforts to increase participation, collection, and marketing
- Equipment drawings and Information
 - Includes existing or planned
 - Utilized for collection, sorting, size reduction, etc.
 - Information should include capacities, feed rate, etc.
- Outreach materials
 - Existing or draft brochures, door hangers, PSAs, etc.
- Other related documents
 - Which would further describe and/or support proposal
- Signature/Certification

Regulatory Requirements for Proposals

335-13-10-.03 Application Requirements

- Application form must be completed and submitted
- Deadline is March 1st of each year
- If funds remain from previous grant, proposal may be denied
- If obligations from previous grant not met or unused funds not accounted for proposal may be denied
- Proposals/projects must be consistent with programs described in the approved SWMP of the local jurisdiction(s)
- No approved SWMP = no grant
- Any required SWMP revisions must be completed prior to disbursement of funds
- Costs of SWMP revision are eligible for funding, must be completed/approved first

335-13-10-.04 Disbursement of Funds

- After approval, department will determine grant amount and prepare grant agreement
- Agreement must be signed by responsible official or authority
- Requests for advance funds must be documented with rationale before departmental approval
- Reimbursement shall be made after submittal of semi-annual report
 - Report must include status of program/project funded
 - Report must include information necessary for reimbursement
 - Report must be submitted 15 days from end of previous semi-annual period
 - Reporting periods are October 1-March 31, April 1-September 30
- Grants may be terminated in whole or in part
 - Substantial non-compliance with terms of award or rules
 - Grant obtained through fraudulent means

- Funds used for non-allowable and/or unapproved costs
- Gross abuse or corrupt practices in administration
- Notice to terminate given 30 days in advance
- Consultation prior to termination may be requested
 - Termination will result in future ineligibility until compliance with terms and/or rules achieved
- Department may utilize discretion in determining amount of funding
- No grant may exceed 20% of available annual funding
- Awards prior to March 1, 2009 may not exceed \$350,000 unless approved by director or less than 5 applications received
 - Category 1- more than 40,000 households
 - Category 2-(up to 40%) less than 40,000 households

335-13-10-.05 Grant recordkeeping

- Grant recipients must maintain records of all expenditures of grant funds
- Must be available for inspection/audit
- Must be maintained for five years from agreement date
- Requirements will be listed in the grant agreement
 - Each semi-annual report must include this information

335-13-10-.06 Specific grant requirements

- Proposals that are joint agreements
 - Designate a lead applicant
 - How funds will be disbursed/used among applicants
 - Lead applicant must submit documents for all parties
 - Documents submitted must be equivalent to those submitted as if each party applied individually
- Must submit information on other previous grants
 - State or federal grants for SW management or recycling
 - Include amount, period, and all other information required by ADEM grant form

335-13-10-.07 Eligibility requirements

- Provides basis for application form with other information specifically requested
- Estimate of quantity, source, and type of materials to be recycled
- Must include explanation of methods used To estimate
- Describe project for which grant funds requested, including any business or accounting plans
- Describe existing or proposed recycling, collection, or service centers in jurisdiction(s) covered by the proposal or project.
- Estimate of quantity, source, and type of materials to be collected and recycled, including explanation of estimation techniques. This shall include volume of out-of-state waste. However, records of out-of-state volume shall be shown separately on semi-annual reports.
- Statement that grant needed to achieve or surpass both:
 - Recycling/waste minimization efforts in approved local SWMP
 - Purpose and goals of the SWRMMA

- Statement includes explanation of how existing public and private programs and efforts will be incorporated
- Summary of all costs incurred or to be incurred in planning and implementation
- Copy of any regional agreement(s)
- Copy of any proposed contracts or agreements
- Measurable objectives of any education/outreach component and how they will directly promote the use of planned projects
- Methods used to evaluate success or project or program (Methods and progress reports included on semi-annual reports)
- Include a recycling plan for the entire population subject to local SWMP(s) containing at least
 - Explanation of how program or project will be implemented
 - Timetable for continued development and implementation
 - Numbers of households covered (most recent U.S. Census)
 - Estimated percentage of participation in recycling activities
 - Estimated success rates
 - Perceived reasons for success or failure
 - Public and private activities that are ongoing and most successful
 - Estimated percent reduction annually of SW disposed of as a result of EXISTING activities AND estimate of avoided disposal costs as a result of PROPOSED activities
 - Estimate of households within proposed program area covered by SW collection services, identification, and description of disposal facilities currently used, and effect of proposed activities upon such services
 - Description and evaluation of recyclable materials being recycled including, but not limited to:
 - Glass
 - Aluminum
 - Steel
 - Other metallic materials
 - Office paper
 - Yard waste
 - Newsprint
 - Corrugated paper/cardboard
 - Plastics
 - White goods
 - Tires
 - Currently available AND anticipated markets or uses for materials collected through proposed activities
 - Estimated costs and revenues from operating and maintaining existing AND proposed recycling projects or programs

- Does not include specifics from privately owned programs, but a summary of such costs is required if those programs are to receive grant funds
- Description of any recycling activities planned or existing prior to effective date of grant regulations (December 15, 2008)
- Activities included here are only those with direct involvement by the proposal applicant(s) as opposed to previous requirement for all area activities to be listed
- Description of how special wastes including industrial wastes will be managed (as defined in these regulations)

What Are the Top 10 Things ADEM Is Looking For?

