



RECYCLING ADVOCATES

March 2002

Involving people in creating a sustainable future through local efforts to reduce, reuse, and recycle

The Ins and Outs of Paper Recycling

– Tanya Schaefer

The American Forest & Paper Association, a Washington, D.C.-based trade group, sponsored a workshop at the recent National Recycling Coalition Congress. Tom Friberg, Ph.D., of Weyerhaeuser, and George Elder, Vice-President of SP Newsprint Material Manufacturing Group, presented information about papermaking, pulping technologies, recovered fiber and paper manufacturing, and mill specifications and contaminants. In general, the paper manufacturing industry is concerned about its continued access to recovered fiber, especially high quality fiber.

According to the AF&PA, the U.S. paper recovery rate is 48%, representing 49.4 million tons of paper in 2000. AF&PA does not distinguish between pre- and post-consumer recovery. In measuring the annual rate of U.S. paper recovered, it defines “recovery” as paper that is recycled at domestic mills, exported, or used to make new non-paper products. The annual recovery rate is then derived by dividing the amount of paper recovered by the amount of paper used in the U.S. in a given year. The industry’s goal is to recover 50% of all the paper Americans use.

Friberg asserted that 95% of the wood used for virgin pulping in the Pacific Northwest comes from mill scrap (wood residuals) as opposed to logs. The overall U.S. rate is 70%.

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Spotlight on the GRRN

The Grassroots Recycling Network is a North American network of recycling and community-based activists that advocates policies and practices to achieve zero waste, to end corporate welfare for waste, and to create sustainable jobs from discards. GRRN aims to reverse unsustainable practices and policies by building effective coalitions and partnerships for Zero Waste policies based on government and corporate accountability for waste.

Founded in 1995, GRRN was inspired by a challenge to develop clear, simple messages and take them to the American public. The initial effort was launched by leaders from the Sierra Club Solid Waste Committee, the California Resource Recovery Association, and the Washington, D.C.-based Institute for Local Self-Reliance. The group now has three staffpersons and is funded primarily via foundation grants.

GRRN has many campaigns underway, some running jointly with other groups. These are detailed along with background information on their Web site and include:

Zero Waste: GRRN's Zero Waste Campaign advocates for corporate responsibility for waste, government policies for resource conservation, and sustainable jobs from discards. The zero waste society makes products with a minimum investment of natural resources and energy, and the end-of-life options for those

products are limited to reuse, recycle, repair and compost.

Pepsi and Coke: These two soft drink companies use a huge number of plastic bottles. They are being asked to increase the number of these bottles that get recycled, and to use recycled content in making those plastic bottles.

Confront Dow: Dow manufactures Confront, one of the leading persistent herbicides used in turf and agricultural applications. This compound is being found in compost, causing plants grown in the compost to die.

Electronic Scrap: The Take-it-Back campaign endorses EPR, extended producer responsibility. Manufacturers are asked to take financial responsibility for their products at end-of-life.

End Subsidies for Waste: The Welfare for Waste report examines the federal subsidies that go into industries that compete with recycling, thus undermining recycling.

For more information visit www.grrn.org. From there you can choose to join their very active Greeneyes listserv or sign up to be notified of additions to their Web site.

They are not a membership organization, but happily accept donations.

Paper Recycling, cont.

Fibers cannot be recycled indefinitely; thus plants always need some infusion of new fibers.

History of Papermaking: The first North American paper mill operated in Pennsylvania in 1690 using the Chinese method of shredding old rags and clothes – recycling always has been a part of papermaking. As demand for paper grew, mills switched to more plentiful wood fiber in the 1860's. Today, about 87% of mills use some recovered fiber. SP Newsprint's Georgia plant uses 100% recovered fiber; its Newberg, Oregon plant uses about 50% recovered fiber. Many plants use 100% recovered fiber because of the public push for it, waste disposal issues, and economic and environmental issues.

Basic paper pulping technologies:

There are two main ways to produce paper pulp from wood: mechanical and chemical (there are variants on each).

