

December 27, 2006



Ms. Kathryn Socash
Business Tax Administrator/Recycling Coordinator
The Township of Pine
230 Pearce Mill Road
Wexford, PA 15090

Dear Kathryn,

This letter report summarizes the findings of our evaluation of commercial recycling program options in the Township of Pine, Pennsylvania. The evaluation was performed as part of a Recycling Technical Assistance project from the Pennsylvania Department of Environmental Protection (DEP) through the Solid Waste Association of North America (SWANA).

Executive Summary

The Township of Pine has initiated a successful variable pricing system for residential solid waste management that has resulted in an increase in residential recycling. However, commercial establishments are not included in the program, and few commercial businesses recycle voluntarily. The commercial recycling mandated in the Township's solid waste ordinance has not been enforced. The purpose of this study is to identify strategies, policy options, and potential program options to increase commercial recycling in the Township of Pine.

The Township's existing recycling ordinance was analyzed to determine its compliance with Act 101's requirements for mandatory commercial recycling. The provisions of the ordinance were compared with ordinances in three Pennsylvania communities known to have successful commercial recycling programs. Recommendations for improving the Township of Pine's recycling ordinance include:

- Emphasize the authority of Act 101 for the commercial recycling mandate;
- Reinforce the importance of private haulers tracking and reporting material tonnages;
- Consider adding a section specific to the responsibilities of private haulers;
- Eliminate the requirement for a Waste Minimization Plan in favor of a simpler Recycling and Waste Reduction Plan;
- Consider adding optional materials to the list of required materials for commercial businesses; and
- Meet with a representative of the Pine Business Association to discuss these changes.

Additionally, the recycling programs in these three communities were profiled and the elements of their success highlighted for potential replication in the Township of Pine. An analysis was made of the economic constraints on commercial recycling, and calculations were made of the

potential additional Section 904 Performance Grant funding that could accrue to the Township of Pine if the commercial recycling rate were significantly improved. Commercial recycling options for the Township of Pine were then recommended, including:

- Locate “Recycling Champions”;
- Advertise the location of the Abitibi-Consolidated “Paper Retriever” recycling container at the Pine Township Elementary School and encourage businesses to use it;
- Recommend that additional commercial establishments place “Paper Retriever” containers on their sites, with the proceeds from the recyclables donated to local charities or non-profit organizations; and
- Continue to work with businesses to overcome both logistical and public policy barriers.

As part of this report, two brief fact sheets were developed for the Township of Pine to use as it moves forward with these recommendations. The fact sheets address the following topics:

- Fact Sheet #1: Developing a Recycling Program at Work;
- Fact Sheet #2: Recycling in Offices.

Background

The Township of Pine has initiated a successful variable pricing system for residential solid waste management that has resulted in an increase in residential recycling. The residential solid waste and recycling collection is contracted by the Township to Vogel Disposal Services, Inc. However, commercial establishments are not included in the program, and few commercial businesses recycle voluntarily. Commercial entities contract for their own waste services individually. The Township is concerned that the ordinance is outdated, and does not comprehensively address recycling requirements imposed by the Commonwealth through Act 101.

The purpose of this study is to identify strategies, policy options, and potential program options to increase commercial recycling in the Township of Pine. Details of our analysis and strategic recommendations are provided in the sections below.

The Township of Pine is located in Allegheny County, which is in western Pennsylvania, north of Pittsburgh. The Township has a population of approximately 9,800. The population density is 589.3 persons per square mile in a land area of 16.8 square miles. The Township fits the criteria for mandatory recycling under Act 101, and is thus required to institute both residential and commercial recycling programs for its citizens, and is referred to as a “mandated” community.

Solid Waste/Recycling Program Changes

The Township of Pine completely updated the solid waste and recycling collection system in January 2006 due to issues with poor service, spillage, and litter under the previous system of

trash set out in bags and recyclables set out in 18-gallon uncovered bins. The Township now contracts for fully automated, cart-based waste and recycling collection with Vogel Disposal Service, Inc., a waste hauler and recycling processor located in nearby Mars, PA. Monthly household service charges vary with the size of the cart, as shown in Table 1, below. The trash cart is gray.

Table 1
Residential Solid Waste Management Options

Cart Size	Cart Capacity	Monthly Charge
95-gallon	8 – 9 tall kitchen trash bags	\$15.96
65-gallon	5 – 6 tall kitchen trash bags	\$15.54
35-gallon	2 – 3 tall kitchen trash bags	\$15.00

In addition to the cart, residents may also purchase Vogel Disposal Service tags to affix to bulky waste items, as shown in Table 2.

Table 2
Bulk Collection

Tag Type (Examples of Allowed Items)	Unit Price
Excess Waste/Small items (extra trash bags, small appliances)	\$.65 each, (Sold in sheets of 5 tags for \$3.25)
Bulky/Large Item (Furniture)	\$8.00
Major Appliances/White Goods	\$10.00
Volume Pick-up (rolls of discarded carpet)	\$10.00

Residents have the option of receiving, at no additional cost, a 95-gallon green-topped cart specifically for yard trimmings and leaf waste, which is collected from April through November. Vogel Disposal also accepts leaves in brown paper bags, which are composted.

Residents were also provided, at no additional cost, with a 35, 65, or 95-gallon, blue-topped recycling cart in January of 2006, along with a brochure explaining the expanded recycling program. The list of acceptable recyclable items includes the following:

- Steel and aluminum cans;
- Plastic containers with resin codes #1 - #6 (including bottles, jars, jugs, and tubs);
- Bundled plastic bags;
- Glass beverage and food containers;

- Corrugated paper (OCC);
- Paperboard boxes (e.g., chipboard);
- Office paper and junk mail;
- Newspapers with inserts;
- Magazines and catalogs;
- Phone books and paperback books;
- Paper shopping bags;
- Other mixed household paper.

