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Recycling Works

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Piedmont Biofarms Keeping it Local

by Brian Rosa, Organic Recycling Specialist

Located in Chatham County, Piedmont Biofuels Industrial LLC has been a driving force in the biofuel industry for several years and is now home to several 'green' businesses. Last year, it introduced Piedmont Biofarms LLC, a subsidiary of PBI. Piedmont Biofarms uses about two acres of land to grow organic produce. Farm manager Doug Jones has turned this fallow ground from a weed-infested field into a cornucopia of beautiful, vibrant produce.

To conduct this project, Piedmont Biofarms received a composting and demonstration permit from the N.C. Division of Waste Management. The goal of the project is to process 50 pounds per day for one year.

With the assistance of a N.C. DPPEA grant in 2007, Piedmont Biofarms was able to implement a food waste vermicomposting

project to manage onsite food scraps as well as prep food from a local grocery co-op, Chatham Market Place. Housed in Piedmont Biofarm's greenhouse is a 4-foot by 8-foot-long vermi (worm) flow-through digester. This unit contains 100 pounds of red wiggler worms that consume and digest about 50 pounds of food per day.

As part of the grant, Piedmont Biofarms purchased 20 green bins for collection of prep food waste from Chatham Market Place. Three times a week, Amanda Sands, vermi project specialist, collects and processes food scraps by running them through a grinder that pulverizes the waste into an oatmeal-like feedstock (see photo, this page). This is spread over the surface of the bed in the vermi unit to feed the worms. The containers are sanitized and switched out at each collection.

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Piedmont Biofarms' Amanda Sands feeds food scraps through a grinder to produce feedstock for its vermi digester.

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Southeast Recycling Development Council Moves Strategically Toward Goals

by Diane Davis, SERDC Executive Director



With the adoption of strategic goals for 2008 and beyond, the Southeast Recycling Development Council is poised to advance sustainable recycling in the region and fulfill its mission at an even greater pace. SERDC's mission is to unite industry, government and non-governmental organizations to promote sustainable recycling in the Southeast. It is a mission whose time has come.

As regular readers of *Recycling Works* well know, recycling is appreciated for its environmental benefits, but underappreciated for the strong role it plays in growing the economy and helping domestic manufacturers thrive in an era of global competition. Recycling marries the often opposing ideas of "sustainable" and "development" in a direct way and represents one of the most immediately available means of achieving both ideals.

SERDC's core purpose is to increase the knowledge and understanding of municipal officials and others regarding recycling's economic impact. These changes in perception hold the key to increasing support for recycling across the region.

Conditions could not be better for intervention. In part due to the recent attention placed on climate change and the role we play in this, businesses and municipalities across the region are increasingly interested in "greening" themselves in every way. There is pressure from every sector to move toward a more sustainable way of life, including waste reduction and recycling. SERDC recognizes these factors and has positioned itself to make a difference through recycling for the benefit of all.

SERDC has grown from a handful of recycling visionaries to a widely-recognized and respected recycling organization covering an 11-state region with industry, government and recycling association membership and support. SERDC's 11-state region includes Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee and Virginia.

In 2007, SERDC participated in and supported state recycling organization efforts in its region. By providing such forums for communication, SERDC helped unify efforts of industry, government, associations and organizations to advance sustainable recycling. Furthermore, SERDC's first executive director was brought on board in September 2007 (see photo item below) to assist in the administration, development and management of programs/projects and to ensure the continued strong growth of the organization.

Primary goals of SERDC for 2008 and beyond are to:

- Foster improved communication between industry, government and non-governmental recycling organizations,
- Raise awareness and educate municipal officials and others on recycling's role and potential benefit in moving toward a more sustainable future,
- Work to define and remove barriers to advancing sustainable recycling in the Southeast,
- Develop programs and projects to increase recovery of recyclable material in the Southeast through partnerships, promotion, education and technical assistance, and
- Begin work to conduct an economic impact study of recycling in the Southeast and deliver the findings to decision makers.

You can learn more and obtain membership information for SERDC by visiting its Web site at www.SERDC.org or by contacting Diane Davis, executive director, at (910) 572-1658 or diane@serdc.org.

SERDC Names Davis New Director



On Sept. 1, 2007, Diane Davis assumed the duties of the Southeast Recycling Development Council's newly-created position of Executive Director. Davis, (third from the left) is shown here with (l-r) Mark Lester, SERDC's secretary, Alabama Power, Suzette Thomason, treasurer, Steel Recycling Institute, and Arthur Ferguson, chair, KW Plastics.

