



**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 7, Number 1

Winter 2001

## Material Reclamation LLC Opens for Business in the Triangle

*By John Blaisdell, Market Development Specialist*

The project that partners Norbert Hector, Juan Carroll, D.H. Griffin Sr. and David Griffin Jr. first envisioned over three years ago has come to fruition. Material Reclamation LLC, a large-scale mixed construction and demolition debris processing facility located in south Raleigh officially opened for business on Dec. 6, 2000.

According to General Manager Chris Roof, the \$3.5 million facility expects to process approximately 600 tons of mixed construction and demolition debris per day (150,000 tons per year) once fully operational, and recover about 60 percent of what it takes in. With a little over a month under its belt,

the processing facility is already attracting an average of more than 200 tons per day. The company processes clean wood debris for boiler fuel, and markets gypsum, plastics, metals and cardboard to local area recyclers.

The new facility not only supports waste reduction, it also adds to area employment. The facility has created 18 new jobs and expects to employ 25 when fully operational. Job creation is important in this area of south Raleigh, which is currently a target for economic development and job creation for the Raleigh Chamber of Commerce.

*(See **Material Reclamation**, Page 8)*



Members of Material Reclamation pose in front of materials conveyer. From left to right: Juan Carroll, Norbert Hector, D.H. Griffin Sr. and David Griffin Jr.

### Inside

- RBAC Staff Change . . . . . 2**
- Recycling Business Employment Study . . 3**
- Markets Assessment commodity profile . . 4**
- Business Development Assistance . . . . 6**
- State Awards Organics Grants . . . . 10**
- Entrepreneurs 101 . . . . . 10**
- Electronics recycling workshops . . . . . 11**
- Commodities pricing sheet . . . . . 12**

## RBAC Says Farewell to a Proven Veteran ...

John Nelms, former liaison between the N.C. Department of Environment and Natural Resources (DENR) and the Department of Commerce (DOC) has accepted the position of market research analyst with DOC's Marketing and Customer Service Division. During his five-year stint working on recycling market development projects, John has been a key player in attracting recycling businesses to North Carolina and helping existing businesses expand.



John Nelms (right) with Doug Byrd, the North Carolina DOC's Director of the National Development Group with the Business and Industry Development Division

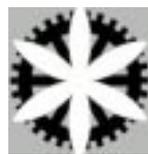
## ... and Welcomes an Experienced Market Developer



Gerry Sutton began working as an industrial development representative and DOC liaison in February 2001. His work focuses primarily on recruiting new recycling businesses to North Carolina, but he is also involved with assisting expansion

efforts of existing recycling businesses. For the past five years, Sutton was vice president of operations and manufacturing with Waste Reduction Products Corporation of Goldston, N.C. Prior to joining WRPC, he was employed as a waste management analyst with DPPEA, where he worked on recycling projects with both the public and private sectors. Sutton has a bachelor's degree from East Carolina University in industrial technology and construction management.

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## State Recycling Business Employment Numbers Increase

By Tom Rhodes, Market Development Specialist

RALEIGH – Recycling businesses in North Carolina have made significant advances in the levels of capital investment and employment over previous years, according to figures released in November 2000 by the N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA).

In a sample survey of 437 North Carolina businesses listed in the state's Directory of Markets for Recyclable Materials, 324 responded as having employees dedicated totally or in part to recycling services. Overall, the respondents listed 27,925 employees, with 8,721 of those workers (32 percent of the sampled workforce) performing recycling-related activity. When compared with a similar survey conducted in 1995, private recycling industry employment has grown by 12 percent in five years.

In the public sector, the level of recycling employment remained relatively the same, with approximately 1,110 employees. Of the state's 620 local governments, 58 percent have recycling programs in place. Together with the

number of private sector recycling positions, the tally stands at 12,738. Comparatively speaking, the number of recycling-related jobs in North Carolina is approximately the same as that of the agriculture/crop industry, and slightly higher than that of the state's livestock industry.

