

# Demystifying Ratings: How Flow Control Shocks Credit Quality

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## Abstract

Financial operations of many solid waste systems, waste-to-energy facilities in particular, have been shocked by the lack of congressional, and state and local legislation to resolve the loss of legal flow control. Flow control is a system's legal authority to direct waste into its own facilities. In contrast is economic flow control, where the market factors prevail and waste is brought to a facility based on competitive pricing. The loss of legal flow control threatens solid waste systems and impinges their underlying credit quality. Credit quality is expressed as the bond rating, a statement about the borrowers ability and willingness to repay debt in full and on time. While the courts have identified acceptable alternatives to enable municipal systems to diversify revenues (creating revenue flexibility), such alternatives may not be palatable as they represent additional taxation or fees.

The paper highlights how the loss of legal flow control has shocked the operations, management and credit quality of solid waste systems. These shocks have stimulated public and private partnerships in order to facilitate economic flow control. Municipal credit solutions, credit impacts and credit trends are explained to identify how solid waste systems have responded in an operating climate exacerbated by regulatory changes (environmental and accounting) as well as utility deregulation. Analytical considerations are presented for evaluating the credit quality of solid waste bonds.

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## Introduction

Financial operations of solid waste systems have been challenged by the loss of legal flow control, related litigation and regulatory changes. Legal decisions have ruled that the direction of waste to designated facilities, commonly referred to as “flow control”, violated the interstate commerce clause of the United States Constitution. Regulatory pressures arise from changes to the federal Environmental Protection Agency (EPA) acts regarding environmental standards, landfill closure and post-closure care liabilities as well as provisions for financial assurance. Financial assurance mechanisms ensure that sufficient funds will be available to provide for these liabilities. The accounting treatment of these landfill closure and post-closure care liabilities is directed by Statement 18 the Governmental Accounting Standards Board (GASB). Solid waste systems have also experienced challenges from competition and from the privatization of collection and disposal services. This presentation highlights developments in the solid waste sector, provides the credit fundamentals for the analysis of solid waste bonds and then profiles how issuers have been coping with these external pressures, their impact on system operations, credit fundamentals and credit quality.

## Solid Waste Sector

The collection and disposal of municipal solid waste is a service function provided by governmental entities. This service can be provided directly by the municipality or under a service contract with a private vendor. Collection and disposal can also be a private arrangement between the private vendor and the residential, commercial or industrial customer. Capital has been raised to finance the following credit types: waste to energy plants, retrofits of old incinerators, landfill expansion and upgrades, transfer stations, recycling facilities and rail haul facilities. It is estimated that some \$20 billion of outstanding municipal debt has been issued based on revenues derived from legal flow control. Security structures included limited obligation and revenue bonds payable from tip fees and municipal agreements. In some cases, the full faith and credit of the municipal participants were received.

## Credit Ratings

Ratings are the distillation of all of the credit factors and fundamentals and is a statement about the issuers willingness and ability to repay debt on time and in full. Fitch IBCA assigns long term debt ratings using a letter scale: AAA is the highest credit quality and BBB the lowest investment grade rating. The speculative grade ratings begin with the “BB” category and extend to “D”, denoting default. Fitch IBCA utilizes a “+” or “-” sign to denote placement within the category. Ratings are bands of credit quality and each debt instrument within the rating category shares a similar risk profile regardless of its fixed income debt sector--municipal, corporate, structured, asset-backed or international.

## Credit Fundamentals

Credit fundamentals for solid waste sector debt provide indicators to determine how well a system is performing and also provide signs of stress that could destabilize financial operations. Key factors are presented as an acronym of the sector, solid waste.

<b>S</b>	<b>System description and type</b>	<b>W</b>	<b>Waste supply trends</b>
<b>O</b>	<b>Operating procedures and practices</b>	<b>A</b>	<b>Alternatives to the system</b>
<b>L</b>	<b>Legal covenants and litigation</b>	<b>S</b>	<b>Service area fundamentals</b>
<b>I</b>	<b>Independent engineering</b>	<b>T</b>	<b>Technological suitability</b>
<b>D</b>	<b>Debt affordability</b>	<b>E</b>	<b>Economic feasibility</b>

Another way to describe the analytical factors for waste-to-energy facilities can be found in this acronym of “mass burn”:

<b>M</b>	<b>Management</b>	<b>B</b>	<b>Bond security</b>
<b>A</b>	<b>Alternatives to the system</b>	<b>U</b>	<b>Underlying service area</b>
<b>S</b>	<b>Sensitivity to market factors</b>	<b>R</b>	<b>Revenue sufficiency</b>
<b>S</b>	<b>Supply of waste</b>	<b>N</b>	<b>Network-integrated or discreet components</b>

Specific highlights of each fundamental contained in “Solid Waste” are presented in the following section:

**S** *System Description and Type:* This part of the analysis evaluates what service is being provided—waste to energy, landfill, transfer station, recycling, composting as well as who is providing the service and whether the waste is privately or municipally collected. For *Waste-to-energy* facilities, important elements of these systems include a review of the technology (mass burn, or refuse derived); waste supply and anticipated volume; the energy content of electricity to be sold under contract as well as terms of the energy sales contract. Compliance with environmental regulations as well as testing and disposal of ash residue are also considered. Sales of electrical energy to investor owned utility provide a significant revenue source for waste-to-energy facilities. It is important to evaluate the terms of these energy sales contracts in view of recent trends as deregulation of electric utilities evolves. Energy sales contracts for the output of waste-to-energy facilities are sold at the avoided cost “the incremental costs for the utility to have produced the energy”. Prices were generally fixed for the term of the contract. Many contracts were entered into when the price of oil and market prices for electric energy were higher. Financial and competitive pressures faced by investor owned utilities have led them to seek to renegotiate some above market contracts. Thus far, the Federal Energy Regulatory Commission (FERC) has upheld these contracts under the Public Utilities Regulatory Policies Act (PURPA) of 1978. Under PURPA, waste to energy plants were included as biomass providers and utilities were encouraged to purchase power from these producers. In effect, waste-to-energy systems are independent power producers, and any excess power sales will be subject to market rates as deregulation evolves. In another matter: the Internal Revenue Service (IRS) ruled that a specific issues of bonds will not lose their tax-exempt status following the change in ownership from the municipal to corporate ownership of facilities.

