



ZERO WASTE EUROPE LIVE!

4 DECEMBER 2018

ENZO FAVOINO

**ZERO WASTE EUROPE
SCIENTIFIC COORDINATOR**

**COLLECTION OF BIO-WASTE
IN DENSELY POPULATED AREAS**

Maximising biowaste collection in a city above 1M



Enzo Favoino



*Scientific Coordinator,
Zero Waste Europe*



CITY OF MILAN - WASTE COLLECTION

Key numbers



1.35 million
inhabitants

7,200
Inh./km²

800,000
Commuters/day

11 millions
Tourists in 2016
(second city behind Rome)



673,360
T of Municipal
Waste (2017)



58%
Separate
collection in
2017



55,000
waste collection
points (door to
door)



5
civic amenity
sites and **2**
mobile Eco
centers



120
bring
banks for
paper and
glass



13
T-recycle
e-bikes

= 60%

= 103 kgs food scraps

The target: food waste generation

Table 1: Estimates of food waste in EU-28 in 2012 from this quantification study; includes food and inedible parts associated with food.

Sector	Food waste (million tonnes) with 95% CI*	Food waste (kg per person) with 95% CI*
Primary production	9.1 ± 1.5	18 ± 3
Processing	16.9 ± 12.7	33 ± 25
Wholesale and retail	4.6 ± 1.2	9 ± 2
Food service	10.5 ± 1.5	21 ± 3
Households	46.5 ± 4.4	92 ± 9
Total food waste	87.6 ± 13.7	173 ± 27

*Confidence interval

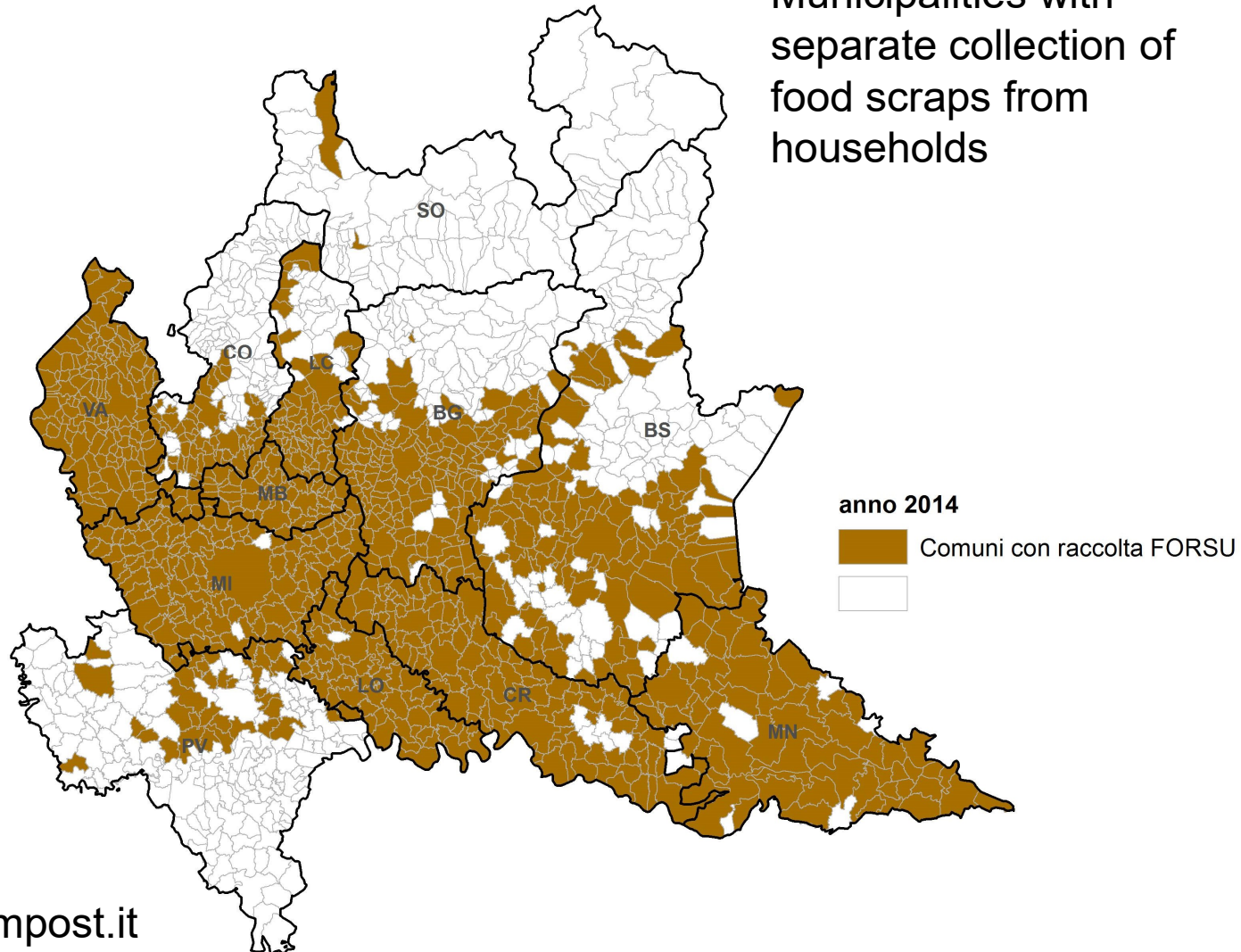
- **Municipal** food waste generation
= **113 ± 12 kg/capita/year**

