



Biowaste



Biowaste as the key fraction to address: wide area results

Michele Giavini

Italian Composting and Biogas Association



Brussels, 16 May 2019
#EUGreenWeek

The untapped potential

- 118-138 Mt biowaste included in MSW
- Only 30Mt currently diverted to composting /AD



Status on Separate Collection of Biowaste in Europe

Sweden:
67 sites, 1.07 million tons of biowaste
Finland:
259 sites, 0.48 million tons of biowaste
United Kingdom:
199 sites, 2.95 million tons of biowaste
Netherlands:
135 sites, 4.20 million tons of biowaste
Belgium:
81 sites, 2.03 million tons of biowaste
Germany:
912 sites, 8.87 million tons of biowaste
France:
692 sites, 4.62 million tons of biowaste
Spain:
67 sites, 0.87 million tons of biowaste
Switzerland:
287 sites, 1.00 million tons of biowaste
Italy:
298 sites, 5.30 million tons of biowaste

-
- Separate collection and composting/digestion of biowaste
 - Separate collection of biowaste in preparation/implementation
 - Only limited collection of biowaste

Source: European
Compost Network



Revised Waste Framework Directive

1. Member States shall ensure that, by 31 December 2023 and subject to Article 10(2) and (3), bio-waste is either separated and recycled at source, or is collected **separately** and is not mixed with other types of waste.

As from 1 January 2027, Member States may count municipal bio-waste entering aerobic or anaerobic treatment as recycled only if, in accordance with Article 22, it has been **separately collected or separated at source.**



EC – Early Warning Report to 12 MS

Brussels, 24.9.2018
COM(2018) 656 final

Box 1: Management of municipal waste

- Introduce **mandatory requirements to sort bio-waste**, and ensure that planned or existing treatment infrastructure matches the collection systems.



The biowaste conundrum

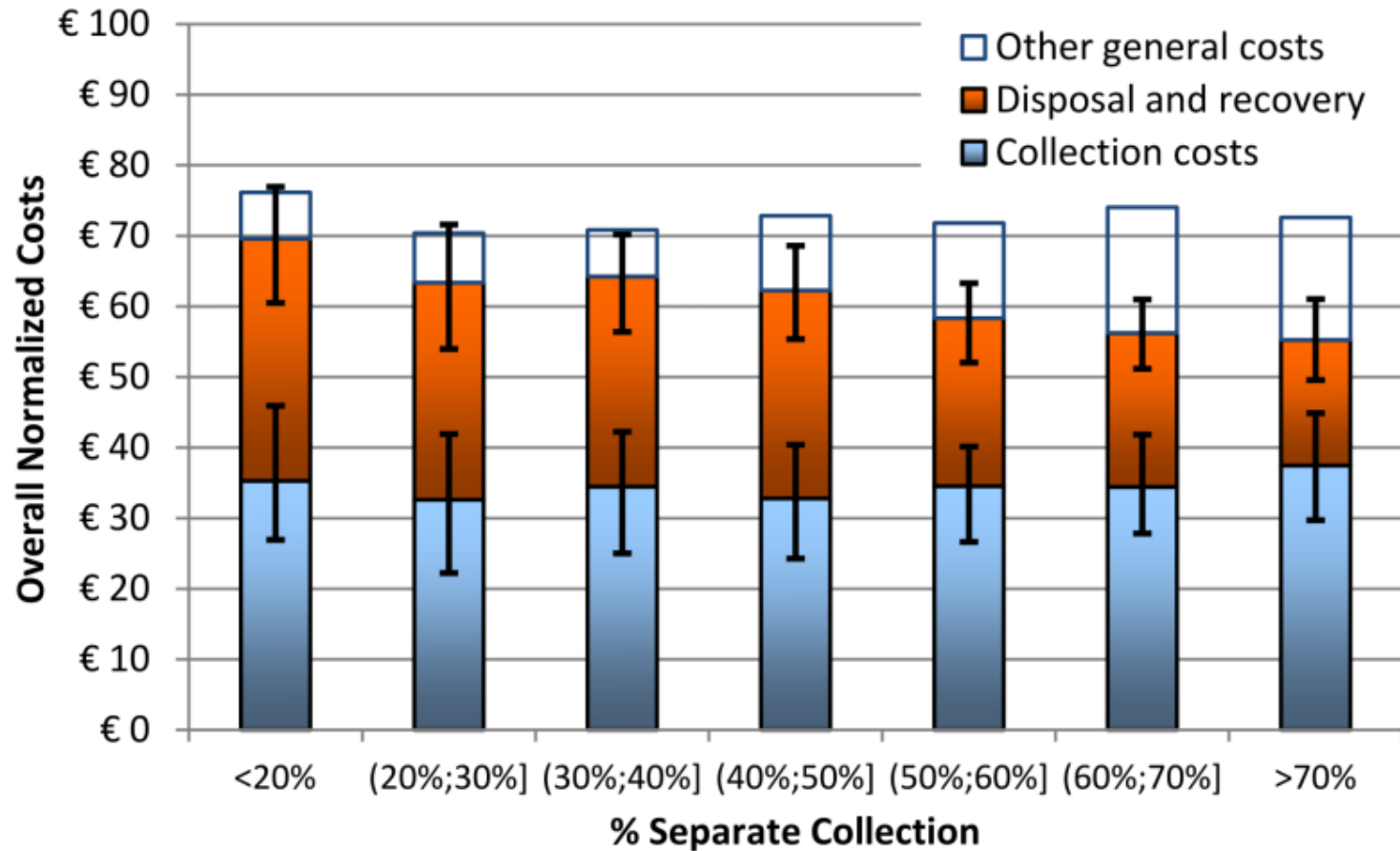
- Quantities: potentially more than all dry recyclables
- High impact if landfilled
- The EU mandates separation
- Soil needs organic matter
- Drives high capture of dry recyclables

BUT....

- No EPR scheme
- Very few incentive schemes
- TEEP conditionalities?
- Derogations?
- Difficult implementation?



