



This project is co-funded by the European Union and the Republic of Türkiye

Technical Assistance for Assessment of Türkiye's Potential on Transition to Circular Economy

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Zero Waste Strategies within Europe today

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22-24 May 2024

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Gaziantep, Türkiye

Activity 3.2.1. Assessment of Alternative Collection Models Workshop



#ZeroWasteCities
@ZeroWasteEurope
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Zero Waste Strategies within Europe today

How Zero Waste Cities provide a model for implementing the circular economy
Presentation for the DEEP Project, May-June 2024

Jack McQuibban, Head of Local Implementation, jack@zerowasteurope.eu

We are the **European network of communities, experts, organisations, and change makers;** working to **eliminate waste** in our society



Support NGOs,
local groups
and communities



Change
European
Policies



Mentor cities
towards
zero waste



2023: €2.5 M



23 staff in Brussels

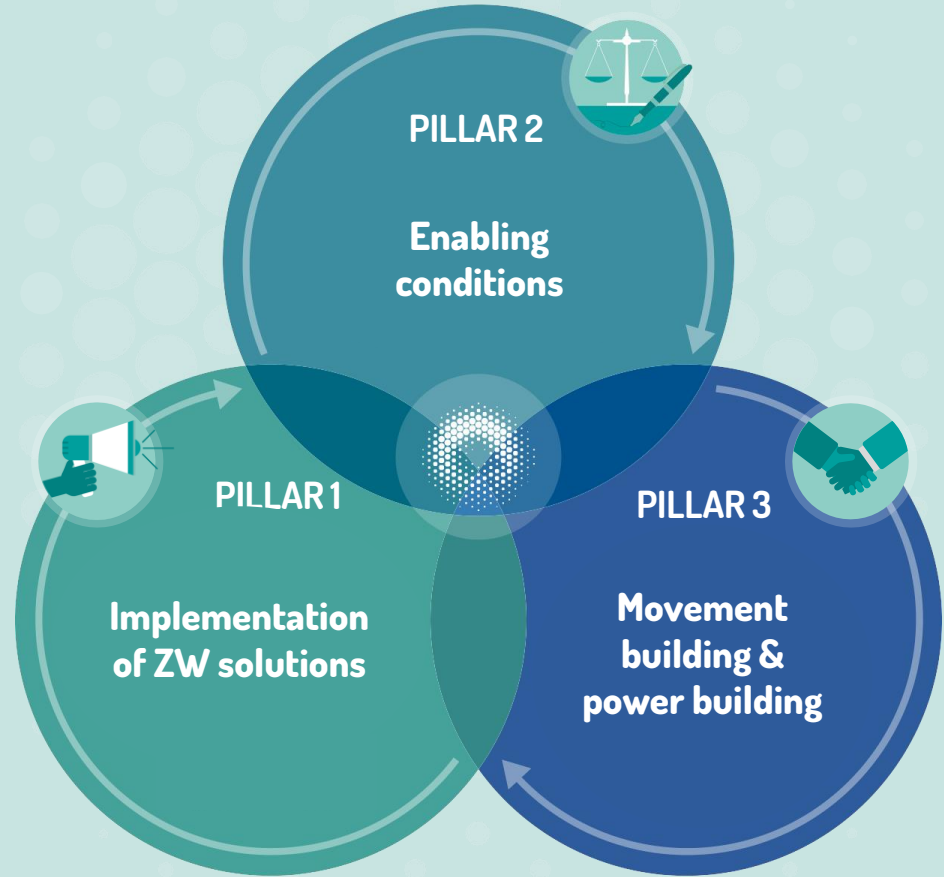


35 groups in
28 countries

European chapter of

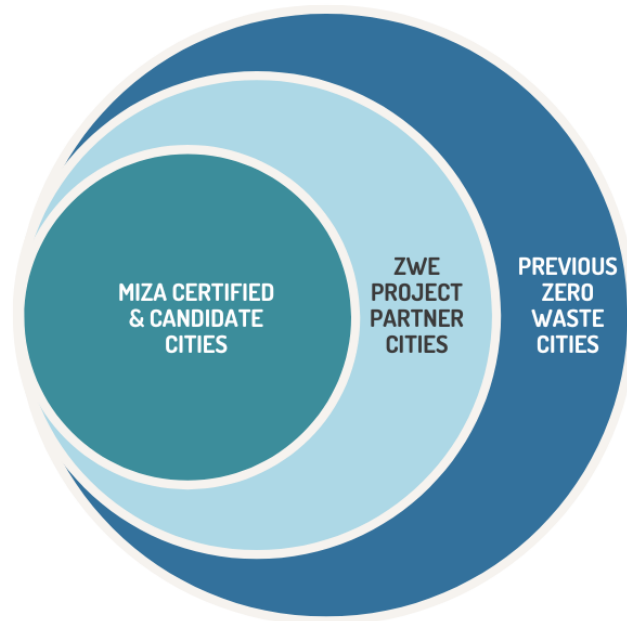


How do we catalyse change?