Source: EU
FUSIONS, 2016



Not viable in densely populated areas?

Municipalities with
separate collection of
food scraps from
households



4 steps

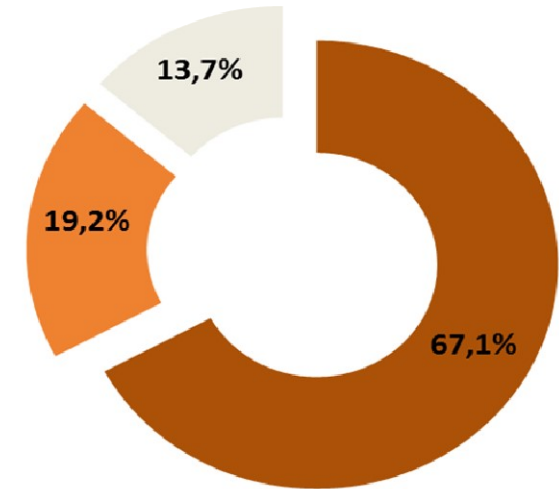


- 350.000 each, all going into the city centre
- 1,5 years to have the city covered

Milan – achievements


103 kg FW

- Large producers served since 1995
- Residential food waste collection implemented in 2012-2014.
- Results (2017):
103 kg/capita,
≈30 commercial,
70 residential



- Residential food waste
- Commercial food waste
- Food waste left in residual waste





***“Waste is like water:
it always flows the
easiest way”***

***Proper tools for user friendliness
Collection frequency***



THE STARTER KIT

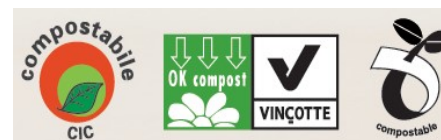


120 lt. cart



Kitchen caddy 10 lt.

25 compostable bags



Or a smaller 35 lt bucket



As easy as one-two-three



Neutral transparent bag: unsorted waste

All the refuse that cannot be treated as separate waste

Collected two times a week



Green container: glass only

Bottles, jars and vases

Collected weekly



Yellow bag: plastic and metal

plastic bottles, tubes and bags, plastic and polystyrene tubs for food, metal tins and tubes for food, cans for drinks.

Collected once a week



White container: paper

Newspapers, magazines, books, notebooks, cardboard boxes, cardboard packagings, paper drink containers.

Collected weekly



Brown container: Food and organic waste

Fruit and vegetables waste, meat, fish, kitchen waste, food leftovers, rice, bread, biscuits, pasta and baked food

Collected: twice a week

TARGETED CAMPAIGNS AND RECALLS



Campaign on operational info and quality

Milano, novembre 2019
Opzione utilizzo di sacchetti compostabili per il...

Gentile Amministratore, gentile Amministratore,
la raccolta dei rifiuti organici in città, passa
concorso con il Comune di Milano e italiani.

Ad oggi, la raccolta differenziata in città
Tutto questo grazie all'impegno, quello
recupero nella raccolta differenziata.

Attivo di migliorare la qualità della
attivo lavoro per la raccolta
compostabili, compostabili
contenitori per la raccolta
la qualità della raccolta è migliore
e si evitano sanzioni.

Per evitare che l'utente di
collaborazione per
compostabili

Per maggiori informazioni
potete rivolgervi a:
consulente
Dott. Rossi
Fondatore
Piazza

Per informazioni:
www.amsa.it
servizioclienti@amsa.it

800-332298

Amsa Gruppo R2S

Amsa Gruppo R2S
Via Oglio 15 - 20139
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:

Possono essere utilizzati anche
i sacchetti compostabili della spesa.

