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PAYT Programs Reduce Waste, Reason Study Documents

PAYT waste and recyclables collection programs result in a 17 percent drop in garbage tonnage, with a significant increase in both recycling and source reduction, according to a new study published by the Reason Foundation, a Los Angeles-based public policy think tank.

"Recycling programs only encourage recycling," said Dr. Kenneth Green, the study's project director and chief scientist at the Reason Foundation. "Pay-As-You-Throw programs encourage recycling, composting, and source reduction—and source reduction is the cheapest waste management strategy."

The study, released in July, is in a question-and-answer format and addresses the strengths and weaknesses of bag, can, sticker, and hybrid variable-rates programs; how these programs promote source reduction and recycling; and how to implement a PAYT program successfully.

The study found that variable-rate pricing is the most effective way to involve communities in source reduction and recycling programs. Variable-rate programs currently are available to approximately 20 percent of the country's population and exist in all but four states.

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Could PAYT Offer Hope for New York City's Recycling Program?

In the city that never sleeps, waste production never ends. More than 7.5 million people live in New York City, and residents produce an average of 14,000 tons of trash each day. According to action group NYC WasteLe\$\$, city residents dispose of enough paper bags each year to line the Brooklyn Bridge 170,000 times and enough plastic grocery bags to line the Lincoln Tunnel 80,000 times.

With budget-related cutbacks putting New York City's recycling program in jeopardy, some observers have pointed out that PAYT could be a viable alternative or

supplement to tax-funded trash collection, reducing the amount of waste that needs to be managed while potentially generating revenue. While waste management officials face implementation challenges associated with PAYT in a big city like New York, PAYT could be an important part of a longer-term solution.

And New York City's recycling program is facing its biggest challenge to date. In 1993, New York City initiated the largest citywide curbside recycling program in the United States, collecting mixed paper, plastics, metals, and glass from all of the city's 3 million households. In July 2002, however, as a result of a budget crisis, the Mayor and New York City Department of Sanitation (DOS) officials suspended plastics and glass recycling until they can be made more cost-effective.

Steve Hammer, a waste management expert and founder of New York City-based Hammer Environmental Consulting, recommends that "As it evaluates recycling, the city should also consider a

New York City's recycling program is facing its biggest challenge to date.

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Europe Promotes PAYT With Innovative Technologies

PAYT programs have proven effective in encouraging waste reduction in more than 5,000 communities across the United States—and they are becoming increasingly popular across the ocean as well. Many European Union countries, especially Germany, Austria, Sweden, Finland, and the Netherlands, are experimenting with some version of PAYT.

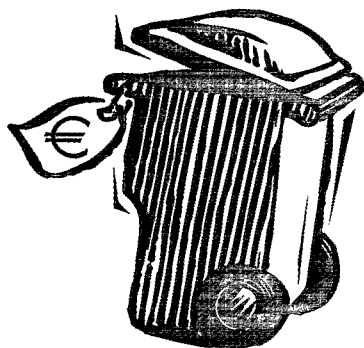
Several major European cities have successfully implemented programs charging residents for waste collection services based upon the volume or weight of waste discarded. These initiatives have encouraged people to think twice before they toss and to find alternative ways to dispose of waste, such as recycling and composting. Other EU countries, such as Denmark, France, Ireland, and Italy, are rapidly developing PAYT programs, and the Czech Republic, Spain, and Greece are showing increasing interest in PAYT as well.

PAYT programs are one part of the EU's overarching effort to support innovative ways to progress socially, economically, and technologically, while preserving each country's culture and protecting the environment. EU officials have set policy objectives to increase awareness of each individual's responsibility to help reduce waste in its efforts to promote sustainable development.

"In the past, environmental protection and social or cultural development have too often been treated as alternatives to productivity and competitiveness," said Phillippe Busquin, the European Commissioner for Research. Now, driv-

en by the policy objective of sustainable development, the EU is "finding innovative, 'win-win' solutions," Busquin added, which allow it to "meet social aspirations and preserve cultural values at a competitive cost, without damaging the environment."

PAYT is one of these solutions. Waste reduction is particularly important in Europe's major cities, where nearly 80 percent of the population dwells. Just as in the United States, tenants in multi-unit residences in Europe discard their waste in large, common bins. Keeping



track of how much each individual throws away is difficult, and so the incentive for tenants to reduce their waste is not built in. EU cities are coming up with innovative and successful ideas to promote waste reduction principles through PAYT that U.S. cities could learn from.

