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Recycling Works

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GEEP Expands E-waste Operations

by Matt Todd, Recycling Business Development Specialist

Global Electric Electronic Processing Inc. has big plans. With one eye on the local e-waste recycling business and the other on global markets, GEEP is taking the next step to prepare for the future of e-waste recycling. In summer 2006, GEEP invested \$4 million in machinery and in September, the company started operation of its new chain-shredder and hammer-mill based processing line to recycle electronics. It also installed a separate processing line to handle the CRT glass from computer monitors and televisions.

The new equipment is housed at GEEP's existing location in Durham. To accommodate the expansion, GEEP purchased the 108,000-square-foot warehouse it was currently leasing, and signed a new lease for a larger climate-controlled warehouse next door. The company now has a combined 370,000 square feet of space for its Durham operations.

GEEP, part of Barrie Metals Group based in Ontario, Canada, came to Durham in 2002. The company handles e-scrap and telecom gear for large corporations in and around Research Triangle Park. Before expansion it employed 20 workers that dismantled computers and other electronics by hand, usually processing about 3,500 lbs. per day. With the new machinery, GEEP has hired an additional 12 employees and can now process 6,000 lbs. per hour.

Although the equipment is state-of-the-art, many employees are needed to keep it running at peak performance.

"We anticipate at least doubling our payroll," said Dan Roe, GEEP's general manager of U.S. operations. "In fact, we would like to add a second and third shift if the volume warrants."

(See [GEEP](#), Page 5)



Alfred Hamsch, GEEP president, N.C. Sen. Janet Cowell and Dan Roe, GEEP general manager (l-r), cut the ribbon during GEEP's grand opening ceremony at its new e-waste processing line in Durham.

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Material Matters Makes a Mark

by Tom Rhodes, Waste Management Analyst, and Matt Todd, Recycling Business Development Specialist



GSK's Advair Diskus™ discards are being recycled by Material Matters.

Material Matters, a recycling company located in Asheboro, is working on the final details of an arrangement that will allow it to provide recycling services for a specialized waste stream from GlaxoSmithKline.

The company began operations in the mid-90s providing recycling brokering services to various industrial customers. By going the extra mile to find markets for those “hard to recycle” items for customers, Material Matters began to build its business, and in early 2004, added processing capabilities to its operations.

Through a relationship with Shred-All, Material Matters was introduced to GlaxoSmithKline. Glaxo's desire to increase recycling and reduce waste disposal costs inspired a full waste assessment to identify marketable commodities in its waste stream.

Following the waste assessment by the Division of Pollution Prevention and Environmental Assistance, Glaxo identified waste materials generated during the manufacture of its Advair Diskus™ as an area for reduction. The fact that the metered dose inhaler device was made entirely out of plastic made recycling the discards seem like a “no-brainer;” however, recovering the material from the Diskus turned out to be more difficult than first believed.

The Diskus was constructed of gears, levers, pins and a body, each made from different plastic resins. Crushing or grinding the device caused the plastic parts to get mixed together, rendering it un-recyclable due to cross contamination. Marketable commodities existed within

the Diskus, but hand disassembly and sorting was too costly and time-consuming. Recovery of the device was a must, due to the sheer volume and cost of the materials involved. How to recycle it affordably was a problem.

Any Diskus failing to meet the company's rigorous specifications must be discarded. Devising an economically feasible and reliable way to disassemble and recover the materials comprising the Diskus became the top concern.

Material Matters was willing and able to help develop the technology needed to recycle Glaxo's discards. Material Matters engineered the proprietary equipment required to make recovery fairly easy, affordable and secure.

“Security is very important to Glaxo, and Material Matters is able to provide the high level of security and technology required for the recovery of the Advair Diskus,” said Holliday Lauritsen, Material Matters' president. “The equipment that we have designed for the project is capable of disassembling one unit per second.”

This high level of recovery is essential, considering the number of units that will be processed when the equipment is in full production.

Since Glaxo's discovery of Material Matters and its capabilities, the two began a “win-win” partnership that will result in keeping the Diskus production discards from meeting their ultimate fate, incineration. Most importantly, the materials from which they are constructed will keep going around and around and around.

For more information about Material Matters, contact Holliday Lauritsen at (336) 495-7000.