Mechanical pulping involves chips or logs being ground and refined to microscopic fibers. Lignin, the chemical substance that holds wood fiber together, remains in the paper. As this chemical base deteriorates the sheet yellows and weakens. On the other hand, mechanical pulping results in greater yield, less pollution and is less costly.

Chemical pulping involves cooking softwood and hardwood chips in digesters with chemicals such as sodium hydroxide and sodium sulfide, for several hours. The lignin is removed, leaving just the long fibers. Since lignin makes up about 30% of the fiber, the yield is lower than from mechanical pulping, and the process is slower and more costly. But, the strong fiber allows for more bleaching and converting.

Paper produced using either process can be repulped back into fibers rather simply by soaking it in warm water and stirring; this process is called hydropulping. Depending on the quality of the feedstock and the end product, paper recycling may require extra steps such as screening, cleaning, deinking, dispersing, bleaching and refining.

Recovered fiber and paper manufacturing:

Using recovered fiber is advantageous when considering the public and private demand for it, its ready availability and easy recyclability, its lower cost, and conservation of natural resources. But, it can be difficult for mills to get steady supplies of recycled fiber, and to deal with contamination, transportation and storage issues.

Elder discussed some of the difficulties in using recovered fiber in the newsprint making process, and emphasized the total disconnect between end market requirements and collection of recyclables. He referred to single stream collection as a "mixture of valuable materials, not a valuable mixture of materials," and noted that it does not allow for good feedback to residents about what not to put out for collection. Furthermore, the advent of single stream collection and processing has greatly increased contamination. For example, the end product of automated sorting process set up to capture paper suitable for making newsprint often contains 3-5% plastic containers, other fibers and glass. Recyclers must continually invest in technology to keep up with changing contaminants.

There are two types of contaminants, prohibitives and outthrows. When making paper, a prohibitive is anything that is not paper, e.g., glass or plastic, and an outthrow is any grade of paper not appropriate to the type of paper being made.

Elder said glass is one of the most difficult contaminants to deal with, as tiny glass shards can make whole rolls of paper unprintable. The shards can create small tears on the outside of the roll which can cause an entire sheet to rip while on the newspaper printing press, halting printing and resulting in very unhappy customers.

Other contaminants include non water-soluble adhesives, especially the sticky blobs in magazines used to place advertising cards. These adhesives turn into glue balls, pick up other contaminants, and can change the color of the ink in newsprint. With pressure, they can form a huge glue sheet.

Fluorescent paper is not easy to bleach as the deep dyes so permeate the fiber, it cannot be made into white paper. Inks can be washed off or more easily removed from the paper. The greater the amount of inks and dyes, the more difficult and costly it is to disperse or dilute them.

Another problem with contaminants is how they "take" good fiber with them during the recycling process. When recovered fiber is processed, it goes through screens to remove contaminants and outthrows. Each screening of material removes contaminants as well as good fiber. The resulting waste product is sludge. In order to deal with the increasing number of contaminants, SP Newsprint uses multiple screening processes, but this takes more time, more money, and each screening removes yet more good fiber.

Learn more: Interested in seeing a sort line in action and hearing more about fiber processing? Join us on March 21 for a tour of Far West Fibers in Hillsboro. See page 3 for more details.

Portlanders Recycle Nine Truckloads of Packaging Foam

On January 4 and 5, the City of Portland Office of Sustainable Development's Solid Waste and Recycling Division invited Portland area residents and businesses to recycle expanded polystyrene and packing peanuts at twelve drop-off locations scattered throughout the city. With the help of Ron Billings of Tuscarora, Inc., (formerly Marko Foam Products), located in Wilsonville, Oregon (503-577-5701), and volunteers from AmeriCorps and OSU Master Recyclers, the City collected 5,500 pounds of block foam and 1,600 pounds of packing peanuts.

