

# Food waste management in Europe

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**[www.compost.it](http://www.compost.it)**





## CIC – Consorzio Italiano Compostatori (Italian Composting and Biogas Consortium)



- unites public and private companies, local authorities and others involved in the production of compost,
- Involves producers of machinery and equipment,
- includes producers of fertilisers, research bodies etc
- Recycling sector for biowaste: 283 composting plant and 32 AD plants
- Surveys and monitors Biowaste collection in Italy
- Supports development of National legislation on biowaste management and composting
- International cooperation (ECN, ISWA, etc.)



## CIC: what we do



- Support of Local authorities in designing strategies for waste reduction, separate collection, recycling of organic waste



- Manages National Quality Standard for Compost and develops Regional Q Labels [www.compost.it](http://www.compost.it)



- Manages certification system for compostable bioplastics [www.compostabile.com](http://www.compostabile.com)



# Working Group on Biological Treatment of Waste (WGBTW)

## Activities and discussions

- EU legislative initiatives on biological treatment
- End of Waste Criteria
- Regional Bio-waste workshops
- Preparation of Fact sheets
- Organise the ISWA biennial Beacon conference on Biological treatment of waste
- Food waste paper (July 2013)





# MSW composition in S-European countries

**Table 2.1 Bio-waste share in municipal waste in 28 European countries in 2008–2010**

% of bio-waste in total municipal waste	Countries
Less than 20 %	Lithuania, Norway and Slovenia
Between 20 % and 30 %	Bulgaria, Denmark, Ireland, Hungary, Latvia and Switzerland
Between 30 % and 40 %	Germany, France, Italy, Sweden, United Kingdom, European average
Between 40 % and 50 %	Austria, Belgium, Czech Republic, Estonia, Finland, Luxembourg, the Netherlands, Poland, Romania and Spain
Between 50 % and 60 %	Greece, Portugal, Slovakia
Between 60 % and 80 %	Malta





**Source:** ETC/SCP, 2011; and data provided by countries to the ETC/SCP in 2012, ETC/SCP, 2012a.

**Note:** Bio-waste includes food and garden waste but not wood, paper and cardboard, and textile waste. Member State data on the composition of municipal waste were for either 2008, 2009 or 2010. The European average is calculated based on the 28 countries included in the table.





# Current status of FW collection in Europe

-  Established
-  In implementation
-  In beginning phase
-  No activities at present



Source: European Compost Network, updated by authors



# Current status of biowaste management in Europe

- Currently in Europe the highest **amount** of biowaste composted is found in **Germany, France, UK**, (in terms of total amount) and **Austria, Netherlands, Belgium** (as a **percentage** of total MSW treated).
- Actually, the lack of distinction between **garden waste** and **food waste** in this figure may lead to some misleading evaluations

Country	Total biowaste recycled through composting (tonnes)	% municipal waste recycled through composting
Germany	8.429.906	17,3%
France	6.206.134	18,0%
United Kingdom	4.598.237	14,2%
Spain	4.388.646	17,9%
Italy	3.831.704	12,5%
Netherlands	2.375.709	28,3%
Poland	1.657.153	16,9%
Austria	1.511.300	33,9%
Belgium	1.031.821	20,3%
Sweden	654.317	15,0%
Other EU27 countries	2.082.515	5,0%

Source: Eurostat  
2011 data



## Different ways to collect biowaste

- **“VGF”** (Vegetable, Garden, Fruit or “GFT”):

only uncooked food residues

NL, B, sometimes D, A

- **“Biowaste”** (*“biogene Abfälle”*):

food waste + yard waste

D, A

- **“Food waste”**:

food residues including cooked stuffs (e.g. meat, fish)