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After three to four months, the worm castings will then be mechanically harvested from the bottom of the composting unit and sent to the N.C. Dept. of Agriculture and Consumer Services' Agronomic Services Division and a private laboratory for analysis. The project will supply data in an effort to prove that the system is capable of handling the volume of feedstock and that the end product is safe. Specifically, the results will provide the following:

- Amount of castings produced per day (based on 50 lbs/day feedstock)
- Nutrient value of castings (NPK, C:N, pH)
- Pathogen destruction
- Impact on waste reduction from Chatham Market Place

When approved by the Division of Waste Management, the castings will be marketed for sale locally as a plant and soil enhancement. Jones says, "Piedmont Biofarms is committed to completing the loop from food to soil to food, and keeping it local."

After successfully completing the demonstration period, Piedmont Biofarms hopes to expand the size of the vermi unit and volume of feedstock production, and increase sales of worm castings.

Three years ago, parent company Piedmont Biofuels made a huge leap from generating hundreds of gallons of biodiesel from waste grease to an industrial-sized operation. In 2005, PBI purchased and recycled a neglected chemical plant near the town of Pittsboro. Its plan is to



Piedmont Biofarms' vermi flow-through digester contains 100 lbs. of red wiggler worms that consume about 50 lbs. of food per day.

process one million gallons of biodiesel per year from reclaimed fryer grease, chicken fat and other assorted feedstocks.

A few other 'green' businesses housed in PBI's complex include: Eastern Carolina Organics, an organic produce distributor with a focus on distributing certified organic produce grown in North Carolina; Screech Owl Hydroponic Greenhouse, hydroponically-grown lettuces and greens; and Green Bean Counter Services, providing book-keeping/accounting service to 'green' businesses.

Contact Amanda Sand at (919) 545-2558 or visit www.biofuels.coop for more information about the company.

Note: Piedmont Biofuels and Piedmont Biofarm will be featured at this year's Carolina Recycling Association Conference Tour, along with the several other food diversion projects. See ad on p. 6 and visit www.cra-recycle.org to register for the conference.

LOANS FOR RECYCLING COMPANIES

A Project of the N.C. Environmental Loan Fund

Commercial & SBA Loans from \$10,000 to \$2.5 million for Collection, Processing, Composting, Reuse, Organics, Recycling Equipment & End-Use Manufacturing.

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N.C. Environmental Loan Fund: Self-Help established the N.C. Environmental Loan Fund to provide financing to small businesses and other organizations that preserve our natural resources. Projects that are targeted for financing include recycling firms, land conservancies, environmental consulting and services, environmental equipment firms, and sustainable development products and services. Self-Help has extended more than \$6 million in financing to this growing and important segment of our economy.

DPPEA Announces ABC Recycling Grants

by Scott Mouw, Chief, Community & Business Assistance Section



The law requiring ABC permit holders to begin recycling of bottles and cans on Jan. 1, 2008, has spurred recycling business and program development in North Carolina. As the more than 8,000 permit-holders have sought services to help them comply with the requirements, recycling companies and a number of local governments have stepped up to the plate, investing in trucks, trailers, containers and other equipment to run collection routes.

In late 2007, DPPEA conducted a grant round to encourage the development and expansion of these services. In December, DPPEA awarded five grant contracts to municipalities and eight to private companies totaling \$182,242 in funding. The grant projects will result in new collection services for hundreds of permit-holders in a wide variety of regions in the state. Below is a brief description of the grant recipients and their projects:

- Best Disposal (\$18,000) will offer recycling services to its permit-holder clients in the Davidson County area with funding for carts and a cart-dumping system.
- Coastal Enterprises (\$20,000) will work with Onslow County to purchase a truck and containers to serve permit-holders in the Jacksonville area.
- The city of Conover (\$14,071) will use carts and a supplemental drop-off center to provide recycling to all permit-holders in the city limits.
- C. Todd's Recycling (\$14,192) will purchase a hydraulic trailer and carts to offer services to permit-holders in New Hanover and nearby counties.
- Curbside Management (\$20,000) will invest in a new truck and recycling containers to provide collection in the Asheville area.
- FCR (\$7,200) will use grant funding to expand the glass bunkers at its MRF in Charlotte, in anticipation of a large increase in glass from permit-holders.
- The city of Greensboro (\$9,300) will buy carts to serve permit holders in the downtown business district.
- MAR's Recycling (\$18,000) will buy a truck and containers to expand its permit-holder collection services in Mecklenburg and surrounding counties.
- Orange Recycling (\$20,000) will use grant funding to help purchase a new truck dedicated to ABC collections.