That is enough block foam to fill six semi-trucks and enough peanuts to fill three semi-trucks. Recovery of the collected foam conserves over 90,000 kilowatt-hours of energy, enough to power almost 10,000 porch lights for one year. Reusing and recycling the nearly three tons of foam diverts material from landfills, and reduces greenhouse gas pollution.

Tuscarora densifies the foam, and then sends it to other companies for reuse and recycling. Timbron Corp. of San Raphael, California, recycles foam block, fabricating the polystyrene into wood-like products such as baseboards, molding, handrails and other products sold at major home improvement stores. Carton Service Inc. of Portland (503-227-6428) reuses packing peanuts. They accept any composition or shape of peanuts at any time.

"The events were positively received by both the public dropping off materials and the businesses that graciously hosted the event by providing the site space," stated Dick Schmidt, event coordinator. In fact,

several businesses were so enthusiastic that they volunteered to be permanent drop-off sites.

The City is considering holding more foam packaging drop-off events in the future, but the dates and locations are not yet set. Tuscarora and Metro's two transfer stations accept polystyrene (#6) packaging foam. Packing peanuts can be dropped off for reuse at many packing and shipping businesses. Call Metro Recycling Information at 503-234-3000 to find a location near you, or contact RA's very own Board member, Kate Wells at 503-452-2916 or kwells@cascadebasket.com. Kate's business reuses shipping materials.

Fostering Sustainable Behavior Workshop

Doug McKenzie-Mohr, Ph.D., will be delivering five identical one-day workshops in Washington and Oregon in late April. The workshop will introduce community-based social marketing and explain how this approach can be used to encourage such activities as waste reduction, watershed protection, water and energy efficiency, reductions in cosmetic pesticide use, and transportation changes.

Following are the dates and locations for the five workshops: April 22, Port Townsend; April 23, Seattle; April 24, Seattle; April 26, Olympia; and April 29, Portland. If you are interested in attending a workshop, please register by contacting Gail Savina at gailsavina@attbi.com. Space is limited.

For more information about McKenzie-Mohr's programs and publications, visit www.cbsm.com.

Sign Up to Tour Far West Fibers

RA has organized a tour of the Far West Fibers material recovery facility in Hillsboro, on Thursday, March 21 at 10 a.m. Participants will meet at Far West Fibers (4660 SE Alexander Street), where they will see haulers delivering commingled curbside loads (hence the 10 a.m. tour time), the facility's new automated sort line, and more.

The tour will last for approximately one hour, and is open to anyone, but space is limited. Please RSVP by calling 503-777-0909 no later than Wednesday, March 20. RA will facilitate carpooling to the extent possible; unfortunately, we cannot provide transportation.

The Future of Glass in Oregon

In late February, haulers, recyclers, processors, government agencies, trade associations and citizens, came together for the Glass Recycling Education and Strategy Forum. Opinions flew as presenters discussed the national status of glass recycling and markets, recycling rates in Oregon, the advantages and disadvantages of curbside collection of glass, and what the future holds for glass recycling. Thanks to Rob Guttridge, President of Recycling Advocates, who represented RA and spoke in favor of keeping glass at the curb. A full report on the forum will appear in the April newsletter.



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Volunteers: Thanks and Opportunities

Kudos...

Thank you to Chris Wilson, Betsy Heydenreich and Lori Stole for staffing RA's table at the Institute for the Northwest 2002 Environment Matters Lecture Series. With their help, we introduced more people to RA and its programs. We still need staffers for the March 7, May 1 and June 5 lectures. For more information about the lecture series, visit www.inorthwest.org.

Judy Skinner gamely took on the task of structurally improving our newly updated Smart Shopping display. Thanks to Judy, the booth should last another ten years! This educational interactive display can travel to your event or environmental fair, and Master Recyclers may use it at their events. Call to reserve the display.

Jane Rosenstein is helping to coordinate our WEPSI multi-stakeholder meetings. Due to Jane's efforts, RA will have detailed information about environmentally sensitive caterers to use and to share with others.

Opportunities...

