



# One Step Closer to a Sustainable Future

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**P**icture this: A resident in your community stands at her kitchen wastebasket one morning, holding our sustainable future in her hand. It takes the form of a used beverage can, an old newspaper, or a grapefruit rind. In this scenario, she will recycle the first two items and dispose of the last one properly. And the locality has an affordable, sound program for solid waste management.

Farfetched? Overly idealistic? Not so. Local govern-

ments have indeed generated innovative, cost-effective methods for the management of municipal solid waste (MSW). Through the PAYT strategy, localities across the country are reducing their waste, bringing equity to solid waste financing, advancing environmental education, and potentially effecting positive changes on a global scale, to boot.

Traditionally, local governments have funded solid waste services through property taxes or an annual flat fee charged to each household. PAYT, also known as unit pricing or variable-rate pricing, is simpler. Waste management is not free; in fact, it is similar to the provision of other utilities or of mail services. PAYT charges households for this service based on the amount of waste they generate, either in weight or volume. Part of a larger movement to improve service delivery, PAYT pulls waste collection services out of the property tax pool and identifies the users and the true costs.

Is the public accepting this strategy? Research indicates growing acceptance and institutional support for PAYT programs. Twenty-three states are encouraging voluntary standards and offering a menu of options from which communities can choose.<sup>1</sup> Four other states—Iowa, Minnesota, Washington, and Wisconsin—require variable-rate pricing at the community level. As to local support for this strategy, a 1991 study of residential customers in Tomkins County, New York, found that citizens supported fees for service, even in the event of increased future waste

*In the August 1995 edition of PM magazine, ICMA published an article entitled "Developing Sustainable Communities." The purpose of this follow-up article is to illustrate the practical applications of community sustainability by highlighting one simple initiative, Pay as You Throw (PAYT), an economic incentive to reduce local solid wastes.*

## Local Efforts Toward Sustainability

Sustainable development is "meeting the needs of the present without compromising the ability of future generations to meet their own needs," according to the United Nations' World Commission on Environment and Development. How can the United States successfully achieve a transition from a resource-consuming society to a sustainable one? All levels of governments must support policies that rebalance America's economic and environmental goals.

PAYT has been adopted by communities all across the country to help achieve a better balance between their local economic and environmental needs. But the influence of PAYT and similar efforts may extend well beyond the local, as noted by the World Congress of Local Governments for a Sustainable Future in 1990:

Fortunately, in the face of global challenges, many local governments have started taking single-handed initiatives to address the root causes of environmental decline . . . [L]ocal governments are serving as laboratories . . . providing models for national-level policies and programs.

ICMA is helping to support these communities by sponsoring highly interactive workshops regionally, to provide an information exchange among peers for pioneer PAYT communities.

disposal costs, which 48 percent believed should be handled through higher user fees.<sup>2</sup>

PAYT is an innovative solution but is not completely new at the local level. Richmond, California, launched a unit pricing program in 1916; Berkeley, California, started its program in 1924; and Olympia, Washington, in 1954. While there still were only a handful of programs in the early 1980s, recently the number of U.S. cities with PAYT has soared close to 2,000 nationwide. The program appeals to communities large and small, municipal or privately operated, and it also can be flexibly tailored to a diverse range of community goals and needs.

By raising awareness of the individual costs of solid waste, local governments can encourage citizens to control a community's total disposal costs through recycling, composting, and other methods of waste reduction. In turn, as more communities collectively reduce waste downstream, more of America's valuable

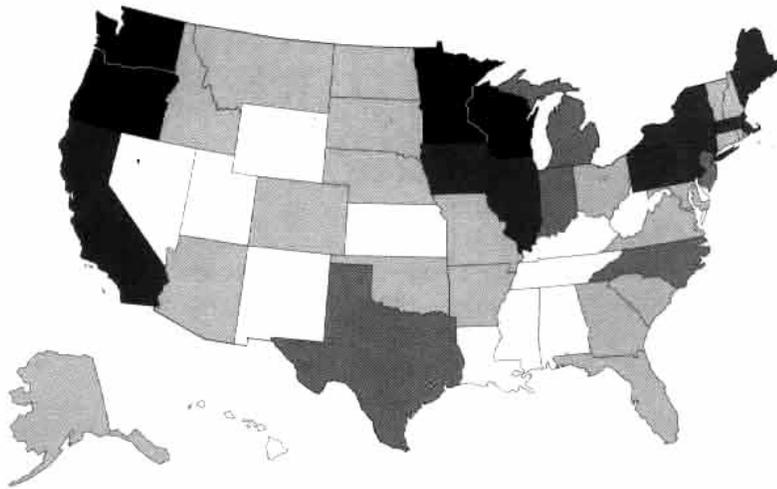
natural resources can be conserved upstream, as well. This is where PAYT not only sustains the local community but also fosters regional, national, and global sustainability.