Turning pioneer municipalities into a European best-in-class standard



30 municipalities implementing holistic ZW strategies via MiZA Certification

46 municipalities being **directly supported by** ZWE & members in our project work (RSVP, ERIC & biowaste work)

16 million people covered in these two categories

400+ municipalities who made commitment from the **previous ZW Cities programme pre-2021**



#ZeroWasteCities

How do we define zero waste?

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Zero Waste Hierarchy



Refuse/Rethink/Redesign

- Refuse what we don't need and change the way we produce and consume by redesigning business models, goods and packaging in order to reduce resource-use and waste

Reduce and reuse

- Minimise the quantity, toxicity and ecological footprint of consumption. Use products or components, that are not waste, for the same purpose for which they were conceived or repurpose them for another use that doesn't reduce their value

Preparation for reuse

- Check, clean or repair products or components of products that have become waste so that they can be re-used without any other pre-processing

Recycling/composting/anaerobic digestion

- High quality material recovery from separately collected waste streams

Material and chemical recovery

- Technologies to recover materials from mixed waste and discards from sorting processes into new building blocks for high quality applications

Residuals management

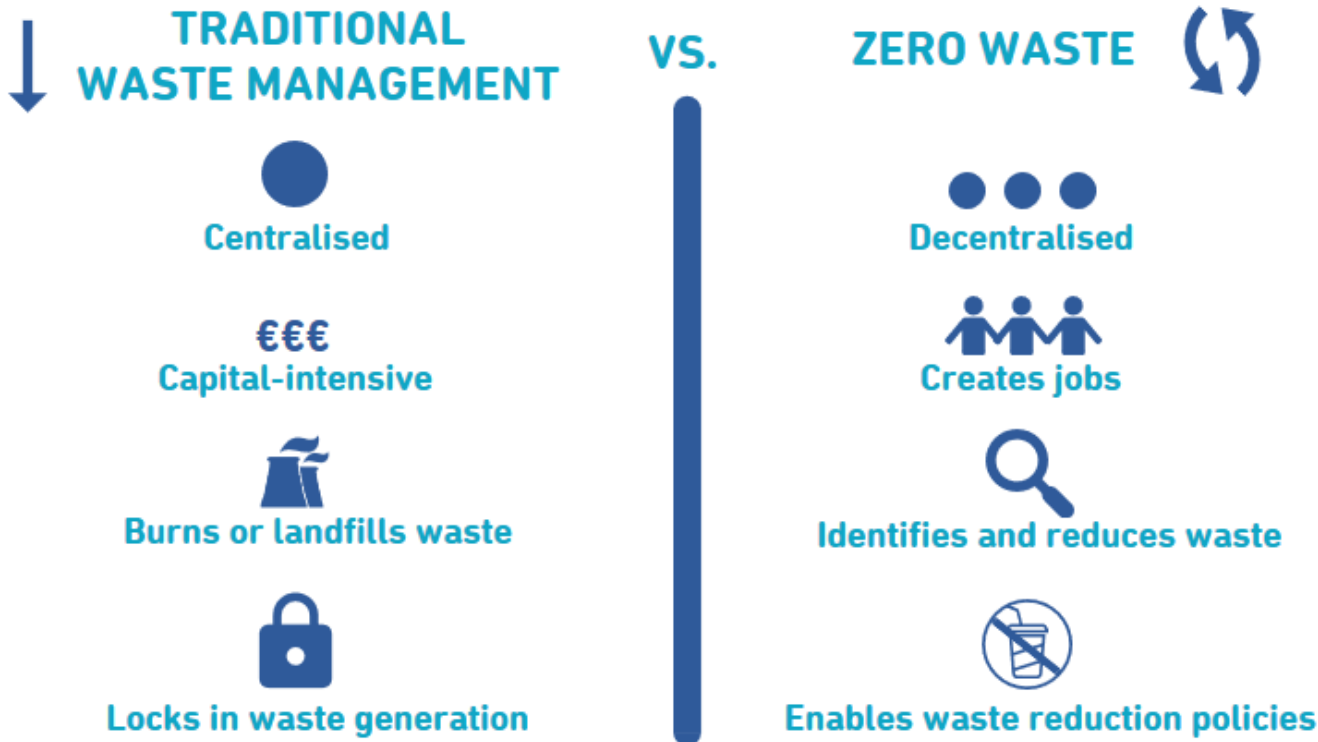
- What cannot be recovered from mixed waste is biologically stabilised prior to landfilling

Unacceptable

- Options that don't allow for material recovery, have high environmental impact and create lock in effects that threaten the transition to Zero Waste: waste to energy incineration, co-incineration, plastic to fuel, landfilling of non-stabilised waste, gasification, pyrolysis, illegal dumping, open burning and littering



