



**NORTH CAROLINA  
RECYCLING BUSINESS  
ASSISTANCE CENTER**

A cooperative effort  
of the N.C. Department  
of Environment and Natural  
Resources and the N.C.  
Department of Commerce.

# Recycling Works

Volume 8, Number 2

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## New Waste Exchange Now Available for North Carolina

*North Carolina WasteTrader Web Site Launched*

*By Tom Rhodes, Waste Reduction Specialist*

### N O R T H C A R O L I N A **WasteTrader**

North Carolina's waste commodity trading service has gone live via the Internet, filling the gap left by the passing of the Southeast Waste Exchange three years ago. N.C. WasteTrader, a free waste exchange service developed by the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA), is available at [www.ncwastetrader.org](http://www.ncwastetrader.org). The service, made possible in part by support from the N.C. Energy Office, is North Carolina's marketplace for discarded or surplus materials.

Businesses, industries and local governments can use N.C. WasteTrader at no cost to reduce solid waste going to landfills. The exchange also reduces reliance on disposal as the preferred option for managing hazardous wastes. That alone can result in significant savings to governments, businesses and industries.

So, how does N.C. WasteTrader work? As an example, say "Z-Corporation" disposes of 20 cubic yards of Styrofoam packing peanuts every week at the local landfill and "Elizabeth's Ceramics," across town, needs massive quantities of the packing material

to safely ship its product through the mail. All Z-Corporation must do is list its packing peanuts on N.C. WasteTrader, so when "Elizabeth's Mail-Order Ceramics" clicks on the "Materials Available" function on the WasteTrader Web site, it can be seen at a glance that the Styrofoam peanuts needed are available. They can trade directly

*(See **Waste Trader**, Page 8)*

### Inside

<b>N.C. Directory of Markets Updated . .</b>	<b>2</b>
<b>SJF Invests in EvCo . . . . .</b>	<b>3</b>
<b>Financing Tips . . . . .</b>	<b>4</b>
<b>State Energy Office Loan Program . .</b>	<b>5</b>
<b>Recycled Content Noise Wall . . . . .</b>	<b>6</b>
<b>Pallet Recycling Workshops . . . . .</b>	<b>7</b>
<b>Business Development Workshop . . . . .</b>	<b>8</b>
<b>Commodities Pricing Sheet . . . . .</b>	<b>9</b>

## N.C. Directory of Markets for Recyclable Materials Updated

The State of North Carolina has recently completed an update of its Directory of Markets for Recyclable Materials (DMRM) – a document that lists recycling companies servicing N.C. business, industry, government and citizens. This directory now provides information on more than 620 recycling businesses accepting nearly 250 different recyclable materials. It is available online at [www.p2pays.org/dmrm](http://www.p2pays.org/dmrm).

Additionally, the search tools available in the online directory have been streamlined to improve ease of use, and the help page has been enhanced to provide more targeted assistance. Staff anticipates that these changes will ultimately make the DMRM more valuable to users.

The directory was also given a new look – one that helps to integrate it into the Web site of the N.C. Division of Pollution Prevention and Environmental Assistance. It is hoped that this will promote heightened use of that site by DMRM users who might benefit from the enormous amount of recycling and waste reduction information provided.

In an effort to maximize the accuracy and completeness of the DMRM, the update process involved many steps and quality control procedures, performed by several state recycling professionals. This process was broken down into three main stages: (1) review of all past entries (companies and materials), (2) survey of all appropriate past companies, and (3) search for and addition of new companies. The update took six months to complete and involved thousands of faxes, e-mails, letters and phone calls, not to mention the countless hours of coordination, research, computer code development, and review.

Despite this awesome effort, the staff believes that some markets are still not captured in the directory, and encourages anyone seeking recycling markets to supplement their research with such tools as local recycling offices and local yellow pages. Other tips for finding markets can be found on the help page of the

DMRM, at <http://www.p2pays.org/DMRM/help/>.

If you would like more information on recycling markets, or are a recycling company servicing North Carolina and are not listed in this directory, please contact Jason Hale at (919) 715-6542 or [jason.hale@ncmail.net](mailto:jason.hale@ncmail.net).

### Free Daily Pulp & Paper News Updates



The American Forest & Paper Association is offering a free new service that provides current news on forest, paper and wood products on a daily basis through e-mail. This service, called AF&PA SmartBrief, reports on forestry and wood, pulp and paper, science and technology, international issues and happenings within AF&PA.

