



Municipal Authorities Best Practice in Engaging Communities on Packaging and Food Waste

March 2014



European waste management hierarchy

European Directive on Waste

The Waste Directive 2008/98/EC marked a break with the past. Waste has become an object to be considered as a **resource to be exploited**. The waste hierarchy is defined giving higher priority to **prevention and reuse**.

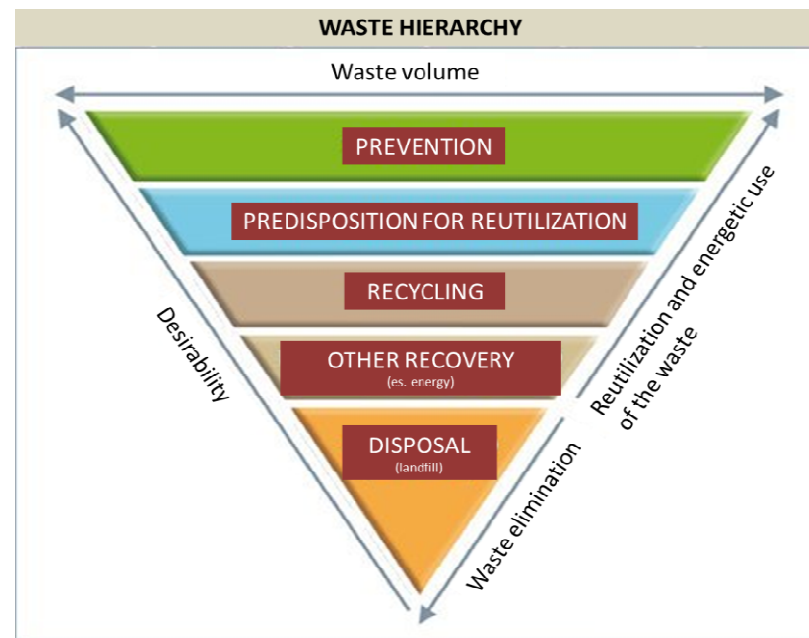
European objectives

The EU ruled that by 2020, member states must achieve at least **50%** of the **preparation for reuse + recycling of Municipal Solid Waste (MSW)**

Objectives of waste collection in Italy

The Italian legislation **does not set targets for recycling**, but **identifies specific targets for separate collection to be achieved by 2012*** (*under revision*)

* National Environmental draft law sets the goal of 65% of separate collection to be reached in 2016



Leg. Decree 152/2006

Year	Target
2006	35%
2008	45%
2012*	65%

The city of Milan: figures and key indicators

- **1.3 million inhabitants**
- **800,000 commuters**
- **182 km² city area**
- **4,000 km street network**
- **over 7,000 inhab./km²**
- **650,000 tons of MSW collected**
- **500,000 km of roads swept per year**
- **1,300 waste-collection and street-sweeping vehicles (30% CNG)**
- **42.9% waste separate collection rate in 2013**



Critical issues

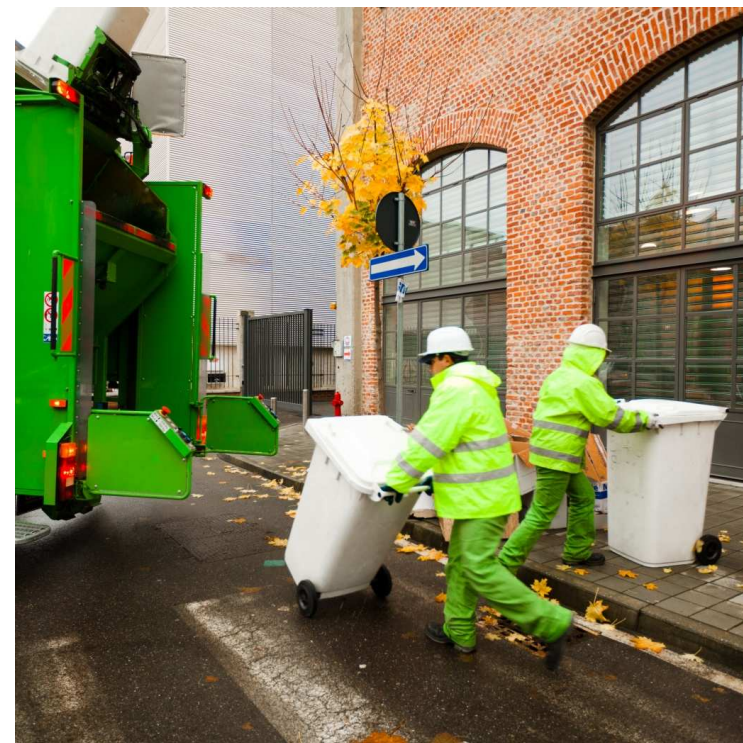
- **Lack of space**
- **Traffic jamming** in rush hours and parked cars
- **High population density** and presence of commuters

