



## GUIDELINE 8 - VARIABLE RATES OR VOLUME-BASED RATES FOR MUNICIPAL SOLID WASTE SERVICES

North Dakota Department of Environmental Quality - Division of Waste Management  
4201 Normandy St., Bismarck, ND 58503-1324

Telephone: 701-328-5166 ● Fax: 701-328-5200 ● Email: [solidwaste@nd.gov](mailto:solidwaste@nd.gov)

Website: <https://deq.nd.gov/wm>

Updated 6-2022

North Dakota communities and businesses are increasingly interested in variable rates or volume-based rates for municipal solid waste services. In the past, most solid waste services other than some commercial accounts were funded through flat rate billings, charging citizens the same cost whether they disposed half a container of garbage or ten containers of garbage. The increased cost of landfilling, the financial difficulties facing local communities and businesses, the dwindling landfill capacity, and the increasing environmental concern on the nation's solid waste practices have increased interest in making disposers responsible for the amount of waste they dispose. Following EPA's strategy for integrated waste management, a hierarchy or a list of preference for waste management includes waste reduction, waste reuse, recycling, composting, and at the lower end of the spectrum, incineration (or energy recovery) and disposal. Also, the public is concerned about the siting of solid waste management facilities leading to more emphasis on the upper end of the hierarchy. Variable or volume-based rates are seen as an effective way to increase waste reduction, reuse, and recycling, and decrease our reliance on dwindling landfill capacity.

Variable rate or volume-based disposal fees simply means that the customer pays for the amount they dispose. The types and elements of such systems, according to the Reason Foundation, include:

- \$ Variable can system. Customers are billed on the number and/or size of cans subscribed (or less commonly, set out).
- \$ Prepaid bag system. Customers purchase special garbage bags with logos. The price of the bag includes some or all of the cost of collection and/or disposal of the waste.
- \$ Prepaid tag or sticker. Customers purchase tags or stickers that are affixed to the wastes (or containers) set out for collection and disposal. Again, the price of the tag/sticker includes some or all of the cost of collection and disposal for a maximum amount of waste.
- \$ "Hybrid." A "base level" of can or bag/tag service is funded through taxes or fixed fees, with increments to that service paid through a variable rate system. The increments are usually paid through bag or tag/sticker systems. These are "hybrid" systems because they are a combination of traditional tax or flat-rate financing along with an incentive-based bag/tag/sticker system.
- \$ Weight-based system. Weight-based systems charge households for each pound of waste disposed. These systems are being experimented within the

United States as well as overseas, however, the equipment is not yet widely demonstrated.

Variable rates in conjunction with good recycling and waste education programs have routinely reported between 25 and 45 percent reduction in waste disposed.

Variable rate or volume-based fee systems are perceived to be more fair to people such as the elderly who generate less waste. Initially, volume-based fee systems may appear to be more complicated and may be resisted by some people, however, such problems can be overcome by building a consensus among all the parties involved. There may be some concern on illegal dumping, increased backyard burning, increased compaction of the wastes, and/or unauthorized disposal in commercial dumpsters. Such problems, if they create problems, will need to be addressed through education, enforcement, or appropriate compensation. Some flexibility may need to be allowed also for people with disabilities or to lower income families with children who may be concerned about increased cost. The overall cost for volume-based service may be more expensive than flat-rate services (EPA, September 1990).

Waste hauler concerns about variable rate or volume-based fees center around the perceived complexity of the system and potential loss of revenue. The concerns of haulers need to be addressed. They must be compensated for their efforts in collecting solid waste or the system will fail. Under the prepaid system, the hauler is not involved in regular bookkeeping, he merely picks up what waste is placed in the appropriate containers. Marketing the tags, bags, or stickers is often the responsibility of the community or biller. In some cases, the hauler may be doing the bag/tag or sticker sales. Cash flow concerns of haulers can be overcome by carefully studying the rates and program design and enacting changes should shortfalls occur.

The containers to be used and the retail distribution system for selling the bags, tags, or stickers to the customers must be evaluated. Similarly, communities or businesses utilizing volume-based fee systems must have an adequate waste reduction, recycling, and composting program as well as effective education programs. Ongoing evaluation and, as appropriate, enforcement must also be considered. Most interest in the state of North Dakota has centered around a set fee for one or two bags or cans and then allowing the citizen to buy at local retail outlets or at the City Hall any additional bags, tags, or stickers to place on their waste containers. The greatest benefits of volume-based or variable rate systems will probably be to cities with limited landfill space, long hauls to a regional landfill, and/or good waste reduction and recycling programs. Initially, such rate systems may be easier to adapt in larger cities, however, many smaller communities in North Dakota are also interested in such systems as they view this as an issue of fairness. In implementing a variable rate system, the Reason Foundation in a 1993 report stated: "Our interviews revealed several lessons that could be useful in implementing any variable rate system:

- \$ Political support is important. Political support can be created but, historically, it often pre-exists in the form of opposition to siting of incinerators or landfills and public outcry.
- \$ Involve many in the decision-making process. Communities have found that involving a number of players in the decision-making process can increase acceptance and smooth implementation of the system. Stakeholders that have been included successfully include haulers, politicians, environmental groups, recyclers, and citizens (e.g., through solid waste advisory committees).

\$ Offer choices. Introducing a new system that appears to require lower service and higher fees with no options will be a tough sell. It is important to offer program alternatives (recycling, etc.), smaller service levels at reduced prices, and similar options to allow citizens to reduce their rate burden if they reduce the waste they set out for disposal. Availability of legal, well-known alternatives for the waste, including recycling opportunities (private or community-sponsored), source-reduction education, and the like, are important.

### References

U.S. EPA, September 1990. "Variable Rates in Solid Waste: A Handbook for Solid Waste Officials."

Reason Foundation, June 1993. "Variable Rates for Municipal Solid Waste: Implementation Experience, Economics, and Legislation."