Lombardy, 10 M people, 1500 municipalities: Low vs. high recycling

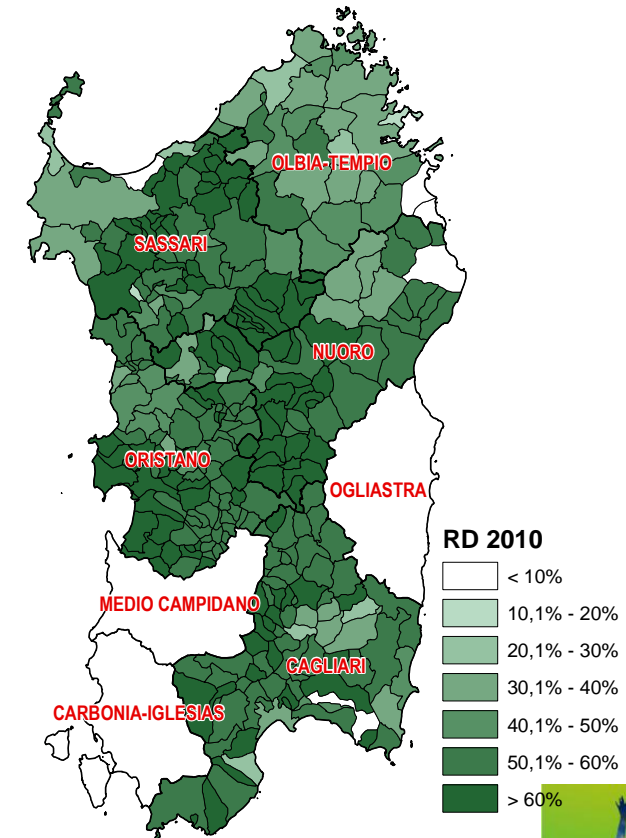
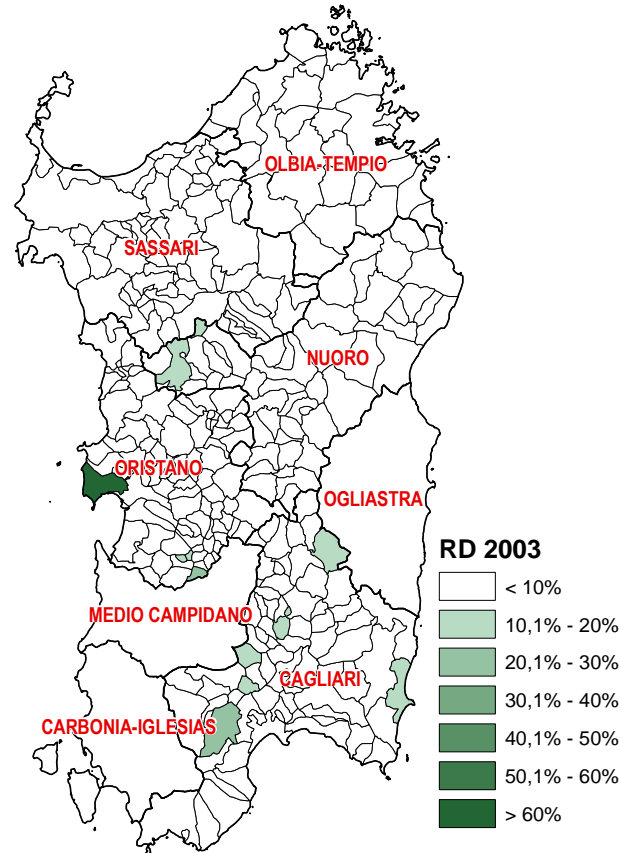


Wide area results at a **mature stage:**
Higher separate collection
(including biowaste) does
not lead to higher costs



«Zero cost» incentive schemes

- Sardinia, 2003-2012
- Catalonia, 2004-ongoing



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Separate collection of biowaste in Italy

