US EPA ARCHIVE DOCUMENT

PAY-AS-YOU-THROW SPRING 2009 BULLETIN

Get *SMART* with Pay-As-You-Throw

Help Your Community Stabilize Revenues and Protect the Environment

US EPA ARCHIVE DOCUMENT

People around the World Weigh in on the "Great PAYT Debate"

THE WALL STREET JOURNAL.

Is an economic incentive a fair way to cover the cost of trash disposal? According to the *Wall Street Journal (WSJ)* the answer is YES! In fact, in an article published in their World section in July 2008, PAYT addresses both the cost of trash disposal and the issue of equity.

The main question the WSJ posed in the trash fee debate was: Is it fair that a single resident, who generates little waste, pays as much as a household that generates much more? The PAYT program addresses this question by providing the opportunity for any household to pay less for waste disposal. When residents only pay for what they throw away, residents who throw away less, pay less. It is the individual household's decision to be SMART about managing waste. And ultimately, the price incentive means that materials that would have gone to the landfill are now more likely to be diverted through reduction, recycling and reuse.

The *Wall Street Journal* documents this issue across mainstream America. In Plymouth, Massachusetts, the community wants to understand PAYT and weigh both sides of the "great PAYT debate." **In the online survey, an overwhelming 84% voted that people who throw out more trash should pay higher disposal fees.** The article also concludes that when posed the question of fairness, a SMART program outweighs all other options because it allows residences to control their costs for trash disposal while incentivizing them to reduce, reuse and recycle.

For more information or to view this article, visit ***http://online.wsj.com/article/SB121729506485991917.html?via-economistsview.***

PAYT = Pay-As-You-Throw
SMART = Save Money And Reduce Trash

*Whether you call it Unit-Based Pricing, Variable Rate, Volume-Based Fees or Pay-As-You-Throw **(PAYT)**, the power of an Economic Incentive to motivate citizens to Reduce, Reuse and Recycle is a very **SMART** (Save Money And Reduce Trash) idea.*

People all over the country are choosing to name this Municipal Solid Waste program as "SMART" to emphasize the economic, as well as the ecological benefits of this SMART City Solution.

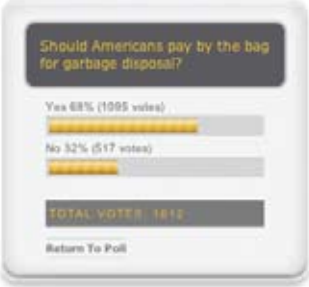
Therefore, throughout the articles we will be cross-branding the term SMART with PAYT and using the names interchangeably because no matter what you call it... it works! And, let us know if you are in a community that would like to be "SMART" or, if you have any SMART Stories to share.

Thanks and Enjoy!

Jan Canterbury
U.S. EPA Office of Resource Conservation and Recovery

US EPA ARCHIVE DOCUMENT

PARADE IntelligenceReport®



In August 2008, *Parade Magazine's* "Intelligence Report" posed the question, "Should You Pay For Your Garbage?" The article describes the PAYT system as allocating the responsibility to each resident to recycle and to consider the amount of garbage being tossed out on a weekly basis. It also raises the point that most Americans currently pay for garbage disposal through either a set monthly fee or taxes. Notably, the article states that 25 percent of Americans now pay for disposal based on how much they throw out, rather than a fixed price.

The article includes an online poll addressing: "Should Americans pay by the bag for garbage disposal?" Of the voters, **68% were in favor of a PAYT program**. Voter comments conveyed various thoughts, but consistently included remarks such as:

- People should pay their fair share based on how much trash they generate.
- Rewards recycling behavior — recycle more and pay less.
- Allows people to control their disposal costs.
- Extends the life of community landfills.
- Creates job security for garbage truck drivers.
- Single person households should not have to pay the same as six person households.

For more on this article, visit ***http://www.parade.com***.