## What a Waste: A Problem Overview

In the last 30 years, the total amount of waste produced in the United States rose due to continued population increases and to a 70 percent increase in per capita waste generation: from 2.6 to 4.4 pounds per person per day. Traditional disposal methods fall short in the face of modern-day constraints such as tight municipal budgets, landfill closures, not-in-my-backyard syndrome, and increased tipping fees in many areas. Much of this waste (e.g., paper, aluminum, and yard waste) can be diverted from landfills or incinerators through recycling and composting.

Most disturbing of all developments is the fact that this waste is the remains of a valuable but dwindling

## Variable Rates Program (VRP) Distribution



### Key

- More than 200 VRP communities
- 51-200 VRP jurisdictions
- 21-50 VRP jurisdictions
- 1-20 VRP jurisdictions

Source: 1995 Skumatz Economic Research Associates, Inc. survey, Seattle, Washington

treasury of natural resources. That resident in your community, standing before the wastebasket with trash in hand, can make two decisions to address this problem: 1) to recycle or compost and essentially restore the resource, and/or 2) to purchase products that use fewer resources in the first place (more durable goods, or goods that require less packaging).

Clearly, our sustainable future depends in part on our waste generation and disposal behavior. But this point can be difficult to make to a population concerned with household economics, adequate service delivery, big government, and social fairness. Here is where PAYT can help to make this point.

### **PAYT: A Sustainable Strategy Is in the Bag**

Garbage is not exactly an invisible issue. Household trash, product packaging, landfills, and incinerators

are conspicuous aspects of America's waste generation culture. Fortunately, today's recycling markets are on the rise. About 7,265 communities have adopted curbside recycling programs,<sup>3</sup> bringing the national recovery rate up to 21.7 percent.<sup>4</sup> Waste prevention is gaining in popularity as well. Yet it may require a mental leap in your residents' minds to connect their trash-in-hand with any long-term impact.

Additionally, local waste reduction initiatives so far have relied heavily on environmental conscience, which is not a consistent or universal motivator. PAYT, however, relies on the principle of economic equity. In so doing, it opens a window of opportunity for local governments to educate the public about resource depletion and diminishing disposal options and, most of all, about grass-roots, market-based options to resolve these problems.

The environmental benefits are clear. PAYT:

- Reduces trash at the community level.
- Conserves natural resources at the national level.

The economic benefits are compelling. PAYT:

- Offers incentives, not regulations or controls.
- Can reduce waste collection and disposal costs.
- Has the potential to send a price signal to product manufacturers.

But the social benefits are the clincher. PAYT:

- Provides a fairer waste management fee structure.
- Empowers residents to control their household waste budgets.
- Encourages participation in local waste reduction and local decision making.
- Promotes a greater understanding of waste generation in particular and environmental issues in general.

The social benefits of PAYT indeed may be the strongest link to a community's sustainable future. PAYT shows the public that a sustainable future is right for the environment and fair to the individual.

### **Complementing PAYT**

PAYT works in tandem with some important community waste reduction strategies.

First, it supports complementary programs such as recycling and composting. In fact, a PAYT fee even can be structured to fund these MSW programs. Before PAYT, people who practiced these good habits in effect subsidized their more wasteful neighbors. With PAYT, the economic balance shifts toward equity.