4.300.000 t/y
of FOOD WASTE
71 Kg/capita/year



2.200.000 t/y
Green Waste
36 kg/capita/year



6.500.000 t/y
Biowaste



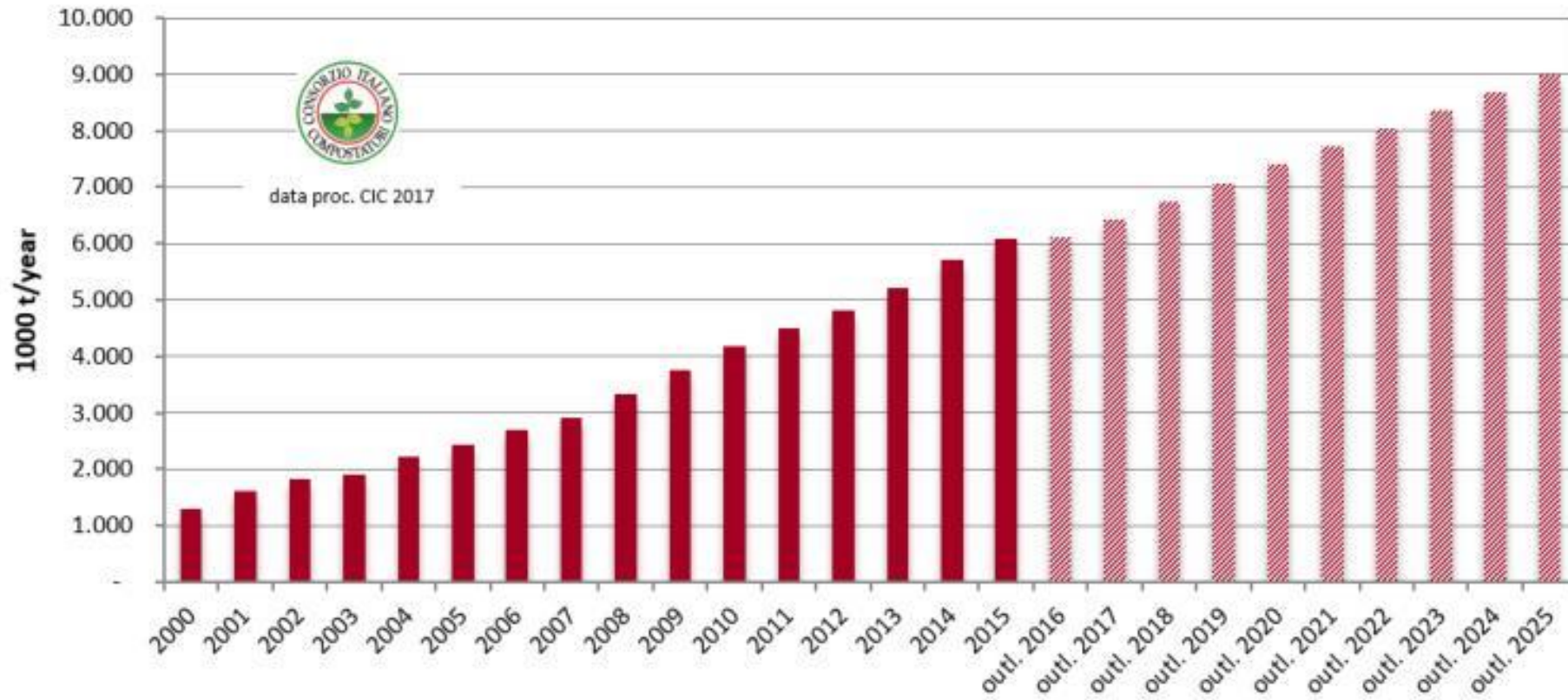
107 Kg/capita/year



A steady trend

- The amount of biowaste collected separately in Italy grew about **10% annually** since year 2000;

Figure 3: *Separate collection of food-waste and green-waste of MSW in Italy*



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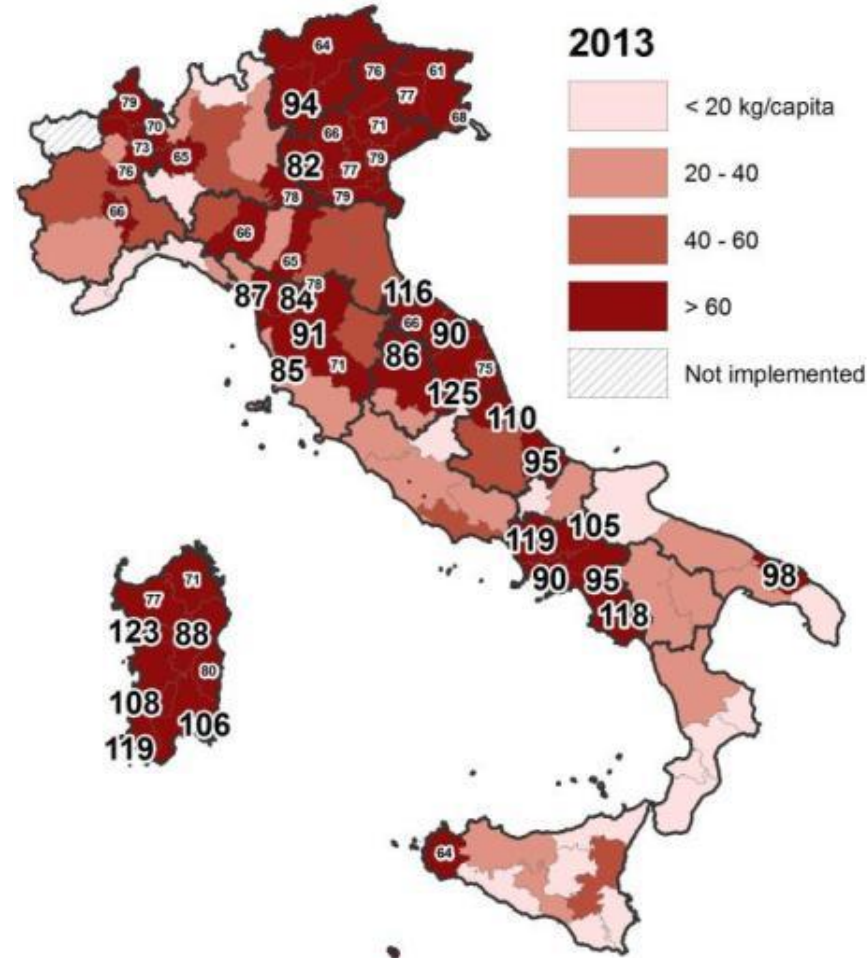
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Wide area results

- ≈ 40 million people participating in source separation of food waste
- 4 million t food waste collected
- 100 kg/capita/year
 - Both in rural areas and large cities



From 0 to 326 in 25 years

As of 2018: **274 composting plants** and **52 Anaerobic digestion + composting** plants producing **Compost** used in agriculture and soil improvers.



More than 6 Mt/year
Treated biowaste



Municipal food waste: 113 kg/capita

Source: EU
FUSIONS, 2016

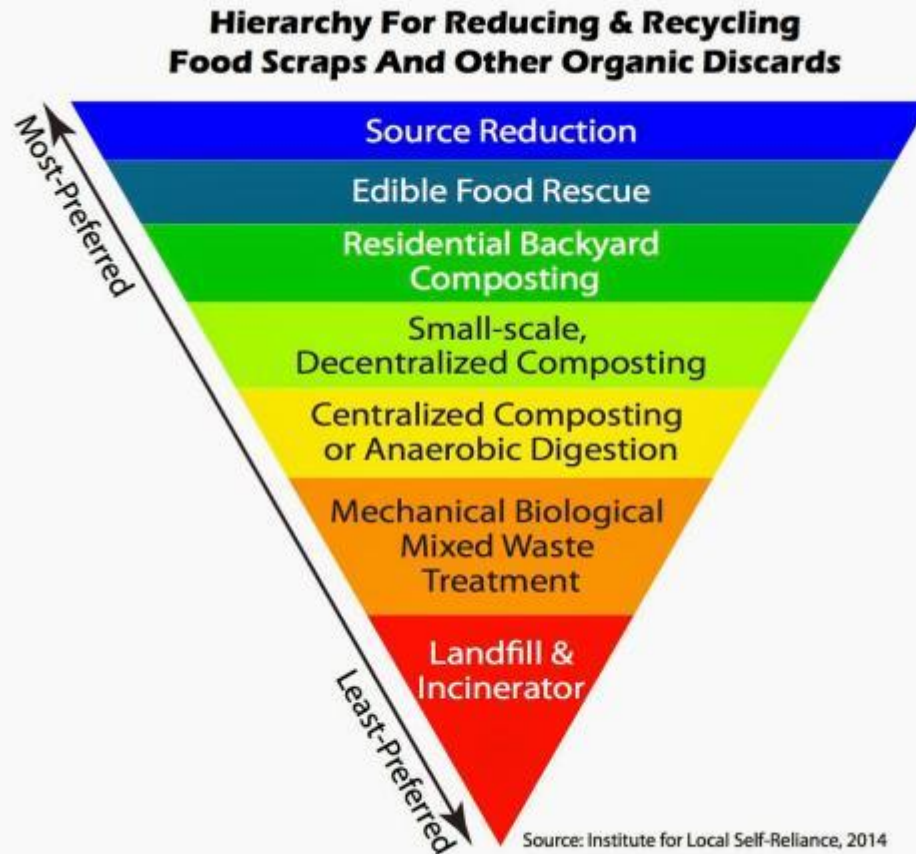


JRC TECHNICAL REPORTS

Prevention of Waste in the
Circular Economy: Analysis of
Strategies and Identification of
Sustainable Targets

The food waste example

Cristóbal García, I.
Vila, M.
García, M.
Torres del Palmar, C.
Hernández, S.