Businesses have added to their recycling arsenal with the purchase of balers, shredders, extruders and other recycling process equipment to produce more saleable commodities. North Carolina offers certain property tax credits to businesses that purchase recycling equipment and/or designate areas in their facilities to recycling services. In addition, DPPEA's Recycling Business Assistance Center (RBAC) has a partnership with the N.C. Department of Commerce, the Community Center for Self-Help, the Small Business and Technology Development Center, and the Sustainable Jobs Fund to assist in expansion and development of recycling-based businesses.

Perhaps most encouraging are the number and kinds of new businesses developing to help reduce North Carolina's solid waste burden. These companies are turning previously-disposed wastes into new products or helping to get the materials to manufacturers of recycled products. The level of entrepreneurial activity in recycling is high, with companies emerging to handle many different kinds of previously-disposed materials and products. For instance, new trends in electronics, food, construction waste and carpet recycling are developing with the creation of new businesses designed to recover the increasing glut of wastes going to the landfill.

As waste handling costs have risen, many businesses and industries have found it cost effective to create positions dedicated to monitoring and preventing waste in-house. The hiring of such personnel has had the effect of significantly reducing waste handling and landfill fee overhead to the businesses. The major objective of the move to develop in-house waste reduction and recycling programs is to protect the environment, preserve natural resources and to conserve landfill space; however, increased profit margins and new job creation are welcome benefits. In some cases, businesses that develop a recycling and recovery program may have a competitive advantage by offering services that their competitors do not.



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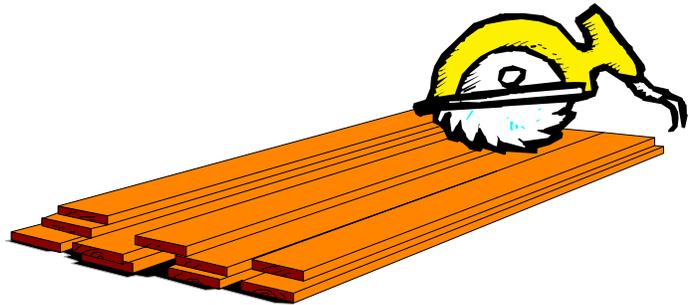
NORTH CAROLINA

# 1998 Markets Assessment

OF THE RECYCLING INDUSTRY AND RECYCLABLE MATERIALS

## Wood Residues

By Jason Hale, Market Development Specialist



*This article highlights information contained in the "1998 Markets Assessment: Wood Residues." The commodity profile may be downloaded in its entirety at <http://www.p2pays.org/ref/02/01622.htm/index.htm>.*

Wood residues are created in the form of bark, chips, sawdust, blocks, lumber and panel pieces, and discarded finished wood products. They are generated in North Carolina by primary manufacturers, secondary manufacturers, users of wooden pallets and containers, wholesalers and retailers of wood products and construction and demolition of residential and commercial properties.

## Estimated Generation and Recovery of Wood Residues in North Carolina, 1997 (millions of tons)

Generating Sector	Generation	Recovery	Recovery Rate
Primary wood producers*	10.2	10.1	99%
Secondary wood producers**	0.7-4.5	0.6-3.9	14-87%
<b>Total</b>	10.9-14.7	10.8-14	73-99%

\*David Brown, Division of Forest Resources

\*\*Range is defined by data from Energy Division study

Primary manufacturers are firms engaged in the harvesting and processing of timbers into usable wood materials (i.e., lumber and plywood); secondary manufacturers then use this lumber to make products, including manufactured homes, cabinets, flooring, siding, furniture and boats. This profile addresses the wood residues generated by primary and secondary manufacturers only. (See the *Wooden Pallets* and *Construction and Demolition Debris* commodity profiles for information on wood from those other sources.)