Second, it encourages prevention. As PAYT brings to light the costs of excess waste, consumers can

be rewarded in the pocketbook for reducing it. Often, the logical answer is to influence their purchasing behavior toward buying items that are reusable, sold in bulk, or less heavily packaged. Such a change even can have the effect of applying pressure on the private sector to produce products with less waste. According to a 1991 survey of Tomkins County, New York, that was conducted six months after the county started PAYT, 76 percent of residents had reduced the amount of their household garbage by often or occasionally buying products with less packaging; 38.9 percent claimed to pay more attention to product packaging.<sup>5</sup>

### Getting the Right Mix

While PAYT's philosophy (economic reward for environmentally sustainable actions) is universal, the program offers communities great flexibility in design to meet their own objectives.

**Service options.** While PAYT typically goes in tandem with recycling and composting programs, communities also can offer household hazardous waste collection, backyard compost bins, low-income rebates or discounts, and large-item pickups.

**Household containers.** The most common containers include cans of varying sizes, prepaid bags, or prepaid tags. Each option has implications for collection, billing, and the culture of a community. For example, variable-size carts allow convenient pickup for automatic tippers and for the elderly, while prepaid bags sold at retail stores require no customer billing and may be simpler for the community to administer.

**Creating a rate structure.** The rate structure will depend on a variety of factors:

### Case Studies from Communities of All Sizes

**Weimar, Texas** (population 2,052), opened a transfer station in 1990, along with a recyclables drop-off program. Three years later, a volume-based bag program was introduced to Weimar's city and rural residential customers. Finally, in 1995, the city introduced curbside recycling. According to City Manager Francis Parks, waste tonnage dropped from 1,989 cubic tons to 1,569 cubic tons between 1993 and 1995, and recyclable tonnage rose dramatically from 96.6 cubic tons in 1993 to 196.4 cubic tons in 1995.

**Mansfield, Connecticut** (population 21,103), faced the challenge of providing PAYT incentives to a large student population living in multi-family complexes. When one complex switched from private hauling to the town's unit pricing program, the town showed how the complex had been overpaying and how, if the whole complex reduced its waste, it could save money under the program. The complex then could pass the savings along indirectly to renters by reducing condominium fees or at least preventing them from increasing.

When **Loveland, Colorado** (population 37,352), began its bag-based PAYT program, residents complained that the city trash bags, at 75 cents each, were more expensive than trash bags sold at local retailers. The city changed tactics and explained that the 75 cents represented not the cost of the bag but the cost of delivering trash to the dump, as in delivery of mail to households. Now, the city dispenses trash stamps. Thus, Loveland has connected costs to services in the residents' minds.

**Tomkins County, New York** (population 94,097), examined the property tax basis of its solid waste financing scheme. It discovered that a number of significant institutions within its taxing authority were tax-exempt and therefore exempt from solid waste fees. Adopting a trashtag program, the county was able to add large waste-generating institutions like Cornell University and Ithaca College into the waste equation and to benefit from their participation.

**Seattle, Washington** (population 520,947), adopted its program in 1981, using a variable can rate and including a curbside recycling program. In response to landfill closure concerns in 1989, the city introduced a mini-can option and offered a curbside greenwaste program to reduce waste further. According to Seattle-based Skumatz Economic Research Associates, the average household subscription fell from 3.5 cans to 1.0 can, recycling rates increased, and landfill tonnages decreased 20 percent as more residents participated in recycling and composting.<sup>7</sup> Seattle launched the nation's first weight-based pilot program in 1989.

*Volume- or weight-based rates.* This option depends upon the preferred method of waste collection, whether by automatic or manual tippers. Volume-based rates are generally easier to collect and bill because they do

not require an investment in special equipment, while weight-based rates offer a stronger incentive for the public to reduce wastes.

*Linear, variable, or multi-tier rates.* A lin-

ear rate, charging the same price per container, is generally easier to administer. A variable rate, charging different prices for different containers, provides a greater incentive to reduce waste. A multi-tier (MT) system charges a flat fee to cover overhead costs, plus a per-container fee that covers the program's marginal costs. Although administratively more complex, an MT system both can provide an incentive for households to reduce their trash and can ensure a steady revenue for a positive cash flow to the MSW agency.

**Overcoming potential barriers.** PAYT is an innovative strategy, but it is not without its challenges. While some of these challenges may be feared or anticipated, most in fact have a workable solution. PAYT depends on community education and participation; therefore, it is critical that local governments be open and honest about these challenges and generate appropriate options to overcome them.