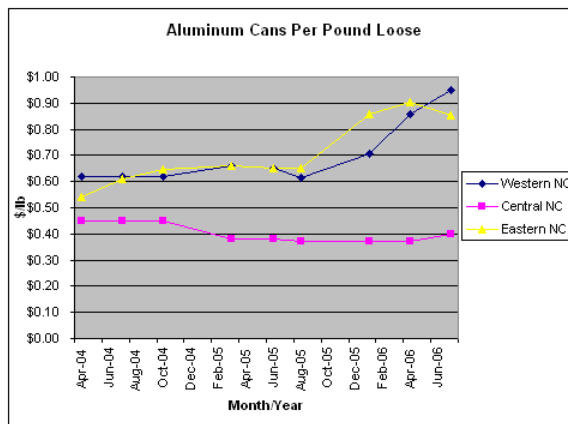


Material Matters' Holliday Lauritsen explains how her company helped GSK find waste reduction solutions to fit its special needs.

Pricing Trends Information on RBAC Web Site

By Sherry Yarkosky, Recycling Business Development Specialist

This summer, RBAC unveiled the renovated RBAC Web site. A new feature is recycling commodity pricing trend information specific to North Carolina. The graphs and data presented include pricing trends for 13 recyclable commodities. The 13 commodities include: aluminum cans, steel cans, PETE bottles, HDPE bottles (Natural), HDPE bottles (Colored), newspaper, old corrugated cardboard, office paper, old magazines, mixed paper, brown glass, clear glass and green glass.



Market prices help recycling businesses track the state's commodity trends.

Since 1995, RBAC has tracked pricing trends for basic recyclable commodities on a quarterly basis across North Carolina. Market pricing is gathered through contact with three recycling processors located in the eastern, central and western regions of the state. The processors reply with market conditions for each commodity specified. N.C. market pricing information has remained consistent with national averages.

Data for the past two years is presented in both table form and plotted as a graph. The table below and the graph above show pricing trends for aluminum cans.

Apr-04	Jul-04	Oct-04	Mar-05	Jun-05	Aug-05	Jan-06	Apr-06	Apr-06	Jul-06
\$0.62	\$0.62	\$0.62	\$0.66	\$0.65	\$0.61	\$0.71	\$0.86	\$0.86	\$0.95
\$0.45	\$0.45	\$0.45	\$0.38	\$0.38	\$0.37	\$0.37	\$0.37	\$0.37	\$0.40
\$0.54	\$0.61	\$0.65	\$0.66	\$0.65	\$0.65	\$0.86	\$0.91	\$0.91	\$0.86
\$0.54	\$0.56	\$0.57	\$0.57	\$0.56	\$0.54	\$0.65	\$0.71	\$0.71	\$0.74

To access the pricing trends page on the RBAC site, go to http://www.p2pays.org/rbac/pricing_trends.html.

If you have any comments or additional data needs, please contact Sherry Yarkosky at (919) 715-6511 or sherry.yarkosky@ncmail.net.

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Energy Projects Save Money

by Fred Broadwell

Managing an environmental business or program has never been as difficult as it is today. Conditions change so unpredictably that we don't know how to act. The Dean of Duke's Environment School predicts \$10 per gallon gas in 10 years. But today we watch the price drop. Hauling costs and virgin plastic prices, so important to many recyclers, jump and then stabilize. On a larger scale, human-induced global warming is finally making big news. Carbon regulations appear likely, but nobody knows the how or when. And then there's health care costs, immigration issues, safety regulations...

With so much uncertainty, how do you manage your projects effectively?

One approach is simply to focus on the fundamentals. Cash flow is the lifeblood of your enterprise. If necessary, spend money to get it. Do constant market research. Aim to raise profitability, not just revenue. Keep good relations with your accountant, attorney and banker. Buy quality equipment. Be good to your employees.

But are there more creative ways to move to the next level?

Consider energy. First, whether energy prices go up or down short-term, almost all experts agree prices are going up long-term. In light of prices, potential carbon regulation and government incentives, it is a good time to consider energy efficiency measures. Savings go right to the bottom line, something that you, your investors and bankers should like.



Fleet Management

When was the last cost-benefit analysis of your vehicle fleet to look at smart ways to save fuel? Are you really on top of maintenance and demanding more fuel-efficient vehicles? Could alternative fuels like biodiesel be an option? North Carolina has two growing suppliers, Piedmont and Blue Ridge Biofuels. You could even make your own.

Building Efficiency

And your buildings - are they energy efficient? If you're

not sure, starting with a professional energy audit may be a good idea. Sealing ductwork and upgrading lighting, pumps and HVAC systems are common recommendations.



