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Recycling Works

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High-tech Metal Recycling at Advanced Metal Processing LLC

by Ben Rogers, Industrial Development Representative

North Carolina continues to grow its bio- and enviro-technology business climate and Franklin County has kept pace with the trend by luring another world-class environmental technology company to its doorstep: Advanced Metal Processing LLC.

Like many other businesses, AMP processes scrap metal for recycling; however, it is not just any scrap metal processor. AMP is the first U.S. facility to use the RODECS® system, designed by joint venture partner Chinook Sciences. The RODECS technology uses a process called pyrolysis that is designed to clean and decoat (remove organic components from) the metal scrap. This process increases the metal scrap's value.

AMP's specific application takes reclaimed materials such as cable, swarf, coated precious metals and industrial manufacturing

by-products and loads it into the RODECS oven. The material is heated below the oxidation point of the metals in a controlled atmosphere lacking oxygen, resulting in a clean, dry metal with minimum environmental impact. Once the re-circulated air has used available volatile organic compounds for use in the process, it is channeled through a maze of specialty high-temperature Chinook air filters.

As described by Ronnie Goswick, Franklin Co. economic development director and immediate past president of the North Carolina Economic Developers Association, "[T]he opening of Advanced Metal Processing in Franklin County helps the entire Research Triangle Park region, the state and the nation by capitalizing on advanced recycling technology."

(See **AMP**, Page 3)



DPPEA's Matt Todd (left) examines a piece of scrap metal processed by AMP as Wael Masri explains the company's process.

Inside	
N.C. Businesses Featured at Conf. ...	2
Grant Winners Announced	4
Law Fueling Growth	6
Waste Declines; Recycling Increases .	7
Market Pricing	9

N.C. Recycling Businesses Featured at Many \$hades of Green Conference

by Matt Ewadinger, RBAC Manager



Fast Pitch participants hear the ground rules from session organizer Ben Rogers (standing).

at the North Raleigh Hilton Hotel.

Some of the sessions that featured North Carolina recycling businesses included:

- **New Markets Lead to New Recyclables** – Steve Davis, owner of Union Gypsum, described his operation and his desire to accept significantly larger quantities of material. During the question and answer period following his presentation, Lynn Bestul, New Hanover County solid waste planner, remarked, “by sending gypsum wallboard scrap to Union Gypsum, we expect to reduce our expenses by \$8,000 in 2008.” Lynn added, “Steve’s company is really giving the service he promised.” June Mabry, owner of San-Kawa, LLC, a glass recycling company in the developmental stages, described the company’s plans to process glass into a variety of products and distributed samples of some of those products to the audience.
- **Wood & Pallet Recycling: How Much Wood and Pallet Waste Is Out There and What Do We Do With It?** – Randell Sorrells of Pallet One discussed the large number of pallets that remain in the waste stream and how his company continually tries to locate new sources of recovered pallets. Sorrells explained that depending on the condition of the recovered pallet, it may be directly reused, repaired, dismantled or ground into a mulch or boiler fuel product, which is a far better alternative than taking up landfill space.
- **ABC Recycling** – This session featured some of the most important players in the recovery of glass ma-

terials in North Carolina. The session panel addressing the implementation of the ABC law included Orange Recycling, a well-known Triangle area collection service company; Reflective Recycling, an integrated glass collection and processing firm with plants in Wilson, Laurinburg and Winston-Salem; Container Recycling Alliance, operator of the state’s largest cullet processing plant in Raleigh; and Waste Industries, one of the major solid waste hauling firms in North Carolina, which offers ABC collection throughout its service area.

In addition to the sessions listed above, North Carolina recycling businesses were involved in a number of tours and workshops including:

- **Recycling Business Financing** – The workshop provided a practical hands-on approach on how to finance a new recycling business or expand current operations.
- **Materials Recovery Facility Tours** – Container Recycling Alliance, WM Recycle America and Sonoco Recycling Inc.

