RECYCLING: SUPPLY, ECONOMICS, ENVIRONMENT, AND TECHNOLOGY

Panel Discussion

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Abstract

The forces behind fiber markets are changing. Once driven by a glut in recovered paper, fiber markets are now being driven more by supply and demand. With this change, market values will be determined more by marginal values of production than by waste management policies, although higher market values for recyclable will certainly stimulate increased interest in collection and sorting programs. In the long run, technology will be market-driven. Theses changes increase the importance of understanding supply and demand issues for cellulosic fiber- these issues will extend internationally and will also extend beyond the pulp and paper sector. Compared to the rest of the world, North America is “fiber-rich” and has potential for substantial increase in fiber product exports, particularly for paper and paperboard products. We will discuss trends and issues in wastepaper supply; differences in recycling and deinking technologies and process design among North American, European, and Pacific Rim countries; the effect of changes in wastepaper supply trends on chemical recycling and deinking technologies; and new systems for removing contaminants. Finally we will summarize the environmental impact of using recycled fiber and the technological ramifications.

Largely as the result of EPA's recent reexamination of the effluent limitations guidelines for the pulp, paper, and paperboard industry, a great deal of new information has become available on the wastes from mills using recovered paper as furnish. Mr. Miner, Program Director for NCASI, will discuss how NCASI has developed data demonstrating that recovered paper use and changes in recovered paper supply can significantly impact raw waste quality and quantity. Unbleached kraft and semi-chemical mills are finding that OCC can produce as much or more BOD than generated in virgin pulp production. The direct reuse of clippings and purchased broke at mills previously using only bleached market pulp has caused significant increases in raw waste loads. High grade deinking mills have found raw waste loads increasing as companies have had to adjust to increased competition for recovered fiber by changing the grades of recovered fiber being use. Concentrations of dioxin and PCB's in deinking mill effluents are very low, normally being below the limits of detection. Sludges from deinking mills have heavy metal concentrations that in many cases have declined, and in all instances are below the "clean sludge" limits developed by EPA for sewage sludges. Data from mills defined by EPA as having "zero discharge" have shed additional light on the factors that contribute to the degree of closure possible in recycled paperboard mill water systems.

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on recycled paper