

#5. THE PROBLEMS WITH GLASS - Why not pick it up at the curb?

Contaminants: Glass is the major contaminant in single-stream collection. Breakage during collection leaves a residue of glass shards in the paper which damages the equipment of both the recycling processing facilities and paper mills. Regional paper mills say they must replace damaged screens three to four times more often when they handle recycled paper collected from commingled programs that contain glass. The screens are expensive and replacement results in costly downtime. A decade ago, many of the Northwest mills invested heavily to revamp their technologies and equipment to be able to handle recycled paper. Now, they say, that can't afford to make investments in new equipment which doesn't really solve their contamination problems. Larger amounts of residues in commingled paper, both glass and other contaminants such as plastic, also adds to disposal costs for the mills. Glass contamination is the single, biggest problems for paper mills throughout the U.S.

Besides the increased processing costs, mills are competing with Asian markets for recycled paper. At present, China pays high prices to obtain waste paper and other recycling materials to meet its need for more resources to fuel its industrializing economy. While the China market may currently be good for waste paper, even if contaminated with glass, some reports and studies indicate that China is turning to countries with less contaminated material and, in the future, will rely more on its own resources. At the moment, however, U.S. mills are feeling squeezed to compete and are worried about their ability to continue operation.

Commodity markets:

As citizens pointed out in the phone survey and focus groups conducted by Pierce County in 2003, plastic has supplanted the use of glass during the last decade. They comment that they are not setting out as much glass because most of the containers they use are made of plastic. Of the container glass still being collected, the glass industry has reduced the weight of the glass to cut packaging and shipping costs. This is called "light weighting" and is one of many waste reduction measures adopted by industry in the last few years.

While local recycling processors can find some markets for color-sorted glass, the markets for mixed-color cullet (broken glass) are limited or non-existent. Some amounts can be used for making tiles and for sand-blasting grit. Ground glass can also be used for road building and as a base for other development projects but, for most of these uses, it can't compete with natural products, such as gravel, because of the cost for collection, processing at a recycling facility, and further processing to the right size.

Processing capacity:

Pierce County does not have local recycling processors that can handle the processing of commingled materials containing glass, at this time. Such processing facilities are costly and investment in new equipment would increase residents' collection rates. There are only two major recycling facilities in the

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Northwest that process single-stream recyclables with glass; one in Portland, Oregon and the new facility in Woodinville, Washington. The Portland facility charges haulers a significantly higher price for commingled recyclables containing glass.

Collection programs in the unincorporated areas of King and Snohomish counties commingle glass in their single-stream systems but residents also pay recycling collection rates \$3-\$4 per month higher than the existing Pierce County net cost for recycling of \$2.20-2.28 per month. In those counties, most of the commingled material goes to the new Woodinville facility where glass is sorted from the fiber and shipped to California. There, after color-sorting with an optical sorter, most is marketed to wineries but the remaining is disposed as residue in landfills. The sorting still results in paper with glass contamination.

Other

communities: Paper contamination, the high costs to process glass, the lack of markets for glass, and larger amounts of residues needing disposal is a nation-wide problem for communities moving towards a single-stream collection system. Many have either dropped glass or moved to a dual-system where glass is picked up in a separate bin. Because of the poor markets, states in the Mid-West and Northeast and in California have declared glass cullet to be a suitable alternative landfill cover. This does not pose an environmental problem because glass is inert; however, it means that the glass is being disposed; not recycled.

Seattle and Tacoma have elected to keep glass out of the commingled container and to collect glass in a separate, small bin.

Collection

costs: If glass was commingled in a bin with other materials in the Pierce County system, processing costs would increase about \$4 per month per customer. Haulers would have to expand recycling facilities or take recyclables out of-county or out-of-state for processing and would be locked into relying on those facilities to take the material for the long term. This would reduce their flexibility for marketing and it would impact revenue rates. Because of contamination, revenue from recyclable paper is likely to be lower.

Alternative

costs: As an alternative, Pierce County and its cities and towns could require haulers to collect glass at the curb in a separate container. To do so, the haulers would need either additional trucks or to modify their trucks by adding glass bins or other equipment, and they would need more drivers. Some of the efficiencies of automation would be lost because drivers would have to get out of their trucks at each stop to empty the separate bin.

If Pierce County and its cities and towns were to follow Tacoma and Seattle's lead and require haulers to collect glass at the curb in a separate bin, the collection costs would increase approximately \$2.82 per household; for a total of up to \$5.50 per month; or, minus the commodity credit, a net cost range of \$5.02 - \$5.10.