Free energy audits are available through the N.C. Division of Pollution Prevention and Environmental Assistance. In addition, Waste Reduction Partners in western North Carolina and N.C.S.U. Industrial Extension are two sources of low-cost audits. Energy advocates in North Carolina want a dedicated source of funding for energy conservation - from a small surcharge on utility bills. If this happens, funding for energy conservation projects could blossom.

Energy Tax Credits

One area where North Carolina excels is in energy tax credits. Combining state and federal credits, an energy efficiency project can cut costs nearly in half. (For details, see <http://www.dsireusa.org>.) The best deal right now is solar hot water. If you use a lot of hot water, you should run, not walk, to the nearest solar hot water installer. Experts say there is no reason to wait for the technology to improve or the equipment price to drop. North Carolina has enough qualified solar companies, so reliability should not be a problem.

Remember, even simple energy measures can have tremendous ROI. As you write those checks for energy upgrades, remind yourself that it is a wise investment.

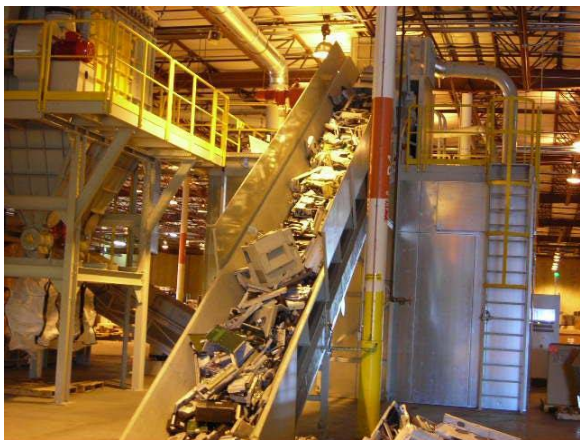
Next time: "Sustainability, Your Money and Your Employees"

Fred Broadwell is principal of Sustainable Economies Consulting. The firm uses a 3-Es approach to managing, financing and training for environmental sustainability in businesses, nonprofits and government. (<http://www.sustainable-economies.com>)

GEEP, from page 1

The increased capacity will allow GEEP to source e-scrap from a wider range of customers in the mid-Atlantic region, including large and small businesses, various government sectors as well as other e-waste recyclers.

Material exiting the chain shredder is sorted and sent to the hammer mill where it is automatically sized into chips about the size of fine gravel. It is then mechanically separated into ferrous, non-ferrous and plastic. The



Mixed plastic and metal e-scrap feeds up the conveyor toward GEEP's chain shredder.

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Tom Rhodes, (919) 715-6516*

final step separates the non-ferrous bits into copper and aluminum.

The resulting commodities: steel, copper, aluminum and glass are resold as raw material feedstock to manufacturers. Mixed plastics are among the most difficult plastics to resell. Within a year, GEEP will begin installing a facility to convert recycled mixed plastic into diesel fuel. The company expects to grow to about 100 employees when it starts producing diesel fuel.

GEEP not only sees its expansion and upgrades as a solution to end-of-life electronics disposal, but also as a solution to a growing global problem.

"Data security is a concern of many of our customers," said Roe. "They like having the unbroken chain of custody that we can provide along with the assurance that we are handling material in the most environmentally sound manner possible."

To find out more about GEEP and the services it provides, contact Dan Roe, general manager at (919) 544-1443, or visit <http://www.geepinc.com>.

LOANS FOR RECYCLING COMPANIES

A Project of the N.C. Environmental Loan Fund

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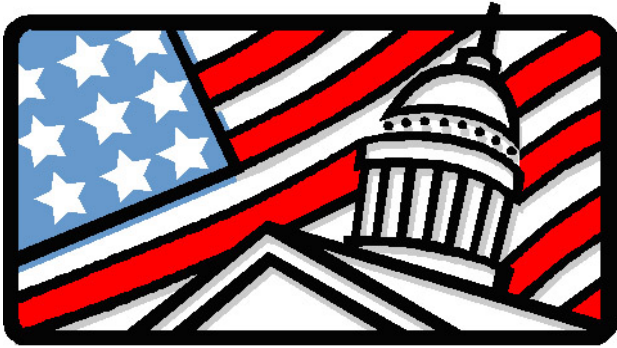
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N.C. Environmental Loan Fund: Self-Help established the N.C. Environmental Loan Fund to provide financing to small businesses and other organizations that preserve our natural resources. Projects that are targeted for financing include recycling firms, 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.