Traditional Waste Management vs Zero Waste



The Zero Waste Cities programme



Our approach with cities & communities:

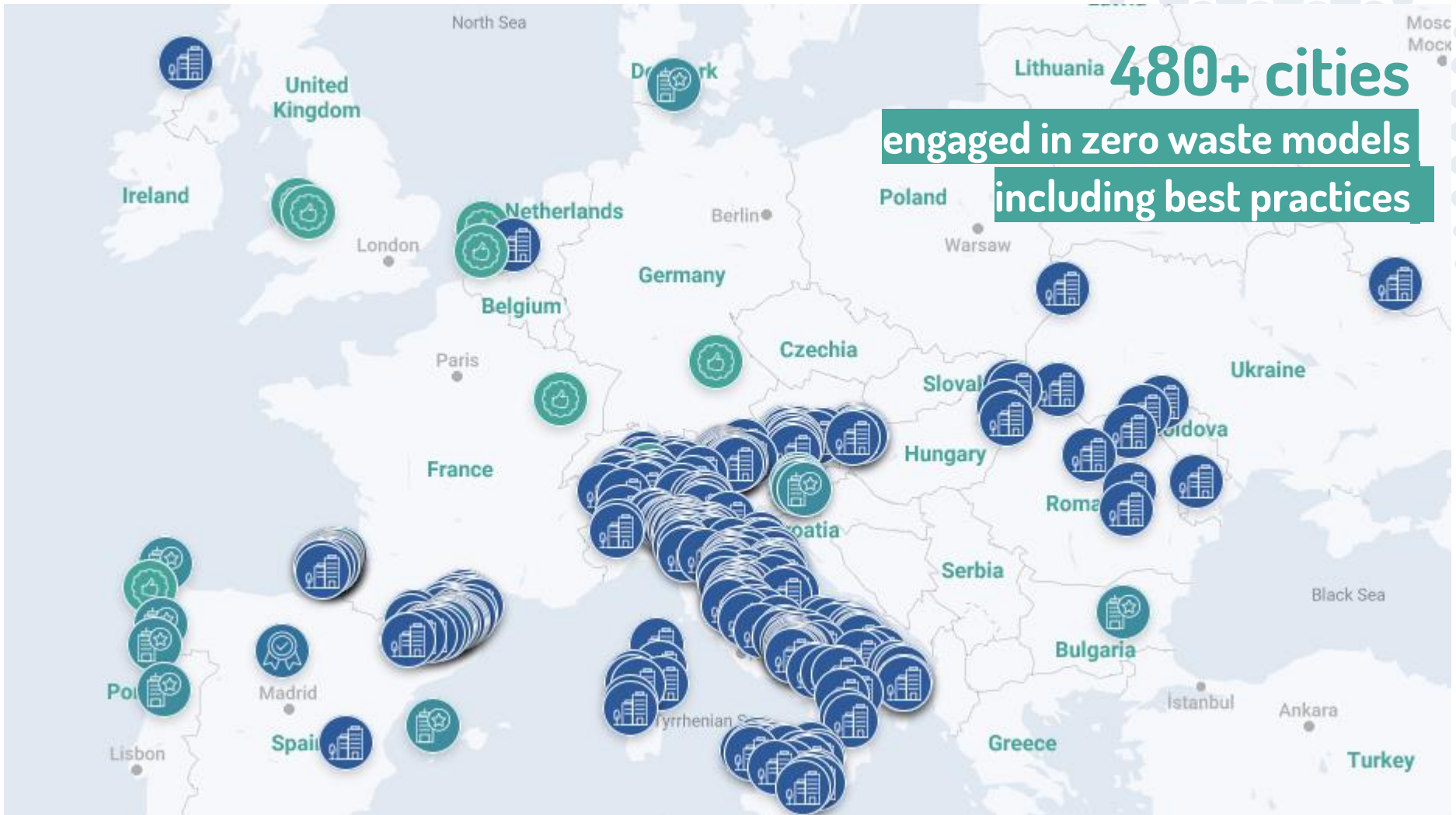
A continuous effort to phase out waste

- not by burning or landfilling it – but instead by creating and implementing systems that do not generate waste in the first place.

480+ cities

engaged in zero waste models

including best practices



Zero Waste Europe's Cities Programme

- **Over 480 municipalities in 15 countries** engaged & supported to develop Zero Waste Strategies in Europe
- A **network of local and national coordinators** via the Zero Waste Europe Members
- **Model front-runners** and best practices
- Led by the **world's first Zero Waste Cities Certification** - the 'to-do list' for municipalities

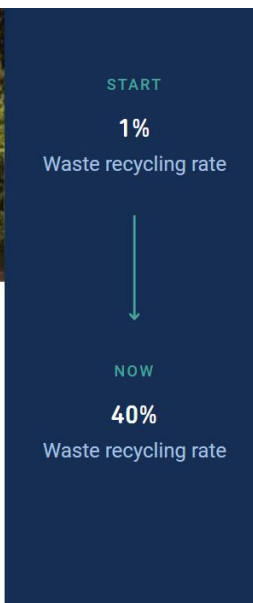




The story of Sălcea

ROMANIA

The small municipality of Sălcea in Romania tells a remarkable Zero Waste success story, establishing itself as a best practice that can be replicated in rural communities across Romania.



