

CASE STUDY

Pay-As-You-Throw Systems:

Creating an incentive to recycle organic waste



TOOL TYPE:
INCENTIVES



CASE: FLANDERS, BELGIUM

Introduction:

Flanders is one of Belgium's three regions and home to 58% of the country's population. Since the First Regional Decree on Waste was passed in 1981, Flanders has been successful in setting up successful environmental initiatives focused on waste. However, because of its high population density, municipalities have struggled to find space to build new landfills to manage the large volumes of Municipal Solid Waste (MSW) being produced. As a solution to better recover organic and recyclable waste and extend the useful life of existing landfills, the Flanders government introduced a "Pay-As-You-Throw" (PAYT) system.

The PAYT system implemented a usage-pricing model that charges users based on the amount of waste they generate. In terms of waste-related expenses, mixed waste¹ collection and treatment posed the highest cost to municipalities. The PAYT strategy is specifically designed to help finance collection and treatment, while also incentivizing households to sort and reduce the generation of waste at the source. As a policy tool, a PAYT system allows for a differentiated charge for each waste stream.

¹ Mixed or residual waste includes what cannot go in any of the other waste streams, and will usually include a certain amount of improperly sorted recoverable waste.

Objectives

In recognition of the PAYT system's potential to improve Belgium's waste management, the Flemish government became responsible for its implementation across the region. The main objectives of the implementation of the PAYT system include:



- ✓ Creating an incentive for citizens to produce less waste at the source.
- ✓ Stimulating citizens to sort their waste in different recyclable/reusable waste streams.
- ✓ Reducing the amount of waste going into final disposal (e.g., landfills, incineration).
- ✓ Providing an additional source of income to organizations that are in charge of waste collection and treatment.

How It Works

In PAYT systems, a charge is paid by the waste generator to the municipality or organization in charge of waste collection. The PAYT system in Flanders considers differentiated tariffs for every waste stream. In terms of the amount charged to waste generators, the collection of mixed waste is the most expensive, followed by household biodegradable waste. On the opposite end of the scale, plastic bottles, metal packaging, and drink cartons have the lowest charges. The only free waste stream is the one containing paper, cardboard, and textiles; other waste streams have varying rates that are contingent on their composition. The PAYT system was introduced in parallel with two final treatment waste taxes levied on generators (municipalities and private generators): a landfill tax and an incineration tax, both of which increase on an annual basis.

Elements of the PAYT system

The implementation of the PAYT system began with the sale of stickers and mandatory disposable bags for waste. These products were sold in local stores,

supermarkets and city halls across Flanders. Because MSW was being collected through a door-to-door scheme, citizens were required to use these stickers and specific bags for collecting and organizing household waste for municipalities and participating organizations. These "specialized" bags sold for garbage collection came in packs containing around 20-30 bags. Each pack was classified by a color code as follows:

- Brown:** Used for mixed waste (most expensive)
- Green:** Used for organic waste (less expensive)
- Blue:** Used for plastic bottles, metal packaging, drink cartons, etc. (least expensive, as most of the cost is already covered by the extended producer responsibility scheme)
- Pink:** Used for soft plastics



Garbage was only collected if these specific bags were used. If the guidance was not properly followed, the Flemish government could issue a fine for non-compliance. In Brussels, for example bags are opened and checked during collection routes by the government agency in charge of waste collection, the Bruxelles-Propreté. Fines

for non-compliance can be as high as 250 EUR. This effective use of pricing and color codes provided an incentive for citizens to begin sorting waste to save money. With the exception of glass (collected in street containers), all other forms of MSW were collected through the door-to-door scheme.

FIGURE 1:

Belgium's PAYT and differentiated fee system.

Source: Regions For Recycling, 2014.

Street containers		Door to door				
Glass		PAYT			Flat fee	
White/clear	Coloured	Plastic bottles Metal packaging Drink cartons (Once every 2 weeks)	Soft plastics (Once every 2 weeks)	Organic (Once a week)	Unsorted waste (Once a week)	Paper and cardboard (Once a week)
		0,15€ /Bag	0,25€ /Bag	1€ /large bag 0,5 € /small bag	2,25 € /60l Bag	

Under the door-to-door collection scheme, the citizens of Flanders follow a detailed calendar for when to leave their garbage in front of their doorstep to be collected. For example, biodegradable material and mixed waste are collected once a week, while collection for plastic and other light packaging happens every two weeks. A yearly flat fee of 40 to 49 EUR is charged to residents to fund the local garbage collection service. In addition, citizens pay a fee for each bag they use through the PAYT system.

