



**NORTH CAROLINA
RECYCLING BUSINESS
ASSISTANCE CENTER**

A cooperative effort of the North Carolina Department of Environment and Natural Resources and the North Carolina Department of Commerce.

Recycling Works

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Company brings "light" to recycling in North Carolina

By Diane Minor, RBAC Environmental Engineer

EnviroChem of Apex, N.C., has installed a state-of-the-art system for recycling fluorescent light bulbs and other lights containing mercury (LCM), making it the first LCM processing facility in North Carolina.



EnviroChem uses a self-contained recycling system for recycling fluorescent light bulbs and other lights containing mercury (LCM). Resulting components are glass, aluminum, calcium powder, and mercury. Located in Apex, N.C., it is the first LCM processing facility in the state.

Did you know that every four-foot fluorescent lamp could contain as much as 40 milligrams of mercury?

In North Carolina, about 13 million lights containing mercury (LCM) are discarded each year. Approximately 650 million LCMs are replaced annually in the United States, making them the second largest source of mercury in municipal refuse, according to the Environmental Protection Agency. Since high levels of mercury can damage the brain, kidneys, and a developing fetus, any effort to reduce mercury in the municipal waste stream is encouraged.

Not only is EnviroChem a pioneer in LCM processing in North Carolina, but its

(See Light, page 4)

Inside

Growing a recycling business 2

Southeastern Recycling Investment . . . 3

Environmental benefits of recycling . . . 5

A Change from the Usual Recycling Works Format

This issue of *Recycling Works* includes a copy of the United States Environmental Protection Agency's *JTR Grantee Series: North Carolina*, which describes the mission, goals, and activities of the Recycling Business Assistance Center. We will return to our standard format with the publication of our next issue.

Experts offer advice for growing a recycling business

By Kathleen Gray, RBAC Market Development Specialist

The following insights were offered during a session entitled "Growing a Recycling Business" at North Carolina's Recycling Association's eighth annual conference and trade show in Greensboro in March. The session highlighted three perspectives about making a business thrive. A lender, a successful recycler, and a technical assistance provider offered ideas.

The Lender's Perspective

Bob Schall, president of Self-Help Ventures Fund, emphasized that lenders want to evaluate risk before investing in recycling businesses and described three key types of risk that lenders typically examine: management, market, and repayment.

According to Schall, "Talented management is critical because people make corporations work." When evaluating management, lenders typically examine the skills of the management team in finance, production, marketing, sales, and personnel. They also look at professional experience and leadership positions.

Market risk is another area lenders scrutinize. "This one [area] scares lenders to death," Schall said. "The more information that can be provided about the commodities handled, the better. For example, lenders will want to know whether the market is growing or shrinking, expected amounts of material to be handled, and whether that much material can be obtained. Lenders also will want to know about competition, specifically how competitors compare in terms of price, quality, delivery systems, and production."

Too many businesses say, "We have no competitors," hoping their corner on a market will encourage funding. Usually, it has the opposite effect. According to Schall, "That statement is never true in the U.S.," Schall said. "Even if there's no competition today, if your idea is a good one, others will emulate it."

Repayment risks are another major concern for lenders. They will want to examine cash flow to evaluate whether it is sufficient to make monthly payments. They also will want a well-defined fall-back position. In other words, lenders want guarantees that they will get paid. Often, lenders will ask for collateral, but they also may accept SBA (Small Business Association) guarantees.

Schall closed with this statistic: "Banks lose less than one-half of one percent per year on outstanding loans, which means your chances of success need to be exceptionally high. Ask yourself whether your business

stands a greater than 95 percent chance of being successful. It needs this chance of success to get traditional financing."

A Successful Recycling Business

Gary Pratt, president of P&R Environmental Industries (PREI), spoke from his experience in growing a plastic recycling business. PREI processes plastics (#1-7) and has grown from processing 1.5 million pounds of plastics monthly to more than four million pounds. The company also has expanded its employee base from 30 employees to 100. Pratt looked to company owners, "angel" investors, and the SBA to finance this growth.