To subscribe, visit AF&PA's Web site ([www.afandpa.org/](http://www.afandpa.org/)), click on "SmartBrief" and complete the short form provided. Once this form has been submitted, AF&PA responds with a welcoming e-mail, then begins sending a new edition of SmartBrief every day of the workweek.

AF&PA is the national trade association of the forest, paper and wood products industry. It represents member companies engaged in growing, harvesting and processing wood and wood fiber, manufacturing pulp, paper and paperboard products from both virgin and recycled fiber, and producing engineered and traditional wood products.

# Sustainable Jobs Fund Invests in Producer of Pulpable Paper Coatings

The Sustainable Jobs Fund LP (SJF), a \$17 million venture capital fund that invests in sustainable companies that generate quality entry-level employment, recently announced its \$500,000 investment in EvCo Research LLC (EvCo) of Atlanta, Ga. EvCo produces water repellent and strength-enhancement coatings for the paper and packaging industries. The EvCo coatings use patented polyester compounds derived from recycled PET soft drink bottles. Cardboard boxes protected by EvCoteT are fully recyclable and replace non-recyclable paraffin wax boxes.

"We're excited to help fund EvCo's growth," said David Kirkpatrick, SJF managing director. "EvCo is a great fit for SJF - the company has proprietary products with both strong market advantages and environmental benefits. In addition, production of their resins will help create quality employment in rural Georgia."



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- **create quality jobs for low-income citizens or locate in economically distressed regions of the eastern United States**

For more information,  
call **919.530.1177**  
or visit **[www.sjfund.com](http://www.sjfund.com)**

*“... the company has proprietary products with both strong market advantages and environmental benefits.”*

**-David Kirkpatrick  
SJF Managing Director**

In May 2002, International Paper introduced a new wax-free poultry package nationwide that uses EvCo products. The Albertson's grocery store chain estimates that it has already saved \$14 million in avoided waste disposal fees on wax boxes by moving to wax-free cardboard on which they earn recycling revenue. Other key partners using EvCo products include the Newark Group, Inland Container, Madison-Oslin, and Coca-Cola.

"We appreciate the support of the Sustainable Jobs Fund," said Scott Seydel, EvCo president. "EvCo has achieved several business breakthroughs this year and the Sustainable Jobs Fund is allowing us to effectively follow through for substantial market, ecological and employment results."

EvCo is SJF's 11th portfolio company. SJF invests throughout the eastern United States from its offices in Durham and Philadelphia, Penn. The Fund has invested \$5.3 million to date in businesses located in Georgia, Pennsylvania, Maryland, New York, Delaware, Massachusetts, New Jersey, Tennessee and Florida, which together employ more than 1,250 people. For more information on SJF or EvCo, visit [www.sjfund.com](http://www.sjfund.com) or [www.evco-research.com](http://www.evco-research.com).

# Notes From a Post 9/11 Banker - Part One

By Fred Broadwell, Commercial Loan Officer



The economy is looking up and some recycling prices are improving. Even the policy world is showing some signs of life, with talk of a national bottle bill and progress on computers and carpets. Despite these hopeful signs, when you finally decide to invest

in some growth and expansion, your banker just looks at you and frowns. What to do?

First, don't feel that you are being singled out. Banks are in the midst of working through loans that went bad in the wake of 9/11 and the overall slowdown. Every new loan is getting heavy scrutiny these days. Underwriting standards are more rigid and that won't change overnight. Maybe your banker is right and this isn't the best time to expand. Assess your project carefully and ask your banker for feedback. If you are still convinced your project is timely and worthwhile, here are some ideas for finding that needed cash.

**1) Play hard to get.** There is nothing like talking to your banker's rival to get him or her to perk up and pay you some attention. Bankers are competitive and don't like to lose a good customer. (These days banks view your company as a package deal; they want to provide you with a menu of services, including loans.) When negotiations start on an actual loan, use this "shopping around" to drive down the cost of your loan and improve the terms.

**2) Cultivate a banker, not just your bank.** With so many bank mergers going on, your bank may not exist next year. Banking is a personal business and you benefit by maintaining ties with an actual person in a bank if at all possible. Invite your banker for a friendly visit to your plant in advance of talking about a specific project. Also, if your favorite banker moves to another bank, tell him or her to keep in touch.