(See **CRA**, Page 5)

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AMP, from page 1

For the facility installation, AMP assembled an international team of engineers, operations specialists and technicians with Chinook Sciences. The installation teams worked weeklong shifts around the clock to meet the May 2008 deadline for full production. According to Wael Masri, controller of AMP LLC, it is close to completing the major installation and modifications will take place over the next few weeks. Masri also mentioned plans for an expansion to the main building in the next six months as it moves into specific market reclamation.

Last month, AMP hosted a private tour of its facility for representative Lucy Allen and an envoy of state and local officials. When asked about air permits, Masri replied that the emissions are so low, an air permit is not needed. Another tour leader explained how the VOCs (materials coating the metals) are used as “fuel” for the process, and residual VOCs are combusted within the re-circulation of air that occurs during the process. Masri also added that the secondary products of the process include steam/heat and neutralized ash. The process does not use any harmful chemicals, thereby allowing all by-products to be non-hazardous.

“Advanced Metal Processing will be a valuable addition to not only the economies of Louisburg and Franklin County, but to the industry of recycling as we become better stewards of our environment,” said Rep. Allen. “They are a fine example of taking the greatest advantage of technolo-



Materials are loaded into AMP's RODECS oven (above) for cleaning and decoating.

gies which are emerging every day.”

As recaptured and raw commodity supply chains shorten and geographic competition stretches, AMP's ability to supply high-value recaptured metal commodities to local and regional manufacturing facilities is a great step toward ensuring domestic manufacturing competition.

For further information regarding Advanced Metal Processing LLC, contact Wael Masri, wael@ampllc.biz, (919) 853-7722. Additional information on the RODECS® system by Chinook Science and pyrolysis can be found at: www.chinooksciences.com.

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2008 Recycling Business Development Grant Winners Announced

by Matt Todd, Recycling Business Development Specialist

The N.C. Division of Pollution Prevention and Environmental Assistance recently awarded 21 recycling business development grants, totaling \$320,000.

For the 2008 grant round, criteria was included to give some weight to proposals that supported developing infrastructure in response to landfill ban legislation that passed the General Assembly in 2005 and will take effect in 2008. Items included in those bans are wooden pallets, rigid plastic containers, oil filters and oyster shells, with additional legislation requiring ABC permit holders to recycle.

The grants ranged from \$5,000 to \$23,000, and, if all the projects are successful, will create more than 39,000 tons of additional recycling capacity in North Carolina. Overall, DPPEA received 41 proposals requesting \$1.2 million in funds. Selected projects include:

Waste Industries (\$23,000) – Waste Industries (Raleigh) is currently developing extensive plans to expand its recycling services in all of its North Carolina market areas in order to assist ABC permitted businesses to comply with

recent state legislation mandating the recycling of bottles and cans. Contact: Josh Thompson, (919) 855-5385.

San-Kawa LLC (\$22,000) – San-Kawa (Albemarle) will manufacture glass products made from post-consumer glass. Glass products will contain at least 75 percent post-consumer glass. Sources for post-consumer glass feedstock will include ABC licensees and private consumers, as well as existing material recycling facilities. Contact: June Mabry, (704) 986-6060.

Green Coast Recycling (\$21,000) – Green Coast (Wilmington) will meet the needs of its growing customer base with the purchase of a new recycling truck and residential and commercial containers. Contact: James Shelton, (910) 471-7747.

Foothills Sanitation & Recycling (\$21,000) – Foothills (N. Wilkesboro) will begin a new program offering a pickup recycling service to ABC permit holders in the Wilkes, Ashe, Surry and Yadkin County areas to recycle plastic bottles, glass and metal cans pursuant to ABC legislation. Contact: Jeffery Miller, (336) 667-0500.

Resource Reformers LLC (\$18,000) – Resource Reformers (Durham) will install a faster, more efficient method to process oil filters for recycling. This fully automated process will separate all components of the oil filter. The process also produces a clean steel product of much greater value than produced by the current crushing method. Contact: Tim Wilkinson, (919) 596-3500.

Shimar Recycling (\$18,000) – Shimar (Durham) will be expanding operations to include an additional automated recycling truck and additional 95 gallon recycling carts to collect recyclables. Contact: Will Marley, (919) 680-6262.