Pratt offers this advice to recycling businesses:

- "You have to be willing to 'bet the farm' to show investors and lenders that you're behind the deal," said Pratt. If you're not willing to invest your own money or put up your assets, that raises red flags for investors.
- "Surround yourself with people who are smarter than you." Pratt relies on an informal advisory board, consisting of accountants, economic

(See *Recycling*, page 4)



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North Carolina well-represented at third Annual Southeastern Recycling Investment Forum

By Matt Ewadinger, RBAC Manager

Four North Carolina companies were among 12 existing and start-up recycling ventures across the southeast that shared their company history, current status, and plans with about 100 investors, economic developers, and fellow entrepreneurs at the third annual Southeastern Recycling Investment Forum in Charleston, S.C., on Feb. 23 and 24.

North Carolina companies tout metal, tire, vinyl siding and organics recovery **Doug King Associates, Inc.**, of Hendersonville, N.C., is a distributor of scrap metal recycling equipment and also markets recycled metals and paper. The company has entered an agreement with the U.S. Department of Energy to clean stockpiles of contaminated metal from 404 sites nationwide.

EnviroTire Recycling Technologies, LLC, produces crumb rubber at its Lillington, N.C., facility. EnviroTire is planning to expand its facility to produce finished products such as rubber soles for footwear. The company also wants to expand its marketing efforts in the automotive industry and to cultivate a market for children's tri-cycle wheels in China.

Polymer Reclaim & Exchange, Inc., is a processor/distributor of post-industrial plastics in Burlington, N.C. The company plans to upgrade quality and production at its existing site and to replicate its vinyl siding scrap program in a number of other states.

Vermicycle Organics, Inc., of Charlotte, N.C., plans to expand its current operations recycling solid animal waste generated by the hog industry. The company uses large-scale vermiculture operations to process the waste by allowing worms to break down the waste and produce a high quality natural fertilizer.

Helpful Hints Provided by Experts

Forum participants heard from Gerald Benjamin, senior managing partner of International Capital Resources, an investment banking, entrepreneurial finance, and capital sourcing firm headquartered in San Francisco. Benjamin is publisher of *The California Investment Review*, a



Officials from the four North Carolina companies that presented at the third annual Southeastern Recycling Investment Forum include (right photo) Doug King of Doug King associates, Inc., Chris Christenberry of Vermicycle Organics Inc., and Chuck Cooper and Kevin Riley of Polymer Reclaim & Exchange, Inc. Victor Sibilia of EnviroTire Recycling Technologies, LLC is pictured at left.

magazine that reports the developmental-stage ventures suitable for private equity or debt investment. He also is founder of Angel Lake Capital Partners, the largest nationwide private investor network, linking more than 9,800 investors with pre-screened ventures.

The topic of his speech was a book he co-authored entitled *Finding Your Wings: How to Locate Private Investors To Fund Your Venture*. In the book, Benjamin gives advice for determining if private investors are an appropriate source of capital for ventures and how to locate and establish a relationship with them.

Attendees also heard from Paul Garrett, president/chief executive of FCR, Inc. Garrett discussed FCR's experience as a high growth, successful recycling business that has prospered through the development of new facilities and acquisitions.

In addition to those from North Carolina, the following companies also were featured at the forum:

- ♦ American Tire Recyclers, Inc., (Fla.) produces crumb rubber and has developed Rebound, a patented soil amendment, and Rubberstuff, a trademarked playground safety surface.

(See *Recycling*, page 4)

Light, from page 1

process also results in 100 percent recycling of spent bulbs.

Here is how it works. Bulbs are fed into the system through a vacuum pressure air chamber and are imploded inside the machine (see photo, cover page). Then the calcium phosphate (powder) is separated from the mercury, glass, and aluminum/steel end caps using a six-stage separation and filtration system. The mercury is recycled, and the powder is exported to Pennsylvania where it is processed to remove all traces of mercury and then used in a pollution control product. The glass is sold to a company that uses it as concrete and asphalt aggregate, and the aluminum/steel end caps are sold to a metals processor.