**O** *Operating procedures and practices:* This portion of the analysis evaluates whether the issuer or a vendor operates the system. A common operating structure is for a county system to dispose of waste for contracting municipalities. It is operated by a private vendor and a private engineering consultant provides monthly reports to the authority on systems performance. The authority regularly meets with the participants to discuss the operating budget and the amount of waste disposed of for the municipality under the service contract. Additionally, all waste delivered is logged by hauler and municipality and compared to contractual commitments.

**L** *Legal covenants and litigation:* Bond security provisions and flow control challenges are evaluated as well as whether all federal, state and local environmental and operating permits have been received. This part of the analysis also determines if there are differences in the flow of funds between the construction phase and after acceptance. An example to illustrate what can go awry would include a scenario where a waste to energy facility was allowed to operate on a “pre-acceptance” basis

with only state and federal permits. The local permits were withheld pending resolution of litigation to revoke the site permits. The facility continued to operate. Since the facility was not considered operational, the flow of funds remained in the “construction phase”. The flow of funds was stronger after acceptance. To further complicate matters, improper maintenance led to violation of the air quality permits. While this is not your standard credit, it does illustrate how events can snowball out of hand if all legalese are not in place. Litigation can be a primary factor to destabilize a system and impinge upon its financial flexibility to repay its debt on time and in full. In the Northeast, municipal governments, striving to cut taxes, have sued systems, claiming that their rates are too high. The use of contracts have also been challenged, and based on the municipality as a market participant, the use of contracts was upheld in Smithtown. The use of service fees imposed on the processing of solid waste has been upheld by cases in Babylon, NY and Kern county, CA. Other California cases in Palm Desert and San Francisco concern the inclusion of recyclables in the waste stream. As a result of these cases, disposal of these recyclable items cannot be directed to a specific disposal site. Fitch IBCA will evaluate the nature of the litigation and the potential to affect credit quality. When decisions are rendered, we will take appropriate rating actions.

**I** *Independent Engineering evaluations and oversight:* Feasibility studies determine how well the project will work and evaluate historical experience as well as management’s oversight of corporate vendors and verification of waste supplied to the system. For systems that derive pledged revenues from municipal service contracts, amounts paid are based on delivered tons, or a percentage of waste processed or on a sum sufficient basis to meet operations, maintenance and debt service. Thus, accountability is important in our evaluation of system management as they are processing waste delivered by municipalities and private haulers.

**D** *Debt position and affordability:* This section covers the ability to incur and repay debt as well as evaluating pledged revenues and security provisions. The rating reflects the ability to incur and repay debt on time and in full. Important considerations in a credit rating are the system’s financial operations, source of pledged revenues and the flow of pledged revenues and funds to the trustee. When security provisions include deficiency make-up guarantees or sum sufficient allocations, it is important to assess the system operations to determine what financial resources will be required to operate the project and service the debt; money that could be spent elsewhere in the municipal budget. Take for example a landfill where bond security was enhanced by the county deficiency make-up provision. Following flow control uncertainties, waste supply declined and competition increased leading to a decline in revenues. The county found itself in the position of having to provide funds to the system. Subsequently, the service area was expanded to include the unincorporated areas, a service fee was imposed and the method of calculating fees were expanded to provide additional revenue. These actions have assisted in reducing the amount of funds needed from the county. In a competitive environment, revenue flexibility is important.

**W** *Waste supply trends:* Analyzed are the source of waste supplied to the system, the amounts supplied by private haulers, municipalities as well as derivation- residential, industrial and commercial. No less important are the types of waste: municipal, construction and demolition,

as well as recyclables. Waste supplies have been affected by successful implementation of recycling programs, which reduced waste flows. In addition, not all systems are able to retain or pledge revenues received from the sale of recyclables.

**A** *Alternatives to the system:* Competition stems from the lower prices from systems that are within a transportable distance. The ability to select disposal sites and providers in a free market facilitates competition. Uncertainties surrounding flow control and enforcement have led to competition from alternatives within a transportable distance. In addition, the receipt of less waste than anticipated by many systems made the importation of waste more important to the financial success of both private and public waste operators. It is estimated that the private sector generates some \$35 billion annual revenues from solid waste activities through 12 public and privately held companies. These private companies operate over 500 municipal solid waste landfills. Corporate goals of improving profit margins and earnings have led to consolidations within the private sector as well as competitive pricing, efficient operations and acquisitions to maximize collection and disposal operations in the areas served. This process includes the assumption of the operation of municipal facilities or systems as part of a privatization process. Privatization has taken several forms, with private operation of all or part of the system under a service contract more common than complete divestiture. Under an operating contract, the municipality retains control of landfill and other facility assets. Privatization can also take the form of having the service functions performed by a municipal solid waste department that has bid on the contract and services under management policies that facilitate more efficient and profitable operations. A key part of the evaluation is to ensure that tip fees and service fees are compared on a "level playing field". Not all tip fees are created equal. It is important to know what services are included. Systems in New Jersey and Maryland have been successful in unbundling fees to make the tip fee more competitive and charge separately for other services that are provided.