Next targets

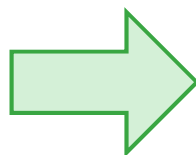
- **Increase recycling to comply with European rules**
- **EXPO 2015:** challenges on sustainable development issues

Integrated waste collection system

- **door to door collection** throughout the city with:
 - bins (paper, glass and food waste)
 - bags (light metals, plastic, residual waste)
- **55.000 waste collection points**
- **280 bring banks** for paper and glass
- **bulky waste collection service at home** by appointment, **free of charge** at road level and **directly at home with charge**
- **5 civic amenity sites** for hazardous and bulky waste and **1 mobile amenity site**
- **25.000 street bins**

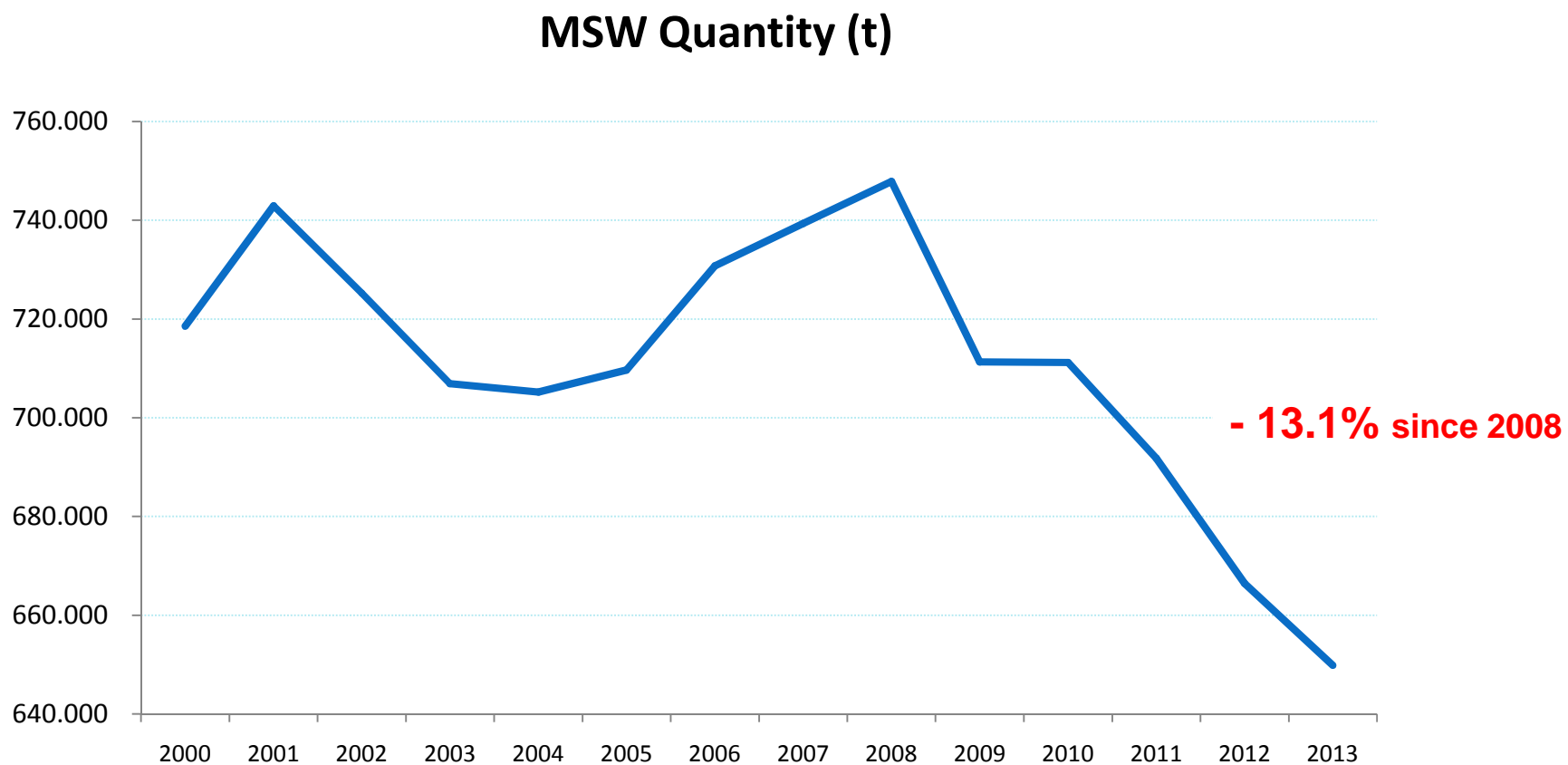


Benefits of door to door collection



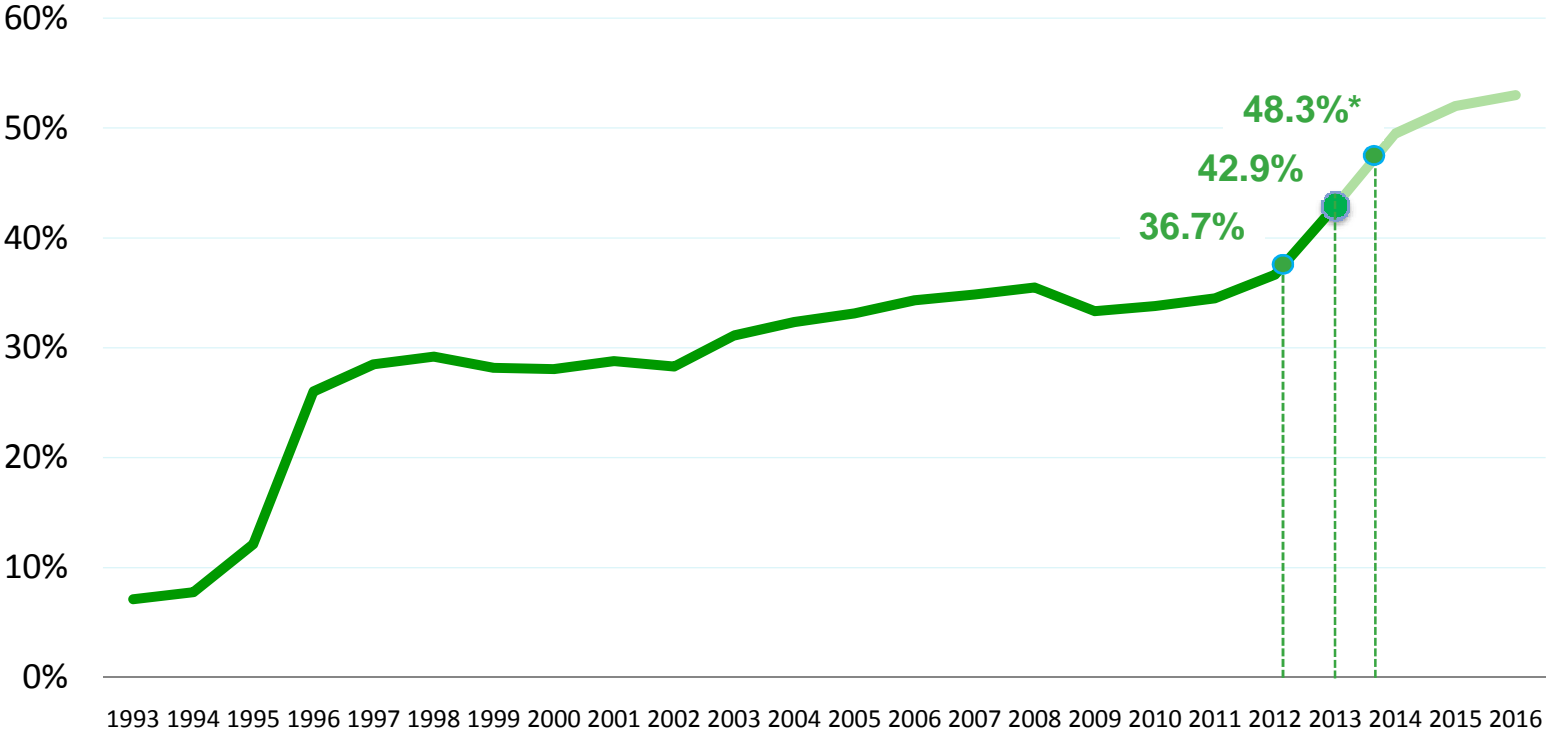
- **Better quality of collected waste**
- **Limited street exposure of waste**
- Positive effects on hygiene and appearance of the city