New Resources Coming Your Way...You Can "BET" On It

SMART BET *(Save Money And Reduce Trash – Benefit Evaluation Tool): The BET tool is designed to help community waste managers decide whether unit-based pricing for solid waste management (PAYT) is the right model for their town or city. SMART BET allows users to input readily available information, such as tons of waste sent to landfills and recycled annually, local population, and landfill tip fees. The user may also provide a more detailed breakdown of the disposal and recycling streams, if available. The tool then combines this information with nationwide average waste disposal data, typical PAYT results, and greenhouse gas emission factors originally created for EPA's Waste Reduction Model to calculate the estimated greenhouse gas and cost savings the community is likely to see after implementation of PAYT. This tool will be available online at* ***http://www.epa.payt.gov*** *in summer 2009.*

International PAYT Progress

Czech It Out — European Union Studies Find PAYT Doubles Recycling Rates

The European Union's (EU) Landfill Directive included a PAYT study, which demonstrates that PAYT can increase levels of recycling among households. The study shows that a flat disposal fee does not encourage recycling or waste reduction, but PAYT pricing does encourage more separation of recyclable materials.

The study covered 157 local authority areas in the Czech Republic with a total population of 2.6 million. During the study, the authorities could choose the payment method for waste collection. Of these local authorities, 92 operated PAYT programs and 65 operated flat fee systems. The recycling rate of the PAYT group was nearly double that of the flat rate group.

As part of this study, EU Researchers also conducted research in Prague to assess recycling behavior. They surveyed 179 households within 17 districts. Results showed that 138 of the households separated their waste, recycled more materials and reduced their residential waste from 712 liters to 635 liters (difference of 169 pounds per household) as compared to households that did not participate. Currently Prague uses a fee system based on the number and volume of containers or based on the number of persons using an apartment.

US EPA ARCHIVE DOCUMENT

The EU studies emphasized that PAYT programs should be accompanied by effective public information campaigns. Other influencing factors that contribute to recycling behaviors include:

- Availability of regularly emptied containers.
- Ease of recycling in the home.
- Awareness of methods for separating waste.
- Waste management strategy in line with national legislation.
- Whether recycled waste is used as a secondary raw material.

For a copy of the directive, visit: ***http://www.defra.gov.uk/environment/waste/topics/landfill-dir/pdf/landfilldir.pdf***.

Toronto's Target 70 is a Super Target

Target 70 is Toronto's integrated 3R's program aimed at diverting 70 percent of waste from the landfill. Currently, Toronto's waste is shipped to Michigan but, as of December 31, 2010, the city will stop shipping its waste and utilize its new Green Lane Landfill in Ontario. This top-notch facility includes landfill gas and leachate management systems and will be unit (volume)-based.

If current disposal rates continue, the Green Lane Landfill will reach capacity in 2024. However, if Target 70 is successful, Green Lane will last an additional 10 years, reaching capacity in 2034. According to Geoff Rathbone, General Manager of Solid Waste Management Services in the City of Toronto, "The initiatives under Target 70 are focused on increasing the amount of recycling by making it more convenient for Toronto residents to recycle rather than waste."

Toronto will be implementing several initiatives under the Target 70 effort. Some of the initiatives include:

- Source reduction strategy using unit (volume)-based waste bins.

- Expand curbside recycling to include new materials.
- Double the number of recycling bins in public areas.
- Expand green bin programs to include apartments and townhouses.
- Expand household hazardous waste services.

Toronto's other policies include encouraging consumers to reduce and reuse, and working with manufacturers to reduce product packaging to fit with the recycling program. Additional strategies aim to increase convenience for residents and municipal efficiencies.

For additional details about Target 70, visit ***http://www.toronto.ca/target70/index.htm.***

PAYT BACK IN THE USA

SMART Cities: From East to West, Big and Small, Cities are Increasing Recycling, Creating Jobs and Curbing GHGs

San Francisco, CA

The PAYT system's success spans from coast to coast. San Francisco, California has diverted more than 66 percent of its waste from landfills, and has proven that it is not unrealistic to set goals high and surpass them. San Francisco is now striving for a 75 percent landfill diversion by 2010 and a ZERO WASTE policy by 2020! Now *that* is a goal.