Carolina Waste Disposal (\$18,000) – Carolina Waste Disposal (Fayetteville) will address the collection, sorting, storage, preparation, delivery and end sale of ABC mandated recyclables: glass beverage containers, plastic beverage containers and aluminum cans. Contact: Mickey Sizemore, (910) 978-7034.

Hatteras Recycle LLC (\$18,000) – Hatteras Recycle (Rodanthe) will expand existing service in the villages of

(See **Grants**, Page 8)



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CRA, from page 2

Many businesses also participated in Fast Pitch, an exciting and interactive fast-paced event that brought industries and municipalities together with service providers and product suppliers. Some of the companies participating in Fast Pitch included: Global Electric Electronic Processing, Advanced Recovery, KW Plastics Recycling, Compactors Inc. and General Kinematics.

In addition, an off-shoot of Fast Pitch, Oil Filters Fast Pitch highlighted seven firms offering filter recycling services across the state including: Advanced Recycling, Noble Oil Services, Universal Environmental Services, Safety-Kleen, Garco, 3RC and Holston Environmental Services. All seven companies described their capabilities to help local governments and private oil filter generators prepare for compliance with the October 2009 oil filter disposal ban.

Many of the firms listed in this article, along with other recyclers that service North Carolina can be found in the N.C. Recycling Markets Directory at www.p2pays.org/DMRM/start.aspx.



John Wells, Interface Americas president and CEO (third from left) talks about corporate environmental sustainability with (from left): Scott Mouw of DPPEA, Eric Nelson of Interface and Diane Davis, Executive Director of the Southeast Recycling Development Council.

For more information about this year's conference or to join CRA, contact Kerry Krusiek, Executive Director at (919) 545-9050 or kerryk@cra-recycle.org.

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Natural Capital Investment Fund

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in NCIF funding should contact

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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.



ABC Law Fuels Growth in Recycling Businesses

by Matt Todd, Recycling Business Development Specialist



A new law that went into effect Jan. 1, 2008 requires ABC permit holders to recycle beverage containers has created shockwaves throughout North Carolina.

The effort on the part of state and local officials, and bar and restaurant owners, has been amazing. But the real shockwaves have been in the continuing development of the state's recycling infrastructure.

Amidst all the behind-the-scenes work to implement this new law, recycling markets (collection, processing, end use) have not been left behind. From new service providers starting up and area processors adding capacity to handle more glass, to end users making capital investments to make use of increased supply, this law has been a win-win for North Carolina's recycling economy.

Since the summer of 2007, there has been a push by startup and expanding recycling collection companies to position themselves as service providers for ABC permit holders. About 14 of the 32 companies gearing up for the increased supply are startup companies (see box, right), nine are existing recyclers that are expanding collection operations, and nine others have historically been waste haulers and are adding commercial recycling collection to the services they offer.

This has created a collection infrastructure for recycling in places that have historically not had many service options apart from local government collection programs - Fayetteville, Morganton, Mooresville, New Hanover County, Southern Pines, Wilson and the Outer Banks.

Most of the startup service providers began with a plan of working mostly with bar and restaurants, but most are also offering service to other commercial customers, as well as single- and multi-family residential service.

Since glass containers make up about 80 percent of the materials collected from ABC permit holders, it's estimated the new law will pump about 60,000 tons per year of additional glass supply into the market. Area processors from the Outer Banks to Asheville have been adding storage capacity to handle the volume.

Intermediate processors in North Carolina - CRA (Raleigh), Strategic Materials (Durham), and Reflective Recycling (Winston-Salem) - have been busy working with collectors, MRFs and local governments to help with the logistics of getting materials to market.

In addition to the bottle plants - St. Gobain (Henderson, Wilson) and Owens-Illinois (Lexington) that are in need of recycled cullet to make new bottles - other end users are popping up and wanting to grow.

Not only does this business growth provide environmental benefits by diverting more bottles and cans from landfills, it is also good news for the state's economy, providing new jobs and improving the recycling infrastructure. For more information about the ABC recycling legislation, visit: www.p2pays.org/BannedMaterials/ABCcontainer/.