### Supply

Primary manufacturers in North Carolina generated slightly more than 10 million tons of wood residues in 1997. About 99 percent of this material by weight was recovered. Generation of wood residues in the secondary manufacturing sector was difficult to determine, as limited data were available. As the table above indicates, estimates for the secondary sector in 1997 ranged from 0.7 to 4.5 million tons. The recovery rate in this sector falls into the range of 14 to 87 percent. Two key factors make recovery more difficult for this sector:

- Secondary manufacturers generate a higher portion of residue in the form of blocks and other pieces that are larger than wood chips.
- Many of these are small businesses, and processing equipment to convert larger pieces of wood into marketable chips is expensive and requires large throughput to reach the economy of scale to make it profitable.

### Demand

Residues in processed form (i.e. sawdust, wood chips and bark), which are seen more frequently in primary manufacturing, have been recovered and reused as fuel, mulch, animal bedding and feedstock for paper and other products. Sufficient demand exists for these recovered wood residues.

However, the ability of a generator to reach fuel and mulch markets in a cost effective manner is influenced by a variety of factors: processing cost, transportation cost, commingling of wood with other materials, seasonal production of residues, and seasonal need for mulches and fuels. The result of the interplay among these factors is often a slim profit margin for wood residues.

Items in unprocessed form (i.e. blocks, lumber, panel pieces), which are common byproducts of secondary manufacturing, are more difficult to manage and often end up in landfills. These items typically require processing (grinding or fingerjointing) before they are marketable, and overall demand for them is poor.

### Conclusions

The recovery of wood residues from primary manufacturers is a mature, well-established practice. Generators of residues have existing reuse markets in place and continue to seek higher-value markets for their residues.

By conservative estimate, 500,000 tons per year of wood residues from secondary wood product manufacturers reached North Carolina landfills in 1997, constituting 6 percent of total waste disposed of in a landfill that year. Assuming that two-thirds of this wood waste is recoverable (as a national study from the U.S. Department of Agriculture indicates), North Carolina could reduce materials being landfilled by four percent by working with secondary manufacturers of wood products to reduce or recycle their wastes.

To receive the 1998 Markets Assessment, call (919) 715-6500 or visit this Web site: <http://www.p2pays.org/ref/02/01622.htm/>.

# Business Development Assistance:

The information contained on these two pages is just a sample of the business development assistance that is available.

## Business Start-Up & Expansion Tips from Recycling Works

By Matt Ewadinger, RBAC Manager

Over the years, Recycling Works has published a variety of articles and news items devoted to the growth and development of recycling businesses in North Carolina. The following list is a compilation of that information. Please contact RBAC directly if you would like copies of any items and are unable to retrieve them electronically (<http://www.p2pays.org/news/newsletters/recyclingwk.htm>).

- “Creative Financing the Self-Help Way” by Jim Overton, commercial lending officer (October 1995) – Overton’s article describes the Small Business Administration (SBA) 504 loan program. The SBA also offers free advice in hundreds of local offices and online at <http://www.sba.gov>.
- “Commerce Provides Assistance to Recyclers” by Jay Tilley, then a market development specialist with RBAC (January 1996) – Tilley’s article outlines the services provided by the N.C. Department of Commerce. Visit Commerce online at <http://www.commerce.state.nc.us>. Also visit the state of North Carolina’s “Business Portal” that provides links to a wide variety of business-related information at <http://www.ncgov.com/asp/basic/business/asp>.
- “EPA Publishes Financing Guide for Recycling Businesses” by Matt Ewadinger, RBAC manager (February 1997) – the article outlines the resources described in the guide. To receive a copy of the guide, call the RCRA Superfund Hotline at (800) 424-9346 and ask for document #530-R-96-012 or find the guide online at <http://www.epa.gov/epaoswer/non-hw/.recycle/finguide/index.htm>. Another useful EPA sponsored publication is “Writing Business Plans for Recycling Enterprises: Plastics, Glass or Rubber.” Produced by the Association of Small Business Development Centers, the guide to writing a business plan also includes sample business plans and a resource directory. A copy of the guide and other business planning documents are available online at <http://www.epa.gov/jtr/bizasst/bizplan.htm>.
- “SBTDC and RBAC Initiate Collaborative Agree-



ment/A Look at SBTDC” by Matt Ewadinger (August 1997). The article and related news item describe the N.C. Small Business and Technology Development Center’s recycling assistance experience and outlines SBTDC’s business services. Visit SBTDC at <http://www.sbtcd.org>.