**S** *Service area fundamentals:* The financial and economic analysis of system participants is evaluated utilizing the fundamentals of municipal finance: the employment base, revenue structure and debt position. The focus of the analysis is to determine the capacity of the service area to pay fees and charges in order for the system to receive sufficient revenues to repay debt on time and in full. This analysis is especially important when revenues are derived from underlying municipal service contracts, or put or pay contracts. The budget and billing cycle of underlying municipalities is evaluated to ensure that there is sufficient time for revenues to be appropriated and remitted to the Trustee for payment of debt service on system bonds. When revenues are received from separate billing on property taxes or refuse bills, it is important to evaluate the underlying wealth and economic indicators. Another important analytical factor are whether the underlying municipalities impose limitations on system revenue increases. The implications of tax limitations are discussed in a separate section.

Economic cycles have also affected the amount of waste furnished to the system. This is important where there are put or pay contracts. Some municipalities served by county waste-to-energy systems that have contractual supply targets have allowed more "spot" or market waste to be accepted. This has the affect of getting the throughput to the facility, however, the municipalities have not had to pay for waste that they were not able to generate. However, it is important that there be sufficient waste generated within a transportable area to substitute for local waste. Secondly, the price of the spot market waste, together with rate on the contractual municipal waste, must be set to provide for operating and debt service expenses.



**T** *Technological suitability:* Evaluated is the type of process designed to handle the anticipated supply, and whether there is excess capacity that will be costly to maintain. Environmental compliance is evaluated to determine whether or not the system needs upgrading to meet environmental standards.

**E** *Economic feasibility:* In this era of flow control challenges, price in relation to the service provided and competitive position are important. Economic viability is imperative. No amount of good management, debt ratios or covenants can help a system if it is not competitive. When evaluating the practical aspects of solid waste systems, the analysis focuses on historical and projected financial and system operations, environmental regulation, competition, waste supply, service area, management oversight, as well as the waste collection and disposal method. Pledged revenues and their collection method is also considered. Pledged revenues are derived from tip fees, service fees, benefit and use fees, energy sales, as well as sales of reclaimed materials. Collection methods include "at the gate" tip fees, or fees and charges collected with property taxes or included on water, sewer and refuse bills. Service contracts and other operating contracts are evaluated as the assumptions used to construct the feasibility study. Some specific concerns for the various components of integrated systems are as follows:

### **Credit Pressures**

Credit pressures that affect the operations and management of solid waste systems result from flow control uncertainties, regulatory changes pertaining to environmental, financial assurance, the accounting treatment of landfill closure and post-closure care liabilities as well as from competition and privatization. Further complicating the operation climate of solid waste systems are tax limitations. Tax limitations are important constraints as they restrict the ability to expand revenues received from municipal governments and constituents that are served by the system. This section profiles these external challenges. The next section will highlight how systems have coped with these challenges as well as explore remedies that may impinge credit quality.

### **Flow Control**

Flow control refers to the legal or statutory direction of waste to a designated disposal facility. Thirty-five states, the District of Columbia and the Virgin Islands have flow control; eleven states do not have flow control, and four direct waste via home rule or state management plan. Litigation surrounding solid waste systems and flow control is not new. Systems had to respond to earlier Supreme Court decisions which eliminated tier pricing of in-state and out of state waste and which now require that ash residue be tested to ensure it is not hazardous. However, flow control gained notoriety with the Carbone decision in May 1994. In this decision, the Supreme Court ruled that the direction, or flow control, of waste to a designated facility violated the commerce clause of the constitution. Commerce Clause issues are the province of Congress, and the Supreme Court decision, while giving guidance on the matter, leaves the final resolution to congress. At issue is the grandfathering of solid waste systems that have bonded debt outstanding, and how broadly systems would be allowed to direct waste to their system. Since 1994, several attempts to craft flow control legislation has failed in Congress. To date, no legislation has been agreed on.

Flow control pressures can be destabilizing, however, each system, its state and local ordinances and operating environment will determine whether or not recent flow control litigation will affect system

operations and ultimately, bond security. The analytical considerations resulting from the various legal cases suggest that issuers and their solid waste systems need to be evaluated within the context of 1) non-discrimination, 2) market participant or 3) market regulator. The broad areas analyzed include a systems 1) service area, 2) waste supply, 3) revenue sources, 4) financial operations and ability to repay debt. Therefore, each system is independently evaluated to assess credit quality and bond security in relationship to: (a) competitive environment; (b) collection and disposal practices; (c) supply of waste; (d) revenues sources, (e) components of the tip fee and (f) intermunicipal agreements and vendor contracts. Stated another way, as an acronym, fundamentals by which solid waste systems could be evaluated would include:

- |          |                                  |          |                                 |
|----------|----------------------------------|----------|---------------------------------|
| <b>F</b> | <b>Flexibility</b>               | <b>C</b> | <b>Control of waste supply</b>  |
| <b>L</b> | <b>Legal or economic control</b> | <b>O</b> | <b>Out-of-state competitors</b> |
| <b>O</b> | <b>Operations</b>                | <b>N</b> | <b>Negotiation of contracts</b> |
| <b>W</b> | <b>Waste supply trends</b>       | <b>T</b> | <b>Transportation costs</b>     |
|          |                                  | <b>R</b> | <b>Regional solution</b>        |
|          |                                  | <b>O</b> | <b>Organization of system</b>   |
|          |                                  | <b>L</b> | <b>Litigation</b>               |

The loss of legal flow control has threatened solid waste systems and their underlying credit quality. Credit quality is impinged when waste is diverted out of the system and there are insufficient alternative revenue sources to make up the deficiencies. Systems that have been the most vulnerable were those that relied upon legal flow control as well as having been dependent upon per ton tipping fees. Court approved alternatives include (a) debt refinancing with governmental support; (b) user charges; (c) system benefit charges or assessments; (d) statewide solid waste tax; (e) cost reductions. In addition to these alternatives, some systems have separately priced services and functions out of the “tip fee as a result of cost accounting techniques. Additionally, some systems have entered into interlocal and vendor contracts for the collection and disposal of municipal solid waste. Post-Carbene, these contracts have been competitively bid, in a non-discriminatory process to enable out-of-state competitors access to the process.