Recyclables, collected weekly in the carts, are taken to Vogel Disposal’s MRF, TC Recycling, in Mars, where the material is processed and sold to markets.

Recycling Results

The new solid waste and recycling system has resulted in a significant increase in residential recycling in the Township of Pine, as Table 3 indicates.

Table 3
Increases in Overall Residential Waste and Recycling Generation

	2005 Tons	2006 Tons	Tonnage Increase	Percentage Increase
1st Quarter (January – March)				
Waste	753.6	845.45	91.85	12.2 %
Recycling	183.02	291.07	108.05	59.0 %
2nd Quarter (April – June)				
Waste	986.14	1015.47	29.33	2.9 %
Recycling	189.10	315.56	126.46	66.9 %

Between the summer of 2005 and the summer of 2006, the number of households in the Township of Pine increased from 3,179 to 3,290, reflecting a population increase of 276 persons. A per-capita comparison of waste and recycling generation from 2005 to 2006, accounting for the population increase, is presented in Table 4.

Table 4
Per Capita Residential Waste and Recycling Generation

	Material Type	2005	2006	Percent Change
1 st QUARTER	Waste*	158.0 lbs	172.6 lbs.	+ 9%
	Recycling	38.4 lbs	59.4 lbs	+ 55%
2 nd QUARTER	Waste*	207.0 lbs	207.0 lbs	+ 0%
	Recycling	39.7 lbs	64.4 lbs	+ 62%

*Refers to waste disposed

As Table 4 shows, while per-capita waste disposed increased by 9 percent in the first quarter of 2006 when compared with that same time period in 2005, recycling rose by 55 percent. In the second quarter the amount of waste disposed in 2006 stayed virtually the same as compared with the amount generated in 2005, while recycling again rose by 62 percent vs. the same timeframe in the previous year.

The Township of Pine will receive credit for this additional recycling tonnage towards their Act 101, Section 904 Performance Grant. Act 101-mandated materials included in this allocation can originate from commercial as well as residential tonnage. If the Township of Pine's commercial recycling tonnage could be improved by similar percentages, another significant Performance Grant increase could result.

Commercial Recycling

Predicting potential increases in commercial waste recycling is difficult with the data available. Since all commercial businesses in the Township of Pine contract individually for waste and recycling services, the Township has very little data regarding the amount of waste they generate.

A list of the types and numbers of the Township of Pine businesses is presented in Table 5. It is not a complete listing, but represents businesses and commercial establishments located in the Perry Highway (Route 19) area. This area includes Perry Highway and also the adjacent or nearby locations of:

- Brooktree Center;
- Stonewood Commons;
- Bradford Road;
- Wexford/Bayne Road;
- Lake Drive; and
- Church Road.

These areas are the focus, as this is considered to be the region of the Township where most businesses are concentrated.

Table 5
The Township of Pine Business Establishments

Business Type	No. of Businesses	No. of Employees
Auto Sales and Service	18	537
Bank*	7	82
Church*	3	138
Convenience Store	2	113
Day Care	3	95
Hair, Nails, Fitness	17	107
Medical Office*	79	767
General Office*	185	1,310
Other Service Establishments*	15	109
Schools*	7	96
Post Office*	1	33
Restaurant	19	458
Retail/Wholesale Trade:		
Food/Nutrition/Beverage	6	131
Furniture*	6	43
Apparel/Jewelry/Crafts*	19	37
Recreation	8	35
Home Improvement*	5	48
Books/Stationery*	4	22
Pharmacy	2	113
Miscellaneous	23	86
Total	429	4,360

* Indicates businesses and institutions that potentially generate significant amounts of recyclable paper and corrugated containers.

Table 5 shows that the majority of the Township of Pine businesses are engaged in activities that could generate significant amounts of the mandated paper materials for recycling. The Township Business Tax Administrator sent a survey to commercial businesses in the fall of 2005, reminding them that recycling of certain materials was mandatory and asking for details of their recycling programs. Returned surveys indicated that minimal commercial recycling is occurring.

Requirements for Recycling Under Act 101

Chapter 15, "Recycling and Waste Reduction," of Act 101, the Municipal Waste Planning, Recycling and Waste Reduction Act of 1988, sets out the requirements for counties and municipalities with regard to establishing and implementing recycling programs. The Act requires municipalities with populations between 5,000 and 10,000 and population densities of greater than 300 persons per square mile to implement residential recycling programs for at least three recyclable materials (out of a list of eight) plus leaf waste within three years of the effective date of the Act, and to require commercial businesses to recycle at least four mandated materials. These recycling requirements were to be established by ordinance in counties and municipalities, per Act 101.

Section 1501 (C)(1)(iii) imparts the mandate for commercial recycling. This sub-section states "Persons to separate high grade office paper, aluminum, corrugated paper, and leaf waste and other materials deemed appropriate by the municipality generated at commercial, municipal or institutional establishments and from community activities and to store the material until collection." Exemptions may be granted if these persons "...have otherwise provided for the recycling of materials they are required by this subsection to recycle..." and can provide documentation of such activity. It is assumed that this means that a commercial business may ask their waste hauler or other recycling service provider to take responsibility for the separation and provide the documentation that it has been done.

Act 101 requires commercial establishments to recycle only the four materials specifically named in the Act: high grade paper, corrugated paper (OCC), aluminum and leaf waste. There is no mandate in Act 101 for such establishments to recycle glass bottles, plastics, or any other material, although municipalities are authorized to mandate additional materials if desired. A municipal recycling program, therefore, must mandate these four materials to be recycled by commercial establishments, and can also include additional materials. No feasibility study is required for adding additional materials, however, municipalities wishing to expand this list may want to perform their own evaluation of the technical and financial feasibility of doing so, and the adequacy of the local recycling processing infrastructure to manage additional mandated materials.