Prevention should not be an excuse...

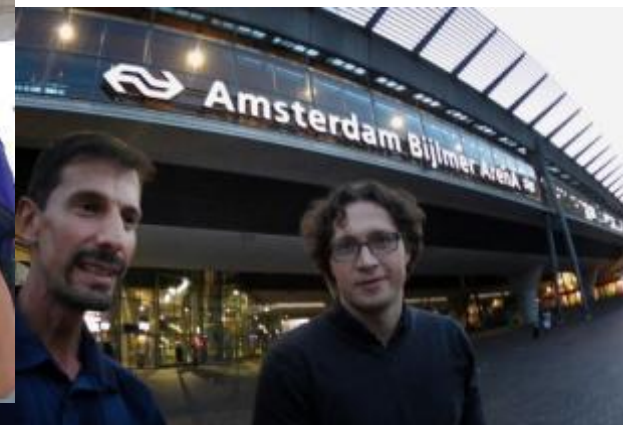


TEEP?

BIOWASTE SEPARATE COLLECTION IS FEASIBLE ANYWHERE



#InterrailRecycling <http://bit.ly/interrailrecycling>



Milan

1.35 million

Inhabitants

103 kg/capita

food waste captured

5% impurities

Food waste

Residual waste

Plastic
packaging





**Milan, 103 kg/ca,
4% impurities**



**Madrid, >70 kg/ca,
23% impurities**



**Barcelona (Sarrià), 41
kg/ca, 2% impurities**



**Ljubljana, 70 kg/ca,
<10% impurities**



**Copenhagen, 26 kg/ca,
8% impurities**



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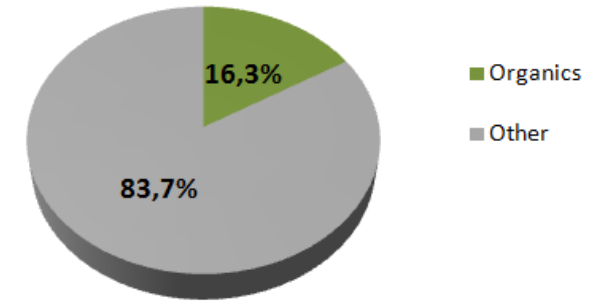


Italian model: High capture of food waste

- The Italian intensive source separation of organics (ISSO): **maximization of food waste capture rate** through intensive dedicated kerbside collection, with **compostable bags**



Organic fraction left in the residual - Italy (average municipalities with ISSO)



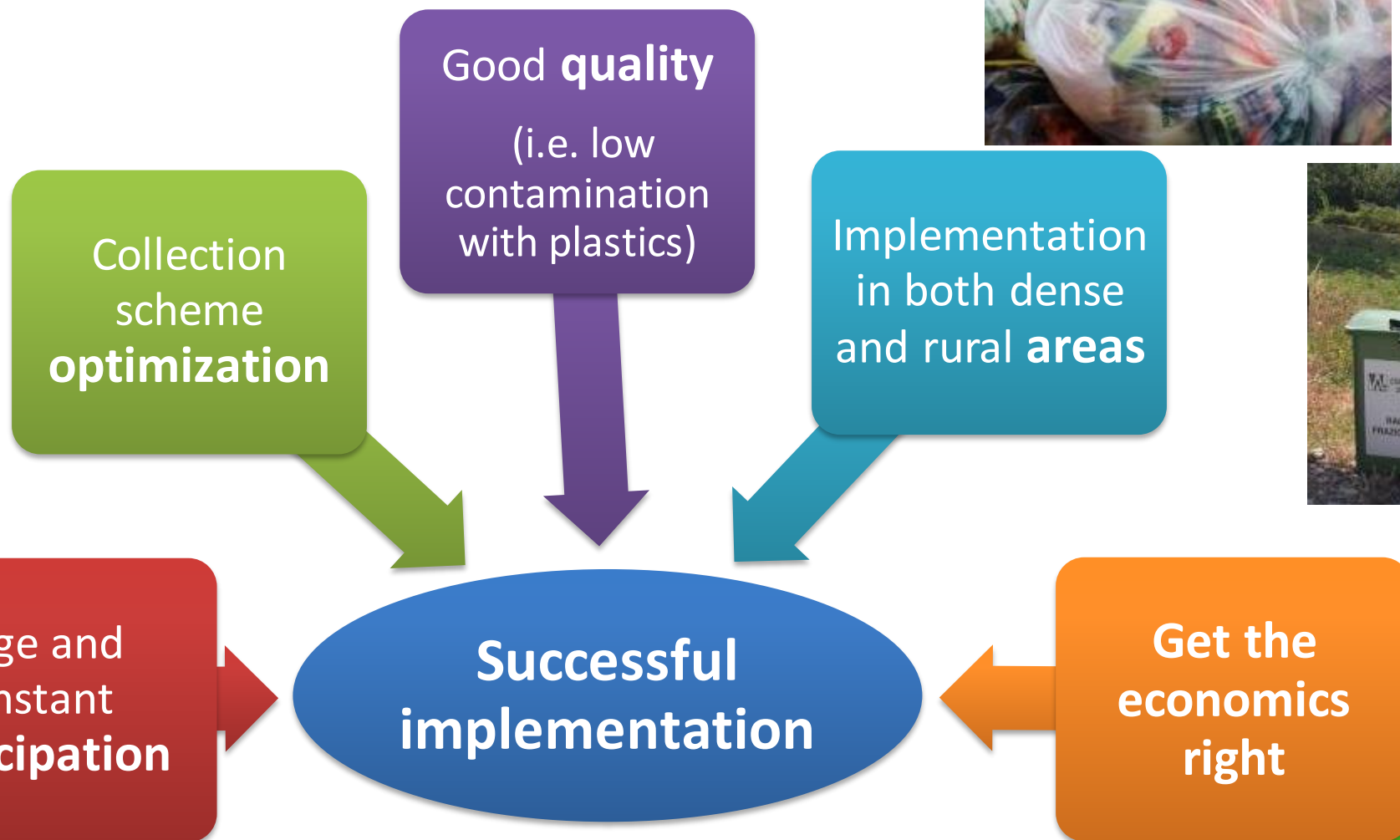
- High Food Waste amount sent to composting and AD
- Low amount left in residual waste
- Low contamination



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Biowaste separate collection: key elements



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...Think about daily life of ordinary people

Challenge: space at
home, in your building...