MSW production in Milan - trend



Source: Amsa

Separate collection rate trend and forecast in Milan



Projection to 2016, considering the full implementation of the household food waste collection plan

Since Lombardy DGR n °8/10619 of 2009 , the method has changed for calculating the separate collection rate - bulky, only the portion destined for recovery

*January 2014

Source: Amsa



Packaging waste and other recyclables

Δ separate collection rate 2012/2013: **+6.2%**

Waste type	t/year	% MSW	Per capita (kg/inh.)
Organic waste	72,464	11.1%	56.6
Paper and Cardboard	82,700	12.8%	64.5
Glass	62,373	9.6%	48.7
Plastic and metals	39,206	6.0%	30.6
Wood	5,401	0.8%	4.2
Textiles	3,237	0.5%	2.5
Metals	1,650	0.3%	1.3
Hazardous and other	668	0.1%	1.2
WEEE	3,130	0.5%	2.3
Bulky waste to recycling	7,825	1.2%	6.1
Total Recycling	278.746	42,9%	218

Milan ranks among the top cities in Europe for packaging waste per capita collected and recycled

Data source: Amsa

Population: Data Statistics Office City of Milan

Italian household packaging management system

- The household packaging waste management is set up by the Italian law and is based on the establishment of **CONAI, the national no-profit packaging consortium**, adherence to which is compulsory for **all packaging producers and users** with the aim of achieving the recovery and recycling targets set by the EU.
- For the recovery and recycling operations of individual materials, **CONAI co-ordinates the activities of all the consortia for other materials** (steel, aluminum, paper, wood, plastic and glass)
- Milan collects **all of the 6 main packaging materials, mostly separated at the source**, to ensure the **best quality and best recycling performances**
- Milan has its own plant only for **glass sorting (Amsa SpA)** while all the other materials are treated in other plants **that participate in the CONAI recycling system**

