



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

Recycling Works

Volume 15, Number 4

Fall 2009

Joint Venture Creates Jobs and Adds New Plastic Bottle Recycling Facility

by Ben Rogers, Industrial Development Representative

Clear Path Recycling LLC is a new joint venture between DAK Americas LLC and Shaw Industries. The new company will recycle polyethylene terephthalate bottles to produce clean clear flake and clean color flake from post-consumer PET bottles, such as soda and water bottles.

Announced in May 2009, the recycling facility is currently under construction in Fayetteville. Clear Path plans to invest \$70 million over a period of three-to-five years. Executed in two phases, the result will create more than 100 new jobs and process 280 million pounds of plastic soda and drink bottles each year.

“We will need one out of every five bottles collected in the U.S.,” said Ron Salati, Clear Path’s vice president and general manager. “And we have plans for further expansion should recycling markets increase the collection of PET.”

Shaw and DAK have traditionally focused on manufacturing products from virgin plastic and other materials. Consolidation and processing of waste PET is a significant shift with many barriers to market entry. It is a strategic move that has not gone unnoticed.

“The facility will produce recycled PET flake, which is a material that Shaw will utilize in its production of carpets and DAK Americas will utilize in its production of PET resins and polyester staple fiber,” said Ricky Lane of DAK Americas. “This facility will be the largest PET recycling facility in North America upon completion. The state plastic bottle disposal ban, which went into effect Oct. 1, strengthens both companies’ decision to locate the new joint venture in Fayetteville.”

For more information, visit Clear Path’s Web site at www.clearpathrecycling.com.



Inside

Certificates Highlight Recovery	2
Farm Commodities With A Future	2
Closing the Carpet Recycling Loop	3
C&D Recycling Webinars	4
Recyclers in the News	4
Commodities with New Potential	5
Advancing Carpet Recycling in N.C.	6
Market Pricing Trend Graphs	7
New Organics Trading Site	8
Market Pricing	8

Blue Ridge Recycling Certificates Highlight Carpet Recovery Efforts

by Matt Ewadinger, RBAC Manager

In order to recognize carpet retailers, commercial flooring operations and one-time carpet replacement projects for their carpet recycling efforts, Blue Ridge Recycling owners Robert Gleaves and Monty Thompson are providing program participants with a "Certificate of Recycling." The certificates identify the type of recovery achieved (recycling into new carpet or other products, or energy recovery at cement kilns) and the amount recycled.

"Over the past few years, we have seen a dramatic increase in the desire of carpet retailers and others who want to see something positive happen with their discarded carpet, rather than sending it to a landfill. Since the project started in 2005, we have awarded more than 200 of these certificates," said Thompson.

Carpet is manufactured from a variety of fiber types including nylon 6 and nylon 66. While a stable market exists for nylon 6, markets for the other fibers are not as strong. However, the industry is optimistic that markets for nylon 66 will increase in the near future. For additional information on nylon 66 recycling efforts in North Carolina, see DC Foam article on page 6.

Currently, Blue Ridge recycles about 600,000 pounds of carpet and 133,000 pounds of carpet pad per month at its Charlotte facility. An additional 72,000 pounds is sent to a Lafarge cement plant in Harleyville, S.C., where it is burned as an auxiliary fuel

in the cement manufacturing process. In addition to energy recovery at the cement plant, the calcium carbonate from the carpet is also recovered and used in making new cement.



"The cement kiln option allows us to target carpet that currently has no recycling markets such as jute-backed carpet, foam-backed carpet, non-PVC-backed carpet tile, PET carpet and most commercial carpet," said Gleaves.

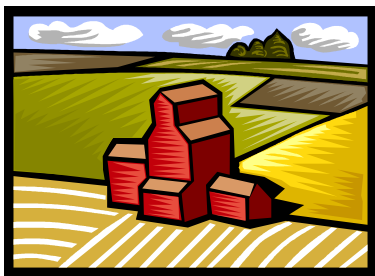
With its planned facility upgrade, including the purchase of a horizontal automatic baler, Blue Ridge hopes to divert up to 2.4 million pounds of carpet per month from landfill disposal within 18 months of installation.