Pictures: M. Giavini and Novamont



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Biowaste collection: it all starts from FRONTRUNNERS

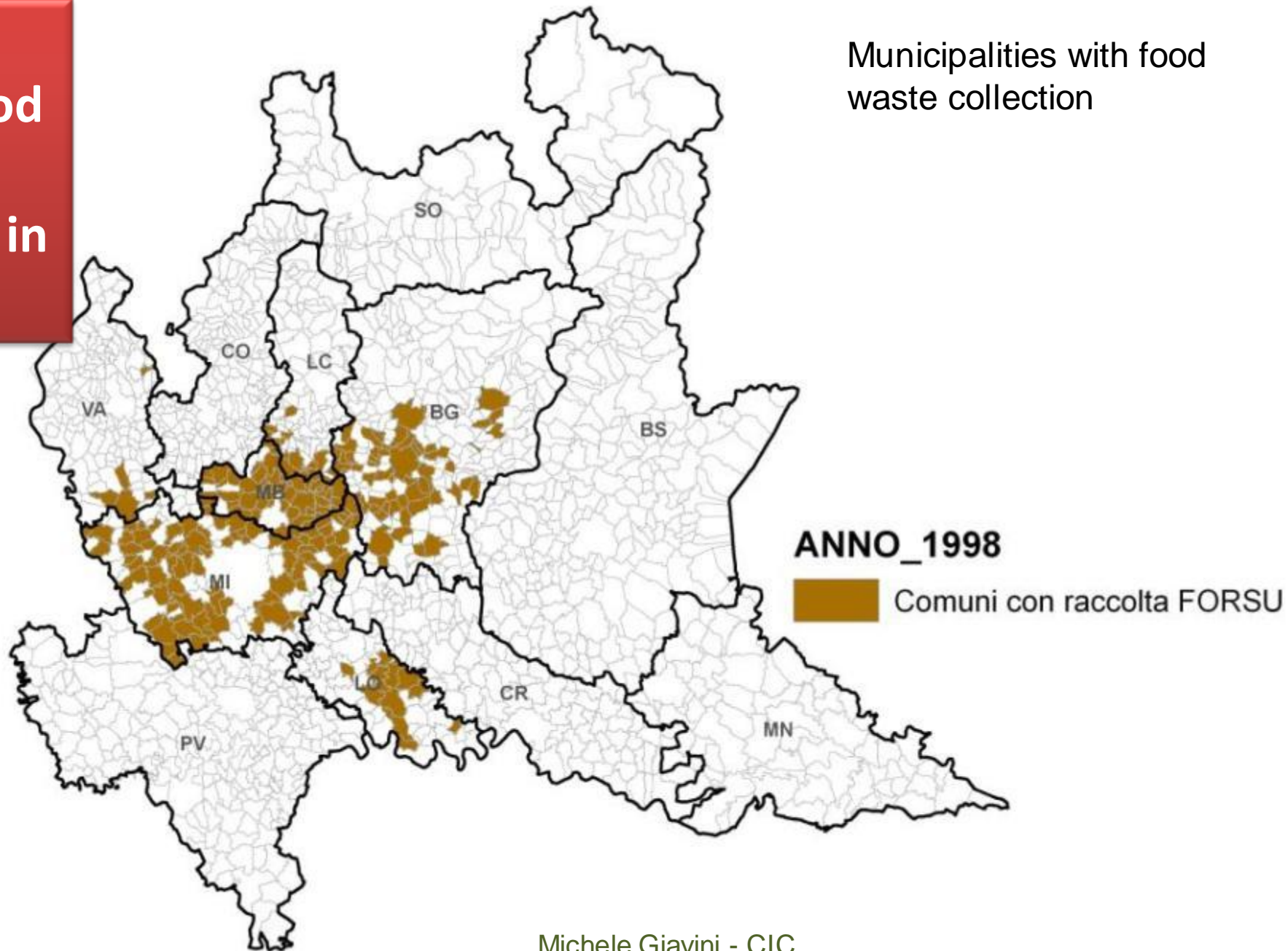


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Domino effect: Food waste collection in Lombardy