- “Experts Offer Advice for Growing a Recycling Business” by Kathleen Gray, then a market development specialist with RBAC (May 1998) – Gray reports on insights offered by a lender, a successful recycler and a technical assistance provider at the N.C. Recycling Association’s eighth annual conference.
- “Stepping Up to NxLevel” by Tom Rhodes, market development specialist (Winter 1999-2000) – Rhodes describes NxLevel, an entrepreneurial training program developed by the Western Entrepreneurial Network at the University of Colorado. To learn more about NxLevel and other educational products designed to fit the increasingly complex needs of today’s small to medium-sized companies, visit <http://www.sbtcd.org/mes/mes.htm>.

# Available from a Variety of Sources

Available to any entrepreneur interested in starting a new recycling endeavor or expanding current operations.

## Financing Tips from a Recycling-Friendly Lender

By Fred Broadwell, Loan Fund Specialist

*The following is an updated version of an article that appeared in the fall 1999 issue of Recycling Works.*

No matter how savvy you are, navigating the waters of the financing world can be daunting – not to mention the fact that you are involved with recycling! Although much advice is available for getting the financing you need, here are four key points to reduce your pain. Do these things and you may have the financier cheering.

**1 Find the Best Source of Funds:** It is important to take stock of your company's stage of development and approach funding sources that are a good match for where you are. If you have a start-up, think first about family and friends, angel investors ([www.ace-net.sr.unh.edu/pub/](http://www.ace-net.sr.unh.edu/pub/)), or a supportive institutional financier like Self-Help or Sustainable Jobs Fund ([www.sjfund.com](http://www.sjfund.com)). Don't rule out credit cards. If you have 2 to 3 years under your belt and have collateral available, more traditional sources begin to open up, with lower interest rates. Talk to your local bank and shop around. If your early-stage company anticipates a large and profitable growth spurt, and can afford to provide returns to an investor of 30 to 40 percent, then venture capital is an option. Find an experienced attorney and look into the Southeastern U.S. recycling venture forums put on by the S.C. Department of Commerce ([www.callsouthcarolina.com](http://www.callsouthcarolina.com)). If you must purchase a building (rather than lease) or have large equipment needs, the SBA 504 program (use internal link to SH info) may be for you – ask your banker or Self-Help. For more ideas, see the SBTDC guide to lending sources <http://www.sbtcd.org/publications/capopps/1998/toc.html>, or the EPA guide to recycling finance <http://www.epa.gov/epaoswer/non-hw/recycle/finguide/finguide.htm>.

**2 Be Prepared:** Before you call, get your ducks in a row. Every business should be able to fax over its financial statements (current P&L and balance sheet) that day. There is nothing worse for a financier than to get the sense that a company's financial reporting is in disarray. Know your personal credit ahead of time. If there are any blemishes, have explanations and documentation done ahead of time – get credit counseling ([www.creditpage.com/credit\\_help/north\\_carolina\\_credit.html](http://www.creditpage.com/credit_help/north_carolina_credit.html)) if it is in very bad shape. Start