**3) Explore leasing.** Reduce the size of your bank loan or eliminate it altogether by using the services of a leasing

company. Leasing is often your best option for new equipment – the equipment dealer can refer you. Even used equipment can be leased in certain circumstances. Leasing works for one simple reason: should the leasing company need to repossess the equipment, they know what to do with it. This makes them more aggressive on rates, terms and conditions. The bank, on the other hand, is not an expert at selling used equipment and takes a big loss when they do. Equipment lending is definitely not their favorite thing to do.

**4) Explore factoring.** What if your new project involves a large and/or well-established customer who may pay you slowly? One option is to borrow a big chunk of working capital from the bank. A better option may be to call up a factor. Here's how it works. First, the factor

(See *Banker*, Page 8)

## 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.

Need a loan with reasonable interest rates and flexible underwriting standards? We may have the answer! Self-Help has the expertise and programs to help recycling businesses throughout North Carolina. Call today to learn how a Self-Help loan can strengthen your enterprise.



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[www.self-help.org](http://www.self-help.org)

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.

# State Energy Office Begins 2002 with Expanded Eligibility for Loan Program

Under recent legislation passed by the General Assembly, eligibility will be expanded for the **Energy Improvement Loan Program (EILP)**. The program is open to North Carolina businesses, local governments and nonprofit organizations (including public schools) that demonstrate energy efficiency, use of renewable energy resources, energy cost savings or reduced energy demand. Loans up to \$500,000 per loan recipient are available at any time. The current interest rate is 3 percent with a rate as low as 1 percent for certain renewable energy and recycling projects.



- Facilities must be located in the state of North Carolina;

- Projects must demonstrate energy efficiency, use of renewable energy resources, or result in energy cost savings;
- Projects can demonstrate reduced energy demand;
- Projects must use existing, proven reliable, commercially available technologies;
- Projects must meet federal and state air and water quality standards;
- Each conservation measure must be able to recover capital costs within the loan's

Sponsored by the State Energy Office, this program provides low-interest loans, secured by bank letter of credit, for eligible energy conservation measures in areas such as:

- Lighting systems;
- Boiler efficiency systems;
- Energy management systems;
- HVAC systems;
- Industrial process or fabrication systems;
- Load management systems;
- Building envelope improvements - doors, windows, roofs, etc.;
- Alternate/renewable energy systems;
- Electrical distribution systems - motors, variable speed drives, and fans;
- Energy recovery systems, including on-site generation of electricity;
- Fuel conservation projects;
- Other cost-effective demand or rate-based improvements.

## EILP Eligibility Criteria

Organizations must meet the following criteria for EILP low-interest rate loans:

maximum term of 10 years through energy cost savings.

For more information call Star Brown at (919) 733-1897.



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## SCHOLARSHIPS For Recycling Entrepreneurs

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(919) 715-7272 (SBTDC)**

# Winston-Salem Noise Wall Includes Recycled Materials

By Azam M. Azimi, PhD, PE and Marie Sutton

The North Carolina Department of Transportation (NCDOT) has a long history of using recycled and solid waste products in its construction and maintenance projects. However, since 1991, the requirements of G.S. 136.28.8 (b), which mandates the department to use recycled materials in highway construction



projects, further expanded this program (previous articles on NCDOT's use of recycled materials appear in the Summer 1999 and March 1998 issues of *Recycling Works*).

This law specifically requires the department to use rubber from tires for pavements, sub-base materials and other appropriate applications consistent with economic feasibility and applicable engineering and environmental guidelines. To comply with this requirement, the department has aggressively pursued its evaluation and use of solid wastes and recycled products. Recycling endeavors continue in the areas of research activities, pilot projects, literature research on a national level, outreach to private industries; assess merit of potential utilization of various solid wastes and recycled products; and review of specifications, to enhance the department's acceptance and use of solid wastes and recycled products.

As part of this program, a noise wall was installed on US 421 west of I-40 in Winston-Salem, using approximately 8,000 scrap tires. It is an effective way to fight the highway noise with the same tires that cause it while diverting scrap tires from waste stream.

The wall is constructed from structural planks made by

combining a grounded, recycled rubber core within a fiber-reinforced composite channel. The structural channels are made by using a fiberglass pultrusion process. Glass reinforcements are combined with thermosetting resin, flame-retardants, U.V. stabilizers and other performance enhancers to form a permanent, rigid, closed channel. The core, or recycled tire rubber and polyolefin portion, is mixed with flame-retardant additives and shredded re-

cycled plastic scrap, creating the sound-attenuating surface.