Blue Ridge offers a variety of collection options for its clients based on the amount of used carpet being generated. Blue Ridge can supply everything from tractor trailers to 15-cubic yard containers, depending on the project. For one-time carpet replacement jobs, customers are invited to bring their old carpet directly to the main warehouse where it can be dropped-off

(See [RECOVERY](#), page 6)

The Future of Agricultural Plastics

by Tom Rhodes, Environmental Specialist



North Carolina is home to numerous farms and nurseries that use agricultural plastics. When the growing season has ended or these plastic products have outlived their usefulness,

they are discarded in local landfills. However, there are better management options for items such as plastic flower pots, nursery trays, greenhouse cover, bale wraps and other agricultural plastics.

The N.C. Division of Pollution Prevention and Environmental Assistance is working on developing a network for "AG" plastics recovery and encourages local governments and recycling businesses to contact us for information about how to develop programs and processes to recover these valuable products. Properly managed AG plastics are a commodity that can be sold.

Look in DPPEA's markets directory at www.p2pays.org/dmrm/ for the new listings using the search terms, "Plastic" and "Agricultural Plastics." For further information, contact Tom Rhodes at (919) 715-6516 or tom.rhodes@ncdenr.gov.

Partnering to Close the Carpet Recycling Loop

by Matt Ewadinger, RBAC Manager

Earlier this year, UNC Charlotte, Flooring Solutions Inc. (an Indian Trail, N.C.-based flooring installation company) and Blue Ridge Recycling collaborated on a project that resulted in the recycling of about 5,200 square yards or around 28,600 pounds of carpet from the Phase III and Hunt Village student resident apartment complexes.

Flooring Solutions removed the old nylon 6-type carpet and delivered it to Blue Ridge Recycling in Charlotte. The carpet was then delivered to Shaw Industries' Evergreen Nylon Recycling facility in Augusta, Ga. where it

was processed back into caprolactam, the raw material used to make new carpet. The new carpet installed at the Phase III and Hunt Village student resident apartment complexes was manufactured with Eco Solution Q Shaw Fibers, which is fully recyclable back into carpet fiber through a depolymerization process.

Today, Eco Solution Q Fiber uses an average of 23 million pounds of recycled content annually according to Shaw's Green Edge Web site, www.shawgreeneedge.com/whatwemake.html?newInit=58.



A



B



C



D



E

- A - Pre-sorted carpet load is dumped at Blue Ridge Recycling.**
- B - Blue Ridge employee uses a Polychromix PHAZIR to identify carpet fiber type.**
- C - A light on the PHAZIR indicates whether carpet fiber is nylon 6, nylon 66, polypropylene, polyethylene terephthalate, other or not identified.**
- D - Bale of nylon 6 ready to be shipped.**
- E - Tag identifies supplier, date of shipment, bale weight, fiber type and shipping destination.**



C&D Recycling Webinar Series

RBAC staff developed a series of construction and demolition waste recycling webinars that began in September 2009.

The construction and demolition recycling webinar series will continue on Nov. 19 with a webinar titled, Growing the C&D Recycling Infrastructure, and concludes on Dec. 17 with The Role of C&D Recycling in the New 'Green Economy.'

The FREE webinars are designed to be an easy way to get information and resources about C&D recycling to a wide audience – local governments, haulers, recyclers, contractors, builders, designers/architects, manufacturers, college/university staff and others.

Attendance is limited. To register, or view presentations from earlier C&D webinars please visit: www.p2pays.org/rbac/CDwebinars.html.

Each webinar is scheduled from 2 – 3:30 p.m. Details on the dates and topics for the remaining webinars in the series are as follows:

Growing the C&D Recycling Infrastructure – Nov. 19

- Local Government Approaches
- Public/Private Partnerships
- Targeted Grant Funding
- Cutting to the Chase - Operational Case Studies

The Role of C&D Recycling in the New “Green Economy” – Dec. 17

- The Role of Material Recovery in the LEED Rating System
- Recycling Jobs are Green Jobs
- End Markets/Products from Materials in the C&D Waste Stream



SCHOLARSHIPS For Recycling Entrepreneurs

Register now for the next course offering. These exciting, business-building courses are designed to give entrepreneurs the skills needed to grow their recycling businesses.

