



GOOD PRACTICE MILAN:

DOOR TO DOOR FOOD WASTE COLLECTION FOR HOUSEHOLDS

November 2014



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1. GENERAL INFORMATION ON THE GOOD PRACTICE (GP)

1.1 General information

Region	Milan city
Country	Italy
Short name of the good practice	Door to door food waste collection for households
Geographical level of implementation (country, region, municipality...)	Municipality
Target group	All citizen
Date of implementation/duration	Nov 2012 (pilot) – june 2014 (roll out)
Waste stream (and subcategory)	Food waste and small plants
Legal framework	Waste framework Directive 2008/98/EC
Main local instruments involved	Local waste management plan (Regional/local strategies)
Scale (pilot/partially roll out /roll out)	Roll out
Initiator/coordinator	Municipality of Milan - Amsa
Demography	
Population	1,281,000
Number of households	About 700,000
Area (km ²)	182 km ²
Population density (number of inhabitants/km ²)	7,038
General waste data (Not necessarily related to the GP but to give some background information. Data about the GP should be included under 3.1)	
Year of the following waste data	2013
Sum of all waste streams excl. residual & bulky waste (kg/inhabitant/year) (Use indicator 1 or 2 from the R4R Online Tool)	

Residual waste (including sorting residues) (kg/inhabitant/year) (Use indicator 8 or 9 from the R4R Online Tool)	
Total waste (add up the previous two)	649,838
Sum of all waste streams excl. residual & bulky waste to DREC (kg/inhabitant/year) (Use indicator 3 of the R4R Online Tool)	

1.2 Context

In Milan for paper, cardboard, plastics and metals and glass there is a well established door to door separate collection system. Citizen are used to this method of collection that requires exposure of bins and bags early in the morning. In addition organic waste from commercial activities was also collected separately and recycled. This collection system brought very good results but It is not enough to reach European and Italian recycling targets.

1.3 Short description

The door to door households organic waste collection plan was first introduced in November 2012 in ¼ of the city of Milan and then was extended to the whole city in June 2014. Brown bins and compostable bags are used for collection, while small kitchen bins with a special airy structure to minimize the inconvenience related to the formation of odors and liquids are used in apartments. Collection frequency is twice a week.

1.4 Objective

The aim of the separate collection of Food waste is to divert this material from incineration and to send it to AD for production of biogas and good quality compost. Food waste collection sent to recycling will help also to boost recycling rate enabling us to achieve the EU target of 50% recycling. Also benefit from the trailing phenomenon with better quality for all other separately collected fractions (paper, plastic, etc.). maintain or increase the existing levels of customer satisfaction and system efficiency.

1.5 Method used to identify the good practice

Benchmark with Italian and European cities. Waste collection data trend over the years, composition analysis and expert judgement (CIC, Scuola Agraria di Monza).

1.6 External factors

Non relevant external factors

2. IMPLEMENTATION

2.1 Preparation phase

We conducted two previous pilot projects of introduction of households organic waste in small areas of the city in 2006 and 2008 but the results were not so encouraging. When we decided to start the definitive plan for the whole city in 2012 we made assumptions based on the pilot projects (60 kg/inh. per year).

In 2010, 12 composition analysis campaigns were carried out on the black bag (residual waste) collected door-to-door. Relevant fractions suitable for recycling included packaging paper / cardboard 12.7%, Glass 1.4% and 37.4% of organic material.

In February 2012 we introduced the transparent bag in place of the old black bag for the residual waste fraction to be able to see the content and divert the relevant amount of paper, plastic, metals and glass still present in the bag to the right recycling bin. This action was also meant as a preparatory phase for the introduction of the food waste collection.

2.2 Technical implementation

The plan is a two year plan for the introduction in the whole city split in 4 phases (1/4 each). 1st phase in november 2012, 2nd phase June 2013, 3rd phase December 2013, 4th phase June 2014.

Many activities were coordinated with the City of Milan (number of inhabitants, households and mayor role at each step). Census of the area in preparation for the the servicen set-up, and to detect any possible management problem.

Sizing of the new collection system with the construction of a theoretical model, based on key elements (weights, loads, distances, productivity, etc.). Operational tests in the field are implemented to refine the model.

Delivery of the containers to households including a 120 liter brown wheely bin, a 35 liter brown bin (only for single homes and on request), a 10 litre aerated kitchen basket. Delivery occurs 1-2 months before start-up. The delivery is preceded by a sign of "delivery notice" and is performed by specially dressed Amsa personnel and trucks.

2.3 Communicative implementation

In the design / implementation of the information campaign to the different targets for the new households food waste service, multiple communication channels have been used:

- direct marketing with letters sent to families, letters and posters sent to building administrators and letters sent to the presidents of the 9 Milan Areas.
- Free App for smartphones Puliamo a way of gathering and exchanging quicky information with our company
- Website with dedicated homepage and a specific section.with download of leaflet in 9 languages and search engine for every services performed in a specific street.
- Media relations, press, news and underground TV, schools and Mobile Civic Amenity Site.