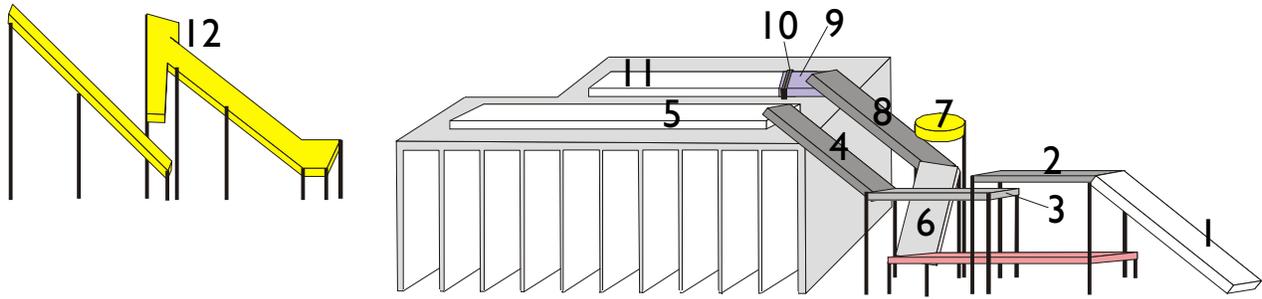
building a nest egg to cover owner's equity today. At a minimum, you will need some cash to pay for closing costs. Know your personal and business assets – is there anything to serve as collateral? Equipment has about a 50 percent collateral value, real estate 70-80 percent. If collateral is specialized recycling equipment, what is the resale market like?

**3 Prove You are a Player:** Is your resume up-to-date? Do you have a current list of references, people who are ready to speak well of you? Are you active in recycling associations like the Carolina Recycling Association (<http://www.cra-recycle.org/>)? Honestly assess gaps in management skill and, if need be, bring in additional help. As most bankers will tell you, management capability is the single most important predictor of business success. Document yours. If you don't have experience in the industry and want to do a start-up, consider working part-time at a similar business for a period of time. What you learn will be invaluable and will impress your lender.

**4 Increase the Info, Reduce the Hype:** A good business plan should focus briefly on the basics – and provide details, not generalities like “we need only 1 percent of a billion dollar industry segment.” Recyclers should be especially well-informed about raw material supply, market growth, government regulations and operations issues. How do you plan to manage supply and market fluctuations? Can you supply up-to-date pricing figures? Can you describe in detail your end market? How dependent are you on a few customers? Be prepared to readily explain the regulatory issues impacting your project. Can you explain the technical aspects of the project in layperson's terms? Don't talk endlessly about how great the product is – there is much else to discuss and financiers have limited attention spans. For more business planning information and market data, contact your local Small Business Technology and Development Center ([www.sbtcd.org](http://www.sbtcd.org)), or the N.C. Recycling Business Assistance Center ([www.p2pays.org/rbac](http://www.p2pays.org/rbac)).

Fred Broadwell is an environmental (including recycling businesses) loan fund specialist with Self-Help Venture Fund. He can be reached at (919) 956-4400.

### Diagram of Material Reclamation LLC Facility



#### Facility Layout and Flow of Materials

(numbers refer to figure above)

- 1) **Feeder Pan:** Trucks dump unprocessed materials on the tipping pad near the feeder pan. Large obtrusive materials such as carpets, cardboard and large pieces of non-recyclable material are pulled out by hand. The remainder of the material is loaded with an excavator onto the feeder pan.
- 2) **Vibratory Screener:** Materials vibrate off the feeder pan onto the first vibratory screener with an 8-inch grate. Materials larger than 8 inches move across the top, and smaller materials drop through the grate onto another conveyor.
- 3) **Second Vibratory Screener:** The second vibratory screener serves the same function as the first.
- 4) **Inclined Conveyor:** The 8-inch + material moves across the vibratory screener and onto the first inclined conveyor where it is brought up to the level of raised picking line A.
- 5) **Raised Picking Line A:** The materials drop onto raised picking line A where laborers hand sort materials and drop them into 10 different storage bunkers below. Vinyl siding, gypsum, wood, cardboard, aggregates, plastic buckets and ferrous and non-ferrous metals are all hand sorted. The remainder of the material is residual, which falls off the end of the belt and is stored for transportation to a disposal facility.
- 6) **Transfer Conveyor:** The 8-inch minus materials that fall through the grates of the two Vibratory Screeners drop onto a perpendicular Transfer Conveyor.
- 7) **Overhead Electromagnet:** The material on the transfer conveyor passes under an overhead electromagnet to mechanically sort out ferrous metals.
- 8) **Second Inclined Conveyor:** The remaining material drops onto the second inclined conveyor and is brought up to the level of raised picking station B.
- 9) **Third Vibratory Screener:** The materials pass over the third vibratory screener with a 2-inch grate to separate out the "fines." The fines drop down to the temporary storage bunker below.
- 10) **Air Knife:** The 2-inch + material moves across the vibratory screener and passes through an air knife, which agitates the light fraction such as paper, Styrofoam, insulation, etc. The light fraction falls to a temporary storage bunker below.
- 11) **Raised Picking Line B:** The remaining materials drop onto raised picking line B where materials such as wood, plastics and residuals are sorted by hand and dropped into eight different storage bunkers below. Aggregates are allowed to pass and drop off the end of picking station B, and are stockpiled for later processing.
- 12) **Vertical Feed Grinder:** Clean wood material (non-painted/treated) is pulled from the storage bunkers and transported using a front-end loader to the vertical feed grinder. The wood is loaded onto the stationary equipment, where it is ground to a 4-inch minus boiler fuel product.