I, E, UK, SW







## National results...

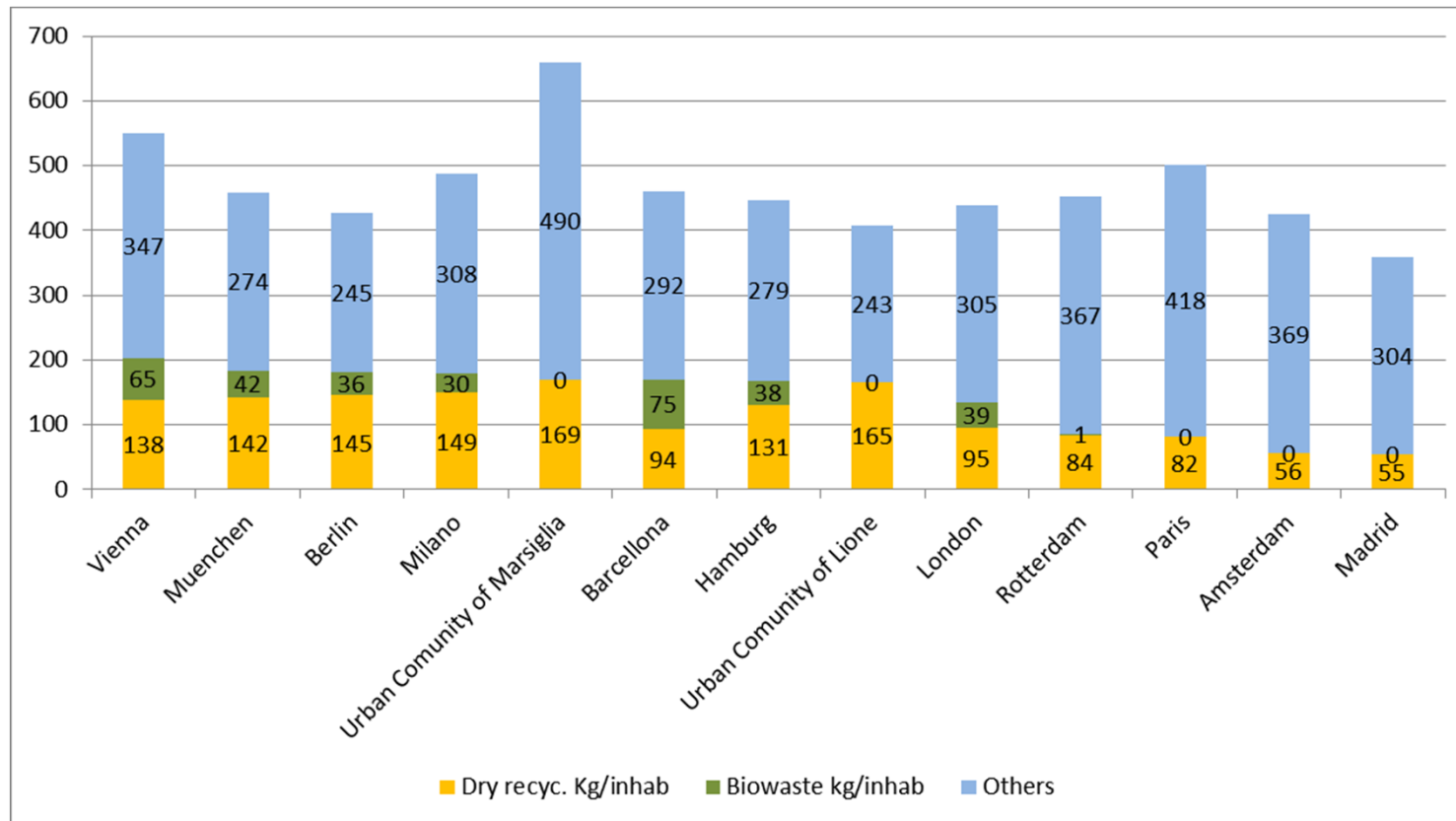
	Average capture food waste + garden waste where kerbside scheme implemented	Food waste only	Garden waste only
Germany	109	23*	86*
Italy	116	79	37
UK	84		
Catalunya	127	111	16

- Italy and Catalunya are outstanding in terms of food waste captured
- Estimates using 52.2 kg/ca.y biowaste in biobins, of which 45% food waste

Source: M. Giavini, Ars Ambiente, 2013



# Focus on metropolitan areas and cities (year 2012)



Source: AMSA 2014, base on official reports of each City for year 2012



# Food waste collection in EU cities

## Bristol (UK)

- first city to offer kerbside collection of food waste to all residents, since 2006
- kitchen caddy & 25-litre brown-bin
- paid-for green waste
- fortnightly (every other week) residual waste collection



## Barcelona (S)

- Bring scheme with 2000 litre road containers, since 2010
- 260 hh per container
- Commingled collection of food waste and garden waste