We need a packaging savvy member to conduct a unit price comparison of packaging alternatives at a large, local grocery store. RA last conducted the survey in 1992, and we need to update it for the Master Recycler Program. If you're a Master Recycler, this counts towards payback!

Do you know HTML? RA posts all of its newsletters on its Web site. We're almost done designing a new site, and need to reformat all of the old issues so that they are more accessible. We

have the template – you just cut, copy and paste!

We're always on the lookout for folks who want to research and/or write newsletter articles. Send us your ideas, or contact us for ideas to get started.

To offer your time and talents, please contact Tanya at 503-777-0909 or info@recyclingadvocates.org.

WEPSI Update

The Western Electronic Product Stewardship Initiative continues to bring stakeholders together to work toward consensus around an action plan for electronics product stewardship, containing steps for implementation. The fourth multi-stakeholder meeting was held in early February, and there are two more meetings scheduled. The next meeting is March 27 in Portland, and the sixth and final meeting will be held in Seattle on May 22.

For more information about product stewardship and WEPSI, visit the Recycling Advocates-hosted Web site at www.wepsi.org or call 503-777-0909.

Green Office Guide – A New Resource

Check out the City of Portland Office of Sustainable Development's Green Office Guide, the City's latest effort to help businesses conserve energy and resources. The new guide provides cost-effective strategies to save energy and water, reduce waste and uncover transportation alternatives. Download a copy at: www.sustainableportland.org/Grn_Off_Guide.pdf or call 503-823-7222.

National Agreement on Carpet Recycling

On January 8, 2002, the Memorandum of Understanding for Carpet Stewardship was signed – the result of a two-year negotiation process between members of the carpet industry, federal, state and local government agencies, and NGO's. This groundbreaking agreement intends to increase the amount of reuse and recycling of post-consumer carpet and reduce the amount of carpet going to landfills.

Estimated total carpet discards for 2002 are 4.7 billion pounds, 96% of which will be landfilled, leaving only 4% to be reused or recycled. The agreement's initial ten-year plan has set nationwide goals of 40% for recycling and reuse.

The agreement is a voluntary initiative that encourages manufacturers to assume the responsibility for the lifecycle of carpet from point-of-sale to disposal. The carpet industry has established a third-party organization, the Carpet America Recovery Effort (CARE), to assist in the development of a carpet collection and recycling infrastructure, and identify viable markets for post-consumer carpet. Starting in 2003, CARE will publish an annual report outlining the results of their efforts.

As the first of its kind in the U.S., this agreement could be a model for future product stewardship initiatives. Learn about other initiatives at www.productstewardshipinstitute.org. Learn more about the national carpet agreement at www.moea.state.mn.us/carpet/index.cfm.

There currently are few local options for carpet recycling. Call Metro at 503-234-3000 for a list.

Recovering Electronics from Residences and Small Businesses

— Lori Stole

Televisions and computers were invented. People bought them. They broke. Now they become obsolete before they break. They get thrown out — eventually. Until recently that meant they were taken to the landfill.

Because these electronic items cost so much, and because they are often replaced while they still function, people tend to store them for a long period of time before recognizing that they really don't want or need them. As more of these materials went to landfills, folks began to recognize the need for a special system to handle electronic waste because:

- While the equipment may be safe when being used for its intended purpose, some of it is too toxic to be allowed in a landfill once it is crushed. (Federal law allows exemptions for small quantities from residential or small business sources, but that doesn't mean the items are any less toxic.)
- It contains many resources that are better reused, than landfilled.
- These items are bulky, heavy and breakable so they can't easily be

processed via existing hazardous waste systems.

- Much of the equipment can be reused or refurbished, and we need a system that promotes these activities.

We now are trying to determine what kind of infrastructure can accommodate these issues. One piece of this puzzle is how to best collect the stuff. Another is, how much stuff is out there to collect? Also, should the exemptions that allow landfilling be eliminated? Baseline studies and pilot tests of collection systems have attempted to shed light on these questions. The results of one baseline study are summarized below, as presented at the recent NRC conference.