Municipalities with food
waste collection



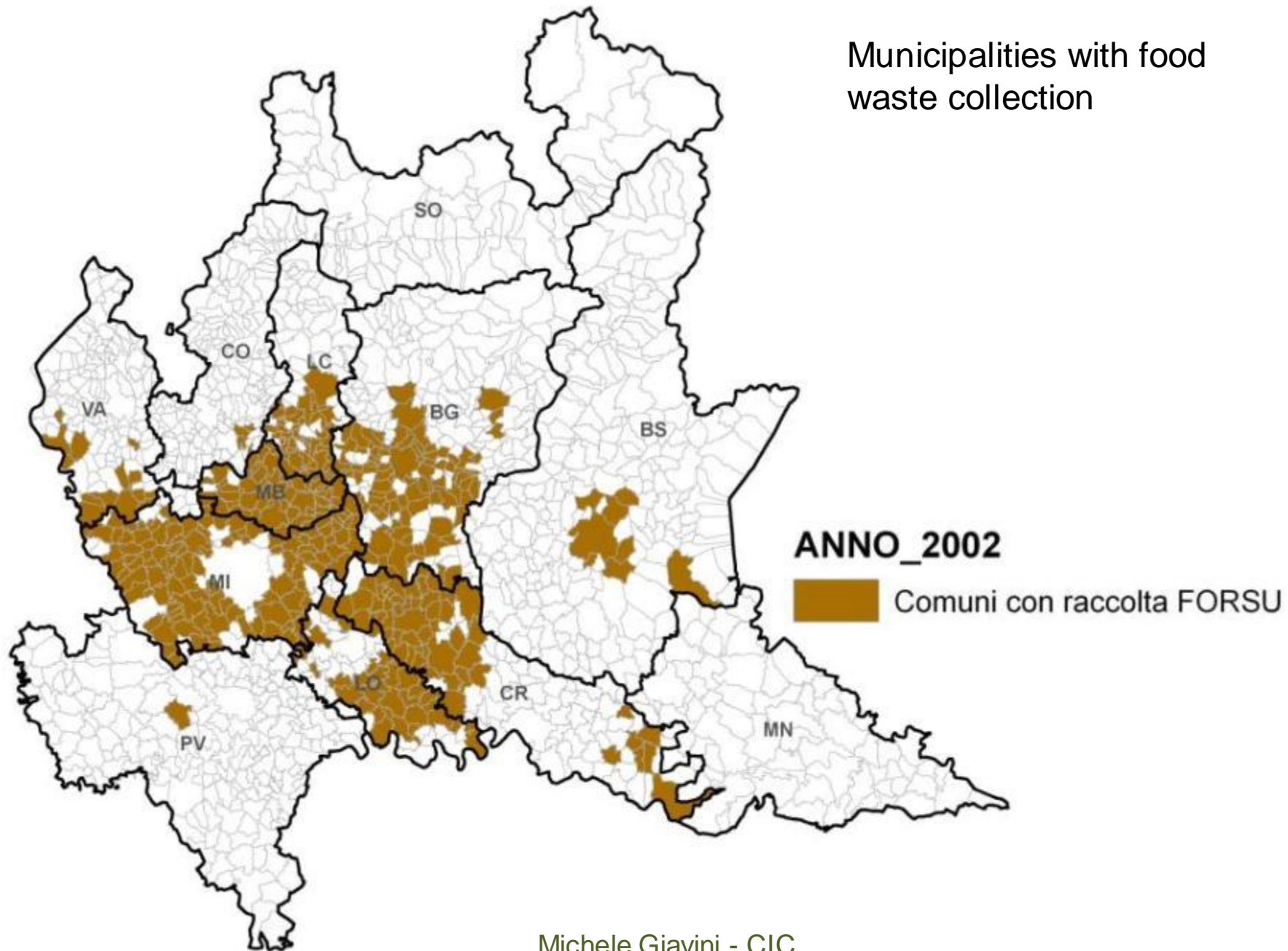
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Municipalities with food
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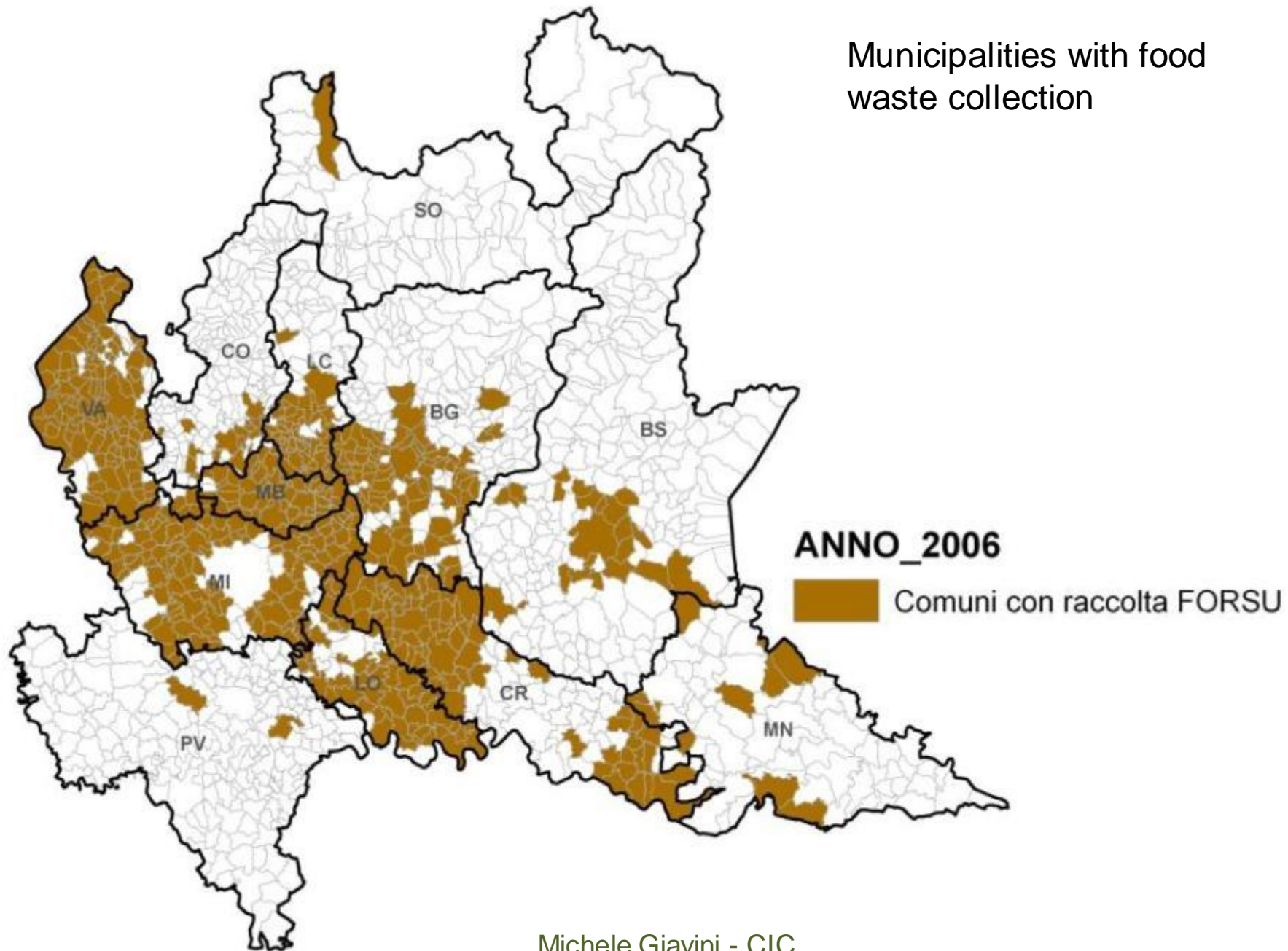