## München (D)

- One of the first cities in Europe to test sep. collection of biowaste
- Kitchen caddy & Kerbside collection with 120-240 litre bins
- Biobins with high amounts of garden w.
- PAYT charge for residual waste





# Food waste collection in EU cities

## Bristol (UK)

- Population 428,000
- food waste 68kg/inha/yr

## Barcelona (S)

- Population 1,6 M
- food waste 77kg/inh/yr
- green waste 6kg/inh/yr
  
- Large non-compostable content (15%)

## München (D)

- Population 1,4 M
- food waste 21kg/inh/yr
- green waste 30kg/inh/yr
  
- Cooked food scraps not collected (i.e meat, fish and bread)





## Lesson to be learned for FW collection

- Intensive source separation schemes focus on food waste only, with higher capture rates
- Biowaste schemes collect large amounts of garden waste with lower capture rates for FW
- Quality check possible with curbside collection only
- Savings can be done by revising collection frequencies for residual waste (with low organic content!)

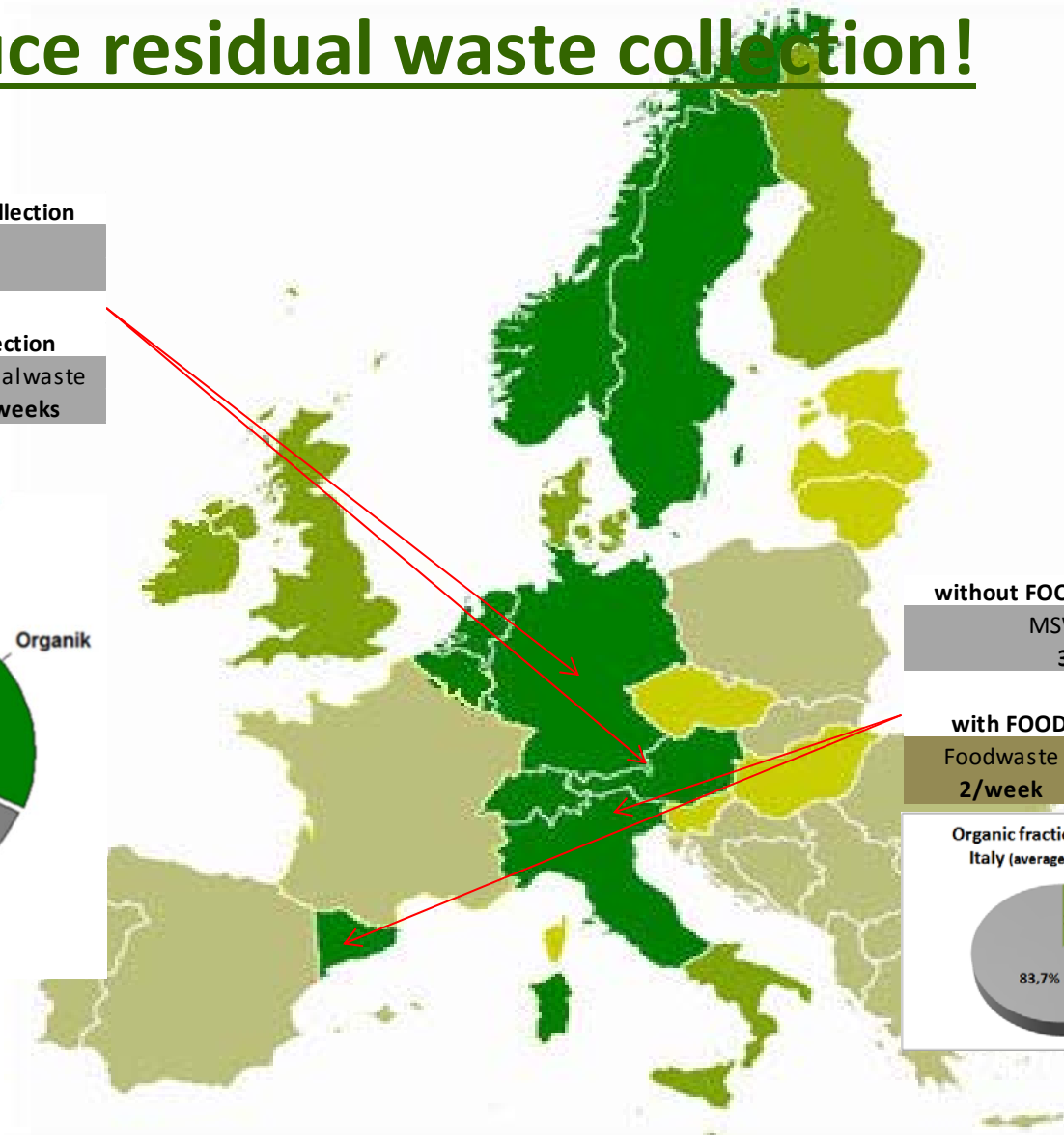
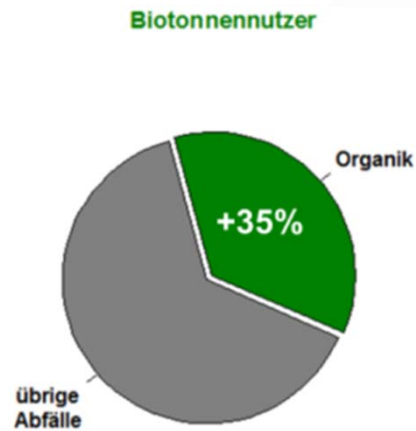