Communities are also required by Act 101 to establish "...a comprehensive and sustained public information and education program concerning recycling program features and requirements." The local government is required to activate the educational program at least once every six months, and whenever recycling program requirements or features change. At a minimum, the local government is required to place a newspaper advertisement or post a notice in a public place, which can include a notice delivered with a bill for a public service such as water.

Solid Waste Ordinance

Pennsylvania Act 101 Authorization

The authority for municipalities and counties to implement recycling programs through ordinances is granted by Act 101, Section 304(b)(1), which states "...a municipality other than a county may adopt resolutions, ordinances, regulations and standards for the recycling, transportation, storage, and collection of municipal wastes or source-separated recyclable materials, which shall not be less stringent than, and not in violation of or inconsistent with, the provisions and purposes of the Solid Waste Management Act, this act and the regulations promulgated pursuant thereto."

The Township of Pine's Solid Waste and Recycling Ordinance

The Township of Pine's Solid Waste Ordinance is documented as Articles I, II, and III of Chapter 126 of the Township of Pine Code. It was drafted as required by Act 101. The Township of Pine's Recycling Ordinance, Article III of Chapter 126, took effect November 1, 1991. The language specific to commercial businesses is found in ss126-15(C-F). Paragraph C requires source separation of high-grade office paper, corrugated paper, aluminum, leaf waste, plus any additional materials designated by the Township, by commercial, municipal and institutional establishments and by community activities. These establishments are required to submit annual recycling reports to the municipality, with valid documentation showing that the material has been recycled. The reporting requirements provide for businesses sharing a recycling collection vehicle to apportion weights for recycling credit.

The Township of Pine's Recycling Ordinance also contains as Attachment 1 the "Recycling Program Regulations," adopted on December 19, 1994. The Regulations establish in more detail the requirements of commercial recycling in paragraph C, and also codify an annual reporting requirement. The materials specifically required for recycling in commercial establishments include high-grade office paper, defined as "all white paper, bond paper and computer paper;" aluminum, defined as "aluminum beverage and food cans;" and corrugated paper, defined as "structural paper material with an inner core shaped in rigid parallel furrows and ridges." It also requires separation of leaf waste by commercial entities, and provides an option for businesses to participate in municipal collection of this material only.

Comparison with Other Ordinances

The Township of Pine's Recycling Ordinance was compared with the ordinances of three Pennsylvania communities known to have effective commercial recycling programs backed by strong ordinances: the Town of Bloomsburg, the City of Allentown, and Springfield the Township (Delaware County). These ordinances were reviewed, and interviews were conducted with the recycling coordinators in these localities, to attempt to determine the factors that made the ordinances, and associated commercial recycling programs, successful.

Table 6 presents a summary of the highlights of the recycling ordinances in these communities.

Table 6
Effective PA Municipal Recycling Ordinances

	Town of Bloomsburg (Columbia County)	City of Allentown (Lehigh County)	Springfield the Township (Delaware County)
Population (Density)	12,375 (2,812)	106,632 (6,024)	21,677 (3,700)
Ordinance	Town Code, Chapter 20 Solid Waste, Part 1 (B) Recycling, ss 20-114 and 20-116	Town Code, Part 11, Public Health, Article 1139 Commercial Recycling Ordinance	The Township Code, Chapter 54, Garbage, Rubbish and Recyclables; Article I, ss 54-2 (E) Nonresidential Units
Planning	Operator of business or establishment must annually complete a Plan on a Plan Form provided by Town. Must designate person responsible for waste and recycling; method of removal from premises, and destination of recyclables. Must revise Plan as conditions change.	None	None
Commercial Recycling Program & Materials	Glass, aluminum, steel, corrugated paper, high-grade paper, newspaper. Generators can bring material to Town Recycling Center or hire private hauler. Private haulers can, and do, take materials to Recycling Center.	Office paper, corrugated paper, aluminum cans, leaf waste, steel cans, plastic bottles, glass bottles. Generators can bring material to Town Recycling Center or hire private hauler. Private haulers can, and do, take materials to Recycling Center. Small businesses, churches, non-profits, restaurants and offices may apply for City collection of recyclables.	High-grade paper, corrugated paper, aluminum, leaf waste. Businesses must make arrangements with private haulers for recycling collection.
Reporting	Annual reports required from businesses that deliver or cause to be delivered their materials to Town Recycling Center; verification is up to the Town. Quarterly reports required from businesses that use private haulers or another recycling center, including weight slips. Hauler is the agent for procuring weight slips for generator.	Annual report required from businesses includes evidence of a contract for recycling collection with a private hauler. Also requires types, weights and destinations for materials. Licensed haulers shall also report annually with individual customer names, tonnages, and material destinations.	Annual report required from recycling collectors and haulers that service businesses and commercial establishments. Tonnages submitted with names of customers.

	Town of Bloomsburg (Columbia County)	City of Allentown (Lehigh County)	Springfield the Township (Delaware County)
Enforcement	Town can report non-compliant haulers to state DEP. Recycling coordinator contacts non-complying businesses by phone and works with them. R.C. does not have authority to issue citations but can report compliance to Code Officer; he has not had to do that. Penalty for violation can be up to \$1000.	Dept. of Public Works, Bureau of Recycling and Solid Waste, Health, and other City enforcement bureaus have authority to issue Violation Tickets. Penalties range from \$25 to \$100. Non-payment of ticket can lead to issuance of a Citation. Penalties range up to \$1000.	Violation is punishable under "General Penalty" article of Town Code. No specific recycling enforcement spelled out in Ordinance.
Education	None specified (not required to be in ordinance by Act 101)	All mandated establishments are responsible for adequately informing employees, resident users and patrons of the recycling program. Includes at minimum written instructions on materials and how to use program.	None specified (not required to be in ordinance by Act 101)
Multi-Family	Defined as five or more dwelling units. Considered residential, but requirements for collection similar to commercial mandate. Landlord is responsible for enforcing recycling mandate to tenants, for setting up convenient recycling system, and for planning and reporting.	Defined as any building under one roof with two or more dwelling units. Multi-family complexes with more than 25 units are included as commercial for purposes of recycling program. Owners to provide recycling containers, education, and comply with reporting requirements.	Defined as four or more residential units on single property or managed by same entity. Must establish recycling program, comply with reporting provisions. May hire private hauler for recycling.
Other Provisions	Detailed instructions for material preparation are included, most likely to comply with rules at Town Recycling Center. All haulers contracted for solid waste removal must also provide recycling collection. Haulers must provide customer records if Town requests them. Haulers prohibited from accepting unlawfully disposed recyclables. It is unlawful to terminate the services of a private hauler for compliance with recycling requirements.	Haulers serving commercial customers must submit annual report to City with individual establishments identified with recycling tonnages. Persons may request exemption from the recycling requirements in writing and are evaluated individually by S.W. Appeals Board.	Ordinance is brief and concise. Little detail spelled out.