Packaging waste and food waste collection



Plastic and light metals



Paper and cardboard



Glass



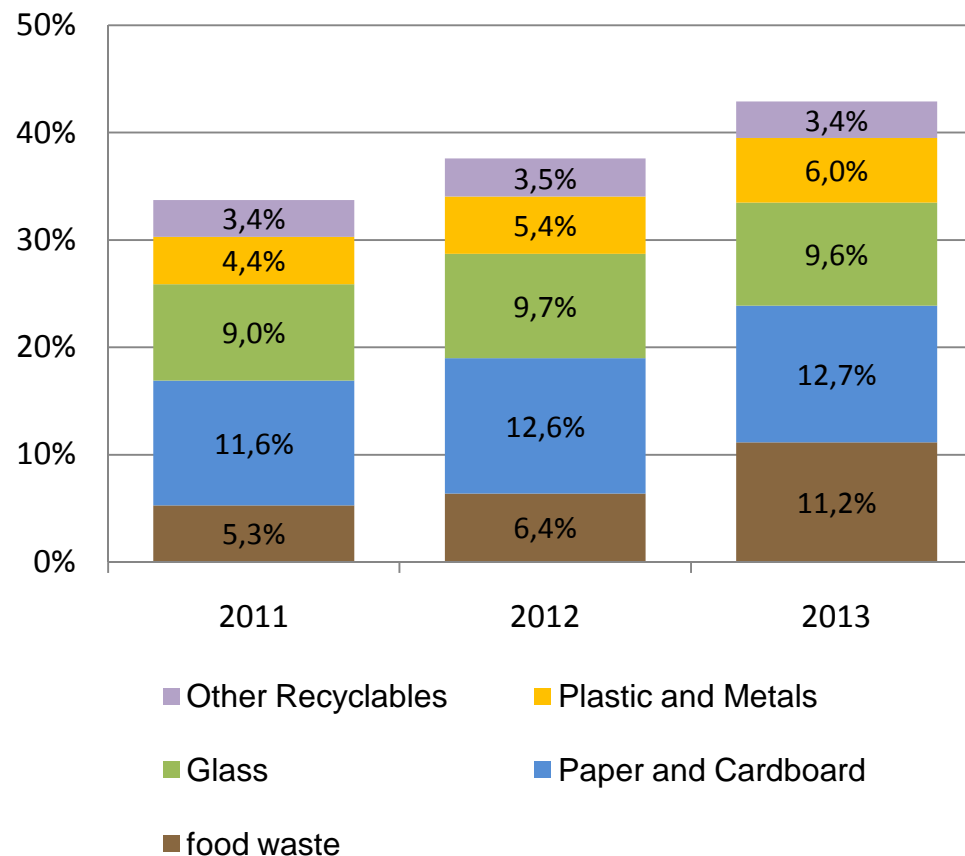
Food waste

Packaging waste collection and performances

The **growth trend of some materials** (such as **paper, glass, and plastic and metal packagings**), with a collection history well-established over time, is certainly justified by:

- **communication activities** aimed at citizens (organized in collaboration with AMSA and CONAI),
- **new operating solutions**, introduced by Amsa (such as the transparent bag for residual waste),
- **increased awareness of citizens** who fully participate in the correct separation of waste products in each situation (home, office, public places, etc.)

Separate collection of packaging waste over MSW (%)



Plastic and light metals

- **plastic and light metals** are collected **together** in the **yellow bag**
- plastic, steel and aluminum cans are **easily separated** in **special sorting plants**
- collection is done **once a week**
- the different materials coming out of the sorting plant are sent to **CiAl, Ricrea** and **Corepla** for recycling



Paper and glass

- paper and glass are collected together by **special double-container trucks** to **reduce the number of circulating trucks**
- collection is done **once a week**
- glass in the green bin is **collected alone** with no other material **for maximum quality**
- paper and glass are sent to materials consortia **Comieco** and **Coreve** respectively for recycling



Residual waste (dry)

- residual waste is collected in the **clear transparent bag**
- collection is done **twice a week** (maybe in the future it will be possible to reduce frequency to once a week)
- residual waste is sent to the **Silla 2 incineration plant** for **energy recovery** and **heat production for the district heating network**
- **no waste has been disposed of in landfills** since 1997



Organic waste for households and commercial activities

- **food waste collection for households** was introduced in November 2012 to complement the service for commercial activities that was already in place
- food waste is collected in **brown bins** and using **certified compostable bags**
- collection is done **twice a week**
- food waste is sent to the **anaerobic digestion plant** of Montello where **biogas and high-quality compost is produced**



Integrated plan for waste collection service in Milan 2012-2014

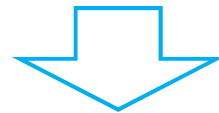
ACTION PLAN

Separate collection rate reached 34.5% in 2011. To improve this result, Milan together with Amsa launched in 2012 a 2-step program:

1. **the introduction in mid-February of the transparent bag** to replace the black bag for residual waste
2. **the household food waste collection** at the end of November 2012

OBJECTIVES

- **Increase the selective collection rate**, sending the food waste to anaerobic digestion, according to the latest EU directives
- **Maintain high standards of public service**
- **Benefit from a possible ‘snowball effect’** with positive consequences on the quantity and especially the quality of all recyclable fractions.