# Integrated MSW management: reduce residual waste collection!

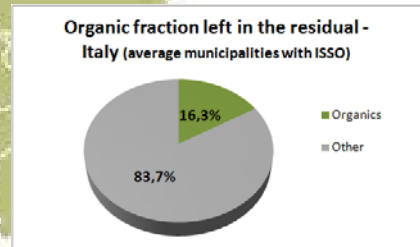
**without FOODWASTE collection**  
MSW (mixed)  
**1/week**

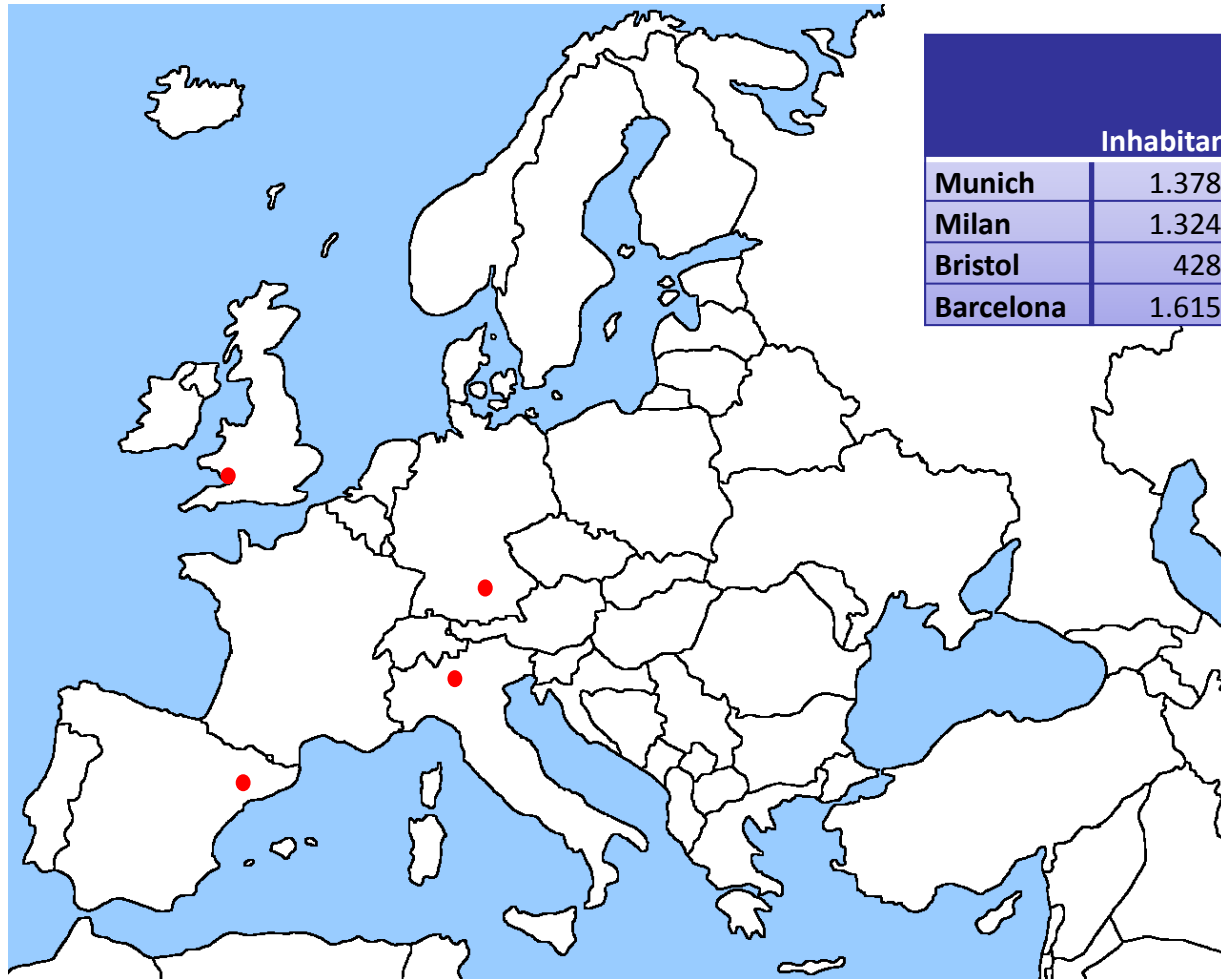
**with FOODWASTE collection**  
Foodwaste 1/2weeks    Residualwaste 1/2weeks