- Pickett-Up Recycling (\$9,600) is starting a recycling business for permit holders in Charlotte with a grant for carts and a collection trailer.
- The city of Raleigh (\$10,800) will buy containers to expand its downtown recycling program for permit-holders.
- The city of Wilmington (\$14,329) will initiate service to downtown businesses with carts and a small collection vehicle.
- The city of Washington (\$6,750) will use grant funds for carts to provide recycling to all of its permit-holders.



DPPEA is currently accepting accepting additional proposals that address the infrastructure need for recycling service to ABC permit holders. Businesses can apply for an **RBAC grant** by Feb. 1. **Local governments and non-profits** can apply for a grant by Feb. 15.


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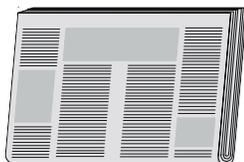


Bar and Restaurant Recycling Case Study: Elmo's Diner

by Rachel Eckert, Recycling and Green Purchasing Coordinator

Elmo's Diner has two locations and both have recycled from the start. While the city collects recycling from the Carrboro location, the Durham location has been open 10 years and contracts for recycling service on its own. A combination of economic and philosophical drivers encouraged Elmo's to start recycling. The restaurant generates a great deal of recyclable materials, especially plastic milk jugs. Even when crushed, the jugs take up considerable space. Management supports recycling and finds that it definitely reduces the number of garbage pickups it has to pay for weekly.

Employees put recyclables in one location inside and take them to the bins behind the restaurant at the end of their shift. Containers are rinsed in a separate location and employees are encouraged to take materials out as needed to avoid overflows. Sorting has improved with practice, but container crushing is still a challenge due to time limitations. If containers aren't crushed, a week's worth of recyclables will not fit in the bins.



Recyclers in the News

Habitat for Humanity ReStore of Charlotte

To further its mission of reducing waste and diverting usable materials from landfills, the Habitat for Humanity ReStore of Charlotte has taken a significant step to expand its deconstruction services by purchasing a 16-foot box-body truck with hydraulic lift gate.

"The purchase of this vehicle will enable us to dramatically increase the efficiency of the deconstruction program," said Frank Reed, director of ReStores.

For more information about Habitat for Humanity ReStore of Charlotte, contact Frank Reed at (704) 717-7040 or freed@CharlotteRestore.org. Or visit its Web site at www.CharlotteRestore.org.

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Elmo's Diner in Durham recycles cardboard, plastic and glass bottles and jugs, metal cans and newspapers.

Elmo's purchased seven outdoor recycling bins from its hauler, using roughly three to four for plastic, two for metal and one for newspaper, all collected once a week. The restaurant even makes a concerted effort to recycle products customers bring to the restaurant, like newspapers. Elmo's also recycles all of its cardboard boxes.

Employees are shown the recycling location on their first-day tour and told what is and is not recyclable. Manager Cammie explained, "servers have duties to perform at the end of each shift and one set of duties includes taking the recycling out. I don't think it is a favorite duty, but our staff is environmentally concerned."

Natural Capital Investment Fund

NCIF makes loans and investments in the \$35,000 to \$250,000 range, primarily to expanding businesses.

Recycling businesses interested in NCIF funding should contact

Rick Larson at rlarson@conservationfund.org or by phone at (919) 967-2223.

NCIF is an affiliate of The Conservation Fund, a national non-profit with a unique commitment to balanced land and water conservation solutions that emphasize the integration of economic and environmental goals.



Recycling Business Financing Workshop a Success

by Matt Ewadinger, RBAC Manager



Dale Harrold, Self-Help's Charlotte regional director, explains to workshop attendees what lenders look for from loan applicants.

More than 30 entrepreneurs and small business owners attended the Nov. 13, 2007, Recycling Business Financing Workshop held at Self-Help's Charlotte offices. Participants represented a wide variety of recycling fields including plastics,

gypsum drywall, construction and demolition, paper and electronics.