The cost of disposal ranges from six to 10 cents per foot or about 24 cents for each four-foot lamp. (The purchase cost for this lamp is about \$3.)

EnviroChem is beginning to establish itself as a LCM recycling processor and is starting to compete with companies that broker these lamps to out-of-state processors. Jerry Deakle, founder of EnviroChem, said their system will handle a truckload in one shift, supporting eight to 10 jobs. Most of their LCM business comes from their current hazardous waste customers.

In addition to processing the LCMs for recycling, EnviroChem currently is working with Carolina Power and Light Company (CP&L) to develop a reusable box to transport spent lighting for recycling. For more information about LCM recycling or to recycle your spent bulbs, call Jerry Deakle at (919) 362-9010.

Requirements for managing LCMs are based on the amount generated monthly. Recycling is an improved method for any level of generation. For more information visit the Division of Waste Management at <http://wastenot.ehnr.state.nc.us/HWHOME/enflcm1.htm>.

Recycling, from page 2

developers, RBAC, and Small Business and Technology Development Center (SBTDC), among others.

- ♦ "It's important to hand a bank a doable deal." Pratt recommended first being honest with yourself, then extending that honesty to the bank. Try explaining the ins and outs of your deal. He recommended testing such presentations on your advisory board to identify potential problems.
- ♦ "Keep your banker informed of good and bad news." If things go awry, your banker can be an advocate for you, said Pratt. And in a bad situation, you will need someone who can go to bat for you.

A Technical Assistance Provider

Cynthia Clemmons, field representative for the Small Business and Technology Development Center (SBTDC), spoke briefly about her role in assisting the growth of recycling businesses. SBTDC supports the growth and development of North Carolina's economy by encouraging entrepreneurship, assisting in the creation and expansion of small businesses, and facilitating technology development and transfer for small businesses.

Clemmons highlighted two essential services SBTDC provides to recycling businesses. The first is assistance with business plan development. According to Clemmons, "We've perfected the ability to help people put together business plans. Although we will not complete business plans for our customers, we will help them do it." The second useful tool is the Capital Opportunities Report, an annual compendium of financing resources produced by SBTDC. For a copy, contact Carl Beal of SBTDC at (704) 548-1090.

Clemmons also cited three key factors in the success of a recycling business: industry experience, a successful track record, and the ability to convince bankers that you

are a good investment. SBTDC works with recycling businesses to address each of those factors. "Not everyone should be going into the recycling industry," Clemmons said. "We can help you see whether you're one of the ones who should."

Forum, from page 3

- ♦ Compost Works, LLC, (Texas) is a start-up company aiming to develop a large-scale commercial composting business in Houston, Texas.
- ♦ Advanced Cellulose Engineered Products, Inc., (Ohio) is planning to recycle waste wood and waste plastic to produce pallets and compounded materials under a patented technology.
- ♦ Vortex Combustion Company (S.C.) is a start-up company planning to design, manufacture, and market waste-to-energy combustion systems.
- ♦ Sunset Specialty Turf, Inc., (Fla.) grows specialty turf and groundcover using its patented biosolid process.
- ♦ Recycling Sciences, Inc., (Texas) manufactures a range of distillation equipment to recover contaminated solvents.
- ♦ National Landfill Management (Fla.) is a start-up company planning to convert conventionally operated landfills to its patented bioreactor technology.
- ♦ Environmental Solutions, Inc., (Va.) uses industrial and municipal waste streams as renewable raw materials to produce and sell agricultural and construction products.

Recycling has environmental benefits

By Kathleen Gray

We all have heard the familiar quote on the environmental benefits associated with recycled paper: One ton of recycled paper saves 17 trees and eliminates the need for three cubic yards of landfill space. What do these numbers really mean, and are they accurate? Instead of trying to justify old numbers, Edgar Miller of the National Recycling Coalition provided up-to-date statistics during a March session, "Recycling in the Popular World," at North Carolina Recycling Association's eighth annual conference and trade show in Greensboro.