Key analytical considerations regarding flow control include: legal or economic direction of waste to a facility; components of the tip fee that could be adjusted to make the fee more competitive; whether or not the system depends on waste importation or exportation as well as public or private collection and disposal methods. Also important to the analysis is the derivation of the tip fee and its components. Integrated systems, often include non-disposal program costs in the tip fee, such as recycling, composting, and education. How the tip fee could be adjusted to make the fee more competitive is also important to the system evaluation. Another element in the flow control mix is to evaluate how dependent the system is on waste that is privately collected and more subject to competition. The degree to which intermunicipal and private hauling contracts are utilized is also important in the evaluation of the waste supply.

### ***Regulatory Changes***

Regulatory changes are important considerations for solid waste systems as they relate to environmental standards and the potential for increased costs. There are two important regulatory changes that affect waste-to-energy systems and the landfill of ash and non-combustible waste. Changing regulations have also been a pressure for some systems and have resulted in increased costs. Some federal regulations which pertain to solid waste systems include: Subtitle D of the Federal Resources Conservation and Recovery Act (RCRA) of 1978 (governing landfill liners, covering, closure, and 30 year post-closure care); Federal Aviation Administration (due to bird control near airports and stack heights of waste-to-energy facilities); Water quality regulations (ground water contamination from leachate, the liquid by-product of waste decomposition) ; Clean

Air Act regulations (governing emissions from waste to energy facilities and landfill methane gas). The monitoring of landfill gas is a recent regulatory change. State and local regulations may affect the ease or stringency in siting new facilities which could affect the supply of waste to a system. Regulations include solid waste management acts; health and safety ordinances; conditional use and operating permits. Permits and environmental studies have stringent requirements which may reduce operating flexibility. Most use permits require landfills to have daily cover over the new trash; and for transfer stations and waste to energy facilities, no trash on the tipping floor at the end of the day (waste in the holding pit for specified days is acceptable). If the issuer does not operate the system, then they should provide compliance oversight.

Environmental and accounting regulatory changes have the potential to affect all municipal systems, and not just those who have issued revenue bonds. The potential for increased landfill costs will apply to both public and private landfill operators. These regulations may result in increased cost of landfill operations that may be operated as part of an integrated system, or affect pricing of ash and non-combustible waste disposal contracts. It is likely to assume that these costs will be passed through in the form of higher disposal fees, where permitted by agreements and contracts. If these new expenses cannot be passed through by the municipality to system users, then solid waste enterprises may not be self-supporting. In the event that general fund support is required, these are funds that could be applied elsewhere in the budget. Thus, waste-to-energy systems that are not integrated with their own landfill, may be faced with increased costs when ash and non-combustible waste landfill contracts are renewed. To the extent that these are not a pass-through costs, then additional revenues or expenditure reductions may be required.

#### *Landfill closure, post-closure care and financial assurance*

Landfill closure, post-closure care and financial assurance costs remain another pressure that can affect solid waste systems. Closure costs and post closure care costs are required by the Environmental Protection Agency (EPA). The EPA laws in 1991 revised subtitle D of the Resources Recovery Act of 1976 to require 30 year post closure care, monitoring and remediation. The calculations are based on the current cost of a third party closing the landfill and are to be annually updated to reflect inflation. The EPA requires funding of these costs and includes provisions for financial assurance. According to November 1996 regulations, the implementation for financial assurance requirements is April 9, 1997, having been delayed from the original April 1994 date. State directors can defer implementation for small landfills for up to one year.

The EPA has provided several methods to demonstrate financial assurance, and these can be divided into two broad categories: Provided by a third party and provided by the municipality. Options provided by a third party include: (a) trust fund, (b) surety bond, (c) letter of credit, (d) insurance, (e) local government guaranty, (f) corporate financial test and (g) corporate guarantee. Options provided by the municipality have been codified by the November 1996 ruling which revised a local government financial test option, first proposed in 1993. Local governments have several ways to demonstrate compliance. They can (a) issue general obligation bonds that are rated investment grade, or (b) meet liquidity, debt service and operating ratios relative to cash and budgets. The EPA must receive annual reports prepared in accordance with Generally Accepted Accounting Principles (GAAP), an unqualified auditors opinion as well as annual compliance reports. Local governments that satisfy the tests are able to assure obligations for other landfills. Critical components of the analysis will be the investment grade threshold as well as municipal credit fundamentals. These fundamentals evaluate the municipalities willingness and ability to



repay debt on time and in full. The underlying analysis determines whether or not the municipality is investment grade.

### **Landfill closure and post-closure care liability accounting**

The accounting for closure and post-closure landfill care costs is provided by the Governmental Accounting Standards Board (GASB) statement 18, which provides for recognizing costs while the landfill is operational. The measurement is based on current “allowable” costs. Allowable costs also include equipment, costs of cover and monitoring. A new liability is created on the balance sheet and expenditures are recognized. The modified accrual basis of accounting is to be used with the remainder of liability reported in the general long-term debt account. The statement is geared to the use of proprietary account reporting, but recognizes the use of governmental funds for tax-supported landfills. Audits after June 1993 must include these liabilities. As a result, some systems have reported fund deficits. Important considerations for analysts as they review these changes include understanding the closure cost assumptions. It is also important to determine whether the system is including these costs in feasibility studies. Practical considerations of competition from private, other municipal and regional landfills must also be considered in relation to the useful life and the ability to achieve financial results.