Impact of our Zero Waste Cities

Using data collected from 460 municipalities...

- Average separate collection rate of 67% (ranging from 7% to 93%)
- Average total MSW generation of 342kgs per capita - 160kgs less than the EU average in 2020

Mission Zero Academy



Recognition

ZW Cities Certification,
ZW business Certification



Learning activities

Online courses, on-site trainings,
webinars, study tours



Strategy building

Strategic workshops,
circularity roadmaps



Connection

Knowledge-/experience-sharing,
network activation



Data-driven activities

CO2 calculator, certification
reporting system



ZW as a service - ZWaaS

Waste audits, reuse and
prevention pilots

Zero Waste Cities Certification

REQUIRED CRITERIA

IMPLEMENTATION AND IMPACT

The municipality implements a **separate collection system** that:

- collects at least 5 of the key material streams;
- is capable of capturing at least their nationally set recycling targets for each specific material stream by a set future date, or 75% where targets have yet to be set;
- is capable of achieving contamination rates of <10% by a set future date.

The municipality is **separately collecting locally generated waste** as required above.

The municipality implements a **programme for organic waste management** capable of achieving the minimum standards set by national or EU regulations.

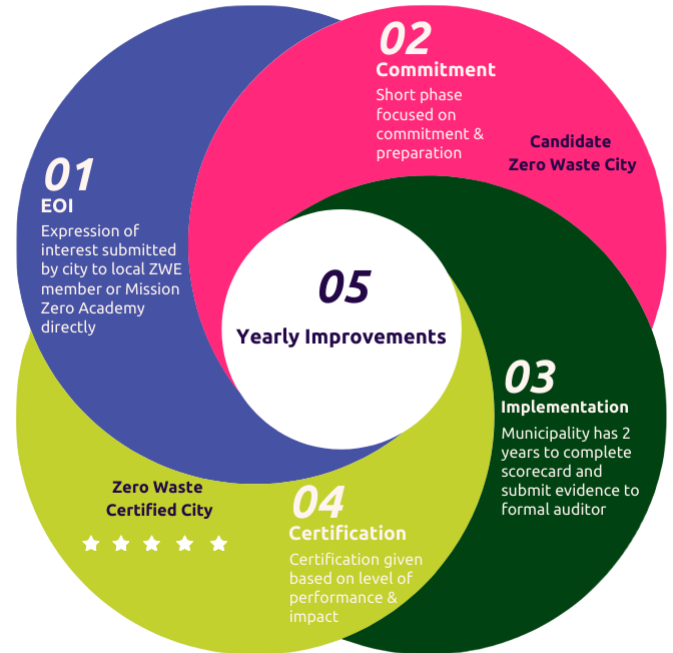
The municipality **separately collects locally generated organic waste** as required (the municipality implements a programme for organic waste management capable of achieving the minimum standards set by national or EU regulations).

REQUIRED

UP TO 14 POINTS *

REQUIRED

UP TO 6 POINTS *



Basic framework of a Zero Waste City

- Kerbside collection of separate waste streams (ZW cities in Italy regularly achieve above 80% sep collection rates)
- Residual waste assessment to analyse the most problematic items/packaging
 - ◆ Ability to redesign collection rounds for cost & impact optimisation
 - ◆ Data to feedback to producers to address non-recyclable materials
- Implementation of a Pay-As-You-Throw system to incentive waste reduction further
 - ◆ Continuous seeking of improvements. Can be high or low-tech, several options available

Basic framework of a Zero Waste City (2)

- Open and engaging partnership with the local community
 - ◆ Advisory boards, zero waste family challenges, zero waste label for businesses/schools
- Waste prevention measures adopted by the municipality where possible, encouraged where they have no power
 - ◆ Packaging free shops; nappy laundry & cleaning; Reuse & Repair centres; supporting businesses implement Deposit Return Schemes
- Looking inwards to identify further waste reduction measures & incentives
 - ◆ Public events & spaces, public procurement

Benefits for cities



Less litter
Less waste to manage
Less residuals



Reduced expenses for the city
Reduced fees for citizens
Less environmental impact



More social integration
More social innovation
Compliance with EU law
More local jobs
Money stays in the community