**without FOODWASTE collection**  
MSW (mixed)  
**3/week**

**with FOODWASTE collection**  
Foodwaste 2/week    Residualwaste 1/week





	Inhabitants	Population density (people/sq. Km)
<b>Munich</b>	1.378.176	4.439
<b>Milan</b>	1.324.110	7.176
<b>Bristol</b>	428.100	3.639
<b>Barcelona</b>	1.615.448	15.970



## Database investigated

Country / Region	Data source	Reference year	Aggregation	Filter	Population covered after filtering
Italy	ISPRA, Rapporto Rifiuti 2012	2010	Provinces	Average performed on Provinces collecting at least 60 kg/ca.y food waste only	18,196,399
Germany	VHE, Statistik der öffentl. - rechtl. Abfallentsorgung	2010	Regions	Average performed on Regions collecting at least 60 kg/ca.y biowaste (commingled garden + food waste)	81,751,602
England (United Kingdom)	WRAP, LA Portal / DEFRA statistics	2010 - 2011	Local Authorities	Average performed on LAs with at least 70% households covered with specific food waste collection schemes	5,527,710
Catalunya (Spain)	ARC, Dades de residus municipals de Comarques i Municipis de Catalunya	2011	Local Authorities	Average performed on LA with dedicated kerbside collection of food waste	359,088





## Source of data and information

Città	Fonte	Note sul metodo di analisi
<b>Monaco</b>	Abfall – und Wertstoffmengen 2012	
<b>Milano</b>	Amsa	<b>Terre di spazzamento considerate come RUR (per Delibera di Giunta Regionale)</b>
<b>Comunità urbana di Marsiglia</b>	Report sviluppo sostenibile 2012	
<b>Barcellona</b>	ARC (Agencia Residuos de Catalunya)	Raccolta stradale dell'organico
<b>Amburgo</b>	Freie und Hansestadt Hamburg Abfallstatistik 2012: Siedlungsabfälle	Terre di spazzamento a smaltimento non considerate
<b>Comunità urbana di Lione</b>	Report annuale sulla gestione dei rifiuti - Déchets Mègalopole France 2012	Ingombranti recuperati al 59,1%
<b>Londra</b>	WRAP (Waste & Resources Action Programme)	Raccolta organico
<b>Berlino</b>	BSR/DSD	Quantità raccolta da circuito DSD considerata nel calcolo della RD
<b>Rotterdam</b>	CBS – Centraal Bureau voor de Statistiek	
<b>Parigi</b>	ORDIF	Ingombranti recuperati al 50%
<b>Amsterdam</b>	CBS – Centraal Bureau voor de Statistiek	
<b>Madrid</b>	Ayuntamiento	Pulizia stradale con considerata nel calcolo del RU
<b>Vienna</b>	Die 48er	Raccolta umido con sistema « Biotonne », con una buona quota di scarto verde miscelato allo scarto di cucina

**Thank you**

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