Flanders gradually evolved the system to begin charging based on the weight of the mixed and biodegradable waste rather than a flat household waste tax. Weight-Based Pricing (WBP) entails a waste container marked with a unique identification chip assigned to each household. When collecting waste, the weight before and after emptying the container is automatically recorded and registered, charging a rate of 0.15-0.20 EUR per kg. This gives municipalities the ability to charge households per kilogram of waste collected, while also ensuring data is being gathered and verified.



Oversight and Governance

The Public Waste Agency of Flanders (OVAM for its Dutch acronym), is the regional focal point for waste management in Flanders. The OVAM partnered with municipalities and associations of municipalities to gradually implement the PAYT system. One of the key underlying components to this regulatory strategy was the clear legal framework that was established by OVAM. The Flemish Regulation on Materials and Waste is a decree established in 2012 that includes regulations concerning the sustainable management of waste. The regulations covered the general provisions of waste management, detailed lists of materials to be recovered and collected under the PAYT system, extended producer responsibility and requirements for annual data reporting for municipalities.

Financing the PAYT System

The switch from the flat household waste fee to a WBP model under the PAYT system had several initial costs, including the purchase and maintenance of microchipped bins and automatic weighbridges for the trucks, as well as the development of the information system. Local governments received funding from the regional government to launch the PAYT system. Initial costs for the PAYT system also included staffing of the OVAM and communication support. The PAYT system generates an additional revenue stream from citizens. However, the amount is not sufficient to cover all costs related to waste management. These costs still need to be added to the yearly fee and general taxes to be viable and sufficient, mostly through community taxes. It should be noted that the waste sector was subsidized before the implementation of PAYT and PAYT helped lower the subsidy required.



Creating Collective Action and Rapport

For the last few decades, the Flemish population have strongly expressed their opposition to landfilling. Because of this, the sorting of waste materials and recycling was accepted by many citizens in Flanders, easing the transition. As the citizens became more receptive of the waste policies that had been implemented, the Flemish government pushed forward with the introduction of increasingly sophisticated PAYT programs.

Progress by the Metrics

The implementation of Flanders' PAYT system has had a remarkable impact on waste management in the country, incentivizing citizens to improve waste separation at source, reducing the amount waste going landfill, and increasing the amount of waste being upcycled and valorized.

In terms of impact on MSW, the PAYT system:

- ✓ Increased separation of MSW at the source from close to 20% in the early 1990s to 71% in 2012.
- ✓ Reduced total generated mixed waste in Flanders by more than half, from an annual total of 330 kg/person in the early 1990s to 149 kg/person in 2009.
- ✓ Extended the lifespan of existing landfills by 15+ years based on the deviation of organic and other forms of MSW.



Equity and Sustainability

Throughout the implementation of the PAYT system, Flanders incentivized their citizens to sort their waste and promoted waste prevention. The Flemish government noticed that when the costs for waste management were similar to a utility bill that is charged based on use by the user, residents improved their waste separation and reduced their overall waste generation, improving sustainability.

Additionally, from an equity perspective, the PAYT system promotes fairness in that each person pays only for the waste they produce, enabling residents to have full control and responsibility of what they generate. The less individuals throw away, the less they pay. The inherent fairness of a PAYT system helps convert citizens that may at first be skeptical of a new system to become active proponents. They have the opportunity to take control of their trash bills and no longer subsidize their neighbors wastefulness.

Challenges and Considerations for Implementing PAYT

While the PAYT systems might seem like the ideal policy tool, successfully implementing them can prove challenging. Because citizens are held accountable for their waste collection and treatment, the PAYT strategy can initially incite illegal behavior as a reaction. In some extreme cases, citizens can participate in 'waste tourism' (i.e., the illegal dumping of waste in cheaper

municipalities to avoid higher rates), illegal burning of waste, and intentionally depositing mixed waste into other waste streams to lower costs. The potential high investment costs of the microchipped bins and weighing systems, as well as the development of information systems are also inherent challenges to this system.



To address the challenges around implementing a PAYT system, there are several measures that are recommended to improve compliance and waste management standards. In Flanders, collecting up-to-date information on waste activities and hosting awareness campaigns helped the region educate its citizens on the best practices available for waste management. Maintaining

convenient, separate waste collection systems also helped ease the process for citizen participation. For activities related to “waste tourism”, establishing fines for non-compliance has been essential in improving adherence to the law. The Flemish government also recommends the refusal to collect or accept incorrectly sorted selective waste streams from its citizens as part of PAYT system best practices.

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