POLYCOATED PAPER RECYCLING:

Despite the fact that polycoated paper makes up only a small percentage of the solid waste stream, the recycling of this material, and its subsequent use by waste paper mills, is beginning to take hold.

BY PAUL HOOD

Hood is a Seattle-based writer and consultant on waste paper recycling issues.
recycling programs to their list of post-consumer materials processed. Ponderosa was one of the first to do so back in 1990. Other large waste paper mills such as James River, Pope and Talbot, and Weyerhaeuser have also recently followed suit and have started using post-consumer poly on a limited basis. Now mills in the Northwest, upper Midwest, and Northeast are seriously considering using post-consumer polycoated fiber on a much broader and more extensive scale. Along the way, they are receiving investigative and financial help from government agencies and packagers alike.

Start the ball rolling

The initial impetus for the use of post-consumer polycoated paper came not from consuming mills, but rather from the Aseptic Packaging Council (APC, Washington, D.C., see sidebar). In response to a decision in 1989 to ban aseptic juice boxes in the state of Maine, the two largest U.S. producers of this package, Tetra Pak and Combibloc, formed the APC. Their goal was to ward off future bans by promoting recycling and the recyclability of this type of material. As the volume of this scrap alone was not sufficient for cost-effective recovery, milk cartons, which contain the same fiber and constitute 10 to 15 times the volume of juice boxes, were included in the collection program to make recovery more economically attractive.

Is recycling feasible?

In Washington state, the Clean Washington Center, through a $70,000 study, is trying to facilitate development of a 100-tpd (3,000 tpm) consuming mill of post-consumer polycoated paper. According to the December 1992 study, this would preferably be an add-on to an existing mill. Boise Cascade in Vancouver, Wash., has expressed some interest in such a project. As a manufacturer of printing and writing paper, Boise could utilize the full value of this high quality fiber, making for a far more attractive home than as a use in corrugated medium—as Weyerhaeuser now does—the study states.

The Clean Washington Center study is based on prices of $150 per ton for clean post-consumer polycoated scrap and $500 per ton for finished pulp. At these optimistic estimates, a 100-tpd mill would be cost effective. One shortfall, the study finds, is that the potential supply of gable-top milk cartons and aseptics is only about 40 tpd in the Northwest and British Columbia, Canada (based on 35% recovery rates). A repulping mill of this size is not cost effective. In order to make up for this 60-ton shortfall, higher-cost, pre-consumer scrap would have to be diverted from already existing consumers to this new mill, whether it be Boise or someone else, a Northwest packer notes.

The study further notes that in order to meet the economic assumptions of the model, "price supports will be required to offset the difference between what processors are able to pay and the price that is needed to attract adequate supply." Success, "at least in the short term, depends on financial participation by rate payers and local government, and by industry manufacturers of polycoated paperboard and their customers, the packaging industry." Additionally, there is the concern of handling the residual polycoated waste, which is approximately 30% of the raw material input.

According to Preston Horn-Brine, program manager of the Clean Washington Center, these obstacles are not insurmountable. Darigold, a major Northwest manufacturer of ice cream, recently agreed to switch over to doublesided polycoated paper on all its ice cream containers, Horn-Brine says. This will cost Darigold more than $100,000 annually. "If all Northwest ice cream producers switch over, this would represent another 5 tpd of post-consumer polycoated fiber supply," Horn-Brine says. Efforts like these have Horn-Brine expecting "announcements of a major processing facility within one year, which would be up and running two to five years after that," he says. "Paper, packaging, and product manufacturers are all very interested. No one wants to move alone, but all are willing to move to make this happen," he adds.
Pushing forward

The Clean Washington Center is not the only organization optimistic about overcoming the hurdles to post-consumer polycoated paper usage. A large paper producer in the Northeast is doing a feasibility study now for a 260-tpd, post-consumer polycoated repulping system at an existing end-use mill. The company director of recycling, who spoke on conditions of confidentiality, said the biggest challenge is sourcing, by adding milk cartons and juice boxes to existing curbside programs. According to the company spokesman, "right now the supply is not there. We are looking at a 50% recovery rate and hope for significant supply by year-end." Even at a recovery rate of 50%, the spokesman says the mill would still have to pull supply from 400-500 miles away. An independent consultant familiar with the project said 800-1,000 miles seemed more reasonable. The spokesman says the company also recognizes the need to make capital investments in new cleaning equipment, once supply sources are secured.

James Rivers' tissue mill in Ashland, Wis., is seriously considering expanding its consumption of milk cartons and juice boxes as well. Dick Faye, vice president of James River, says the mill started using post-consumer polycoated paper 18 months ago. Without quoting quantities, he notes the mill has been using small amounts on a regular basis and is optimistic about their ability to use more in the future. Faye also notes that the mill needs the right cleaning equipment to use more post-consumer poly, but that "the key is an infrastructure to collect material in an economic fashion to keep the mill competitive." The milk cartons and juice boxes must go through a processor where they are shredded and rinsed prior to mill delivery, thus requir-
Weyerhaeuser's mill in Longview, Wash., uses the material in corrugated medium, and is supporting the market by paying $150 per ton for baled, clean post-consumer poly. They are consuming 90-120 tpm. This volume, according to Tom Friberg, project manager at corporate research and development for Weyerhaeuser, includes collection from Washington, Oregon, Idaho, and British Columbia. Weyerhaeuser hopes to eventually use the material in a higher-value-added application.

Pope and Talbot's Ransom, Pa., paper mill consumed about 100 tons of post-consumer polycoated fiber in 1992 and expects to use about the same amount this year. According to Harry Reiter, fiber procurement agent for the mill, contamination of dirt and glass from commingled collection is the biggest obstacle to using more of the material.

Dick Faye, vice president of James River, would not say how much the company's mill in Wisconsin was using, but did say that consumption was limited. The total current use by these four companies, while not insignificant, is small in comparison with what is on the drawing board in Washington, Wisconsin, and the Northeast.

Value is real

While the Aseptic Packaging Council may have provided the initial impetus for many of the collection programs, projects on the scale of the three mentioned earlier are not driven by the APC. Mills have a desire for this high-value fiber.

According to Mike Muza, who heads secondary fiber procurement for Ponderosa, virtually 100% of this postconsumer waste is recovered. Mills that want more of this high-value secondary fiber are going to have to turn to post-consumer, he says. As Tom Friberg of Weyerhaeuser notes, mills are trying to meet customer demand for post-consumer content. More importantly, Friberg adds, Weyerhaeuser believes this is the highest quality post-consumer fiber available, which makes its consumption good economic business sense.

When asked why post-consumer polycoated fiber hasn't been used until this decade, Friberg says that, until recently, mills thought there was no available supply while collectors thought there were no buyers. Another factor he attributes as the cause of this is the current trend for manufacturers to take more responsibility for their product, in terms of recycled content and recyclability. These mills want to be in line with public opinion and regulation, he adds. In light of this, Friberg may be right when he says, "We have to look at products and raw materials in a different way. Everybody does."