The Zero Waste Cities Model

Successful examples from across Europe

325 Zero Waste municipalities in Italy

Recent data

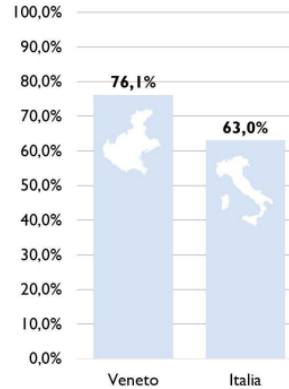
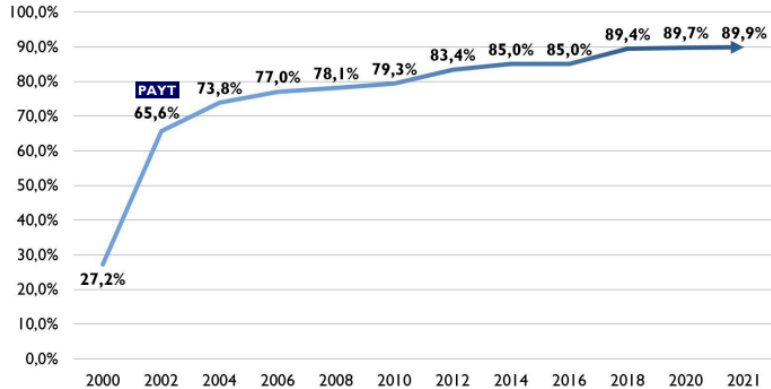
- 48 Provinces above 65% (out of 107)
- (top 4 above 80%, Treviso, pop. 1M, 88%)
- 3 Regions (out of 20) above 70%, 10 above 60%
- (Veneto, pop. 5M, 74%; Lombardy, pop. 10M, 71%)
- 3298 Municipalities above 70% (out of roughly 8000)
- 1168 above 80%
- 122 above 90%

Minimised residuals, kg/person

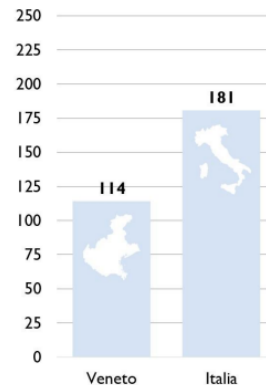
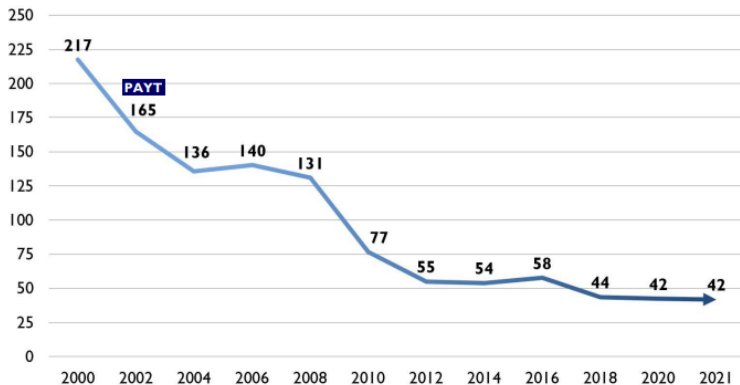
- 2406 Municipalities below 100 kg
- 1029 below 70 kg
- 353 below 50 kg
- 39 below 30 kg



Treviso region, Italy



Separate collection rate

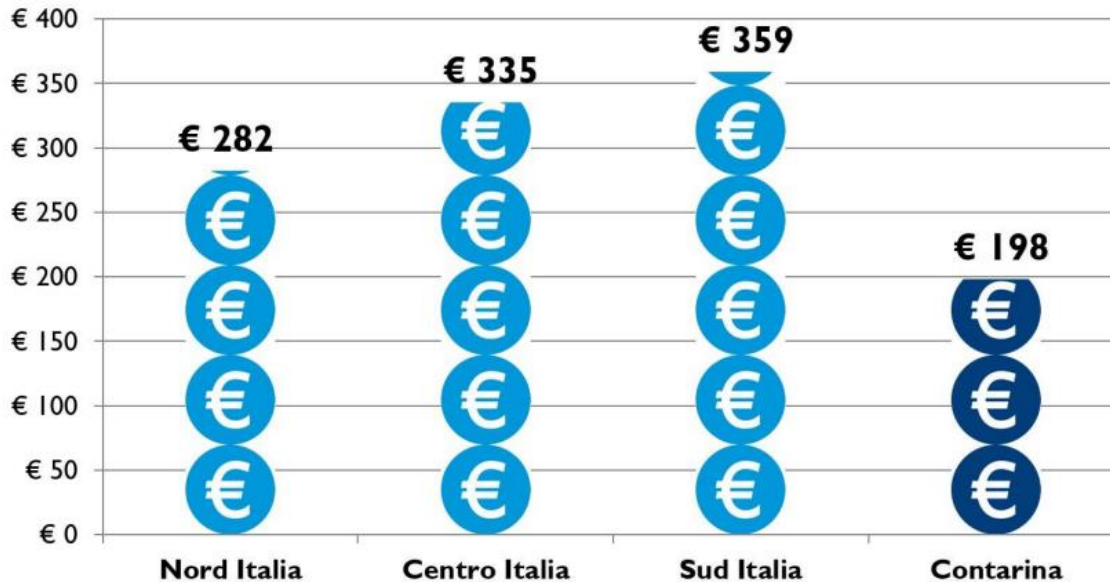


Residual waste per capita (kgs)