Responsibility for meeting this goal falls not only on consumers, but also on product producers. San Francisco is organizing **statewide efforts to hold producers responsible** for product waste such as packaging, plastics and multi-material products. The city's tiered pricing structure incentivizes residents to choose a smaller size container, which encourages them to reduce, reuse and recycle materials so as not to overfill the container.

The city has tackled a broad range of waste sources. The backbone of the program is a residential system called "Fantastic 3." For a flat, monthly fee each household receives three 32-gallon, color-coded carts for weekly pickup. The black cart is for trash, the blue cart is for recyclables, and the green cart is for food waste, yard trimmings, and soiled paper

US EPA ARCHIVE DOCUMENT

Photo Courtesy of Sunset Scavenger.

for composting. Residents can put out more recyclables or compostable material, without penalty, than their allotted carts allow, but they face a surcharge for additional waste disposal. Businesses, which produce about a third of San Francisco's garbage, are charged by overall volume of waste.

San Francisco has almost doubled the city's diversion rate and achieved **90 percent consumer satisfaction**. And, the waste reduction contributes to the city's greenhouse gas reduction target of 2.5 million tons of CO_2 per year.

Kevin Drew, Residential and Special Projects Recycling Coordinator, Department of the Environment, stated

> *"San Francisco has had PAYT rates for decades, but we have gone further to create incentives for our residents, businesses and our recycling and garbage collection company to divert more and throw out less. Businesses and residents get lower rates when they reduce their garbage volume and the collection companies get a bonus profit if they reach overall disposal targets and internal operations diversion goals. This system of incentives has been key to continuing the growth of our diversion programs and it has led to our disposal in 2008 being the lowest since 1960's, over forty years ago. We expect to keep driving disposal down towards zero and using a rate structure that rewards that behavior."*

New Hampshire

More than 3,000 miles east of San Francisco, New Hampshire is also seeing success with PAYT systems. New Hampshire now has 46 towns and cities achieving tremendous diversion rates by using the PAYT program. The municipalities demonstrating the highest recycling rates include Lancaster at 62 percent, Littleton at 72 percent and Peterborough at 78 percent. Results of a more recently implemented PAYT system in Canterbury have shown a one-third reduction in the amount of trash sent to the incinerator and a one-third increase in recycling tonnages.

Recently, the Concord City Council voted 12-3 to implement PAYT. Representatives of the Concord Chamber of Commerce and the City's economic development committee both spoke in favor of PAYT.

Mark Ciborowski stated, "It's the best option for controlling costs in the long run," and Mary Beth Robinson said she would support the plan, noting "This is one place where citizens can control part of the City budget by recycling and composting. I'd rather [the City] use the savings for fire and police protection."

When cities have implemented unit-based pricing systems and achieved diversion rates approaching 70 percent, they shine when compared with the national average recycling rate of about 31 percent. Indeed, these model cities and towns—3,000 miles apart—are all on the same SMART road to success.

Economic Stimulus in Your Own Backyard — Recycling Programs Create Jobs, Jobs, Jobs

We all know that recycling conserves natural resources, but a vital added benefit is job creation. The Institute for Local Self Reliance (ILSR) acknowledges that the recycling sector has had a 30-year record of impressive growth. While other industries have dissolved or moved over seas, recycling helps stimulate the local economy because it is not cost-effective to extract and ship raw materials over long distances.

Job Creation: Reuse and Recycling vs. Disposal

TYPE OF OPERATION	JOBS PER 10,000 TPY
Product Reuse	
Computer Reuse	296
Textile Reclamation	85
Misc. Durables Reuse	62
Wooden Pallet Repair	28
Recycling-based Manufacturers	**25**
Paper Mills	18
Glass Product Manufacturers	26
Plastic Product Manufacturers	93
Conventional Materials Recovery Facilities	**10**
Composting	4
Landfill and Incineration	**1**

Source: Institute for Local Self-Reliance, Washington, DC, 1997.