### **Credit Impact**

Credit impacts from flow control and regulatory changes need to be evaluated within the content of how they may impinge bond security. Bond security provisions include the evaluation of pledged revenues, flow of funds, reserve funds, additional bonds tests, rate covenants and default provisions and remedies. This section highlights how systems have been pressured and the relevant analytical considerations. It is estimated that over \$20 billion of debt is affected by flow control and that 19% of transfer and recycling station and 58% of waste-to-energy throughput is received via flow control. Challenges to flow control have the potential to affect financial operations as waste can be diverted out of the system leading to lower revenues. Without remedial actions, this could impair bond security. While flow control is the mechanism to get waste to the system, it may not necessarily be the most economic option. Legal interpretations of case law are best left to the lawyers, however, credit analysts need to be aware of the operating impact of legal decisions as they pertain to waste supply, recyclables, contracts, and franchise systems. Each system should be evaluated independently to assess bond security in relationship with the competitive environment, collection and disposal practices, supply of waste under direct control and proportion of revenues derived from waste under direct control. Flow control pressures can be destabilizing, however, each system, its state and local ordinances and operating environment will determine whether or not recent flow control litigation will affect system operations and ultimately, bond security.

### ***Pledged revenues***

The loss of legal flow control has threatened certain waste-to-energy solid waste systems and their underlying credit quality. Credit quality is impinged when waste is diverted out of the system and there are insufficient alternative revenue sources to make up the deficiencies. Systems that have been the most vulnerable were those that relied upon legal flow control as well as having been dependent upon per ton tipping fees. Key analytical considerations regarding flow control include: legal or economic direction of waste to a facility; components of the tip fee that could be adjusted to make the fee more competitive; whether or not the system depends on waste importation or exportation as well as public or private collection and disposal methods.

Lower revenues have also occurred when waste supply has been reduced by increased recycling, diversion, or price reductions. The rating analysis considers sources of revenue, what revenues are pledged and how these revenues get to the Trustee. Pledged revenues can include tip fees. Tipping fees are charges at the "gate" at the disposal facility and can be weight or volume based. They can also be per containers or per square footage for commercial space. Not all tip fees are created equal. In 1995, the average tip fee in the US ranged from \$10 to \$79 per ton for landfills and \$25 to \$89 per ton for waste to energy facilities.

It is not correct to evaluate tip fees for a full service municipal system against landfill costs for a private landfill that does not provide collection and disposal and recycling services. To become more competitive, the trend has been to unbundle the tip fee, discontinue services, charge separately for services or change the method of calculation of rates and fees. Other revenue sources include user service charges or fees collected with property taxes, or imposed on water, sewer and refuse bills. Nationally, these fees range from \$150 to \$390 per household per year. Service and benefit use fees diversify the revenue base as they are not volume driven. Certain systems in California, New York, Maryland and Florida utilize service charges and laws in South Carolina have been amended to allow for such fees. The amendments also provided for payments under service contracts even in the event the facility was not completed or operational. In addition, regional systems have been allowed to apportion deficiencies among participants, should they elect to assume such obligations for other participants.

Municipal service payments are another revenue source, received under contracts or interlocal agreements. These payments are subject to budgetary appropriation. Some bond structures provide for a general or limited obligation pledge of amounts payable under these contracts or agreements. Some have put or pay covenants and others include provisions that payment must be made whether or not the facility is completed or operational. Other structures provide for revenues to be based only on actual amounts of waste supplied to the system. Other revenues are derived from sales of reclaimed or recycled products as well as investment income. Not only are the types of pledged revenues important, but also how the rates are set, the flexibility to change rates as well as the billing process. Provisions of service contracts and disposal contracts are also evaluated and measured against estimates of waste disposed.

For analysts, key points regarding pledged revenues include how the rates are set, the flexibility to change rates, the billing process; degree of operating flexibility attained from rate stabilization funds as well as reserves for operations and maintenance in addition to standard debt service reserves; an evaluation of any mechanism to trigger the payment of municipal or vendor guarantees to determine that sufficient time is allotted to get necessary budgetary approvals to ensure that all payments are made on time and in full. It is important to evaluate the flow of funds and operating expenses to see what gets paid ahead of bonds. Some debt structure provide for both vendor and municipal debt, with debt service on vendor bonds payable as an operating expense under the service contract. In effect, the vendor debt is senior to municipal debt.

### ***Bond Security- Additional Bonds Test and Rate Covenants***

Debt refinancing to relax covenants and restructure system operations have given rise to efforts to relax more stringent additional bonds tests and rate covenants. While good bond security and operating flexibility often appear inconsistent, credit quality should not be compromised. It is possible to have credit worthy solid waste systems that provide operating flexibility and sound bond security features. In order to achieve this, systems have found that they need to be leaner, have economic rates as well as retain operating flexibility. Both additional bonds tests and rate covenants are based on historical operations, as well as include future operating projections. Analysts need to review the test period in view of historical

and proforma experience to determine the extent that revenues are recalculated to reflect revenues from rate increases, improvements, hauler and municipal contracts.

It is important that systems have operating flexibility and include rate stabilization funds as well as reserves for operations and maintenance in addition to standard debt service reserves. When surety bonds or letters of credit are used, it is important to include provisions that the provider can be substituted in the event the rating of the provider is downgraded below "A". Equally important is the mechanism to trigger the payment of municipal or vendor guarantees and that sufficient time is allotted to get necessary budgetary approvals to ensure that all payments are made on time and in full.