New Service Providers

ABC Recycling – Charlotte
 Baker Sustainability Services – Southern Pines
 C. Todd's Recycling – Wilmington
 Elycycler Recycling Service – Haywood County
 Green Compliance – Charlotte
 Green Coast Recycling – Wilmington
 Hatteras Recycle – Rodanthe
 Leisure Time Triad Solutions – Winston-Salem
 Outer Banks Recycling Ventures – Kill Devils Hills
 Pickett Up Recycling - Charlotte
 RecycleNC – Fayetteville
 Reflective Recycling - Winston-Salem
 Simply Green Recycling – Morganton
 TADS Trash & Recycling Service – Asheville
 Think Green Recycle Service – Mooresville

N.C. Report: Waste Slows Down, Recycling Speeds Up

by Scott Mouw, CBAS Section Chief

Two positive developments have emerged from the North Carolina Solid Waste Annual Report, submitted in January to the General Assembly by the Divisions of Waste Management and Pollution Prevention and Environmental Assistance. First, the rapid growth in disposed waste so far this century slowed down considerably in fiscal 2007. After jumping almost 2 million tons since 2001, the amount of material entering landfills increased a modest 100,000 tons last year. The decline in the waste growth rate was also enough to decrease the state per capita disposal rate for the first time in six years.

A host of different factors help explain the landfill slowdown, mostly related to the construction and demolition waste stream. Fiscal 2007 saw the beginnings of moderation in the construction market, with a cooling off of housing starts across the state. Second, two large demolition projects – one at Cannon Mills in Cabarrus County and the other at Ft. Bragg – ended in fiscal 2006. These projects had helped cause an almost unprecedented jump in disposed tonnage from fiscal 2005 to fiscal 2006 of about 700,000 tons (the only other previous increases along this scale were caused by hurricanes Fran and Floyd).

Beyond the effect of reduced construction and debris tonnage, recycling can claim part of the credit for the decline in waste growth. Local governments in North Carolina set new records in material recovery, for the first time achieving a statewide per capita recycling rate of more than 300 pounds per person. Municipal and county recycling tonnage increased six percent, reaching close to 1.35 million tons – the highest recorded recycling total to date.

Ironically, this growth has occurred as the actual number of curbside recycling programs has declined statewide, mostly due to small towns dropping the service. However, because large urban areas with curbside programs continue to expand, the actual number of households receiving curbside service has stayed the same (and is expected to increase in fiscal 2009 as Fayetteville and a few other cities add curbside). In addition, local governments actually recover more tonnage from drop-off

programs than curbside and total local government recovery efforts were helped in fiscal 2007 by a healthy rise in other programs, such as school recycling, electronics collection and commercial/industrial pick-up services.



Because no formal state mechanism exists for receiving non-local government recycling data, the Solid Waste Annual Report does not include an overall state recycling rate calculation. But anecdotal evidence suggests that increases in private recycling efforts also may have contributed to the decline in the waste disposal rate in fiscal 2007. Although the data will not be available for a number of months, fiscal 2008 may continue the trend of flat growth in disposal as the economy continues to slow down and as recycling efforts, such as the implementation of the ABC recycling law, increase.

The full report can be viewed online at: www.wastenotnc.org/swhome/AR06_07/AR06-07.pdf. If you have any questions, contact Scott Mouw at (919) 715-6512 or Jim Hickman at (919) 715-6528.

North Carolina's Top Recycling Counties

Per capita recovery (lbs.)

Dare	941.63
Catawba	713.89
Camden	426.73
Buncombe	422.80
Pitt	415.54
Macon	342.56
Orange	291.21
Swain	285.62
Watauga	200.01
Guilford	199.03

Grants, from page 4

Rodanthe, Waves and Salvo. This will include additional residential curbside service, additional campground service and additional restaurant service as well as expansion of service to Avon. Contact: Todd Phillips, (252) 987-2810.

Wayne Opportunity Center (\$18,000) – Wayne Opportunity Center (Goldsboro) will expand recycling operations to allow the handling of recyclables from Goldsboro and other municipalities in Wayne County and the surrounding area. Contact: John Chance, (919) 735-5363.