The Township of Pine's Ordinance Elements

Planning

The Township of Pine differs from the three communities discussed above by requiring a "Waste Minimization Opportunity Assessment," essentially a waste minimization plan, from all commercial, municipal and institutional establishments generating more than 2,200 lbs. of municipal waste per month. This plan is more detailed than the Town of Bloomsburg's, requiring an evaluation of the economic and technical feasibility of each waste minimization option, an estimate of the payback, and a timetable for each implementation. The Township has not received any such plans from commercial establishments, nor has it attempted to enforce this provision of its Ordinance.

Program and Materials

The program is mandated using language similar to that in Act 101. Further requirements are provided in the program regulations, adopted in December, 1994 and attached to the ordinance. A sustained public information and education program is required for all mandatory recycling collection programs. The materials required for recycling by commercial, municipal and institutional establishments are outlined in both the ordinance and the regulations as high-grade paper, corrugated paper, aluminum, and leaf waste. This satisfies the requirement of Act 101. The commercial recycling collection is required to be done by a licensed hauler, at least bi-monthly.

Reporting

The reporting requirement for commercial establishments is spelled out in detail in the ordinance. Reports are required to be submitted annually to the Township by each commercial establishment, and must be accompanied by valid documentation of the type and weights of recycled materials, and the amount of solid waste generated by the establishment. The reporting requirement may be satisfied by a letter from the recyclables collector verifying that the establishment recycles and providing weight documentation for the materials. The collector is allowed to report aggregate amounts recycled from commercial establishments, and the ordinance does not require recycling haulers to provide customer lists.

Enforcement

Violators of the terms and requirements of the recycling ordinance can receive written warnings of non-compliance for the first and second offenses. Upon the third offense, penalties upon conviction range from \$100 to \$1000, plus prosecution costs. No enforcement actions have been taken by the Township to date.

Education

The Township of Pine's ordinance specifies that entities must develop a recycling educational program. The education program for commercial establishments is required to include, at a

minimum, an annual meeting and orientation about the program to all new employees. Recycling containers must be marked with the type of recyclable(s) accepted, along with the recycling symbol, and signs are to be placed indicating the program requirements.

Multi-Family Residences

A multi-family complex with more than four units is not required to participate in the Township's mandatory cart-based residential recycling program. To meet the recycling mandate, owners, landlords, managers or agents are required to establish recycling collection containers on the property for residents' use. They must also provide written instructions to occupants to inform them of the program and instruct them as to proper use. However, these owners, landlords, managers or agents are not responsible for non-compliance with the program by the occupants. The Township Recycling Coordinator has attempted to recruit management of the one multi-family complex to recycle certain materials, specifically newspaper, and has met with resistance.

Suggestions for Ordinance

The Township of Pine's Recycling Ordinance complies with the requirements of Act 101 in that it requires mandatory commercial recycling, requires reporting of tonnage, and specifies the particular materials to be recycled. However, in some areas the ordinance is more specific than it needs to be, while others are not specific enough.

We suggest that improvements to the ordinance address the following issues:

- Emphasize that the requirements for mandatory commercial recycling come directly from the Commonwealth of Pennsylvania, through Act 101.
- Reinforce the importance of tracking and reporting material tonnages by the hauler or recycling service provider. Consider adding language that phases in specific penalties for lack of reporting, and also drafting a simple reporting form similar to the PA DEP's "Annual Commercial Recycling Report" form;
- Consider adding a section specific to the responsibilities of private haulers in the ordinance. It would emphasize the reporting requirement, and perhaps, similar to the Town of Bloomsburg, protect haulers from loss of business due to refusal of customers to comply with the recycling mandate.
- Eliminate the requirement for a Waste Minimization Plan, and instead draft the Township-approved form that could be distributed, on which a business could present a streamlined Recycling and Waste Reduction Plan for the mandated materials and any other materials they chose. The amount of detail currently required in a Waste Minimization Plan would most likely be daunting for a business that had never recycled before. It is also unknown how many or what types of businesses currently reach the 2,200 lbs.-per-month waste threshold. As an alternative, a more user-friendly planning kit could be developed by the

Township and distributed with the form to ensure that business managers understand how to plan for recycling. The planning kit could include the Commercial Recycling Fact Sheets provided as attachments to this report, along with information on local recycling service providers. The planning kit could also include an e-mailable report form, perhaps one that can interface with a program which would eliminate the need for data input at the Township level.

- Consider adding optional materials to the list of required materials for commercial businesses, such as glass, plastics and other materials included in the residential recycling program. These optional materials could be phased in at certain future dates to be specified by the ordinance, with the goal of reducing toxicity and problem materials while rewarding businesses for recycling certain materials that are not included in Act 101. Additional optional materials might include fluorescent lamps and ballasts; computer or electronic equipment; rechargeable batteries; pallets; etc.
- Changes to public ordinances require public hearings prior to adoption. It would also be advantageous to meet with a representative of the Pine Business Association to discuss these changes.