The availability of reserves and other non-operating system revenues requires a determination if they are really available for operations, or, only pledged for test calculations. There should also be restrictions placed on the use of these reserves in the additional bonds tests and rate covenant. Practice has been to allow, for very credit worthy issuers, up to 10% to 25% from non-operating sources, usually the rate stabilization fund. Care should be taken to avoid less than 1.0 times operations and maintenance from operations. The use of such reserves should be independently verified. When capital improvements are planned to be funded from excess revenues, or equity contributions, bond security features should include an equity release test, similar to the additional bonds test, to ensure that sufficient funds would have been on hand to provide for debt instruments prior to release of funds.

### ***Feasibility Study***

The loss of legal flow control has also affected feasibility studies. Feasibility studies project future operating costs and revenues. These studies can be a useful analytical tool to project a system's ability to pay operating expenses and repay debt. Why do many original waste-to-energy feasibility studies no longer bear any resemblance to actual operating conditions? Since these studies were based on legal flow control, tip fees generally were imposed on a captive service area, and were set at the level needed to meet expenses. Together with significant costs for ash disposal, many pre 1991 feasibility studies for waste-to-energy systems anticipated tip fees of over \$115 per ton beginning in 1995. Post-Carbene and the loss of legal flow control, high tip fees are no longer palatable. Economic operations are important, with competitive tip fees, especially to forestall tax and rate base initiatives where municipal support is derived from the tax base. In the face of continued pressure to forecast operations, some systems have dispensed with updating feasibility studies. This is not a desirable response. Credit analysts are interested in historical projections and how the system has responded. A changed environment is not necessarily a credit negative if the system can demonstrate that it has acted responsibly. What constitutes a good feasibility study? A good study should include the breakdown of waste by type, how collected, how measured and basis for charges as well as the assumptions on non-operating revenue, including investment income. Assumptions for growth as well as information regarding fees and competition, with sensitivity analyses under various scenarios. Growth projections should be based on realistic expectations and evaluated within a historical context, especially if municipal incorporation's are a potential threat. Also, determine the permitting process so that planned improvements can be realized. It is important to reflect on any changes in law that could affect the ability to increase rates, as well as the market prices that could affect future waste supplies.

### ***Service Contracts***

Service contracts are negotiated between systems and vendors as well as between municipal governments. These contracts and agreements also provide the terms of operation for facilities that are not municipally operated. The use of these instruments has risen in response to flow control. The key analytical areas for

the evaluation of service contracts can be divided into its component parts: contract terms, hauler considerations, waste supply agreements, intermunicipal agreements and municipal support. Important considerations in evaluating the contract terms relate to the life of the contract in relation to the term of the debt---does the contract match or exceed bond life, or, is their renewal risk. Additionally, the risks associated with increases in consumer or producer prices is also assessed. Some contracts have the solid waste system responsible for increases above a specified amount, placing the risk of inflation on the system. Analysts evaluate the extent of liability and the potential amounts paid by the vendor or municipality. Also evaluated are the payment mechanisms, including what party is responsible for billing--the municipality or the vendor. In addition, the budget process as well as put or pay contract terms are evaluated as well as the dependence upon imported or spot market waste.

Privatization of disposal and collection service are covered by service contracts. Trends have been for public works departments to respond to proposals to operate municipal systems on a more economical basis. As a result, vendor contracts between private companies and municipalities continue. New developments include several systems that have now have contracts for collection and disposal from the private sector, and no longer perform these services municipally. Analysts are aware of the terms of the service contracts and potential hidden costs. There are some debt structures that provide for the payment of service contracts as an operating expenses. Some bond structures include capital charges on facility debt (issued on behalf of a vendor) in the service contract. In effect, payment of these contracts is senior to net revenue system bonds payable from net operating revenues.

Hauler considerations include whether or not the hauler or vendor provides collection, disposal or both. In addition, analysts consider how the revenues flow from the hauler to the system. There are several methods of revenue collection that are in use by municipal solid waste systems and include escrow or performance bonds being required prior to disposal of waste at the facility. When direct billing is utilized by the vendor, the timing of payments should be sufficient to protect the revenue stream from a bankruptcy of the vendor. Property or refuse bills that are a lien on property can provide a satisfactory stream of revenues. Termination provisions as well as ability of the vendor to remit any damages are evaluated.

Intermunicipal agreements are often used by county systems with revenues derived from underlying municipalities via the service contract or agreement. The terms are usually "put or pay" agreements. Flow control uncertainties and economic declines led to less waste being generated by the municipalities. In practice, where overall supply has been met by other municipal participants, or imported waste, and sufficient revenues were generated on a total basis, municipalities have been billed for only the amounts disposed and not the contracted amounts. Additionally, the waste supply agreement is reviewed based on the contract terms and hauler considerations. In addition, attention is given to determine what service is provided, which party is providing the service, is the contract a fixed price, or put or pay and the risks inherent from termination or renewal provisions. The protection of the revenue stream from a vendors bankruptcy is important. The budget and appropriation process to ensure the fees and charges are in the budget, approved and remitted on a timely basis are important. In addition, the use of cost accounting to recover operating expenses as well as provide for capital improvements is important. Several systems have included these provisions to ensure self-sufficiency. The amount of municipal support is an important credit consideration. If there is a guaranty or deficiency make-up provision, it is important to determine that there is a mechanism in place to have the trustee notify that there is a deficiency in revenues, or that reserve funds may be drawn upon. It is important to evaluate the ability of the municipality to impose the fees or user charges as well as ascertain that the service area has sufficient resources to repay on time and in full. The presence of tax limits can have a negative credit



impact. Analysts need to assess the likelihood that rates be increased to the point that the thresholds will be met, or the potentiality that voter approval would be denied.