US EPA ARCHIVE DOCUMENT

North Carolina

In North Carolina, recycling industries employ more than 8,700 people. The job gains in recycling in this State far outnumber the jobs lost in other industries. **For every 100 recycling jobs created, just 13 jobs were lost** in the waste hauling, disposal industry, and timber harvesting industry. In addition to North Carolina's proven success, the Northeast Recycling Council's (NERC) *U.S. Recycling and Economic Information (REI) Study Update* released in February 2009 demonstrates that nationwide recycling and remanufacturing activities could account for approximately 2.5 million jobs in recycling and recycling reliant industries, and more than $400 billion in annual sales.

South Carolina

Along similar lines, neighboring Pickens County Council in South Carolina issued Resolution No. 08-09 in 2008-09, which requests that the South Carolina General Assembly continue to support recycling incentives to benefit the environment and the economy. All 42 counties in the state subsequently adopted the resolution. Specifically, the resolution states:

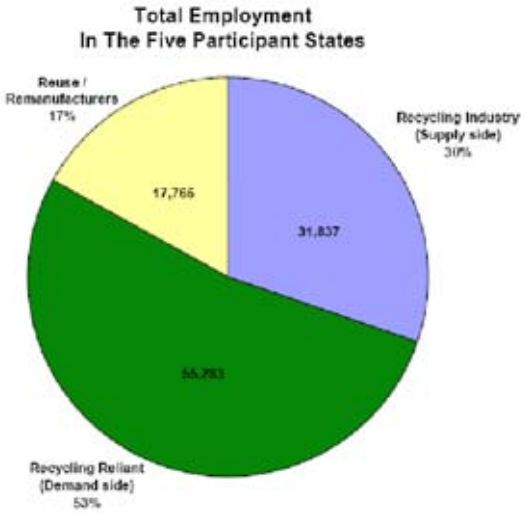
"Whereas, by converting waste into valuable products, recycling creates jobs, contributes feedstock to manufacturing and adds significant value to the South Carolina economy. In South Carolina, the recycling industry is directly responsible for more than 15,000 jobs, $1.5 billion in annual personal income and $69 million in tax revenue each year."

The resolution goes on to say that "upgrading and processing of recycled materials adds $6.5 billion annually to the State's economy and that South Carolina's recycling industry will grow around 12 percent annually during the next five years, with an economic impact of more than $11 billion."

In addition to recycling creating jobs, buying recycled products also has a major effect on job creation. The reuse industry provides local jobs and increases money being put back into the local economy. Companies that provide local services, such as refillable bottle washing plants, cloth diaper services, tire retreading and others, all create jobs in local communities because generally they are smaller and locally owned and operated. Recycling and reusing are tools that can enhance local economics while enabling cities and towns to be more self-sustaining.

According to the *NERC Information Study Update*, out of the five participant States (Delaware, Maine, Massachusetts, New York, and Pennsylvania), 104,885 people were employed within the recycling industry, with an annual payroll of over $4 billion and a revenue of nearly $35 billion!

Northeast Recycling Council Recycling Economic Information Study Update, February 2009



These numbers demonstrate the importance of the recycling industry to the economy and prove that the industry is good for both the environment and economy.

For additional information on this study, visit ***http://www.nerc.org***.

PAYT Results Clearly Stand Out Over RecycleBank in North Shore MA Cities

Neighboring cities of Malden, Everett and Revere are all trying to tackle the increasing cost of waste management through innovative recycling efforts. Both Everett and Revere chose Recycle Bank, a program that encourages recycling through a rewards point system.

According to a Recycling Today press release, the City of Everett (Population: 38,037) tested the system in 3,200 households and saved $15,000 in a 22-week period. Everett's potential annual savings equates to 287 pounds (lbs) or $11.08 per household. The City of Revere (Population: 43,000) saw savings of $9,570 in its initial 12-week test in 3,100 households. Revere fared slightly better estimating an annual diversion of 347 lbs or $13.38 per household. Recycle Bank has significantly increased recycling rates in both cities, and according to Revere Mayor Thomas Ambrosino as quoted in the press release, "Revere has seen impressive increases in local recycling rates and the City has saved money as well."