Treviso region, Italy

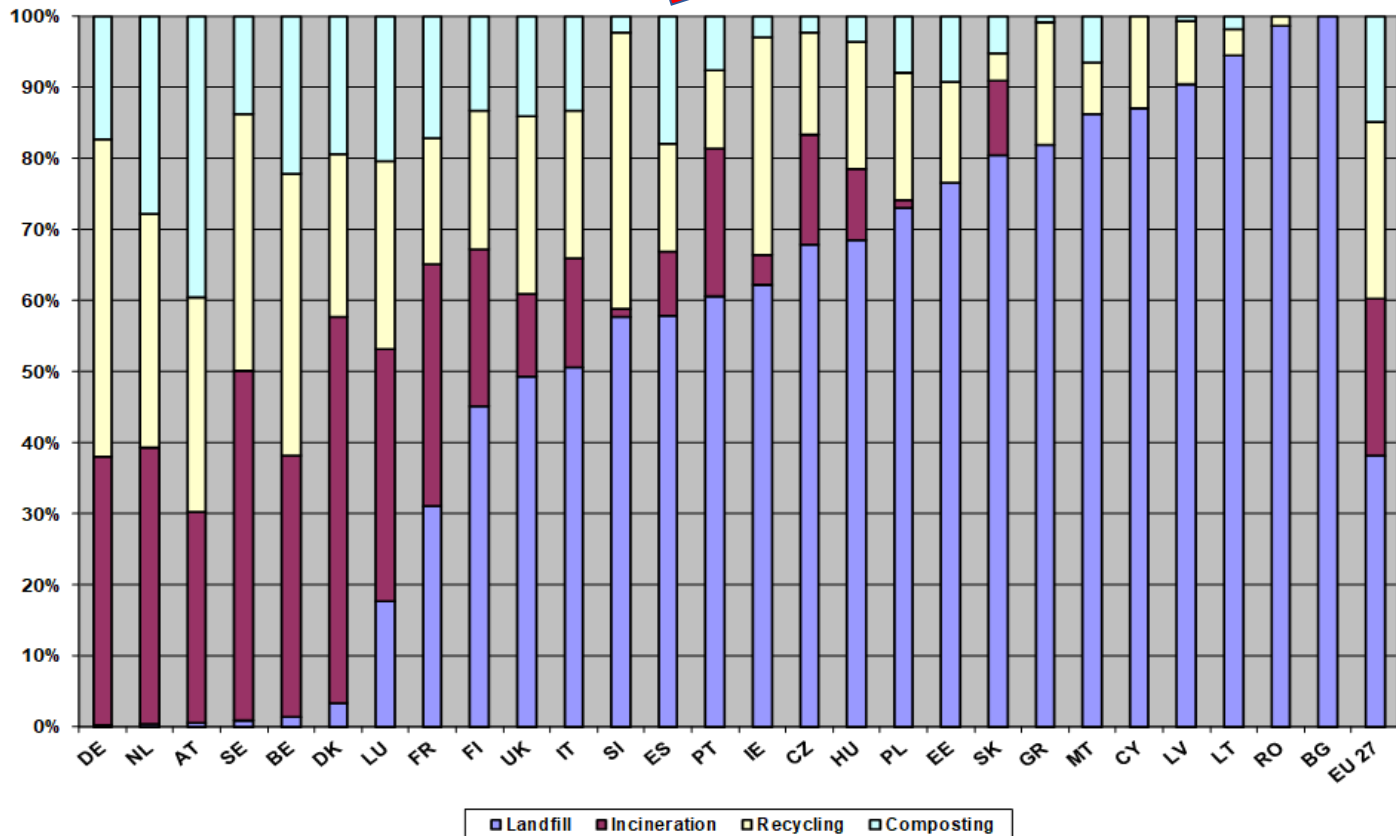
Average fee 2021: comparison

€/family



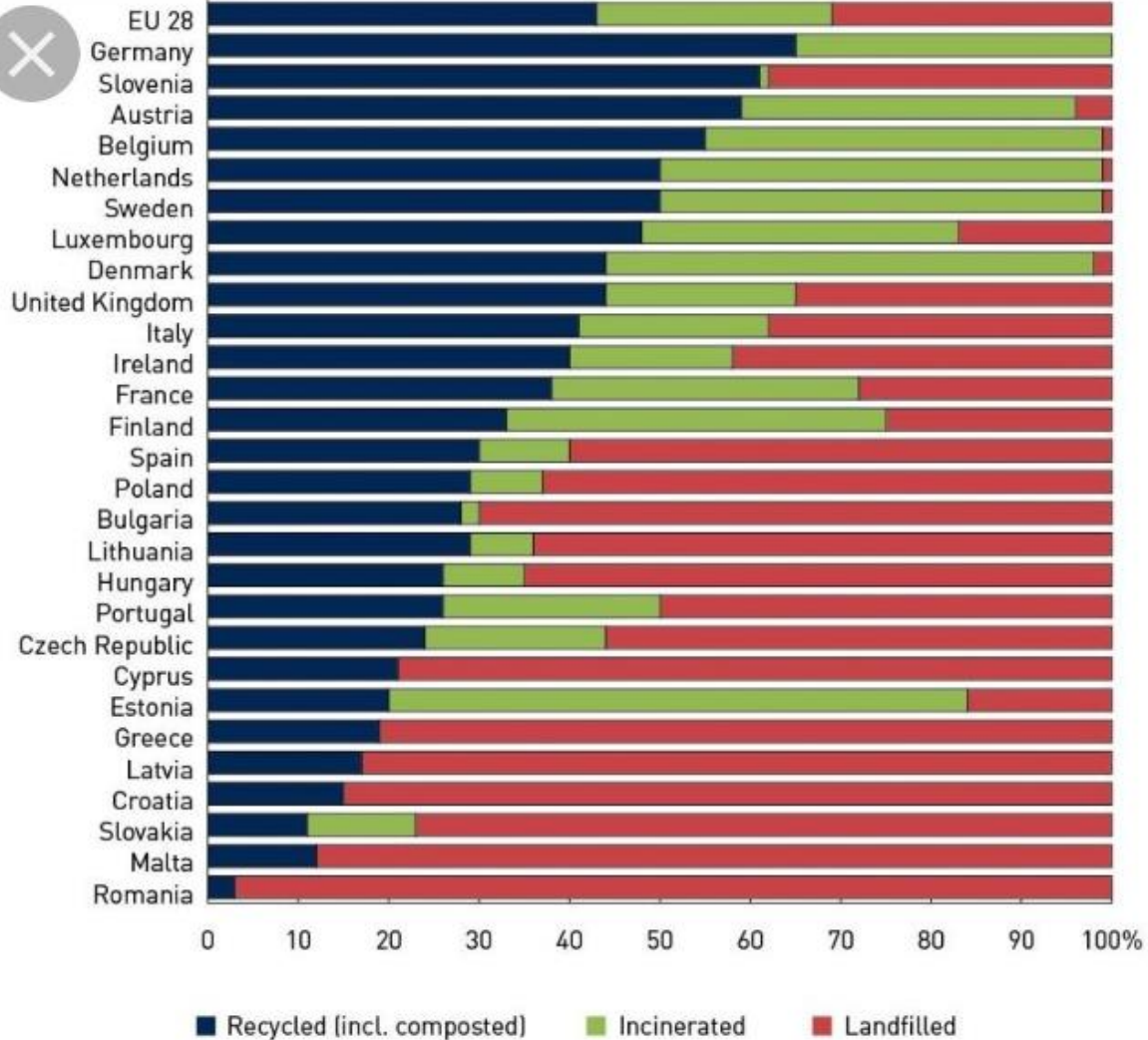