Successful Commercial Recycling Models from Other PA Communities

R. W. Beck conducted interviews with the recycling coordinators in the municipalities whose ordinances were analyzed to determine how the ordinance, combined with other initiatives or incentives, helped make commercial recycling successful. The objective of this research was to discover potentially transferable strategies or tactics that the Township of Pine could also use.

Town of Bloomsburg

The recycling coordinator in the Town of Bloomsburg reported that the ability of commercial businesses to utilize the municipality's recycling center at no cost was a significant incentive to commercial businesses. Bloomsburg allows commercial businesses to use its recycling center for all materials except corrugated paper. The Town recycling coordinator reports that many businesses self-haul their containers, newspaper and mixed paper to the center, and then contract for a recycling dumpster for OCC. The five largest bars in the Town have contracted together with a recycling hauler to bring their glass to the recycling center.

The Bloomsburg recycling coordinator reports that most businesses in the Town comply with mandatory recycling and have accepted any additional costs as "a cost of doing business." The recycling coordinator is not authorized to issue citations for non-compliance, but does circulate a letter to all businesses outlining the recycling requirements and contacts businesses that may be non-compliant by telephone.

City of Allentown

The City of Allentown is very different from the Township of Pine in its size, demographics and geographic location. However, the City has a successful commercial recycling program, and some of the procedures and policies may be applicable to the Township of Pine, taking into account these differences.

The City of Allentown, like Bloomsburg, also manages a drop-off recycling center and allows commercial businesses to use it. Again, the recycling coordinator said that availability of the recycling center provided a significant incentive for recycling by commercial businesses. The Allentown recycling coordinator explained that for a business, sending a \$7.00 per hour employee to the recycling center with a large load of recyclables might take two or three hours, at a cost of perhaps \$30 including fuel, and would be cost-effective compared to the local collection and disposal cost of that same material as trash, or as opposed to having a separate recycling dumpster serviced by a commercial hauler.

In Allentown, approximately 470 businesses in the city's central business district are enrolled in the municipal curbside recycling program. The only material not accepted curbside is corrugated paper. The cost for a business to use the municipal curbside program is \$223 annually, which entitles them to twice-weekly trash collection and weekly curbside recycling collection of cans, bottles, newspaper, and mixed office paper.

Allentown municipal solid waste staff participates in the "Solid Waste Education and Enforcement Program - SWEEP" As enforcement officers, staff have uniforms, I.D. cards, and ticket books. They visit businesses in the community to monitor solid waste and recycling, and can issue violation tickets immediately, as needed. The tickets are similar to traffic tickets in the way they are handled by the violator, and in the sense that they do not require the use of judicial resources. Staff report that compliance overall is very high.

To introduce the idea of mandatory recycling to Allentown's commercial businesses in the early 1990's the city sponsored a Task Force comprised of all types of stakeholders to provide input to their ordinance development. The city also sponsored a mini-conference about commercial recycling using input received from a survey done of all businesses with more than 20 employees. The issues mentioned in the survey, and addressed at the conference, included developing proper educational materials, and steps to set up a recycling program. The city therefore developed a simple, "how-to" manual and provided templates for educational posters, door hangers, and other collateral materials.

In Allentown, business license applications must include a description of how the business intends to manage its trash and recyclables. This functions as a planning requirement for businesses.

Springfield the Township

Springfield the Township in Delaware County does not have a municipal recycling center that businesses and commercial establishments can use. The Township requires businesses to contract with a hauler or other service provider for recycling services. The mandated materials are the ones stipulated in Act 101, but businesses are encouraged to recycle additional materials as well. The municipal Health Officer, acting as recycling coordinator, reports that no businesses have overcome the high cost of glass collection, and consequently very few are recycling glass. The cost of recycling the other materials has mostly been accepted as a cost of doing business in the Township. Small businesses are encouraged to partner with others and share recycling containers and services. The health officer frequently provides on-site assistance to businesses first setting up a recycling program.

The health officer has enforcement authority, and regularly checks compliance at food service establishments as part of their health inspections. A letter is sent to businesses through the municipal tax office informing them of the recycling mandate as part of the business license process. Reports of non-compliance generally originate from tenants in multi-unit buildings who either report that the building management company has not established a recycling system, or that other tenants are not recycling. Education for businesses is conducted as part of the on-site compliance checks or via printed newsletters and newspaper advertisements.

Commercial Recycling Program Options for the Township of Pine

The Economics of Commercial Recycling

Unlike municipalities where public policy considerations may favor recycling programs even at an increased cost, most commercial businesses choose recycling only if it is cost-neutral, or, preferably, costs less than disposal. The factors that are weighed in making this decision often reach beyond waste collection and disposal costs and into consideration of management support, labor availability, storage space, and risk assessment. Therefore, it can be difficult to argue for recycling on the basis of “avoided disposal costs” alone.

For a number of reasons businesses typically do not voluntarily seek out information on recycling alternatives. Waste disposal is usually a relatively small percent of any business’s operating costs. The exception may be in areas where tipping fees are unusually high, such as New York, New Jersey, and areas of eastern Pennsylvania. However, in the western part of the Commonwealth, disposal capacity is generally available at a relatively low cost. Unless there is evidence that a business is being overcharged or paying for unnecessary service, it is difficult to motivate managers to spend much time examining waste disposal costs. Competition among waste haulers for private business tends to ensure that prices are fair.

Business managers also often do not know what questions to ask about recycling. They may be dealing with an account representative from their hauling company who knows very little about

recycling services offered by his company, or lacks incentive to promote recycling services. If the waste collection and disposal is proceeding with no problems and no undue costs, there is a tendency to consider the system “not broken” and therefore not seek potential “fixes.”

Issues with storage space, including fire and safety as well as cost, often impede recycling initiatives for private businesses. Labor issues are also a factor – typically waste and recycling duties are carried out by low-paid labor, characterized by high turnover and often high costs to train for new tasks due to education and language issues. While this labor is low-cost, it is not free – if it is not being used for recycling, it is being used for other necessary tasks.