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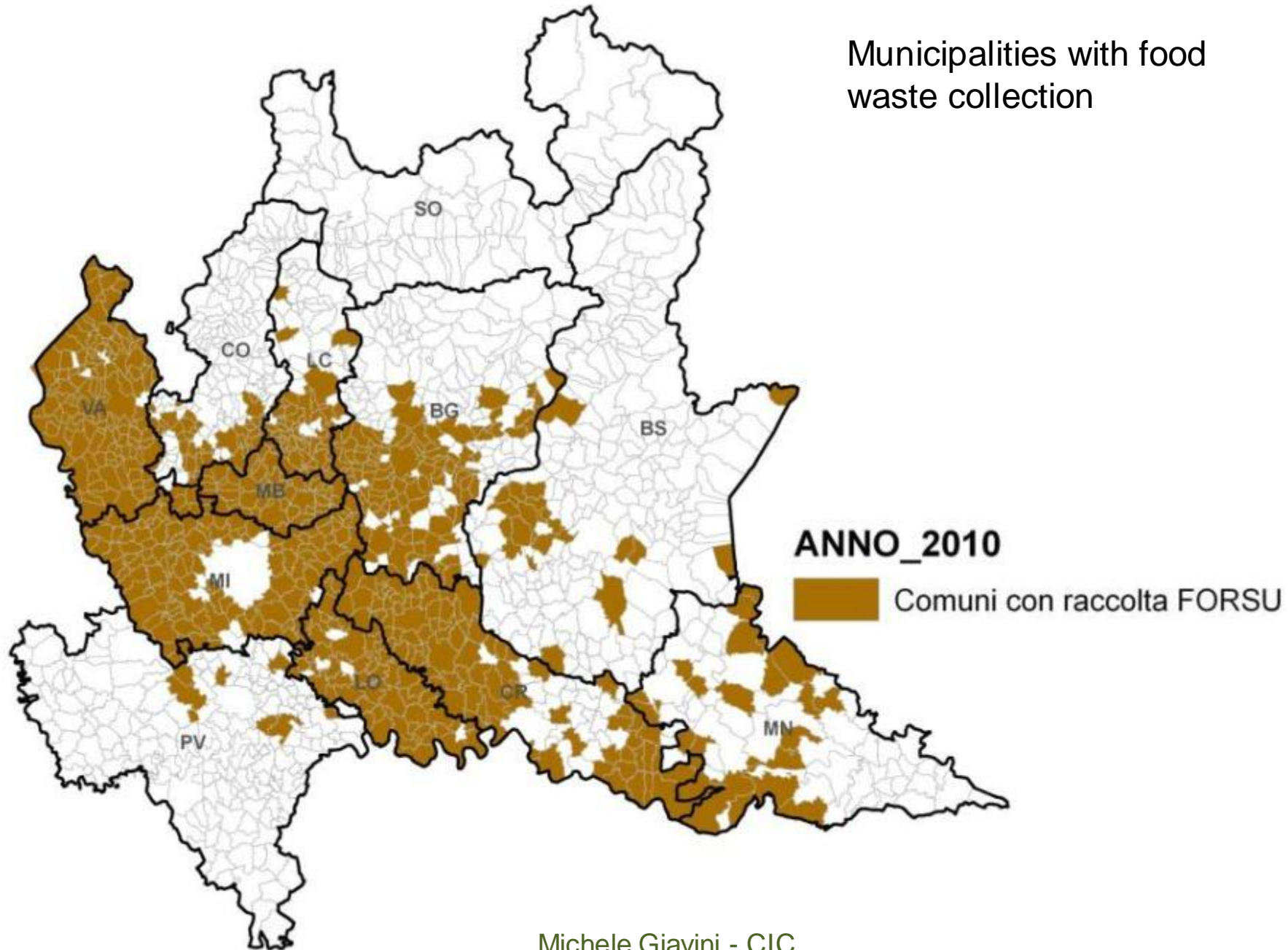
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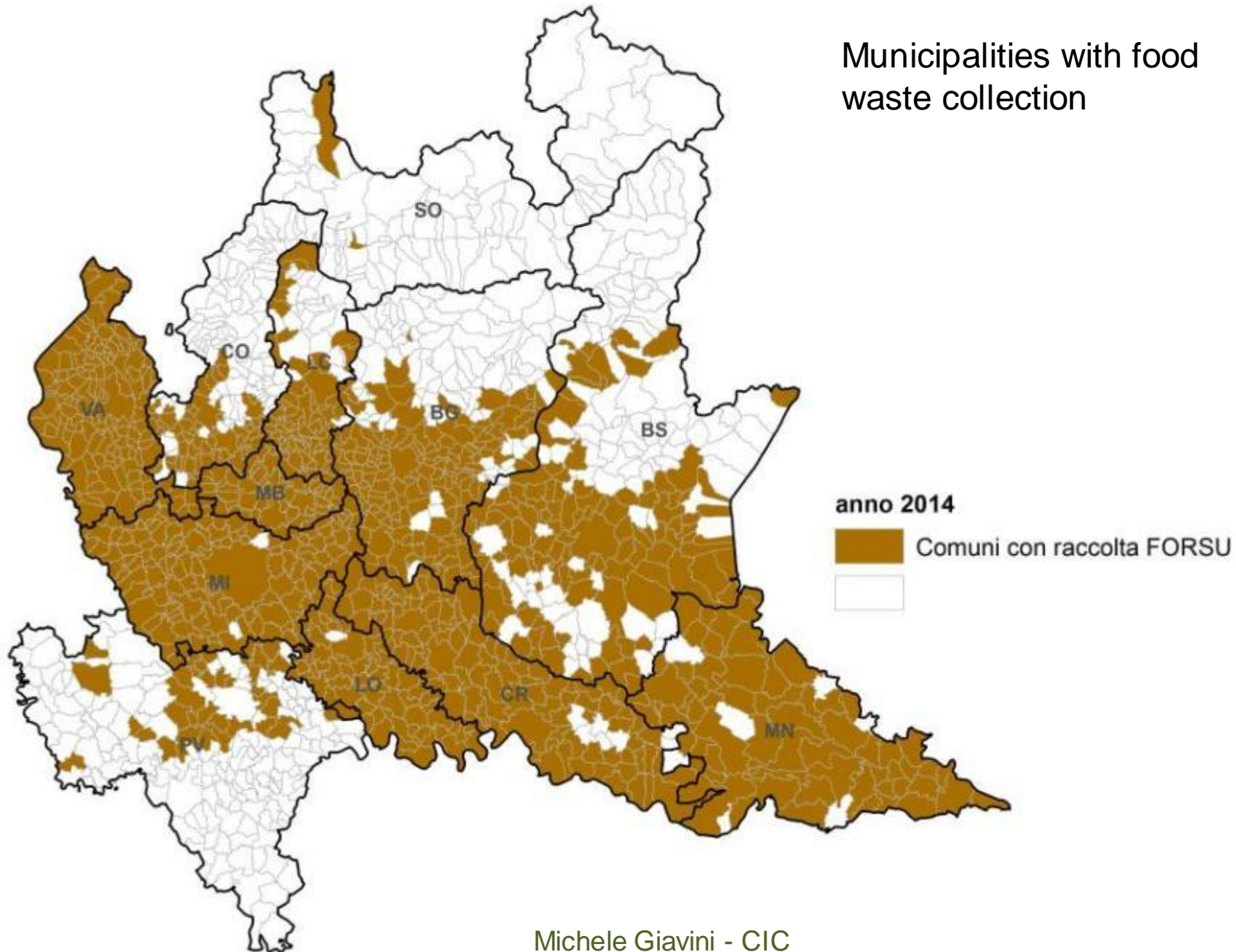
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Municipalities with food waste collection