This information can be used to educate customers and the public about the environmental benefits of recycling. Three primary benefits are identified below along with supporting data. Sources of these data are indicated in parentheses.

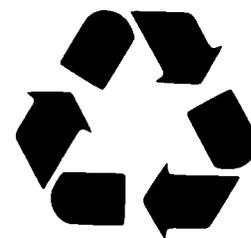
1. Recycling conserves energy and natural resources.

- Without recycling, the U.S. timber harvest would need to increase by 80 percent to meet fiber demand. Although we have three times more trees today than we did at the turn of the century, demand for paper production is now 15 times greater. (Natural Resources Defense Council, or NRDC)
- Recycling saves more energy than waste-to-energy facilities produce. (NRDC)

2. Recycling reduces the environmental impact of

mining and manufacturing.

- Recycling reduces mining waste. Non-fuel mining produces an estimated one to 1.3 billion tons of waste each year, an amount six to seven times the total amount of garbage generated by all United States municipalities. (Worldwatch Institute)
- Recycling one ton of aluminum uses 95 percent less energy than mining virgin ore, saving about 37 barrels of oil per ton. (NRDC)
- Manufacturing recycled newsprint generates fewer emissions than virgin newsprint in 11 of 14 categories. (Environmental Defense Fund's Paper Task Force)



3. Recycling reduces greenhouse gas emissions.

- Increasing the recycled content of containers and paper by 10 percent would reduce carbon emissions by 10 million metric tons. (American Council for an Energy Efficient Economy)
- Recycling and waste reduction will reduce greenhouse gas emissions by 9.2 million metric tons. (EPA's Climate Change Action Plan)

White goods update

It is now or never for white goods.

As most people are aware, the statewide advanced disposal fee for appliances will end June 30.

Most proceeds from the fee go to counties for the cost of white goods management. A portion also goes to the Solid Waste Trust Fund, which is the source of state grant funding for local waste reduction programs. The remainder goes into the White Goods Account, set up to provide funding to counties whose white goods expenditures exceed their white goods tax revenues.

Failure of the white goods tax to be extended will

result in a "triple whammy" for local programs. First, direct distribution of more than \$5 million dollars for white goods management will disappear. Second, the Trust Fund will be cut in half, severely limiting the amount of money available for local grants. Third, the White Goods Account also will disappear, eliminating a reserve to fund cost overruns in local white goods management.

Legislation extending the white goods tax passed the Senate in 1997, but must pass the House in the 1998 short session to become law. Counties that are concerned about the status of the white goods legislation may want to ask their local House representatives for more details.



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

Call (919) 715-6500 or 1-800-763-0136 for free technical assistance and information about preventing, reducing, and recycling waste.

North Carolina market prices for recyclables

Prices current as of Jan. 15

Item	Western Region	Central Region	Eastern Region
METALS			
Aluminum Cans, lb. loose	\$0.47	\$0.49	\$0.52
Steel cans, gross ton baled	\$75	\$80	\$60
PLASTICS			
PETE, lb. baled	\$0.115	\$0.11	\$0.12
HDPE, lb. baled	\$0.14	\$0.10	\$0.105
PAPER			
Newsprint, ton baled	\$30	\$70	\$35
Corrugated, ton baled	\$60	\$37.50	\$80
Office, ton baled	\$90	\$145	\$135
Magazines, ton baled	\$50	\$0	**
Mixed, ton baled	\$10	\$30	\$20
GLASS			
Clear, ton crushed	\$42	\$40	\$25
Brown, ton crushed	\$24	\$33	\$21
Green, ton crushed	\$15	\$8	\$2

**Facility sells magazines 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.

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Visit us at <http://www.p2pays.org/rbac1.htm>



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