Even a hauler with the ability to offer recycling services to businesses may not be able to economically compete with low-cost disposal. This is especially true if the hauler has significant assets invested in disposal capacity, or, conversely, if the hauler has few or no assets invested in recyclables processing and must use, and pay for, processing capacity owned by another company.

These economic issues, combined with misinformation about the recycling marketplace, a concern that recycling will lower the quality of service the company currently enjoys, a perception that it will create litter, and possibly negative institutional memories from when “we tried recycling before and it didn’t work,” often make the job of persuading businesses to recycle difficult.

Overcoming Economic Constraints

The greatest advantage that the Township of Pine has in persuading commercial entities to recycle is mandatory recycling, required by the Commonwealth. The language in Act 101 is unambiguous in its requirement that municipalities administer this Act through their own policies and procedures. The Township of Pine’s ordinance is adequate in this regard, and can be improved as discussed above. However, mandatory recycling is not automatic. As the Township of Pine has discovered, without enforcement, businesses will often not take the initiative. Additionally, vocal business owners may convince elected officials, often on the basis of misinformation, that recycling is an undue cost and burden.

Additional leverage points are needed to supplement mandatory recycling and ensure that businesses are successful in implementing recycling programs. These leverage points, in the form of assistance from the municipality, can include the following:

- On-site assistance in assessing waste types and program options and helping businesses with initial compliance;
- Simple, easy-to-use planning and reporting forms and guidelines;
- A mechanism for stakeholder input to any changes being considered;

- Economic incentives, possibly passed-through from increased 904 grant funding; Similarly, a recycling coordinator may be able to show the business how it might be able to use a smaller dumpster or reduce the number of “pulls” per week if a separate recycling container is used, which may offset the cost of recycling;
- Partnerships with municipal collection for small, strategically-located businesses;
- Educational and promotional materials for employees, janitors, building managers, and others involved;
- Arrangements with material end-users and charity programs to motivate business owners;
- Consistent enforcement of the mandate, combined with user-friendly reporting forms, and backed up with penalties for willful non-compliance; and
- Positive feedback for complying with the recycling mandate, such as a special recycling recognition or awards program from business organizations such as the Chamber of Commerce, and feature articles about business recycling champions in the Township’s quarterly newsletter.

Potential Economic Incentives for Commercial Recycling

Using data from the Pennsylvania Statewide Waste Composition Study (April 2003, R.W. Beck), we estimated the quantity of recyclables potentially recoverable from the waste stream, if recycling efforts were increased. This increased tonnage could potentially result in additional grant funding to the Township of Pine through the Section 904 Performance Grants program. The waste composition study estimated the composition of the disposed waste stream in different regions of the state, by demographic sector (urban, suburban, rural) and by generating sector. Table 7 presents the amount of certain recyclable commercial waste, by percent of waste stream, in southwestern Pennsylvania’s suburban waste stream, and it provides an estimate of the potential recovery of this material.

The estimate of commercial waste tonnage was calculated using the residential tonnage figure provided to the Township by Vogel Disposal and the percentages of residential and commercial tonnage from the DEP’s waste composition study. Residential waste reported by Vogel in 2005 was 3,454 tons. If this represents 54 percent of waste generated, then the remaining 46 percent is commercial or industrial, which is 2,942 tons. For calculation purposes and given the demographics of the Township of Pine, it is considered all commercial.

Table 7
Potential Commercial Recyclables (in Tons)

Recyclable Material	% In Commercial			
	Disposed Waste Stream	10% Recovery	25% Recovery	50% Recovery
Corrugated Paper	9.7	28.5	71.4	142.8
Office Paper	4.1	12.1	30.2	60.3
Mixed Paper	5.3	15.6	39.0	78.0
Newspaper	3.0	8.8	22.1	44.2
Magazines/Glossy	1.5	4.4	11.0	22.0
Aluminum Cans	.5	1.5	3.7	7.4
Total	24.1	70.9	177.4	354.8

Recyclable materials comprise almost one-fourth of the commercial disposed waste stream for suburban communities in southwest Pennsylvania. This total includes the mandated materials of high-grade office paper, corrugated paper, and aluminum cans, as well as several other paper grades that are significant and easily recovered. While glass containers are a heavy portion of the waste stream and are prevalent in some businesses such as restaurants and taverns, they only comprise 1.8 percent overall of recyclable commercial materials. Given the difficulties of glass source separation and collection, market issues, and the relatively low percentage of glass in the commercial waste stream, glass was not included in this calculation.

If consistent commercial recycling could reach the 50 percent recovery rate, either a portion or the entire amount of the increased grant funding could be awarded back to participating businesses for the purchase of recycling containers, educational materials, or other tools for compliance. Pass-throughs of 904 grant funding to generators are explicitly allowed by the Pennsylvania DEP. The Township could award these funds based on an application process from more needy businesses, or as part of an awards process for high achievers. Table 8 shows the increases in Section 904 Performance Grant funding that could potentially be achieved with increases in commercial recycling tonnage based on 2005 dollar-per-ton allocations. It should be noted that while 2005 dollar-per-ton figures are used in the table below, the Pennsylvania DEP does not guarantee that communities will necessarily receive the same tonnage rate each year.

Table 8
Estimated 904 Grant Award with Expanded Commercial Tonnage

Generator Category	The Township of Pine Performance Grants			
	2005 Performance Grant	Assuming Commercial Recycling Increases by 10%	Assuming Commercial Recycling Increases by 20%	Assuming Commercial Recycling Increases by+ 50%
Residential Tons	836.2	836.2	836.2	836.2
Commercial Tons	0	70.9	177.4	354.8
Total Tons Recycled	836.2	907.1	1,013.6	1,191
Recycling Rate	13.6%	14.75%	16.5%	19.4%
904 Grant Award ¹	\$15,557	\$17,915	\$21,792	\$29,060

¹ Calculated as follows: \$5 plus \$13.60 (or \$14.75, \$16.50, \$19.40) (based on recycling rate) times residential tonnage plus 1:1 match with commercial tonnage.