Technology Promoting PAYT

A few German companies have developed sophisticated billing technologies that keep track of the waste individuals throw away. These technologies can make implementing a PAYT program

easier, by inspiring residents to take individual responsibility when disposing of waste.

Two German manufacturing companies—The SULO Group, near Hannover, and WESOMA GmbH, in Zwickau—have devised special air-lock waste containers that only tenants can access, using a personal access card. These containers harbor electronic data carriers that automatically measure the amount of waste thrown away by each tenant, tracking the user, date, and time waste was deposited.

Along with this sophisticated identification and weighing equipment is equally innovative software technology. Germany's Envicomp Systems created the Envicomp Modular System (EMS)—domestic refuse software that processes the data generated by the identification and weighing systems. This software was specifically developed for the billing between disposal companies and municipalities. Allowing for friction-free processing for disposal and administration processes, EMS provides efficient bin management, exact registration of materials and their assignment by cost center, optimized route planning, targeted evaluations and statistics, and integrated billing systems that include a payment reminder function.

To read more about the EU's use of innovative technology, read an expanded article on EPA's PAYT Web site, at www.epa.gov/payt/tools/bulletin/fall02.htm



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According to the report, about 1.3 million tons of waste is source-reduced annually by variable-rate communities.

These results suggest that towns with PAYT programs might see reductions in tons disposed of around 16 percent, divided equally among discarded materials that are recycled, composted, or avoided entirely through source reduction.

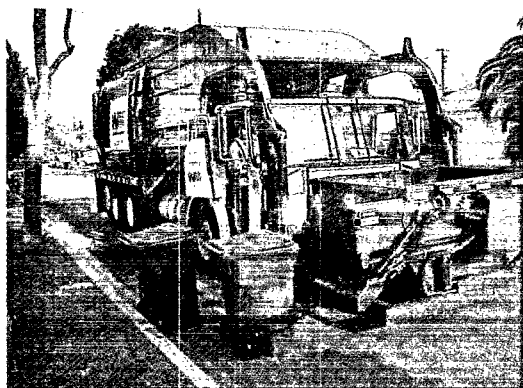
In addition, illegal dumping—which towns fear will increase if they start up a variable-rates program—is not the large problem it is often thought to be, the study found. In fact, a study by Skumatz Economic Research Associates found that residential waste is not a large component of illegally dumped materials. The largest components of illegally dumped materials are construc-

tion and demolition debris (25 percent) and brush (nearly 40 percent).

Most of the residential waste that is illegally dumped is bulky waste such as mattresses, sofas, and large appliances. Communities have implemented bulky waste collection days to increase the success of variable rates programs and minimize the incentives to illegally dump materials.

City's Recycling Rate Skyrockets, Thanks to PAYT

A PAYT program can drastically improve a city's recycling rate. The city of Diamond Bar, California, saw its recycling rate jump from 12 percent in 2000 to 47 percent in 2001, after it began a PAYT program in November 2000. The program also helped the city decrease waste generation by 4 percent, despite a population increase, and, within 4 months of implementation, the city had a 50 percent diversion rate in the residential sector.



A front loader collects trash and recyclables in Diamond Bar.

Diamond Bar, located 30 miles east of Los Angeles with a population of nearly 57,000, has reaped the rewards of increased waste diversion, a cleaner appearance, and public recognition of its efforts. Among the more than 80 communities that make up Los Angeles County, Diamond Bar is one of about a dozen with a PAYT program.

Educating residents and providing incentives for recycling were key to Diamond Bar's success. The city wanted not only to run a successful recycling

and waste diversion program, but also wanted to change the waste disposal habits of its residents, said Michael Huls, the city's contract environmental services coordinator. As a result, the city made the residents the number-one priority in the planning and implementation process.

As far as whether the programs are difficult to administer, anecdotal evidence from many towns indicated that in most cases, after initial effort to educate customers about variable rates, the programs are readily accepted. Cities looking to implement PAYT programs can learn a lot from the work other cities have done, but they also must address the specific concerns of their

own residents to be successful. Tailored approaches for large families and low-income customers help increase customer acceptance of the program.

Diamond Bar encouraged the use of smaller waste containers by rewarding residents for their recycling efforts. The city does not charge a cart exchange fee for residents who reduce the size of their carts, and residents who request only one cart do not have to pay the surcharge imposed on residents who request more than one cart.