#### The C&D Situation in Wake County, N.C.

Like many other regions in North Carolina, Wake County has experienced explosive growth in recent years, as newcomers flock to the Research Triangle Park and surrounding Triangle area (Raleigh, Durham and Chapel Hill). Along with the new inhabitants come a lot of new housing units, which in turn generates a considerable amount of construction and demolition debris. According to Material Reclamation, construction and demolition debris makes up approximately 35 to 40 percent of the total waste generated in Wake County.



**Left:** A view of the feeder pan, vibratory screeners, inclined conveyor, and overhead electromagnet.

**Below:** The 10 temporary storage bays on the side of raised picking line A for storage of recyclable and non-recyclable materials.



The increasing generation of C&D debris in Wake County is a serious concern because of a simultaneous drop in C&D disposal capacity. With the recent closing of the 1000+ ton per day private C&D landfill owned by BFI in Holly Springs (just outside of Raleigh), and the anticipated closing of Wake County's two public C&D landfills within the next year, this leaves the North Wake Municipal Solid Waste (MSW) Landfill and Material Reclamation LLC to bear the burden of the increased debris.

"We're hoping it will be successful in diverting materials from our landfills," says Kelly Dennings, Wake County's commercial waste reduction specialist. "We're going to be out of the C&D disposal business once the South Wake and North Wake C&D landfill cells close." Wake County is discouraging the disposal of C&D in its MSW landfill and has raised tipping fees to \$37 per ton to encourage haulers to go elsewhere.

### **Experience Pays in This Business**

The experience that the Griffins bring to the table forms the backbone of Material Reclamation. D.H. Griffin Sr. and David Griffin Jr. have many years of experience with landfill operations, recycling, demolition, hazardous materials management, and construction in North Carolina and throughout the world (See the related article "DH Griffin Salvages Demolition Material" in the February 1999 edition of *Recycling Works*: <http://www.p2pays.org/ref/04/03774.pdf>). Juan Carroll and Norbert Hector also bring significant experience to the company. Juan is currently vice president of D.H. Griffin Wrecking Company Inc., while Norbert Hector serves as managing member of

D.H. Griffin Construction Co. LLC. Having a familiarity with not only the materials produced in construction and demolition activities, but also the equipment necessary for handling it, provides the group with a significant advantage right from the start.

### **The Future of Material Reclamation LLC**

Material Reclamation will continue to fine tune its current operation and look for other markets in which to expand. It is considering partnerships with local governments as well as additional independent processing sites in North Carolina and throughout the United States. Also on the horizon is a landfill in Wake County to use as a disposal site for the residual materials generated from the C&D processing facility.