The wall was reviewed and approved by the New Products Evaluation Committee, and the Research and Analysis Unit prepared a work plan for the experimental use of the wall design and will perform periodic performance evaluations.

Carsonite International manufactured the Carsonite DB Minus noise wall in its Early Branch, S.C. plant. In order to meet the department's annual goal to use one million tires in construction and maintenance operations, the special provision required that the scrap tires used were pulled from North Carolina's waste stream. The tires were processed in Winston-Salem and then shipped to South Carolina to be placed inside the wall panels. The wall sections were put together before shipping to the construction site. The panels were lighter in weight than conventional concrete panels, saving construction time.

For further information on this wall as well as the department's Recycling and Solid Waste Management Program, please contact Azam Azimi, Ph.D., PE, at [Azimi@dot.state.nc.us](mailto:Azimi@dot.state.nc.us).

# Pallet Recycling for Users, Recyclers, & Administrators

By Urs Buehlmann, N.C. State University

Wooden pallets represent two percent of all municipal solid waste (MSW) and 3.3 percent of all construction and demolition waste (C&D) disposed



of in landfills<sup>1</sup>. Not only does this elevate the problems North Carolina faces in respect to landfill disposal and environmental stewardship, but it is also a waste of a readily available resource. In 1995, the latest year for which encompassing numbers are available, the USDA Forest Service estimates that 38 percent (4.5 billion board feet) of the total hardwood lumber production<sup>2</sup> was used for pallet manufacturing, making it the single largest use of hardwood lumber. Technologies exist that allow re-using and recycling of discarded pallets, thereby saving scarce forest resources, creating opportunities to produce value added wood products, adding employment opportunities to rural economies and helping the counties cope with their landfill problems.

Work done at the Southern Research Station of the USDA Forest Service indicates the size of the opportunity when producing value-added wood products from discarded pallets. According to these numbers, recycling of pallets not only eliminates costly tipping fees, but the value of a discarded 48" x 40" standard pallet is estimated to be 25 cents when sold as boiler fuel, \$1 for chips used for particle board production, \$2 to \$3 when disassembled and used for pallet repair replacement parts, and \$5 to \$8 when processed into value-added wood products<sup>3</sup>. These numbers point to the opportunity that exists to create employment in rural communities to produce value-added wood products such as, for example, flooring (see picture above) or paneling from discarded wooden pallets.



To help the Western region of North Carolina benefit from the opportunities inherent in discarded pallets, the

N.C. State University (NCSU) Wood Products Extension Group, the Land-of-Sky Regional Council's Waste Reduction Partners, the N.C. Division of Pollution Prevention & Environmental Assistance, and the USDA Forest Service conducted a pallet recycling workshop on Jan. 31, 2002 in Asheville. Topics addressed and discussed in this workshop included, among others:

- Overview of pallets, markets and disposal;
- Wood pallets use, repair and recycling;
- Opportunities for small wood pallet recovery;
- Flooring, paneling and furniture from used pallets;
- State and regional support related to pallets;
- Case study and existing industries; and
- Action steps for the future.



These topics were packed into a three-hour morning program attended by 55 representatives from companies and agencies. Represent-

tatives included pallet users, pallet producers, pallet recyclers, entrepreneurs looking for new business opportunities, and employees of local, state and federal government agencies involved in recycling. The lunch provided offered a good opportunity to network for participants and to admire the craftsmanship of Rick Crawford, who collects pallets made from exclusive wood species and turns them into jewelry and other small boxes (see picture above).

The workshop will be repeated for the Charlotte-Mecklenburg area, the Triad and Triangle this fall. Tentative dates are the first half of September for Charlotte-Mecklenburg, the second half of September for the Triad, and Oct. 28, 2002, (confirmed) for the Triangle area. Check the NCSU wood recycling Web page at [www.ncsu.edu/woodrecycling](http://www.ncsu.edu/woodrecycling) for up-to-date information or contact Urs Buehlmann at (919) 515-5580 or e-mail [urs\\_buehlmann@ncsu.edu](mailto:urs_buehlmann@ncsu.edu).