To apply for your scholarship, call:
(919) 715-6516 (RBAC), or
(919) 715-7373, ext (SBTDC)

Recyclers in the News

Unifi Adds 100 percent Recycled PET Fiber to Its Product Line

North Carolina-based Unifi Inc. produces a 100 percent recycled polyester yarn that can be turned into a variety of eco-friendly fabrics and products. Unifi's REPVEVE yarn is manufactured

at its Yadkinville facility. REPVEVE fibers are certified by Scientific Certification Systems, a leading third-party certifier and standards developer of environmental and sustainability claims, for recycled content claims. NASCAR fans may be interested to know that REPVEVE fiber is featured in the new line of Sun-Drop Race Team brand apparel. For more information about REPVEVE, check out its Web site at www.repreve.com.



Old Commodities With New Potential

by Tom Rhodes, Environmental Specialist

The state of North Carolina has banned used oil filters from disposal in landfills across the state. In accordance with recent legislation, House Bill 1465, as of Oct. 1, 2009, no one may dispose of used oil filters in the trash. The bill recognizes that oil filters are highly feasible to recycle. H1465 also reinforces the disposal ban on used motor oil enacted in 1989.

It's estimated that residual oil in standard auto filters ranges from two ounces to eight ounces. If all of the approximate 14.3 million filters generated in North Carolina each year were disposed, they would introduce between 240,000 gallons and 970,000 gallons of oil into landfills. Fortunately, many filters generated in the state are already being recycled, yielding valuable oil and steel resources for industrial use.

Recovering used oil filters is a simple process. The filters are crushed and the captured oil is either used as a fuel or for reprocessing. The steel from the filter body is



re-melted and recycled into items such as construction rebar and manhole covers.

For further information regarding how to collect and recycle used oil filters, contact the N. C. Division of Pollution Prevention and Environmental Assistance at (919) 715-6500 or visit the banned materials Web site at www.p2pays.org/bannedmaterials.

Natural Capital Investment Fund

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

**Recycling
businesses interested**

**NCIF targets
recycling
businesses**

**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 nonprofit with a unique commitment to balanced land and water conservation solutions that emphasize the integration of economic and environmental goals.



Does Your Waste Have a Home?

*Available on a computer screen near
you . . .*

**www.wastetrader.org
N.C.'s Industrial Waste Exchange**

*Have Your Waste
Ready!*

*For more information, call:
Tom Rhodes at (919) 715-6516*



Company Advancing Carpet Recycling in N.C.

by Matt Ewadinger, RBAC Manager

Morrisville's DC Foam Recycle Center Inc. operation is taking the lead in processing and marketing nylon 66-based post-consumer carpet. Most industry experts believe that the development of stable markets for nylon 66 will be a significant impetus to carpet recycling growth throughout the United States.

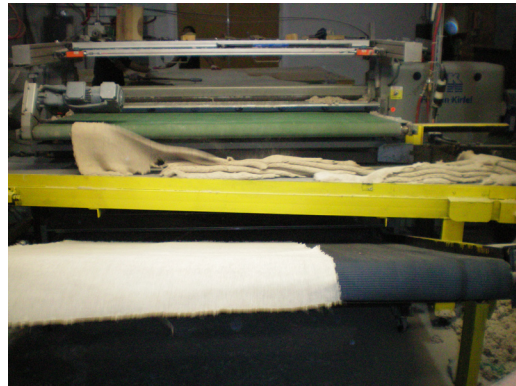
The key component to DC Foam's nylon 66 process is the separation of face-fiber from carpet backing through a mechanical shearing process. The shearing machine separates the nylon 66 face-fiber from the carpet backing. The backing falls to the floor where it is collected and baled, and the sheared nylon 66 fiber is collected and enters a blowing grit separator. The clean fiber is then baled prior to shipment to market.

According to DC Foam's 2009 Recycling Business Development Grant project plan, the company's goal is to double its processing capacity in 2010, and to eventually collect and process 85 percent of the available post-consumer nylon 66 residential carpet in North Carolina. The next planned expansion is to process nylon 66 collect-

RECOVERY, from page 2

at no charge. Blue Ridge also advises commercial and construction operations on the most efficient method for collection of used carpet.

For more information about Blue Ridge Recycling contact Robert Gleaves at (704) 807-3680, robert.gleaves@blueridgerecycling.com or Monty Thompson at (704) 807-3681, monty.thompson@blueridgerecycling.com.