By recycling 50 percent of the readily available materials in the commercial waste stream, mostly paper materials, the Township could almost double its funding from Section 904 grants, if grant funding \$-per-ton rates remain as they were in 2005. For calculation purposes, the table above assumes that residential recycling remains steady, but in fact it can be expected to also grow significantly based on the results from 2006.

The additional material boosts the recycling rate, adding to the amount paid per ton, and applying it to more tonnage. Therefore, the grant funding grows faster than a simple linear relationship. For example, once a community increases their recycling rate from 13.6 percent to 19.4 percent, the amount paid for each incremental ton recycled increases from \$18.60 (\$5 plus \$13.60) to \$24.40 (\$5 plus \$19.40).

Local Commercial Recycling Service Providers

In the Township of Pine, the following haulers and other companies provide commercial recycling services¹:

- Vogel Disposal Services;
- Allied Waste Services;
- Joseph A. Brunner, Inc.;
- Allegheny Records Destruction;
- The Paper Exchange; and
- Abitibi-Consolidated Recycling Division.

¹ Other service providers for the Township of Pine may exist; the ones listed are the only ones known at this time.

A detailed description of each company's services is provided in Table 9.

**Table 9
Local Recycling Service Providers**

Company	Materials Handled	Containers Provided	Fee for Service
Vogel Disposal Service.	Corrugated Paper *	Slotted waste dumpsters	Not available
Allied Waste Services	No Information available.		
Jos. A. Brunner, Inc.	Corrugated paper, aluminum cans, 1-7 plastic bottles, steel cans, and office paper. No glass accepted. Will accept all materials commingled.	Dumpsters from 1 to 8 cubic yards in size, depending on customer's needs. Sizes of trash dumpsters in relation to recycling dumpsters can be adjusted depending on relative volumes of each.	Recycling dumpsters cost a little less than trash dumpsters.
Allegheny Records Destruction	Office paper, corrugated paper, microfilm and microfiche, plastic bottles, aluminum cans	Three options: Off-site document purge/clean-out; Off-site Monthly Service; On-site Mobile Service. Containers are secure 64-gallon Toters.	Paper shredding 9.5 cents/lb. Cardboard pickup N/C Containers \$49 for 1 st , \$19 each add'l, per container per monthly pick-up. Additional charge for add'l pick-ups. Additional charge for microfilm and fiche. Guaranteed destruction, notarized documentation.
The Paper Exchange	No information available.		
Abitibi Consolidated	Newspaper, magazines, catalogs, office paper, junk mail (not corrugated, phone books, chipboard)	7-yard dumpsters	Offered to non-profits, schools, or municipalities only. No charge for recycling container. Material revenue is paid to host organization. Private businesses can host a container if they pledge to donate the funds to charity of their choosing. Payment provide on the following schedule (per pick-up): <ul style="list-style-type: none"> ▪ Up to 3.99 tons - \$5 per ton ▪ 4 – 7.99 tons - \$15 per ton ▪ 8 tons or more - \$20 per ton.

Source: R. W. Beck telephone interviews with representatives from companies.
*Other materials and services may be available; limited information was provided.

Recommended Commercial Recycling Strategies for the Township of Pine

Based on the results of this analysis, R.W. Beck recommends that the Township of Pine pursue a multi-faceted strategy to reach the goal of increasing commercial recycling. The following recommendations should be implemented over a period of time to ease the transition to a fully compliant commercial recycling program with significant tonnage recovery.

Revise Recycling Ordinance

The Township of Pine's recycling ordinance currently complies with the requirements of Act 101 for a mandated recycling community. However, some technical changes to the ordinance language would improve it, and the process would demonstrate to stakeholders that the Township is serious about re-working its commercial recycling program toward greater compliance and success, similar to the improvements already made in residential recycling. Specific recommended ordinance changes were provided previously in this report. General guidelines for revising the ordinance include:

- Draft particular language and develop arguments for the priority improvements or additions to the Ordinance that are crucial to the Township. These will be used to introduce the objectives of the revision process and to guide stakeholder discussion. The process of including stakeholder input does not work if it results in delays and no output. Some examples of what might be included or deleted from the ordinance were provided previously in this report.
- Be prepared to compromise. For example, eliminating the requirement for "waste minimization opportunity assessments" and removing glass from the list of materials required to be recycled may be seen as generous concessions from the Township by stakeholders who then might be persuaded to accept some provisions they may otherwise oppose.

Improve Outreach to Businesses

- The Township of Pine Recycling Coordinator should meet with a representative of the Pine Business Association to discuss the commercial recycling changes that the Township of Pine is considering.
- The Recycling Coordinator should identify and promote the efforts of "Recycling Champions" in the business community. These champions would be businesses in the Township of Pine that already have active recycling programs and recycle significant volumes of the mandated paper materials. The champions could help the Township learn how successful commercial recycling is done. They may also provide role models for other businesses to learn how to recycle cost-effectively.