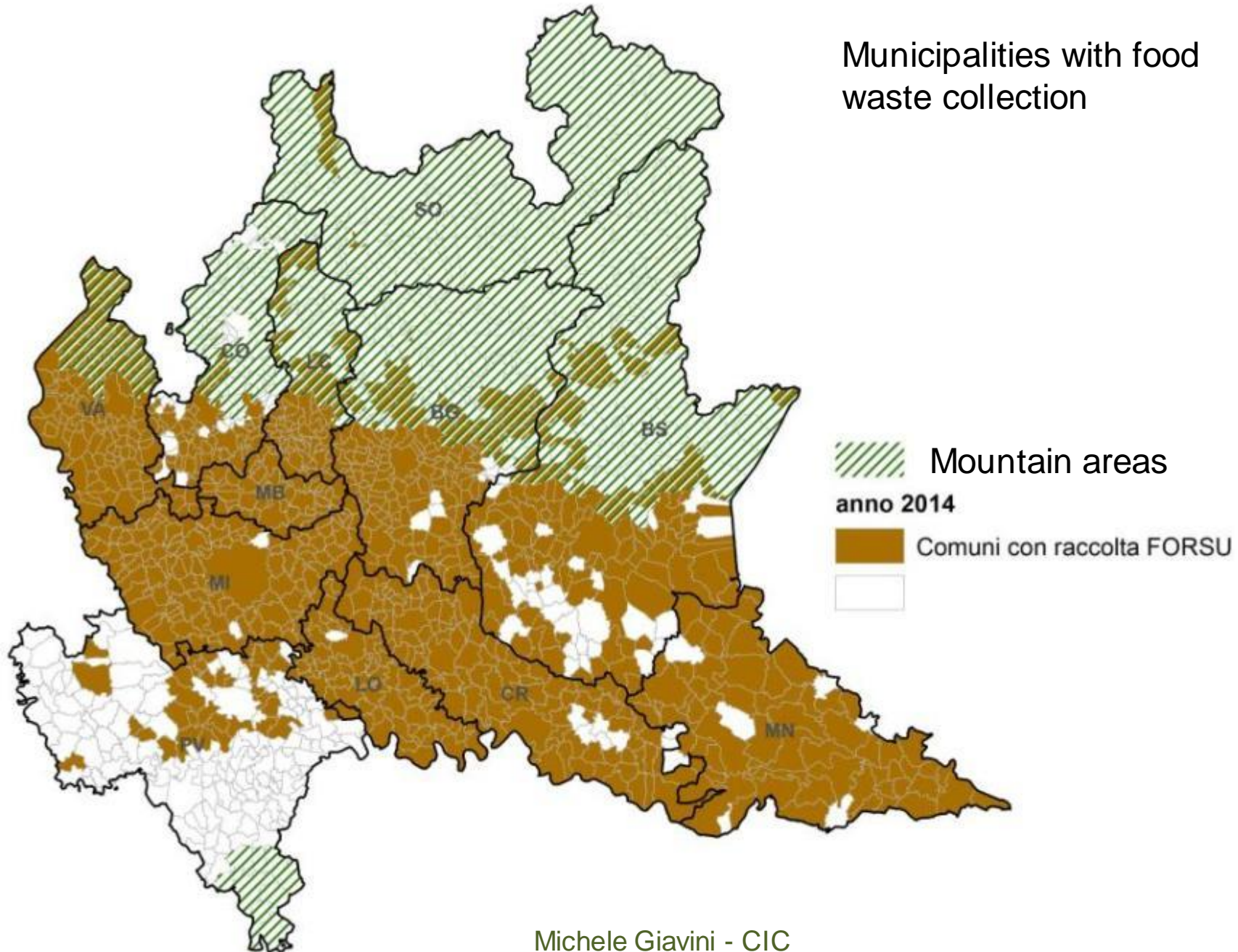
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Municipalities with food waste collection



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Key messages

- **Biowaste is key to**
 - Meet EU targets
 - Optimise your waste management scheme and Circular Economy agenda
- **Make the system user-friendly!**
 - **Door to door scheme with kitchen caddy** and compostable bags most favoured option
- **TEEP doesn't make sense without considering optimizations and incentives**
 - Put in place “zero-cost” incentive schemes
- **The system is *working* across Europe, including also islands and densely populated large cities**
- **In areas *surrounded* by experienced municipalities, high and quick results (e.g. Milan)**
 - Key role of pioneering Municipalities: Drivers + support!
- **High importance of citizen engagement: visibility, direct communication campaigns**



THANKS

CIC - Consorzio Italiano Compostatori

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