A driving force behind the city's PAYT program is integrating solid waste collection and recycling to create an effective, long-lasting program that both city officials and the community will embrace.

According to Huls, the reaction and feedback to the program from both businesses and residents has been positive. Although some residents eyed the program with caution initially, "the diversion rates and responses show that people are excited about the program," Huls said.

To read more about Diamond Bar's success story, read an expanded article on EPA's PAYT Web site, at www.epa.gov/payt/tools/bulletin/fall02.htm

For a copy of the study, visit www.rppi.org/ps295.pdf, or call the Reason Foundation at 310 391-2245.

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PAYT program as a natural complement."

New York City residents currently pay for DOS to collect trash and recyclables through their property tax, a flat indirect charge that creates the perception that waste collection is "free." City residents can put as much garbage as they want on the curb for DOS to collect, and some communities require the department to provide hauling services two or three times each week. Prior to cutting back recycling services, New York spent almost \$1 billion per year on trash and recyclables collection.

Implementing PAYT in New York City could shift the cost of waste collection directly to residents by requiring them to pay based on how much trash they throw away. Currently, more than 5,000 communities in the United States have PAYT programs, and studies show that these programs typically reduce waste while saving municipal governments money. Most of these communities, however, are small, rural or suburban cities and towns that can more easily handle many of the administrative requirements of a PAYT program. Larger cities face certain challenges that make PAYT more difficult to implement, including how to bill residents of large multi-tenant buildings, how to decide on collection methods and container types, and how to avoid overburdening low-income households. New York City can learn from other large cities' successes with PAYT.

When Many Act as One: The Multi-Tenant Issue

Operating collection and payment systems in large apartment buildings is one of the biggest issues New York City would have to resolve to implement PAYT. About 57 percent of the city's residents live in large, multi-tenant buildings (buildings with 10 units or more) that usually have a centralized trash collection point. Therefore, determining who is throwing away how much and billing tenants appropriately can be a difficult task.

According to Barbara Stevens, president

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of Ecodata, Inc. consulting group, most high-rise buildings in New York City have garbage shoots where residents dump bags of trash. These individual bags are bundled up into larger bags by the superintendent and carted to the curb.

"Throwing away garbage in multi-tenant buildings is entirely anonymous," she said. "A PAYT program would be very difficult to enforce."

The Container Quandary: Cans, Bags, or Tags

Deciding on what type of container to use to collect trash also poses issues in large cities like New York. The usual pros and cons surrounding the use of cans, bags, or tags/stickers would all apply, including problems with pest and odor control, accessibility from crowded streets, durability, and theft.

Money Matters: Billing and Rate Setting

New York City would have to carefully consider options for billing and rate setting based on the type of collection container it chooses and the amount of revenue it wants to earn from the program. Billing enforcement also would be an issue, as the city could not refuse to collect trash if tenants didn't pay, because of health concerns.

To address this issue, some cities tie trash bills to other municipal utility bills. In Seattle, Washington, for exam-



ple, water and trash collection charges appear on the same bill, and if residents pay their water bill but not their trash bill, the money is applied to the trash bill, and water can eventually be cut off for non-payment.

On the Right Track: Illegal Dumping

Illegal dumping is one issue that New York might be able to handle more readily than other PAYT cities.

Preliminary studies suggest that fears of increased illegal dumping caused by PAYT are unwarranted. New York City, however, already has an advantage in combating illegal dumping if it does become a problem—DOS has an enforcement unit of 173 uniformed workers that makes sure residents adhere to waste collection rules. The department also has experience conducting public education campaigns, which could be used to help the public accept PAYT regulations.

Overcoming Obstacles

Stevens believes PAYT could work if the city offered the program to residential buildings only and defined residential multi-tenant buildings as those with six or fewer units.

According to Hammer, all the issues with PAYT in New York City can be resolved if officials are willing to spend time and resources up front to develop and implement a program. He believes the city's biggest hurdle at this point is to find a way to re-establish the full recycling program—PAYT will not work if residents don't have legal alternatives to throwing away waste.

"Everything is harder in New York," Hammer said. "Anything you do will be harder here than in other cities, but PAYT can work if the mayor and DOS are willing to think outside of conventional management practices."

To read more about New York City's recycling program, read an expanded article on EPA's Web site, at <www.epa.gov/payt/tools/bulletin/fall02.htm>



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