*Public acceptance.* This factor depends on public education and involvement. It will be necessary to avoid the perception of increased costs to residents, as well as of unfair rates and regressive taxation. A locality might consider reducing property or general taxes commensurate with PAYT to avoid double taxation of residents. And to emphasize the economic equity of PAYT, some localities have decided to offer rebates to low-income residents.

*Illegal dumping.* Concerns include use of private commercial collection containers, littering, and out-of-jurisdiction disposal. Studies indicate that fears of widespread illegal dumping are based more on myth than on reality. A 1995 study that Skumatz Economic Research Associates conducted of 100 communities found that illegal dumping is only a temporary problem and is handled easily by a number of strategies.<sup>6</sup> The greatest

incidence of illegal dumping also is noted to involve construction debris, not household waste.

To mitigate cases of illegal dumping, some communities undertake such enforcement strategies as assigning "garbage cops," sorting through trash, or publishing the names of violators. Or they can encourage peer pressure through education. Other towns provide incentives to participate, such as a flat rate for basic services, as in the multi-tier pricing system. One of the best strategies noted by community planners is simply to provide legal waste diversion options (recycling, composting, drop-off centers, bulk waste pickups, paint swaps, and so on) and thereby to remove the need to dump illegally.

*Inclusiveness.* Communities are concerned about including such special populations as senior citizens, disabled residents, occupants of multi-family housing, and those living in rural areas. Seniors and disabled people can be accommodated through special backyard pickup options that can be funded through the flat-rate portion of the rate structure. Low-income residents can be brought into the program through rebates or discounts; in the case of a bag program, the community can provide these residents with free trash bags.

Small and rural community challenges are not about the curbside concerns of urban or suburban communities but about incorporating PAYT into a decentralized drop-off system. Fortunately, many small and rural communities already are in the collection business and have converted old landfill sites into transfer stations for self-haulers or have implemented a convenience center. In these cases, it is fairly simple to incorporate the use of bags, tickets, and tokens into the drop-off center system. Generally, once the financial commitment to drop-off centers has

been made, the cost of implementing PAYT is minimal.

Multifamily housing can present the greatest challenge, when it comes to charging residents for the waste they produce and to discouraging free riders. But innovation and building technology offer some viable options, such as bar-coded cans; prepurchased tokens, bags, or tags; and scanners or scales built into trash chutes. Communities even can consider adopting building codes that call for the design of trash chutes to accommodate PAYT.

### **One for All, After All**

The benefits of PAYT are most visible at the community level. As hundreds or thousands of communities come on board, this local initiative could collectively produce global gains. Its potential impact ranges from the macrolevel (climate conditions and natural resources) right down to the microlevel (reduction of community trash disposal and even improving individual household budgets).

Because PAYT offers an economic incentive, it motivates citizens to reduce their wastes. Local waste reduction can then lead to reduced energy use in the extraction and processing of virgin materials. And finally, by conserving ever more of our natural resources, we ultimately can reduce greenhouse gas emissions, which contribute to global warming.

Global conditions might require some time to improve, even through our best waste reduction efforts.

PAYT, however, ensures that a resident in your community need only wait until the next waste bill to see the difference. **PM**

<sup>1</sup>Skumatz, Lisa A., "Continued Growth for Variable Rates," *Biocycle* (November 1995).

<sup>2</sup>Stone, Sarah, *A Final Report: Tompkins County Trashtag and Recycling Study* (Ithaca, N.Y.: Cornell University Department of Consumer Economics and Housing, January 1991).

<sup>3</sup>Steuteville, Robert, "The State of Garbage in America," *Biocycle* (April 1995).

<sup>4</sup>*Characterization of Municipal Solid Waste in the United States: 1994 Update*. EPA 530-R-94-042.

<sup>5</sup>Stone, Sarah, *A Final Report: Tompkins County Trashtag and Recycling Study*.

<sup>6</sup>Skumatz, Lisa A., *Illegal Dumping: Incidence, Drivers, and Strategies*. (Seattle, Wash.: Skumatz Economic Research Associates, November 1995).

<sup>7</sup>Skumatz, Lisa A., "Variable Rates Workshop: National and Texas Experience." Presentation to the North Central Texas Council of Governments and the International City/County Management Association (November 1995).

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