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

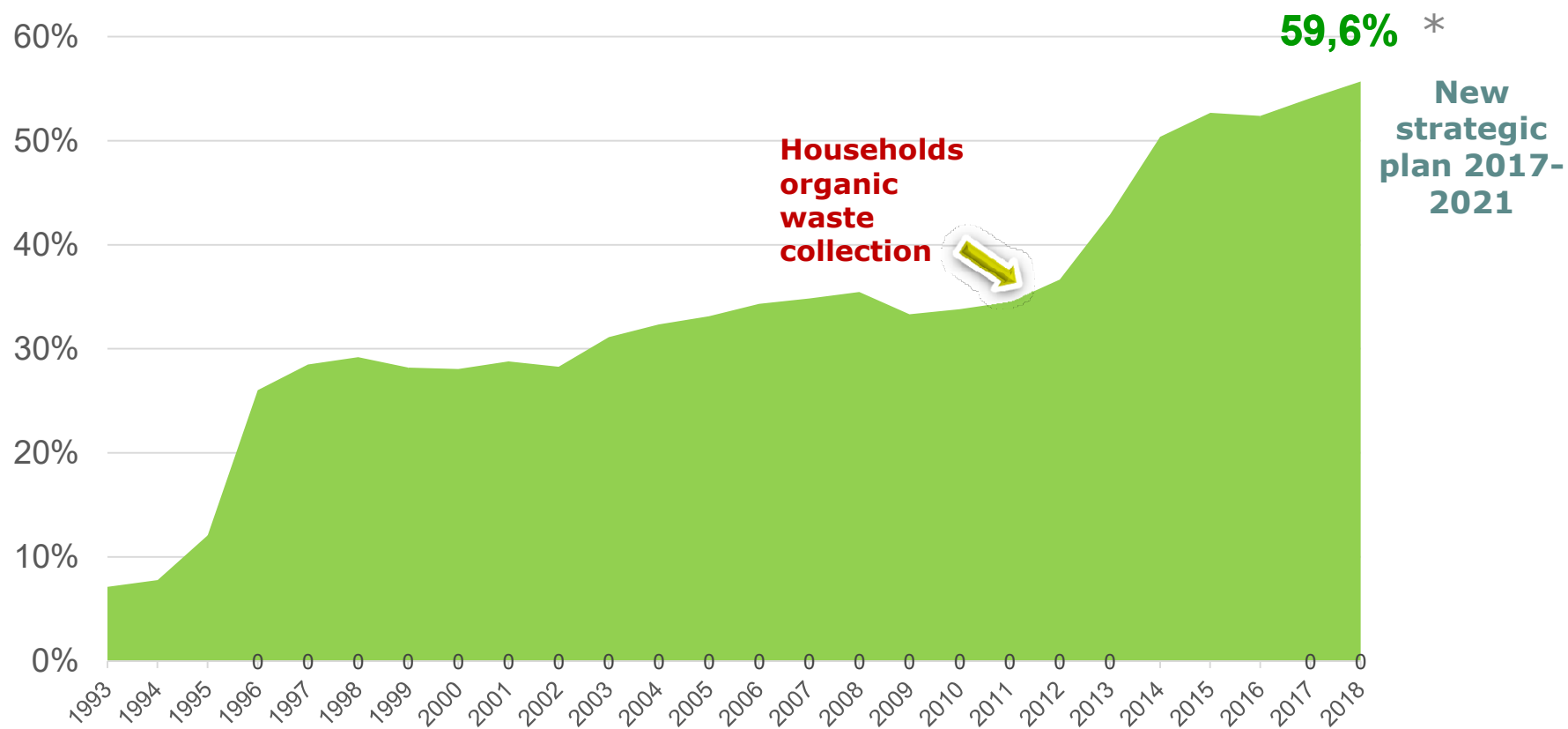
Campaign targeting various ethnic communities on separate collection



- 180.000 booklets in 10 languages:
- Delivery one-to-one, to foreigners in their own communities.

Philippines 40.780
Egypt 35.902
China 26.889
Peru 19.590
Sri Lanka 16.068
Romania 14.546
Ecuador 13.229
Ukraine 8.209
Morocco 8.152
Bangladesh 7.563

Separate collection trend in Milano



* September 2018

Results:

- Diversion of food scraps:
 - 103 kg/inhab/yr → 135.000 tpy
- Purity of food waste:
 - average non-compostable content 3,4% (worst case 5%)
- Support (fairly/very satisfied)
 - 79% at first customer satisfaction analyses (2013)
 - Grew to 92% at last one (May 2015)





**Commissioner Vella (Feb 2016)
makes reference to Milan
(and Capannori, Treviso, Parma)
as “living examples of
operational implementation of
principles tabled in the Circular
Economy Package”**

“Always happy and never satisfied” – next steps



- Reducing the number of road baskets
- Reducing collection rounds for residuals,
2/wk → 1/wk
- Pay-as-you-throw

Thanks for your interest

Enzo Favoino
favoinoenzo@gmail.com
enzo.favoino@zerowasteeurope.eu
(M) +39 335 35.54.46