"The program was very informative and educational. I would enthusiastically encourage any recycling business owner to attend the follow-up workshop in Raleigh in March," said Steve Davis, owner of Union Gypsum in Marshville. "The workshop provided a practical hands-on approach for development of new recycling businesses or expansion of existing operations."



CRA Conference to Feature Recycling Business Financing Workshop Part II

Building on the success of the Recycling Business Financing Workshop held on Nov. 13, 2007, (see related news above), the N.C. Recycling Business Assistance Center in partnership with Self-Help and the Natural Capital Investment Fund will hold a follow-up workshop at the Carolina Recycling Association's 18th Annual Conference and Trade Show in Raleigh (see ad, this page).

In addition to speakers from the organizations mentioned above, Don Stewart, director of the N.C. Rural Economic Development Center's newly formed Rural Venture Fund, will present. New topics will also include the U.S. Small Business Administration's 504 loan program.

Recycling Works is published by the N.C. Recycling Business Assistance Center, a program of the Division of Pollution Prevention and Environmental Assistance of the N.C. Department of Environment and Natural Resources. For more information call (919) 715-6500 or (800) 763-0136, or write to DPPEA, 1639 Mail Service Center, Raleigh, NC 27699-1639.

Michael F. Easley, Governor, North Carolina
William G. Ross Jr., Secretary, Department of Environment and Natural Resources



Division of Pollution Prevention and Environmental Assistance
Gary Hunt, Director

Scott Mouw, Chief, Community & Business Assistance Section
Matt Ewadinger, RBAC Manager
Matt Todd, RBAC Market Development Specialist
Wendy Worley, RBAC Market Development Specialist
Sherry Yarkosky, RBAC Market Development Specialist
Ben Rogers, RBAC Industrial Development Specialist
Chris Frazier, DPPEA Information & Communications Specialist



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Habitat for Humanity of Wake County Restore

Habitat for Humanity of Wake County Restore expanded its home this past November. The new 50,000 sq. ft. building sits on 6.5-acres located just north of the beltline in Raleigh. A key feature of the new facility is adequate space to train future Habitat homeowners.

With the additional space the deconstruction program is able to expand and, in partnership with the city of Raleigh, the location will become a community recycling drop-off site for cardboard, mixed paper and commingled containers in the fall of 2008. For more information about the Habitat for Humanity of Wake County ReStore visit its Web site at www.habitatwake.org.

Plastic Revolutions Inc.

Reidsville, North Carolina-based Plastic Revolutions, a plastics recycler and manufacturer, has relocated and expanded its operations. The company moved 1.5 miles to a facility that sits on nearly 31 acres and has about 300,000 square feet of space.

Plastic Revolutions currently processes and sells about three million pounds of reclaimed plastics per month. The plant offers many services including granulation services and washing and drying of scrap plastics. Over the past few years, growth has been steady at about 20 percent. The company has grown from 42 employees in 2006, to 55 in 2008.



The Recycling Business Assistance Center is a program of the North Carolina Division of Pollution Prevention and Environmental Assistance.

Call (919) 715-6500 or (800) 763-0136 for free technical assistance and information about preventing, reducing and recycling waste.



North Carolina market prices for recyclables

Prices current as of Jan. 18, 2008

Item	Western Region	Central Region	Eastern Region
METALS			
Aluminum Cans, lb. loose	\$0.84	\$0.82	\$0.835
Steel cans, gross ton baled	\$170	\$110	\$200
PLASTICS			
PETE, lb. baled	\$0.21	\$0.19	\$0.21
HDPE, lb. baled	Natural	\$0.41	\$0.32
	Colored	\$0.31	\$0.27
PAPER			
Newsprint, ton baled	\$135	\$115	\$132.55
Corrugated, ton baled	\$125	\$115	\$115
Office, ton baled	\$230 (SOP)	\$210 (SOP)	\$280 (white ledger)
Magazines, ton baled	*	\$105	**
Mixed, ton baled	\$100	\$95	\$105
GLASS			
Eastern Region sells glass F.O.B. origin			
Brown, ton crushed delivered	\$15	\$16	\$17
Clear, ton crushed delivered	\$25	\$26	\$21
Green, ton crushed delivered	(\$0)	\$0	(\$7.50)
<p>*Markets with mixed paper. **Markets with newsprint. Note: Prices listed above are compiled by RBAC and are for reference only. These prices are not firm quotes. RBAC obtained pricing information from processors for each category and developed a pricing range.</p>			

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