Mike Paparian, from the California Integrated Waste Management Board, summarized California's baseline study. Preliminary results indicate that there are six million old televisions and computer monitors stored in garages, closets and back bedrooms. In addition, the CIWMB estimates that just over six million televisions and computer monitors are sitting in stockpiles around the state. They predict that CRT and CPU sales will remain strong through 2006, and that flat panel displays will not affect CRT disposal volumes

during that time. Also, they confirmed that there is a gap between current processing capacity for these items, and the projected 2006 volume. It will cost a lot of money to process this stuff.

Several types of collection systems exist in California:

- Drop-off: either one-day events or on-going drop-off locations;
- Thrift stores and reuse (some became dumping grounds, and are no longer accepting items);
- Bulky waste pick-up;
- Industry/Manufacturer programs: mail-in, on-line barter/auction, or rebate and trade-in; and
- Retail collection.

The CIWMB continues to look at which collection systems and associated fees seem to work best. California chose to ban all CRTs (the main component in computer monitors and televisions) from landfills, while establishing some regulations that promote handling of CRTs for recycling over disposal. For more information on how California is addressing this problem or a copy of their baseline study, visit the CIWMB's Web site at www.ciwmb.ca.gov/electronics.

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RECYCLING ADVOCATES

Membership Application

\$25 Regular \$10-24 Living Lightly \$50 Sustainer \$_____ Other

Please enclose a check and mail to: PO Box 6736, Portland, OR 97228-6736

Name _____

Address _____

Phone Day: _____ Evening: _____

Email: _____

**Your membership contribution to RA is tax-deductible to the full extent of the law.*

Upcoming Events

March 5, 7-9 a.m., "Tax Shift: European Designs and Models," by Anselm Görres, President of the German Ecotax Association. Oregon Environmental Council's Forum for Business and the Environment. Multnomah Athletic Club, Portland. Advance registration required (breakfast included). For more information, visit www.orcouncil.org/Events/BusinessForum.htm or call 503-222-1963 x106.

March 7, 7:30-9:00 a.m., The Oregon Natural Step Network presents a breakfast meeting, City of Santa Monica: A Natural Step Case Study by Dean Kubani. To assure your place, prior registration is required. For more information, contact Steve Radtke at 503-241-1140 or steve@nwei.org, or visit www.ortns.org/events.

March 7, Oregon Natural Step Workshop. Smart Green Purchasing: Strategies and Tactics for Buying Environmentally-Sensitive Products and Services by Scot Case, Center for a New American Dream. Multnomah Athletic Club, Portland. For more information, contact Steve Radtke at 503-241-1140 or steve@nwei.org, or visit www.ortns.org/events.

March 7, 7:30 p.m. Institute for the Northwest 2002 Evening Lecture Series, David Quammen, "Large Predators: Canaries in the Coalmine." Lecture will be followed by a catered reception. Northwest Neighborhood Cultural Center, 1819 NW Everett, Portland. For more information, call 503-222-2537 or visit www.inorthwest.org.

March 18, 5:30 p.m. Recycling Advocates Board meeting. For location and information, call 503-777-0909.

March 21, 10-11 a.m. Tour of Far West Fibers. Details on page 3.

April 2-5, National Pollution Prevention (P2) Roundtable Spring Conference, "Blazing the Trail to Sustainability." Portland, Oregon. For more information, visit www.p2.org/events/.

April 10, Institute for the Northwest 2002 Evening Lecture Series, Dr. Wes Jackson, "Going Native: Natural Systems Agriculture." Lecture will be followed by a catered reception. First Congregational Church, 1126 SW Park, Portland. For more information, call 503-222-2537 or visit www.inorthwest.org.

April 22, Earth Day. Visit www.earthday.net for event information. Contact The City Repair Project for local celebration information, www.cityrepair.org or 503-235-8946.

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ADDRESS SERVICE REQUESTED

Tour Far West Fibers!
Details on Page 3.