RELATED ACTIONS

- **communication campaign / information to all citizens**
- **specific controls and sanctions**



For further information:

www.amsa.it
servizioclienti@amsa.it

 **800-332299**



 **PULLI**
Gruppo Amsa

 **Amsa**
Gruppo Amsa

1. Introduction of the transparent bag

In February 2012 the **use of transparent bag** was introduced **in place of the black bag** for the collection of **the residual fraction**.

Specific Objectives

- **Diversion of plastic, glass and paper still present in the residual waste**
- **Checking more easily for recyclable waste fractions erroneously put together with residual waste.**

Results (after 6 months)

Significant increase of **plastic (+1%)**, **paper (+0.7%)**, **glass (+0.2%)**



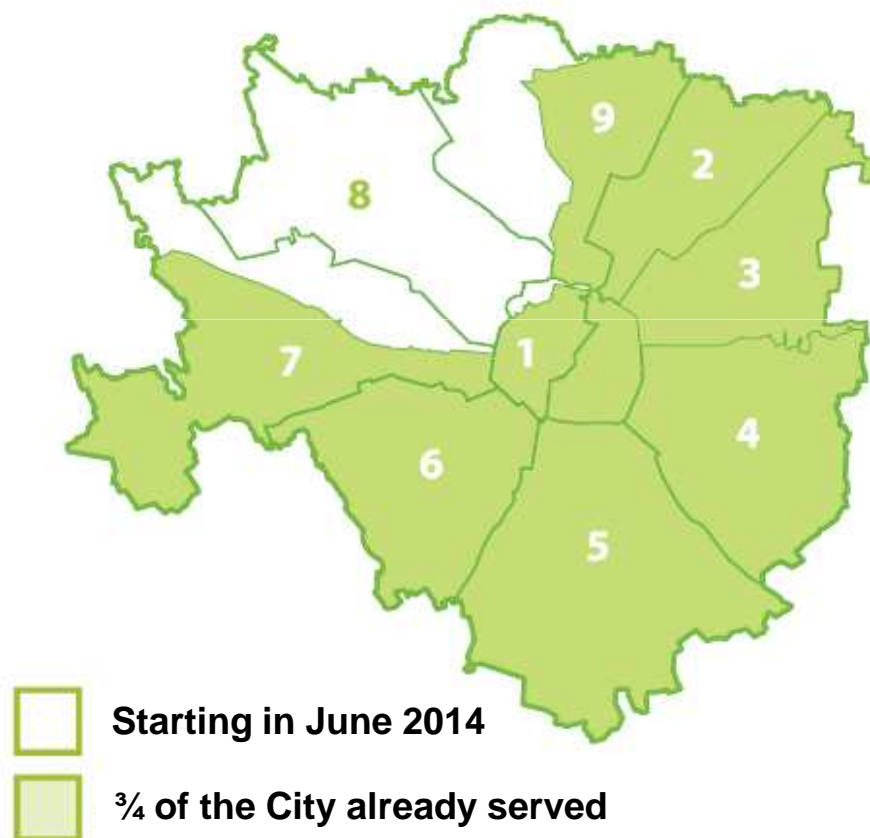
* The compulsory use of transparent bags was launched in view of the introduction of the household organic waste collection

2. Door to door organic waste collection plan

Program

- **Door to door waste bin collection**
- **4 step** implementation program (started November 2012 and ending June 2014)
- Mayoral Ordinance for each step
- **Delivery of kits to households** with informative leaflets, the initial equipment (sponsored, cost-free for citizens) of compostable bags and 10lt bins.
- **Delivery to each building** of 120 lt. bins
- Delivery of material preceded by an **information and awareness campaign** (sending informational materials to both users and building administrators)

4-step program



Households equipment for organic waste



HDPE brown 35 lt. bin with handle and lock

For **SMALL BUILDINGS** (on request)



Brown small 10 lt. bin for households



The small kitchen bin has a **special airy structure** to ensures optimal oxygenation of the bag and its content to **minimize** the inconvenience related to the formation of **odors and liquids**.