Examples of tax limits that have the potential to affect solid waste systems include Proposition 218 in California and Measure 50 in Oregon. Thus far, systems have been managed within the limits. Additionally, these solid waste systems have typically been landfills and not waste-to-energy systems.

### **Credit Solutions**

Issuers have coped with flow control uncertainty and regulatory changes by modifying revenues and expenditures within the framework of the various legal decisions impacting the solid waste sector. The courts have provided acceptable alternatives for municipal systems to diversify revenues to enable the tip fee to be reduced to more competitive levels, in lieu of legal flow control. These measures include debt refinancing, implementation of user charges, system benefit charges, statewide solid waste tax and/or assessments. The use of long term contracts with both in-state and out-of-state providers as well as funding systems through a combination of state and local general revenues. These suggestions broaden the revenue base and lessen the dependence on tip fee revenues. On the expenditure side, cost containment as well as cost accounting of the various programs and services is a mechanism to reduce expenses. In this manner, services can be separately priced, commonly referred to "unbundling" tip fees. Tip fees are often the basis of comparison among systems. However, it is erroneous to compare the tip fee of a fully integrated system with one that is just disposal only. Unbundling, or separately costing out fees and services, often with alternative sources of payment for non-disposal related items, will enable better comparisons. However there are solid waste systems with high debt service components included in the tip fee. These systems will need to combine other revenues sources as well as expenditure control in order to provide economic and competitive tip fees.

On the revenue side, those systems with flexibility, have revised the tip fee to make it more competitive. For systems that provide services other than disposal, such as recycling and composting, user fees were charged. Where possible, the service area has been expanded and household and commercial service fees charged. These fees have been billed with property taxes, or with water, sewer and refuse bills. Other systems have used service contracts with municipal participants which provide annual payments for operations, maintenance and debt service. In some cases, these municipal contracts have borne some form of general or limited obligation pledge. Hauler contracts have also been executed in order to stabilize the waste supply. Where possible, revenues from sales of reclaimed materials and from the processing of excess waste have been shared with the hauler and the municipality. These revenues may or may not be pledged to bondholders as a source for debt repayment. On the expenditure side, operating budgets have been re-evaluated, and in some cases, vendor contracts have been replaced by self-operation of facilities. And, as expected, refunding operations have taken place to reduce debt service expenses, relax restrictive covenants to enable a more competitive tipping fee. Additionally, the EPA's financial assurance mechanisms provide funding alternatives to provide for landfill closure liabilities. The local government guaranty option provides for self-insurance, reducing costs associated with a third party providing the financial assurance.

### **Case Study: New Jersey**

New Jersey's Solid Waste Management Plan and the Solid Waste Utility Control Act underpin its integrated waste management system where franchises were granted for the collection and disposal of solid waste. In practice, authorities were created by districts for the collection, processing, recycling, transport and disposal of waste generated within the district. Additionally, prior to operating in New Jersey, a solid waste disposal facility had obtained a contract with one of the waste management districts and received

approval from the DEP. The loss of legal flow control was acute in the state of New Jersey due to the state franchise system. Following the loss of legal flow control, New Jersey solid waste systems experienced a loss of waste supply and reduced revenues. The credit evaluation of New Jersey solid waste issuers will focus on their ability to operate as a non-discriminatory market participant, or market regulator, within the parameters of any new legislation and alternative revenue sources. The analysis also reviews the systems responses to competition and the ability to attract or commit waste to the system.

The franchise system provided for independent solid waste districts. Overall, 22 districts were created to provide solid waste services for the operation of 12 landfills and 5 waste-to-energy facilities. Included are 11 utilities authorities in the state and 2 pollution control financing authorities. There are also 4 improvement authorities and 5 counties have direct control. The total amount of waste disposed of in or through all New Jersey solid waste systems in 1991 (the latest reported) was 7.1 million tons. To finance these facilities, bonded debt was issued in an amount close to \$1.7 billion in 53 separate bonds, serviced primarily from tip fees derived by the direction of waste to the facilities (legal flow control). Tipping fees, which service the debt, must be approved by the Department of Environmental Protection (DEP) and the Department of Community Affairs. Since New Jersey's system is an integrated waste management system, most the tip fees were higher than the fees at out-of-state disposal only facilities. Coupled with the state's "self-sufficiency" mandate, contracts with out-of-state facilities were few.

Thus, the State of New Jersey mandated legal flow control of solid waste by virtue of its state franchise system. The final decision in the Atlantic Coast case is now the May 1, 1997 ruling by the United States Court of Appeals for the Third Circuit. In this decision, the court has upheld legal flow control for municipal systems that can demonstrate non-discrimination, or, have procured contracts in a non-discriminatory manner. With litigation resolved in the Atlantic Coast case, municipal solid waste is now subject to non-discriminatory policies. However, the court did not dismantle the county system of solid waste management. Portions of the law that are non-discriminatory are not affected. In practice, the court ruling, together with the state guidance plan, permits each county to submit a new plan amendment for solid waste management. In effect, counties can affirm that they will continue to provide solid waste disposal, as a market participant, or market regulator, but not acting in both capacities. Conversely, a county could decide to allow municipal participants to independently contract for waste disposal.