For more information about Material Reclamation, contact General Manager Chris Roof at (919) 835-3655 or by e-mail [croof@dhgc.com](mailto:croof@dhgc.com). For more information on the processing equipment, visit the vendors' Web sites: Terex Recycling: <http://www.terexrecycling.com>, Continental Biomass Industries Inc.: <http://www.cbi-inc.com>, and Caterpillar: <http://www.caterpillar.com>. For information on construction and demolition debris recycling in North Carolina, contact John Blaisdell at (919) 715-6522 or by e-mail [john.blaisdell@ncmail.net](mailto:john.blaisdell@ncmail.net).

## *DPPEA Awards 2001 Organic Wastes Recycling Grants*

The N.C. Division of Pollution Prevention and Environmental Assistance (DPPEA) awarded eight organic waste recycling grants – totaling \$140,000 – in November 2000. A total of 17 proposals sought \$354,813 in grant funding. The selected projects include:

- “From Table to Farm: Compost Production Utilizing Restaurant Food Residuals” – a project to expand a composting facility handling spent brewery grains and wood wastes to include source-separated food residuals from three local restaurants. Contact: Kent Priestly, Weeping Radish Brewery, (252) 491-5191.
- “Expansion of Food Collection Program” – a project by the Inter-Faith Food Shuttle to expand its perishable food rescue program to two additional counties in central North Carolina. Contact: Jill Staton Bullard, executive director, (919) 250-0043.
- “North Carolina Compost Promotional Initiative – Phase II” – continuation of statewide educational program to stimulate demand for North Carolina compost products. Contact: Ron Alexander, R. Alexander Associates Inc., (919) 367-8350
- “Yancey Organic Growers Compost Co-Op Project” – a project to divert grocery store and

residential food residuals to a local composting facility. Contact: Patryk Battle, YOGA, (828) 675-5920.

- “North Carolina Erosion Control Initiative” – a new educational initiative using demonstration projects to stimulate demand for compost products used in erosion and sedimentation control on roadside construction projects. Contact: Rod Tyler, Green Horizons, (440) 926-8041.
- “Investigating Handling and Reuse of Textile Wastes” – a project to evaluate alternative waste cotton bale wraps for compostability and effect on compost quality in containerized horticulture and sod production. Contact: Rodney Fulton, Progressive Soil Farms, (336) 731-3418.
- “Consignment Agreement to Sell Backyard Compost Bins Year-Round” – a project to investigate the feasibility of making backyard compost bins available to citizens on an ongoing basis, rather than the traditional method of one-day bin sales. Contact: Ivan Dickey, Wake County Solid Waste Management, (919) 856-6191.

Grant awards are subject to successful negotiation of a contract between the grantee and the Department of Environment & Natural Resources. For more information about the North Carolina Organic Wastes Recycling Program, call Craig Coker, DPPEA, at (919) 715-6524.

## **Entrepreneurs 101 Series Available from USA TODAY**

On Nov. 9, 2000 USA TODAY published Entrepreneur 101: Business Plans, the first in an occasional series of “how-to” articles for small-business owners. The series and related small-business news are available online at <http://smallbiz.usatoday.com>.

In the article Jim Hopkins, entrepreneurs reporter for USA TODAY, observes that starting a company without first writing a business plan is like driving cross-country without a road map. Hopkins offers a four-step program and resource designed to chart your course of action before hitting the road. He also provides the following keys to developing a business plan:

- Develop a plan before you open your business, even if you don’t need a loan. The exercise will focus your goals.
- Write the plan yourself, even if you get outside advice, because an entrepreneur brings special passion to the work
- Regularly review and revise your plan to make sure you’re on track.
- Consider hiring a consultant, such as a CPA or market research firm, to give you an outside perspective.
- Limit your plan to the first five years of business. Going beyond that is unrealistic because of changing market conditions.