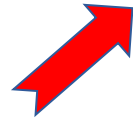
High performance = lower costs!

Slovenia (2008)



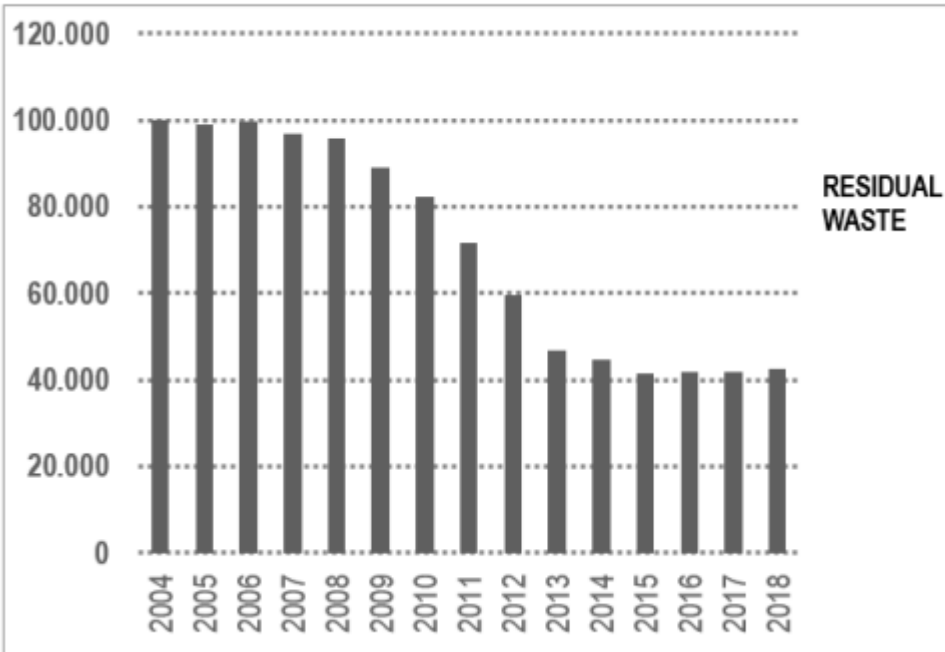
Slovenia (2018)