Federal Legislation Proposed to Aid Recycling Industry

by Matt Ewadinger, RBAC Manager



On July 13, Senator James Jeffords (I-Vt.) introduced the Recycling Investment Saves Energy Act of 2006 (S.B. 3654). This legislation would establish financial incentives for recycling through tax savings. The bill would create either a 15 percent tax credit or 50 percent accelerated depreciation for the purchase of machinery and other equipment used exclusively to collect or process recyclable material.

The bill would also allow recycling facilities to be eligible for tax-exempt bond financing by amending a section of the Internal Revenue Code to redefine "solid waste facilities," thereby ensuring that recycling facilities are eligible for tax-exempt bond financing under this section.

In a statement introducing this legislation, Sen. Jeffords cited the significant energy savings associated with recycling. According to the statement, the amount of lost energy from throwing away aluminum and steel cans, plastic PETE and glass containers, newsprint and corrugated packaging was equivalent to the annual output of 15 medium-sized coal power plants. Increasing the recycling rate of these commodities by 10 percent would save enough energy annually to heat almost 75 million

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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American homes, provide the required electricity for 2.5 million Americans and save about \$771 million in avoided costs for barrels of crude oil.

Organizations representing all facets of recycling and solid waste recovery are supporting the RISE Act. A full list of supporters is listed in the box below. The full text of the legislation can be found at: <http://www.p2pays.org/ref/40/39970.pdf>.

The following organizations support the RISE Act:

American Beverage Association
American Forest & Paper Association
Association of Postconsumer Plastic Recyclers
Ball Corporation
Carolina Recycling Association
Envision Plastics
EvCo Research LLC
Florikan ESA Corp.
Glass Packaging Inst.
Institute of Scrap Recycling Industries Inc.
L B. Schmidt and Associates
Mid America Recycling Companies
MSS Inc.
National Association for PET Container Resources
National Recycling Coalition
National Solid Wastes Management Association
Novelis Inc.
NRT Inc.
O-I
Orwak Group
Paper Recycling Coalition
Reynolds Recycling
Saint-Gobain Containers Inc.
Solid Waste Assoc. of North America
Steel Recycling Institute
Strategic Materials Inc.
The Coca Cola Company
TiTech Visionsort
Tomra
UltrePET
United Resource Recovery Corp.
Van Dyke Bailer Corp/Lubo USA
wTe Corporation
US Conference of Mayors/Municipal Waste Management Association
Waste Technology Equipment Association
Yemm and Hart Ltd.

Early Deadline for 2007 Grants

by Matt Todd, Recycling Business Development Specialist

In an effort to improve the efficiency of the grant contract process, DPPEA is moving up the timeline this year for 2007 business recycling grants.

DPPEA will likely commit \$300,000 from the Solid Waste Management Trust Fund for this grant cycle. Applicants may request any amount of funding up to a maximum of \$30,000. Applicants must provide at least a 50 percent cash match to the requested amount.

A request for proposals will be released by early November, with proposals due by Feb. 1, 2007.

Please visit <http://www.p2pays.org/rbac/grants.html> for more information about the 2007 Recycling Business Development Grant Cycle, or contact Matt Todd, at (800) 763-0136 or (919) 715-6522 or by e-mail at matthew.todd@ncmail.net.



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 Oct. 27, 2006

Item	Western Region	Central Region	Eastern Region
METALS			
Aluminum Cans, lb. loose	\$0.84	\$0.84	\$0.85
Steel cans, gross ton baled	\$130	\$110	\$68
PLASTICS			
PETE, lb. baled	\$0.14	\$0.15	\$0.11
HDPE, lb. baled	Natural	\$0.315	\$0.23
	Colored	\$0.175	\$0.15
			\$0.18
PAPER			
Newsprint, ton baled	\$85	\$75	\$82.55
Corrugated, ton baled	\$85	\$95	\$81
Office, ton baled	\$130 (SOP)	\$110 (SOP)	\$190 (white ledger)
Magazines, ton baled	*	\$65	**
Mixed, ton baled	\$65	\$40	\$55
GLASS			
Eastern Region sells glass F.O.B. origin			
Brown, ton crushed delivered	\$15	\$16	\$21
Clear, ton crushed delivered	\$25	\$26	\$17
Green, ton crushed delivered	-\$7	\$0	(\$9)
*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>