1. Proposals that request funding only for recycling program costs, which may include equipment, facilities, and other costs approved by the Department.
 - a. Proposals which include personnel costs as a high percentage of request or include costs which do not directly support recycling/waste minimization and the intent of the SWRMMA may receive lower considerations or be rejected
2. Proposals request operating subsidies ONLY when:
 - a. Approved by the Department
 - b. Necessity for program success has been demonstrated
 - c. Benefit to proposed program/project demonstrated
 - d. Reasonable assurances that program will continue operating without subsidy provided to Department within one year of grant award
 - e. All of the above conditions must be met or the proposal may be rejected
3. Proposals involving multiple governmental jurisdictions may request funds to assist local governments, authorities, or non-profits in recycling and/or composting.
 - a. Such assistance must be demonstrated to be necessary to make the regional effort viable
 - b. A Regional Business Plan for marketing recyclable materials must be provided.
 - i. The Regional Business Plan must address the marketing of all recyclable materials collected through the program and include destinations for such materials and contingencies
4. Proposals that request funding for promotion of recycling, volume reduction, waste minimization, and market development are allowable only if:
 - a. Performed in conjunction with projects or activities described in 1,2,3 (335-13-10-.08 a,b,c)
 - b. Such promotional efforts meet the requirements of 335-13-10-.07
 - c. Proposals for which a large percentage of requested funding is allocated to promotion may receive lower priority. Applicants should strive to fund only those promotional activities that directly involve and will directly benefit other proposed activities (ex. Increasing participation in the recycling of plastics)

5. Proposals must utilize all existing public and private recycling infrastructure to the greatest extent possible. Existing programs shall not be duplicated unless the applicant can demonstrate that they cannot be integrated into the proposal.
 - a. Proposals that request funding for duplicative programs shall receive lower priority, or may be denied funding. Therefore the applicant should strive to incorporate and enhance existing efforts and/or focus on different material types, activities, or processes
6. Proposals may involve agreements with private entities.
 - a. Requires Departmental pre-approval
 - b. May only include those activities detailed in the proposal
 - c. Proposals that are public-private agreements should ensure that all aspects of such proposals have been pre-approved by the Department
7. Proposals for development and implementation of recycling and waste minimization programs in jurisdictions without existing programs shall receive priority.
 - a. Applicants with existing recycling programs in their jurisdictions should seek to greatly enhance existing programs and work in partnership with others to develop joint proposals to establish recycling programs in underserved areas
 - b. Regional projects and proposals offer a much greater chance for economic success and long-term viability due to the greater volumes they will generate as compared to most single applicant projects and will have priority
8. Proposals which target multiple materials for recycling will receive priority over those that focus primarily on a few material types.
 - a. Applicants should address and include the maximum types of materials possible as may be successfully collected and marketed
9. Proposals which target multiple sources for recycling of materials will receive priority over those that focus on primarily one or few sources (ex. residential + business + multiple family residential vs. single family residential only).
 - a. Applicants should strive to address and include as many sources of materials as possible to achieve greater participation and recycling rates
10. Proposals for projects/activities that will be supported by funding sources in addition to the Alabama Recycling Fund will receive priority, if outcomes to be achieved by such multiple funding are greater than could be achieved only through the use of the Alabama Recycling Fund.
 - a. Proposals for projects/activities that include other sources of funding, but that cannot demonstrate results higher than those achieved by proposals that rely solely on the Alabama Recycling Fund will not receive priority. Applicants should however, strive to act regionally, not only in development and implementation of recycling programs, but also in securing resources to support such programs.

Important Alabama Contacts & Resources

ADEM Recycling Program Contacts

ADEM Solid Waste Branch
PO Box 301463
Montgomery, Alabama 36130-1463

(p)334-271-7988
(f) 334-279-3050
recycling@adem.state.al.us

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Cameron Baxley
Small Business Recycling Programs Coordinator/Liaison
Materials Management Section
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(f) 334-279-3050
Cbaxley@adem.state.al.us

The Alabama Solid Wastes and Recyclable Materials Management Act can be found at:
arc-sos.state.al.us/PAC/SOSACPDF.001/A0005444.pdf

Division 13, Chapter 10 (335-10-10) Alabama Recycling Grant Fund Regulations can be found at:
adem.alabama.gov/Regulations/Div13/Div13eff93008.pdf

