New York City Independent Budget Office

THE CHANGING ECONOMICS OF RECYCLING

The increase in the cost of waste disposal, coupled with the proposed Solid Waste Management Plan's (SWMP) goal of achieving lower and stable fees for processing recyclables, leads the city in the direction of a goal long sought by environmental advocates: cost parity between recycling and waste disposal. If the city is successful in increasing recycling beyond recent levels, it may even become the cheaper alternative, creating a strong incentive to promote recycling as a way to hold down the total cost of waste management.

Like the Department of Sanitation's (DSNY) previous plans for long-term solid waste management, this SWMP aims for a higher recycling rate for existing programs and also proposes adding new recycling programs. In all, the SWMP anticipates that the share of the DSNY-managed waste stream that is recycled will rise from just under 20 percent, to over 26 percent by 2010, and to over one-third by 2024. The specifics for achieving these higher diversion rates are not spelled out, although the City Council is considering programs for recycling of electronics, textiles, and other materials. The most concrete aspect of the sanitation department's plan for recycling is a 20-year commitment to one company, Hugo Neu, to handle all the city's metal, glass, and plastic (MGP) recyclables. The city will invest $25 million to provide waterfront land in Sunset Park, Brooklyn, where Hugo Neu will build a recyclables processing facility. Despite this cost, the city anticipates that by signing a long-term agreement, it will achieve overall savings through keeping MGP processing fees stable.

The Incremental Cost of Recycling. The incremental cost of recycling is the cost of collection and processing fees paid for recyclables collected at the curb (paper and MGP), less the avoided cost of including the same material in the waste-for-disposal stream. IBO has previously estimated that the incremental cost of recycling in 2002 (the last full year before the recycling program was partially suspended) was $46 per ton. We projected that the cost would fall to $39 per ton in 2005, due to rising waste export costs.

The cost of handling recyclables, like that of non-recycled waste, can be thought of as having two broad components: collection (performed by DSNY personnel), and "disposal"—either literally, in the case of waste, or by recycling, for which the city pays a processing fee. The city anticipates that by signing a long-term agreement, the processing fee it will pay the vendor for MGP will come down to an average of $48 per ton (compared to the current $51 per ton). This is less than half the average $107 per ton cost of disposing of waste under the plan. Moreover, the city receives money for the paper recyclables it collects, so that the average processing cost per ton for the entire curbside and containerized recycling program currently is about $13 per ton.

The cost of *collecting* a ton of recyclables compares less favorably, however. For various reasons, including the lower volume of recyclables set out at the curb, and the lower average weight of recyclables for the same volume, the average weight of recyclables collected on a collection shift is typically less—about 6 tons—than it is for waste—over 10 tons. Since the cost to operate the collection truck for a single shift is the same, whether it is picking up waste or recyclables, the cost *per ton* to collect recyclables is higher.

With the same 20 percent diversion rate, program costs, and relative collection costs as in 2002, the only factors changed in this analysis are the contract costs of processing recyclables and disposing of waste. Assuming the cost of exporting waste and operating the MTSs at $107 per ton and the cost to process recyclables at $48 per ton, the incremental cost of the recycling program would be zero. With a higher diversion rate of MGP and paper, the collection efficiency of recycling would improve and the incremental cost of recycling would become negative.

New recycling initiatives for other materials, though increasing the overall diversion rate, would not affect the incremental cost as it is calculated here.

With higher disposal costs altering the equation—making recycling a net *savings* to the city—there would be a strong financial incentive for the city to make recycling collection as productive as possible. Increasing the curbside diversion rate is the best way to do this.

For additional detail on the costs of recycling and of waste collection and disposal, see IBO's *Refuse and Recycling: Comparing the Costs* (February 2004).

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