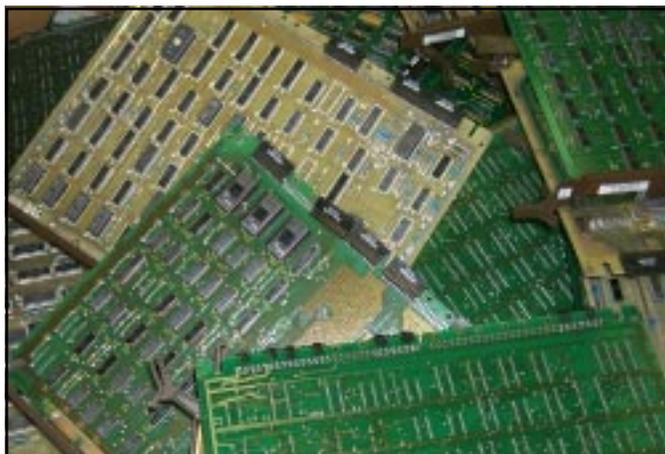
# North Carolina Electronic Equipment Recycling & Management Workshops

The N.C. Department of Environment and Natural Resources (DENR), Division of Pollution Prevention and Environmental Assistance (DPPEA), in cooperation with the Southern Waste Information Exchange Inc. (SWIX), sponsored a one-day workshop on the subject of electronic equipment recycling and management at two locations: the Government Center in downtown Charlotte on Oct. 24, 2000 and at the IBM Fitness Facility in Research Triangle Park on Oct. 26, 2000.

The workshops were designed to educate interested individuals, organizations, and businesses in North Carolina about issues, policies, laws and current government and private sector activities related to this subject. In addition, the workshop provided the opportunity for both public and private sector participants to network their knowledge and share information about how to recycle and manage used electronic equipment.

Topics addressed and discussed at both workshops included the following:

- Recycling industry programs and activities
- National activities and regulations
- State laws, regulations, policies, programs
- Cathode Ray Tubes (CRTs) - handling, composition, markets
- Viewpoints of original equipment manufacturers on electronic equipment management, recycling, and product stewardship
- Equipment collection and asset management
- North Carolina's recycling infrastructure
- Research and markets for plastics materials
- Reuse and donations of used electronic equipment
- Open discussion



A total of one hundred and thirteen people (52 in Charlotte and 61 in Raleigh) participated in these workshops. Participants included representatives from local, state and federal governments, electronic equipment demanufacturers, scrap dealers/processors, non profit organizations, electronic equipment manufacturers, trade associations, regional planning organizations, recycling coordinators, waste haulers, and educational institutions.

Workshop proceedings will be available soon on the DPPEA Web site: <http://www.p2pays.org>.

For more information on electronics recycling, contact John Blaisdell at (919) 715-6522 or by e-mail [john.blaisdell@ncmail.net](mailto:john.blaisdell@ncmail.net).

*Recycling Works* is published by the N.C. Recycling Business Assistance Center (RBAC), a program of the Division of Pollution Prevention and Environmental Assistance (DPPEA) 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.

Michael F. Easley, Governor, North Carolina



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Reduce Reuse Recycle

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 February 13\*

Item	Western Region	Central Region	Eastern Region
<b>METALS</b>			
Aluminum Cans, lb. loose	\$0.56	\$0.47	\$0.58
Steel cans, gross ton baled	\$4	\$13	\$8
<b>PLASTICS</b>			
	Central Region markets plastics together		
PETE, lb. baled	\$0.10	<b>\$0.045</b>	\$0.10
HDPE, lb. baled	\$0.09	<b>\$0.045</b>	\$0.075
<b>PAPER</b>			
Newsprint, ton baled	\$60	\$60	\$61
Corrugated, ton baled	\$45	\$50	\$47.50
Office, ton baled	\$120	n/a	\$175
Magazines, ton baled	**	\$80	***
Mixed, ton baled	\$25	n/a	\$20
<b>GLASS</b>			
Clear, ton crushed	\$35	\$34.50	\$25
Brown, ton crushed	\$24	\$24.50	\$21
Green, ton crushed	\$15	(\$2.50)	\$0

\*Central Region prices from early January.

\*\*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

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DIVISION OF POLLUTION PREVENTION AND ENVIRONMENTAL ASSISTANCE  
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RALEIGH, NC 27699-1639

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