Tri-County Environmental (\$18,000) – Tri-County Environmental (Stanley) will purchase a roll-off truck for the purpose of collecting food waste. This material will be collected and transported back to its composting facility for use in creating a final compost product. Contact: Jim Lanier, (704) 263-8186.

Reflective Recycling (\$16,000) – Reflective Recycling (Winston-Salem) will purchase a recycling truck with dump capabilities for beverage container pick up from customer locations. Contact: Bill Clark, (336) 251-1025.

Salvage America Inc. (\$16,000) – Salvage America (Greensboro) will use an additional truck to move various products to market in a more efficient and timely manner. Contact: Chris Triolo, (336) 215-5228.

Simply Green Recycling Service (\$16,000) – Simply Green Recycling (Morganton) will purchase a vehicle that has been outfitted for curbside recycling pickup to assist in service to commercial and residential customers. Contact: Stephanie Cates, (828) 437-1277.

Waste Management Recycle America-Plastics (\$12,000) – WMRA – Plastics facility (Raleigh) will install an op-

tical scanner to recover recycleable material that would normally go into the waste stream. Additional recovery will equal about two percent of the processed pounds, or 160,000 pounds per month. Contact: Christine Herman, (919) 280-7624.

Synergy Recycling LLC (\$10,000) – Synergy (Mayodan) will purchase 48- and 53-foot trailers to place at municipalities and businesses to facilitate the accumulation and storage of scrap electronics in an efficient and cost effective manner. Contact: Joe Clayton, (336) 548-7014.

Think Green Recycle Service of Mooresville (\$10,000) – Think Green (Mooresville) is focusing on the needs of local ABC permit holders and will also offer curbside service to all businesses and residents. The project involves the purchase of a collection truck for recyclable material. Contact: Patricia Doak, (704) 701-6922.

Wesbell Technologies (\$10,000) – Wesbell (Durham) will implement an additional processing line for electronics at its facility. The new processing line will ex-

(See **Grants, Page 9**)

LOANS FOR RECYCLING COMPANIES

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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.

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



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N.C. Division of Pollution Prevention and Environmental Assistance



Grants, from page 8

pand recycling operations and augment the predominantly manual disassembly processes currently in place. Contact: Glen Hardee, (919) 484-9719 x 232.

New Life Plastics Recycling (\$10,000) – New Life Plastics (Burlington) will purchase and use laboratory-testing equipment to help more specifically identify plastic-scrap properties, increasing the material it is able to handle. Contact: Susan Newman, (336) 222-7775.

Keywell Inc. (\$10,000) – Keywell (Monroe) purchases, processes and sells recycled metals. Specifically stainless steel, high temperature alloys (nickel-based) and titanium. Keywell plans to expand into a new facility in

North Carolina, and will create between 30 and 50 jobs. Contact: Vincent Chevrier, (719) 569-0700 x 276.

TidySite LLC (\$10,000) – TidySite (Raleigh) will purchase a compact skid steer/loader to better facilitate and expand the on-site sorting and handling capabilities of residential construction debris collected for builder/developer clients in Wake, Durham, Orange, Chatham, Franklin and Johnson counties. Contact: Michael Whitehead, (919) 875-8801.

Potters Industries Inc. (\$5,000) – Potters (Apex) will purchase a recycled glass processor that can sort glass by color to allow recovery of clear glass for the purpose of creating highway safety products. Contact: Gordon Hill, (919) 362-7574.



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 April 14, 2008

Item	Western Region	Central Region	Eastern Region
METALS			
Aluminum Cans, lb. loose	\$1	\$1.01	\$1.025
Steel cans, gross ton baled	\$330	\$240	\$240
PLASTICS			
PETE, lb. baled	\$0.195	\$0.19	\$0.18
HDPE, lb. baled	Natural	\$0.40	\$0.40
	Colored	\$0.245	\$0.22
PAPER			
Newsprint, ton baled	\$135	\$125	\$135.55
Corrugated, ton baled	\$135	\$125	\$152
Office, ton baled	\$240 (SOP)	\$225 (SOP)	\$305 (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	\$18	\$19	\$17
Clear, ton crushed delivered	\$25	\$29	\$21
Green, ton crushed delivered	\$3	\$2	(\$7.50)
*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>