120 lt. curbside bin

For **LARGE BUILDINGS**

Note: bins are loaned free of charge

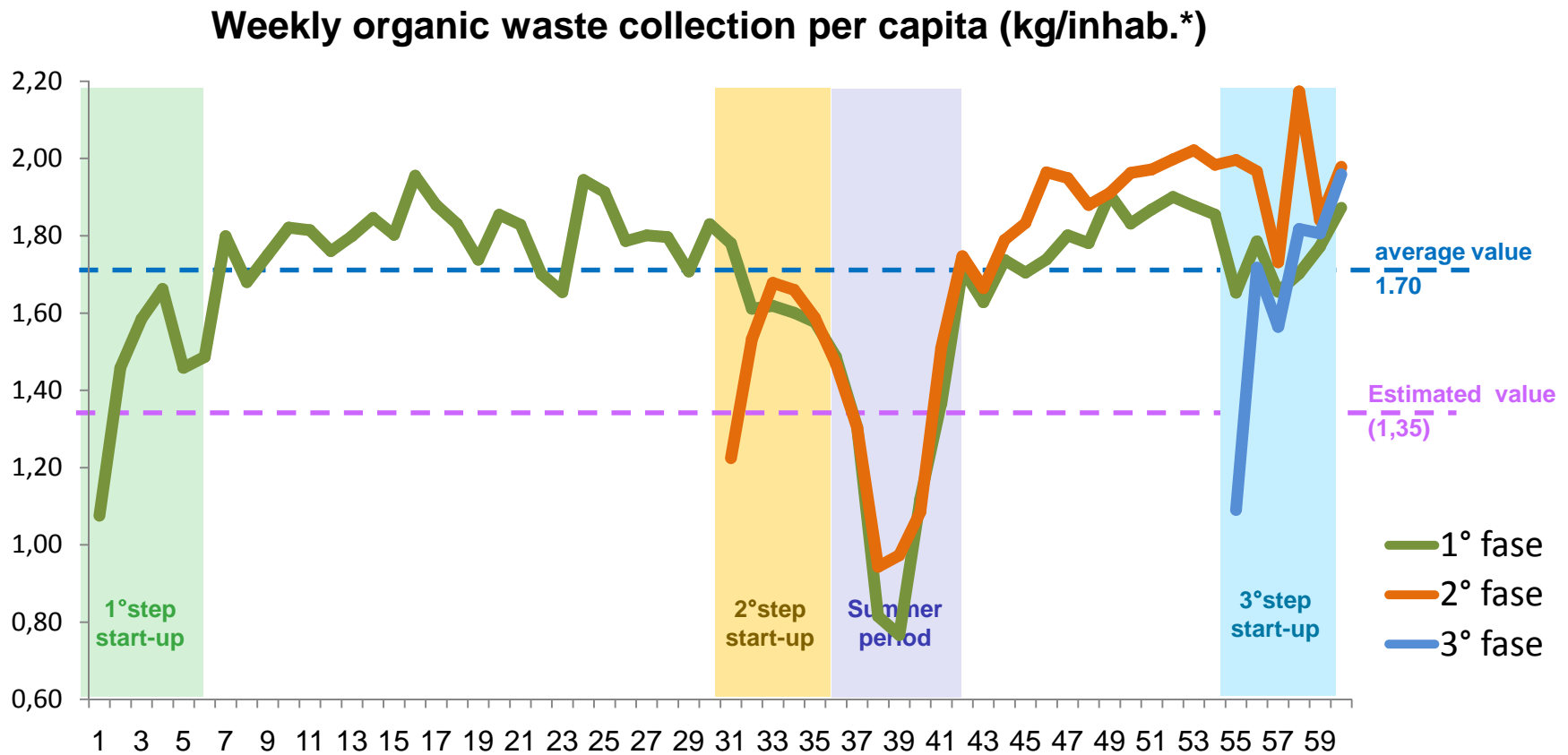


Compostable bags (first 25 bags free for citizens)



bags made of **bioplastics** have **properties** and **characteristics** of use **very similar to traditional plastics**, but at the same time, they are **biodegradable and compostable** according to the European standard EN 13432

Organic waste collection: results



Data from November 2012 to February 2014
Data processing: Amsa

Quality analysis

Product analysis conducted in collaboration with “Scuola Agraria del Parco di Monza” revealed:

- **very high quality for the first sampling** (January 2013 - South West area) showing a **decrease in the second sampling** (July - South West and South East area)

Average content of NCM% for collection area

Milan areas	center	suburbs	Aler households
South West (January)	2,6	1,6	4,1
South West (July)	7,4	4	4,3
South East (July)	5,9	5,3	8,2

- In all samples, the **compostable fraction** is almost entirely composed of **food waste**, with a **negligible** (on average <3%) part of **paper, cardboard and green waste**
- The **"plastic" component is the main contaminant**, especially **plastic bags used improperly as containers** for food waste collection, which represent up 90% of the NC fraction

CRITICAL ISSUES

The **increased use of plastic bags** is the main driving factor for the overall deterioration in the quality of the collected material



Information campaign to improve quality



Milano, novembre 2013

Oggetto: utilizzo di sacchetti compostabili per il corretto conferimento dei rifiuti organici.

Gentile Amministratrice, gentile Amministratore,

la raccolta dei rifiuti organici in città, avviata da Amsa nel novembre del 2012, prosegue come da programma concordato con il Comune di Milano e sta facendo registrare risultati eccellenti nelle zone già coinvolte dal servizio.

Ad oggi, la raccolta differenziata, nei primi due quarti della città interessati dal progetto, ha già **raggiunto il 47%**. Tutto questo grazie all'impegno quotidiano dei cittadini di Milano e alla Sua collaborazione nell'organizzare la raccolta nei condomini amministrati e nel diffondere le buone pratiche.

Al fine di migliorare la qualità della raccolta, Amsa ha svolto un'indagine presso le utenze domestiche dove è già attivo il nuovo servizio. I risultati dell'analisi evidenziano che **l'errore più frequente è l'utilizzo di sacchetti non compostabili**; comportamento che da regolamento comunale è sanzionabile con un'ammenda all'intero condominio pari a euro 50,00 (esclusa le spese di notifica), anche se commesso da singoli inquilini che conferiscono la propria frazione organica nel cassonetto condominiale.

Per evitare che l'errore di un singolo possa avere conseguenze sulla collettività dei condomini, Le chiediamo la collaborazione per **esporre nelle portinerie la locandina** qui allegata, che ricorda ai residenti di **utilizzare i corretti sacchetti compostabili** per la raccolta dei rifiuti organici.

Nel ringraziarLa per la cortese disponibilità, Le ricordiamo che per tutte le informazioni sui servizi offerti da Amsa è possibile telefonare al **Numero Verde 800-332299** o inviare una e-mail a servizioclienti@amsa.it, e può, inoltre, consultare il sito web www.amsa.it o scaricare sullo smartphone l'app **PULLiamo**.

Distinti saluti,

Il Direttore
Paola Petrone

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www.amsa.it
servizioclienti@amsa.it



Il sacchetto, quale ci metto?

I sacchetti non sono tutti uguali. Per raccogliere l'umido si devono utilizzare solo sacchetti compostabili, certificati:

OK compost
VINÇOTTE
Compostabile
CIC

Possono essere utilizzati anche i sacchetti compostabili della spesa.

Utilizzando i sacchetti compostabili la qualità della raccolta è migliore e si evitano sanzioni.

Per informazioni:

www.amsa.it
servizioclienti@amsa.it



Integrated tools of communication in support of separate collection

- **Customer Center** (open 24/7)
- **Website** www.amsa.it
- **PULIamo app** for all mobile operating systems
- **Publications and information materials** (brochures, leaflets, audio/video, etc.)
- **Media relations** (press releases, interviews in newspapers and trade press)
- **Passive advertising** (billposting campaigns, ads, ...)
- **School projects** with educational courses for students from elementary through high school
- **Guided tours of our departments and facilities** by environmental organizations, agencies, global institutions and private companies



Events and initiatives in the area



Direct marketing activities in **elementary schools and middle schools** in the areas concerned by waste collection services through a dedicated flyer

Distribution of communication materials on waste collection for domestic users located in the town area concerned by the new service of the **Mobile amenity site (CAM)**