Nylon 66 face-fiber (above yellow bar) and carpet backing (below yellow bar) are separated after exiting the shearing machine.

ed in the Charlotte area by Blue Ridge Recycling. For more information about the DC Foam operation, contact Mike McMullen, N.C. operations manager, at (336) 202-5755.

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.



CO-SPONSORED BY:



919.956.4400

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.

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.



Beverly Eaves Perdue, Governor, North Carolina
Dee Freeman, 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



NEW!! Market Pricing Trend Graphs

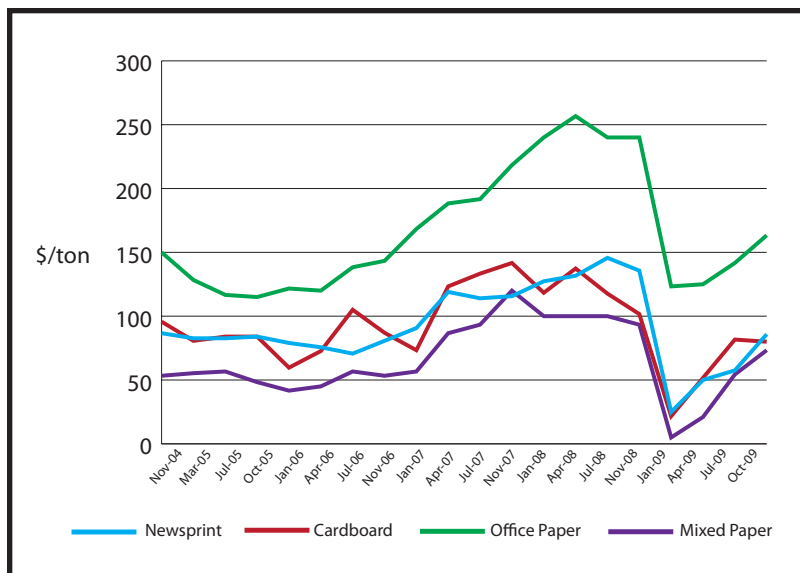
by Matt Todd, Recycling Market Development Specialist

In addition to the quarterly reporting of current market prices in the Recycling Works newsletter (shown on p. 8), readers will now be provided with pricing trends graphs in each issue to illustrate historical changes. The pricing trend graphs will show a rolling five-year period updated for each quarterly issue.

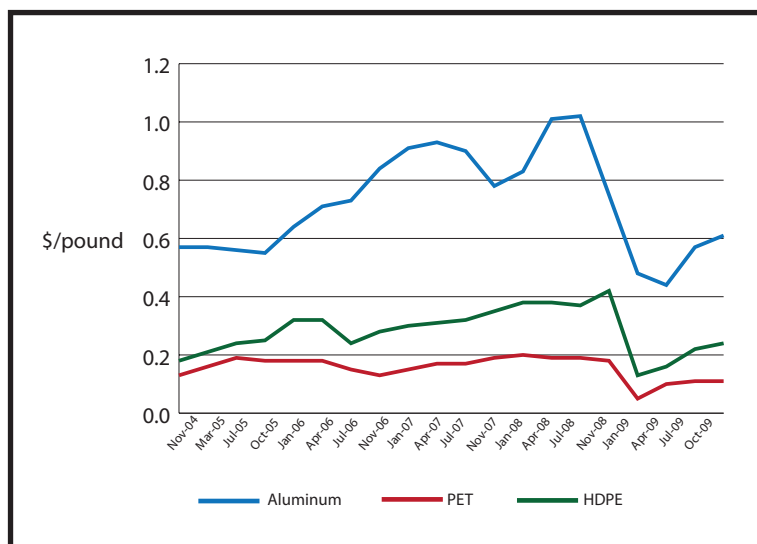
This new tool will help businesses research the impact of recent economic trends on commodity prices, and the general cycle over a longer period of time.

Market pricing is collected from three different processors across North Carolina. The five-year pricing trend charts take the average from these three markets to arrive at the pricing trend data.

In addition, pricing trends for individual commodities are posted on RBAC's Web site at www.p2pays.org/rbac/pricing_trends.html and includes both numerical data as well as graphs of the pricing trends for recyclables. We hope you find this a useful addition to the newsletter.



Quarterly prices for newsprint, cardboard, office paper and mixed paper in dollars per ton, baled.



Quarterly prices for aluminum cans (loose), PET (baled) and HDPE natural (baled) in dollars per pound.