While Recycle Bank results were positive, the City of Malden (Population 58,688) took a different approach and ended up with an exponentially better outcome. Malden implemented

US EPA ARCHIVE DOCUMENT

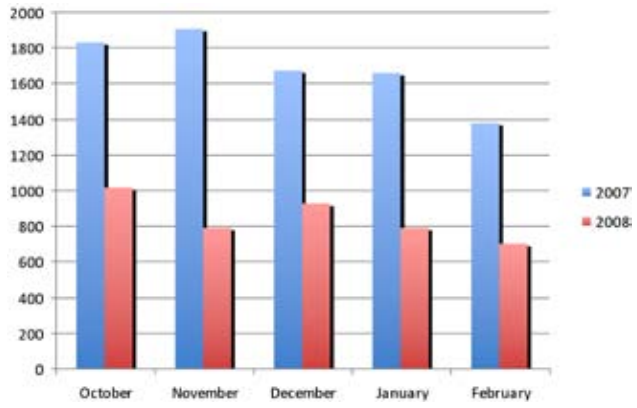
a city-wide PAYT program. Malden's annual diversion per household, based on the first 5 months of PAYT, was 1,089 lbs. The reduction equates to a per-household savings of $41.93 annually and an overall cost reduction for the City of nearly $800,000 in avoided disposal fees.

CITY	ANNUAL HOUSEHOLD SAVINGS	ANNUAL POUNDS OF DIVERSION PER HOUSEHOLD
Malden	$41.93	1,089
Everett	$11.08	287
Revere	$13.38	347

"I am proud to say that our trash disposal is down 49 percent on average and our recycling is up 69 percent on average over the 5 months that PAYT has been in place in Malden," said Malden's Deputy Mayor Charles Toomajian.

Malden contracted with the company WasteZero to implement its PAYT program. "Malden officials have demonstrated common sense leadership by implementing a program that reduces cost, waste and energy use at a time when the public is rightly asking for more efficient government and better environmental practices," stated WasteZero President Mark A. Dancy. "By reducing residential waste disposal by nearly 50 percent, the City of Malden expects to save nearly $800,000 in avoided incineration charges this year. And as we know from dozens of examples like Portland, Worcester and Binghamton, these saving can last for decades."

Malden's decrease in residential waste from 2007 to 2008, when PAYT was implemented



Malden decreased its household waste by more than three times as much as Everett and Revere. Why? Because the difference between the Recycle Bank system and PAYT is the financial incentive to change behavior. PAYT is SMART. When the cost of disposal is hidden within general taxes, or fixed fees everyone is paying, it almost seems free even though it is not. In a pay as you go system, residents realize that they can make a difference in their costs. The choice is clear. When it's their money at stake, residents prefer to reduce, reuse and recycle.

While all three cities increased recycling, the results in Malden are staggering. Based on the five month trend, Malden residents anticipate cutting their waste disposal costs in half in 2009 with the new PAYT system. Malden residents not only learned to recycle but also learned to think twice about everything they throw away from old tennis shoes to packing peanuts. The political challenge of unit-based pricing may seem difficult on the surface but 50 percent diversion means 50 percent savings to the municipality. If a community pays 50 percent less for disposal, that's a result worth the effort.

For more information, visit ***http://www.cityofmalden.org***.

Connecticut Takes SMART Action on Climate Concerns

The Connecticut State Department of Environmental Protection's (CT DEP) Solid Waste Management Plan (view at ***http://www.ct.gov/dep/swmp***) is calling for a 58% diversion rate by 2024. To meet this goal, the CT DEP is encouraging implementation of a SMART waste management program. Specifically, EPA and CT DEP are advising towns to take an honest look at just how much they spend on solid waste disposal, then recognize the cost savings and increased recycling rates associated with unit-based pricing. According to CT DEP Commissioner Gina McCarthy, "Shifting to SMART waste management means that citizens make the connection that 'the more you recycle, the more you save' in trash disposal avoidance costs and greenhouse gas emissions."

Connecticut Climate Change Action Plan 2005

Landfills in Connecticut are closed to municipal trash and only a small number accept bulky waste. The more recently closed landfills will continue to generate methane for years to come. So limiting the amount of trash that is added to bulky waste landfills—burned in waste-to-energy facilities or transported long distances for disposal—are important considerations in reducing greenhouse gas emissions.