Delivery bins and baskets delivery kit containing: Leaflet - Instructions organic waste collection, Postcard YES/NO, 25 free biodegradable bags, Additional bags can be found in any supermarket for around 2,00 € for 20 bags.

Recently a recall information campaign was launched with distribution of 180000 separate collection guides in 10 languages (also foreign personnel direct distribution to countrymen) and a specific campaign for raising quality. The system is using certified compostable bags:in accordance with the European standard UNI EN 13432

2.4 Organisations

Municipality of Milan with specific regulation for all citizen for each implementation step, 9 Milan zones, CiC (Italian composters consortium) Monza's Agronomy school.

2.5 Key success factors

Thorough resource planning and proper communication (before and after) to citizen have been key success factors for the implementation of the service. Also preliminary measures like the transparent bag were very important. Accompanying measures include also quality controls of the organic waste bins by 24 trained personnel and fees in case of irregularities.

2.6 Resources

The project is financed by the Municipality of Milan. approximately € 4.5 million for the purchase of 45 vehicles and required equipment and acquiring acquiring human resources

3. RESULTS

3.1 Monitoring of the progress of the GP

After the implementation of the plan in $\frac{3}{4}$ of the city the Recycling Rate has risen from 34.5% in 2011 to 48.3% in the first 3 months of 2014. So we can forecast to easily reach and overcome the 50% European target. Food waste recycled per capita is 90 kg/year. Composition analysis at the start of the service already showed only 3.8% of NCM (Non Compostable Material). A second composition analysis after 8 months showed an increase to 5.1% and after the quality awareness campaign the value is down to 3.7%.

3.2 Other results

The combined introduction of transparent bag for the residual waste and the separate food waste collection have had good impacts on the other separate collected fractions: plastics +1%, paper +0.7%, glass +0.2%.

Customer satisfaction survey in January 2014 showed that 79% of the citizen evaluates the organic waste collection as efficient.

4. LESSONS LEARNED

4.1 Negative effects

Little increase of the bad habit to put all households waste in street litter bins.

4.2 Challenges

5 door to door waste fractions to be collected every week requires adequate planning and maintenance for delivering continuity of service. Citizens are required a supplementary effort to separate the 5 fractions at home.

5. PICTURES AND OTHER DOCUMENTATION

See attached presentation.

6. FURTHER INFORMATION

Organisation	Amsa SpA
Address	Via Olgettina 25, 20132 Milano
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Website	www.amsa.it
Others	

7. OTHER REGIONS WITH SIMILAR GOOD PRACTICES

The following partners of the R4R-project have a good practice similar to the good practice described in this factsheet:

Organisation	Agència de Residus de Catalunya, Departament de la Gestió de la Matèria Orgànica
Address	C/Dr. Roux 80 08017 Barcelona
Region	Catalonia
Country	Spain
Contact person:	Ms. Teresa Guerrero
Phone	+34 935673300
E-mail address	tguerrero@gencat.cat
Website	http://residus.gencat.cat/ca
Others	

Short description of the main differences.	Bio-waste is collected both from households and small-scale commerce and is treated by anaerobic digestion and composting. Implementing a separate collection of bio-waste is not mandatory for municipalities, but the landfill and incineration taxes are lower for those municipalities that have introduced such selective collection.
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Organisation	Southern Regional Waste Management Office
Address	Limerick City & County Council, Lissanalta House, Dooradoyle, County Limerick
Region	Limerick/Clare/Kerry Region (now part of the larger Southern Region)
Country	Ireland
Contact person:	Philippa King Carol Sweetnam
Phone	+353 61 496842 +353 61 496841
E-mail address	philippa.king@limerick.ie carol.sweetnam@srwmo.ie
Website	www.managewaste.ie
Others	
Short description of the main differences.	In the Southern Region of Ireland only kitchen waste is collected both from households and commercial producers of bio-waste. The collection service is provided by private operators and the waste undergoes either anaerobic treatment or is serves to produce compost.

Organisation	Office of the Federal State Government of Styria Department 14, Division Waste Management and Sustainability
Address	Bürgergasse 5a 8010 Graz
Region	Styria
Country	Austria
Contact person:	Wilhelm Himmel
Phone	+ 43 316 877 4323
E-mail address	abfallwirtschaft@stmk.gv.at
Website	www.abfallwirtschaft.steiermark.at
Others	The Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management www.bmlfuw.gv.at/en.html
Short description of the main differences.	In Styria, bio-waste from households is collected in dedicated waste containers, integrated in the separate collection system. Additionally bio- waste originating in gardens and green spaces is collected. The bio-waste is treated at an anaerobic digestion or at composting facility.

REGIONS FOR RECYCLING