As a result of the loss of legal flow control, the relationship is changing between the state and its local governments as solutions are crafted. New Jersey provides a notable example of the state's involvement, however, the state has stopped short of providing a full financial response. The state, acting through the Department of Environmental Protection, is required to approve the award of franchises and the rate setting process. At the local level, each county approved the formation of the solid waste district and was on the governing board of an instrumentality that was created--such as utilities authority, pollution control financing authority, or improvement authority. State laws further provide for inherent taxing powers for improvement and utilities authorities, with provisions less clear for pollution control financing authorities. Any taxes or increased revenues would have had county approval as well, as these agencies were instrumentality's of the county. At the core of the state and local relationship is the Local Finance Board of the state Department of Community Affairs. This board has broad powers to legislate remedial plans to ensure financial stability. It is the Local Finance Board, together with Department of Environmental Protection and the State Attorney General's office that were assisting each county and solid waste district in the solid waste plan amendment process. The state Local Finance Board is also requiring its approval of any EIC. In this manner, the state will provide oversight to ensure recovery plans are sufficient. Still, all in all, it will be a combination of state and local responses together with restructured public and private

initiatives that will be crafted to assist New Jersey solid waste systems cope with the post-Carbene operating climate.

With this precedent for state involvement, the state provided a flow control guidance plan on August 5, 1997. This plan is presented by the Department of Environmental Protection. At its core, is the need for each county and its solid waste management district to craft solutions to resolve solid waste disposal practices that discriminate against out-of-state providers. Remedial actions offered by the state include (a) meeting with each county and authority; (b) emergency rules to enable rate reductions to more competitive levels; (c) appropriated \$20 million for stranded investment financial assistance, disbursement following audit by the Department of Treasury; (d) assist in review of plan amendments and procedures to determine if bid and award process was non-discriminatory review plan amendments establishing environmental impact charges (EIC) to recover debt service on stranded investment. In effect, each authority and its county will be reviewing their bidding and award process to determine if disposal contracts were awarded on an open and competitive process. Thus, on a "non-discriminatory" basis, where the process did not favor in-state options over out-of-state options. Alternatively, if the authority can demonstrate that they are a "market participant"--either a buyer or seller, the courts have ruled that it may select to whom it will sell and from whom it will buy solid waste. While case law appears to enable the authority to act as a "market regulator", there has been less guidance on how these would be viewed. It is clear, however, that being both a "market participant" and "market regulator" would be discriminatory against out-of-state vendors.

The state guidance plan also provided for the imposition of an environmental investment charge (EIC) to recapture stranded investment costs. Debt service is an approved use of these revenues. Imposition and implementation of the EIC will be determined by each solid waste district in conjunction with the county local finance board. The state guidance document outlines various steps for counties to consider in evaluating and establishing an EIC. The legal authority to impose an EIC is based on the enabling legislation of each authority. Specifically, improvement and utilities authorities have the ability to impose taxes. Broad authority to impose fees or charges is also within the purview of the local finance board. These powers will be especially useful for those systems with high debt service as a tip fee component. There are some systems where debt service is over a third of the tip fee. Additionally, the state department of environment has authority over solid waste utility rates to ensure levels of service. As such, according to the state guidance document, revisions in rate structures will be made to enable tip fees to be lowered to meet competitive pressures. Thus, potential EIC's may vary between the solid waste districts as the source of funds becomes a mix of operating savings, service charges and disposal fees.

### **Credit Trends**

The municipal solid waste sector continues to operate in a dynamic environment. While private sector participants can elect to cease operating in this sector, governments cannot, as the collection and disposal of municipal solid waste is a service function provided to their constituents. However, options do exist in partnership with the private sector for the delivery of these services under service agreements or other contractual arrangements. Recent trends are expected to continue and include the streamlining and consolidation of private sector participants, closure of landfills that do not meet environmental standards, construction of single or regional landfills that satisfy environmental regulations as well as privatization of municipal systems. Privatization can take two forms. The first, where the service is provided by a private operator, and the second where the service is provided by the municipality which employs an operating strategy designed to maximize efficiencies and economies of scale. It is expected that increased recycling and minimization of packaging will continue to affect waste supply and pressure revenues. Expenditure

controls, the analysis of costs as well as financial flexibility, including new methods of revenue generation (utilization based, special district fees, service fees) will continue.

### **Credit Quality**

Municipal solid waste systems have been acting responsibly to respond to external pressures and meet challenges from change in laws and regulations, litigation, and competition. Bond security should be assessed in relation to competition, the impact of regulatory changes, collection and disposal practices, changes in the waste supply and sources of pledged revenues. The evaluation also focuses on the economy and finances of the service area. In this manner, flow control, legal, legislative and regulatory changes can be evaluated to determine any impact on bond security and credit quality, which could affect the credit rating and which could lead to a ratings upgrade or downgrade. While the need for external action can be destabilizing and jeopardize credit quality, there remains the potential that the solutions could improve credit quality. Thus, solid waste systems should be evaluated independently, based on its ability to operate as a market participant or market regulator, with non-discriminatory procurement, in a competitive environment. Thus, the rating is the distillation of all of the credit factors and fundamentals and is a statement about the issuers willingness and ability to repay debt on time and in full. Credit fundamentals of solid waste systems that are positive include over ten year history of system operations, satisfactory financial operations, a diversified and committed waste supply, competitive rate structure which leads to economic flow control that provides stable revenues sources. However, credit concerns include the potential of limited financial flexibility, uneconomic rate structure, competition from other facilities within transportable distance, uncommitted waste supply and revenues dependent upon tip fees. Nonetheless, characteristics of a minimum investment grade rating, in the BBB category, include sufficient waste supply, demonstration that the service area is economically viable and stable, projections are realistic, and the system has demonstrated the ability to withstand economic and financial difficulties. The flexibility to respond to a dynamic operating climate as well as sufficient reserves and coverage are also important to attainment of the investment grade rating.

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