The Connecticut Climate Change Action Plan (view at ***http://ctclimatechange.com/documents/Executive-Summary_CCCAP_2005_001.pdf***) includes source reduction and recycling as key strategies to reduce greenhouse gas emissions. The Action Plan includes 55 different strategies, and recycling 40 percent of municipal solid waste falls within the top ten actions in terms of quantity of projected greenhouse gas reductions. The Action Plan states, "The revision of the source reduction/recycling goal to 58 percent will result in even greater greenhouse gas reductions."

Once people get SMART about waste management and make the connection between reducing costs and reducing trash, most towns find that people move from producing more than 900 pounds of trash per person per year to about 500 pounds per person per year through better recycling and simply producing less trash. That is a big immediate cost savings to towns, and a first step in controlling future costs. This rate of trash disposal is typical of other SMART towns that have made the switch to unit-based pricing.

Commissioner McCarthy notes that, "If every town in Connecticut switched to SMART waste management and achieved a 40 percent diversion rate, then Connecticut would eliminate an estimated 595,000 MTCE (Million Ton of Carbon Equivalent) from the atmosphere-the equivalent of taking 446,250 cars off the roads. That is probably close to 20 percent of the registered/ insured cars in the State."

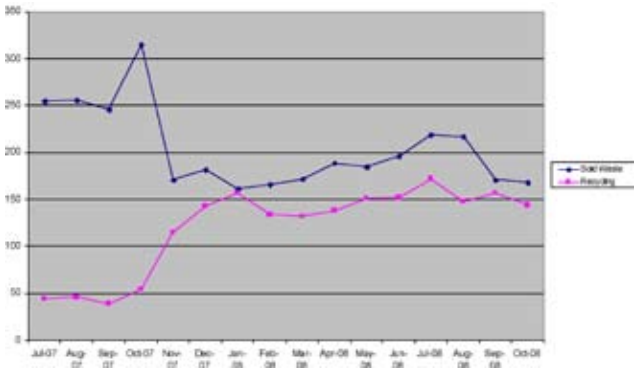
This increased diversion rate is also necessary to avoid siting new landfills and waste-to-energy facilities. The State is turning to SMART solutions to residential waste management. They are following the lead of towns in Connecticut that are already using some form of unit-based pricing in their management of solid waste, including the towns of Coventry, Mansfield, Stonington, and Stafford, which lead the State in residential recycling rates.

The State is taking action by encouraging implementation of the SMART/PAYT system to significantly increase diversion rates. Unit-based pricing will be the key strategy for meeting statewide greenhouse gas reduction goals. Saving money is an added benefit for towns.

PAYT Programs Help Rhode Island Reach New Recycling Goal

In 2008, Rhode Island passed a law that increased the mandatory municipal recycling goal to 35%. Eleven communities (out of thirty-nine) in the State currently have PAYT as a component of their solid waste and recycling programs. Since the passage of the law and implementation of PAYT the town of Middletown's recycling rate has increased from a 17% recycling average (using the town operated transfer station), to 42%. And, the recycling rate jumps to 52% for the same time period if the diversion of yard waste from the Rhode Island Resource Recovery Corporation (RIRRC) Central Landfill to a local nursery for composting is included.

Middletown, RI PAYT Results



The town's refuse tipped at the landfill dropped by 55 tons a month, saving valuable landfill space, reducing greenhouse gas emissions, and saving the town more than $1,500 per month in tipping fees. Even though the PAYT program in Middletown is voluntary, the participation rate has grown to 70%. Additionally, rolling carts help keep the streets clean, and most grocery, hardware and convenience stores have PAYT bags available.

"Pay-As-You-Throw is the single best way to reduce solid waste and increase recycling," according to Sarah Kite, Director of Recycling Services, Rhode Island Resource Recovery Corporation. "PAYT gives trash and recycling an equal value. You are less likely to simply throw everything in the trash if the bags cost you money out of your pocket. PAYT is also a great equalizer, in that everyone pays their fair share and only pays for what they use."

United States Environmental Protection Agency

EPA530-N-09-001

US EPA ARCHIVE DOCUMENT