- The Township of Pine recycling coordinator should visit with the managers of these businesses and learn what makes their programs successful, and how they overcame the challenges of cost, space, and participation. Potential champions identified by the fall 2005 survey include; First Commonwealth Bank, which recycles paper in a program with Allegheny Records Destruction and fluorescent light tubes with Scott Electrical in Greensburg, PA; Fish and Game Frontiers, which recycles paper with The Paper Exchange; Murtagh & Cahill, Attorneys at Law, which uses the Abitibi Consolidated recycling container at the Northland Public Library for its paper recycling; and Burger King on Perry Highway, which hosts a recycling container from Allied Waste. There may be other businesses equally successful at recycling – getting started with the ones identified above, and publicizing their efforts, would most likely motivate more businesses to come forward and report their successes.
- The Township would encourage commercial office buildings or shopping complexes to host Abitibi-Consolidated Paper Retriever² recycling containers for newspaper, magazines, catalogs, office paper, and junk mail, and additional recycling containers from a local service provider for corrugated paper and aluminum cans. These containers would provide for the recycling of all the mandated materials. Ideally, the office buildings identified would be the location of recycling champions, along with other businesses that have the potential to recycle the targeted materials but have not yet done so. The business tenants of the building or center would be encouraged to utilize the containers and maximize recycling participation by their employees. The general public would also be allowed access to the container, per Abitibi Consolidated guidelines. Also, according to Abitibi Consolidated guidelines, the host businesses would be required to sign an agreement whereby any funds generated from recycling would be donated to a charity or non-profit organization of their choice.

The Abitibi-Consolidated “Paper Retriever” program offers four strong benefits:

- Funds are generated via recycling. These funds are donated to a not-for-profit community service organization, school, or charity of the participants’ choosing. The organization can be local to the community
- Containers are placed at local businesses and serviced for no charge to businesses that host the containers, provided the funds generated are donated to a community service charity, school, or other eligible not-for-profit or government organization
- The program accepts a wide range of paper grades, and the degree of preparation is flexible (i.e. shredded paper in plastic bags is acceptable)
- A monthly tonnage report is provided to the host organization by Abitibi-Consolidated

² Information about the Abitibi-Consolidated Paper Retriever Program, including a detailed brochure and a sample contract, are included as attachments to this report.

While the businesses themselves would not realize any revenue for the material generated, it is likely that they would comply with the recycling mandate on behalf of a popular charitable organization.

Continue to Work to Overcome Commercial Recycling Barriers

Address Logistical Barriers

The Recycling Coordinator would continue to develop and refine tools for businesses to use toward more effective and efficient recycling. These tools may include on-site waste audits for particular businesses, a series of “Recycling at Work” fact sheets for specific types of businesses, and an ongoing program to continue to promote and recognize businesses with successful, sustainable recycling programs. Other helpful materials the Township might consider providing include research and recommendations about desk-side containers and collection bins and educational materials for janitorial services, including multi-lingual aids.

This report includes two brief educational fact sheets addressing commercial recycling, “Developing a Recycling Program at Work,” and “Recycling in Offices”. These fact sheets would be used as part of any outreach activities to businesses and institutions.

Address Public Policy Barriers

The Township may want to explore two particular public policy changes that could provide significant benefits to businesses that desire to recycle and the Township that desires to increase its tonnage recovery. The first is a resolution to pass-through some Section 904 Performance Grant funds to commercial establishments and the second is a modification to the residential curbside collection system to allow small businesses to participate.

Resolution to Pass Through Some Section 904 Grant Funds to Commercial Establishments

A resolution to pass-through increases in 904 grant funds, over a certain amount, directly to commercial establishments in order to assist the commercial entities in implementing or improving their recycling programs would provide a financial incentive and reward for entities that recycle.

Table 8 in this report illustrates the potential increase in Section 904 tonnage grant funding that the Township could realize with increased commercial recycling. In order to encourage more commercial recycling activity that directly contributes to this funding, it is reasonable to use some of these funds for that purpose. R.W. Beck recommends that the Township designate a certain commercial recycling percentage, over which any additional funds be passed through to businesses. Designating a percentage ensures that the Township will reap some benefits from its initial activities as outlined in this report, and also could serve as a challenge to commercial businesses to ramp up their recycling activities for the chance to directly benefit.

Modification of Residential Curbside Collection System

Modifying the residential curbside collection system to allow small businesses that are located adjacent to residential collection areas to participate in the program would encourage small businesses to recycle, without imposing a large financial burden on them. Therefore the Township should consider making a change to the residential recycling program that would allow small businesses to participate in that system and recycle with blue carts, for a small fee. This option would only be offered to small businesses, which could be expected to generate approximately the same amount of recyclables as residences. A definition of these “small” businesses would have to be drafted, as would a method of quantifying or indexing the amount of expected recyclables generated (i.e. “businesses with two or fewer employees” or businesses of a certain type). A survey would have to be conducted to identify businesses that might qualify. It would be reasonable to limit participation to those businesses adjacent or very close to existing residential collection routes, to avoid additional travel costs. The capacity of the recycling truck and of the processing facility to handle additional materials would need to be verified with Vogel Disposal Services, the residential recycling contractor. Additionally, the allowable materials and the fee to be paid would have to be defined. The City of Allentown reports that 407 businesses participate in their curbside program, at a cost of \$223 per year per business. The fee allows businesses to recycle all residential materials, as well as to have curbside trash collection. The number of eligible businesses in the Township of Pine would certainly be far less than this. A decision about whether to allow small businesses to use the residential trash system or recycle additional materials would again involve an assessment of the capability of Vogel Disposal Services.

Conclusion

Improving commercial recycling in the Township of Pine would bring the Township and its commercial establishments into compliance with Act 101 mandates, but it would also have other benefits. An improved and robust commercial recycling program in the Township of Pine could increase the recycled materials for which the Township could receive credit and additional grant funding from DEP’s Section 904 Performance Grant program. Support for recycling from local business leaders who are identified as Recycling Champions could provide leadership by example and encourage greater enthusiasm for recycling among all sectors of the community. Additionally, local recycling service providers could benefit from the increase in their business.

Ms. Kathryn Socash
The Township of Pine
December 27, 2006
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I hope that these recommendations are helpful to the Township as it moves forward. Please do not hesitate to call me at (828) 231-1873 or email me at schilds@rwbeck.com if you have questions or would like further assistance.

Sincerely,

R. W. BECK, INC.

A handwritten signature in black ink that reads "Sandi M. Childs". The signature is written in a cursive style and is contained within a light gray rectangular box.

Sandi M. Childs
Consultant

SMC:ls

Attachments