<sup>1</sup> Bush, R. J., D. T. Corr, and P. A. Araman. 2001. Fewer pallets reaching landfills, more are processed for recovery. *Pallet Enterprise*. May 2001. pp. 18-21.

<sup>2</sup> Bush, R. J. and P. A. Araman. 1998. Changes and trends in the pallet industry. *Hardwood Market Report*. February 28, 1998. pp. 11-13.

<sup>3</sup> Araman, P. A., R. J. Bush, A. L. Hammett, and E. B. Hager. Wood pallets and landfills – status and opportunities for economic recovery and recycling. *Proceedings from WASTECON/ISWA world congress 1998*. pp. 18-21.

## Waste Trader, from cover

or through DPPEA if they wish to remain anonymous.

To get started, log on to [www.ncwastetrader.org](http://www.ncwastetrader.org) and click on one of the four main service functions: "View Materials Available," "List Materials Available," "List Materials Wanted," or "View Materials Wanted."

Clicking on the "View Materials Available" function will bring up a screen with a grid, in which you will see the type of material listed with its amount and frequency of availability, along with the location and date of listing. Clicking on the highlighted material will bring up a detailed profile of the commodity along with contact information for making a trade. Participants may list items anonymously or with their names shown publicly for direct contact. DPPEA will contact anonymous listings on behalf of parties interested in listed items.

By clicking on the "List Materials Available" function, you can create a profile and list your materials by

entering your information directly into the listing database. The same is true with the "List Materials Wanted" function, only you list the materials that you would like to obtain. The "View Materials Wanted" function features a grid with the listings of materials, quantity and frequency wanted.

N.C. WasteTrader also has handy links to other key marketing information sources including North Carolina's Recycling Markets Directory, other waste exchanges in the southeastern United States, and national exchanges such as Recyclers World and Global Recycling Network.

For more information on this service, please contact Scott Mouw or Tom Rhodes at DPPEA at (919) 715-6500, or simply log on to [www.ncwastetrader.org](http://www.ncwastetrader.org) and start using N.C. WasteTrader!

## Banker, from page 4

will take a lien on your accounts receivables. Customers that you designate will make payments directly to the factor, who takes a percentage off the top. You get the cash as soon as the invoice is generated and the turnaround is fast. The interest rate and fees may seem high, but the loans are short-term. And as we all know, cash is the lifeblood of your business.

*Look for Part Two of these recycling financing tips in the next issue. Meanwhile, if you have financing questions, contact Fred at (800) 476-7428 or [fred@self-help.org](mailto:fred@self-help.org). The nonprofit Self-Help Credit Union offers technical assistance as well as recycling loans, including the popular SBA 504.*

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

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## Recycling Business Development Workshop

The Carolina Recycling Association in partnership with Self-Help and RBAC will hold a Recycling Business Development Workshop on August 21 from 6 to 9 p.m. at the Self Help Center in Greensboro.



This workshop will provide a practical, hands-on approach for development of a new recycling business or expansion of current operations and for learning to foster recycling business development in your community. Come and learn about financing issues and discover who can provide help in identifying and overcoming obstacles to a successful recycling business endeavor. A light dinner will be provided.

In the coming weeks area recycling businesses will be provided with more details about this important event.



*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 (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 August 1, 2002\*

Item	Western Region	Central Region	Eastern Region
<b>METALS</b>			
Aluminum Cans, lb. loose	\$0.45	\$0.40	\$0.49
Steel cans, gross ton baled	\$30	\$30	\$3
<b>PLASTICS</b>			
Central Region markets plastics together			
PETE, lb. baled	\$0.07	<b>\$0.035</b>	\$0.07
HDPE, lb. baled	\$0.16	<b>\$0.035</b>	\$0.16
<b>PAPER</b>			
Newsprint, ton baled	\$75	\$55	\$75
Corrugated, ton baled	\$103	\$90	\$110
Office, ton baled	\$110	n/a	\$135
Magazines, ton baled	**	\$70	***
Mixed, ton baled	\$45	n/a	\$50
<b>GLASS</b>			
Eastern Region sells glass F.O.B. origin			
Clear, ton crushed delivered	\$30	\$26.50	\$13
Brown, ton crushed delivered	\$20	\$16.50	\$9
Green, ton crushed delivered	\$10	(\$3.50)	(\$19)

\*Central Region prices from June 2002.

\*\*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.

Visit RBAC online at

<http://www.p2pays.org/rbac>

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