From mid-table to the second best performing in the EU

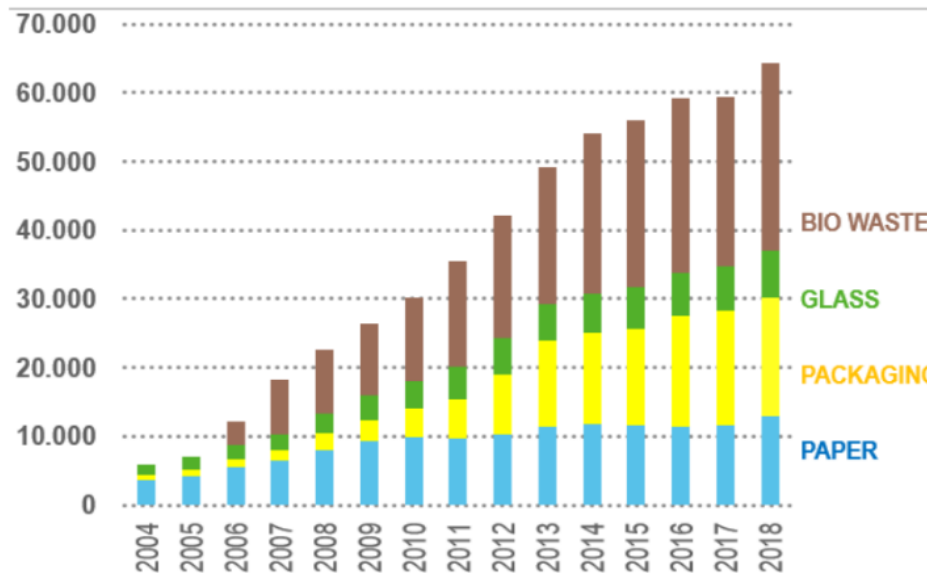


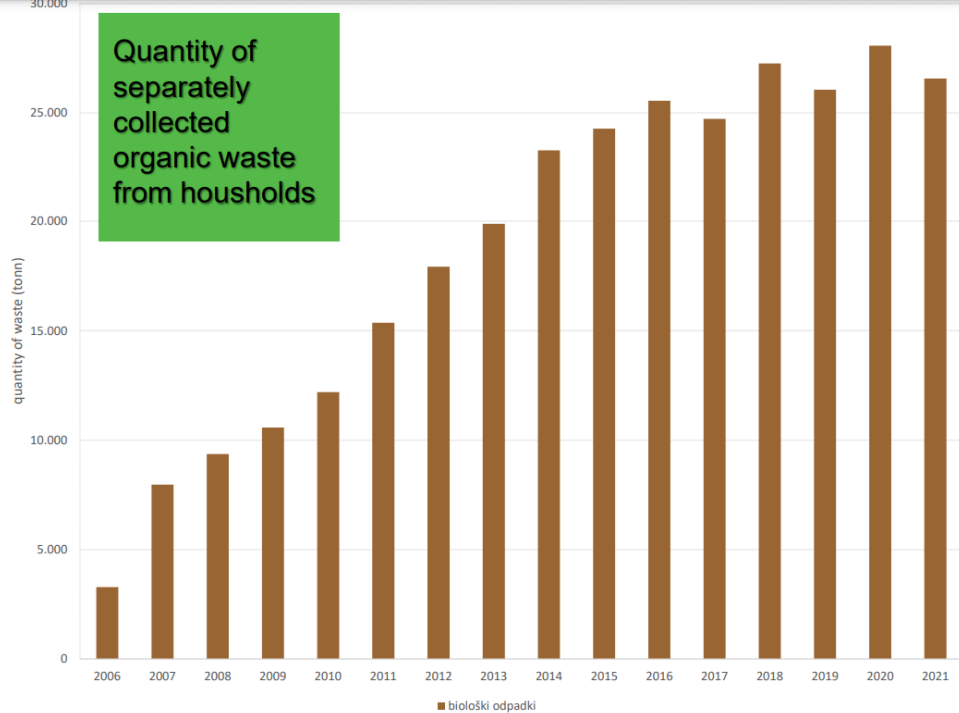
Ljubljana as Europe's first ZW Capital City

Quantity of Residual Waste (in tonnes)

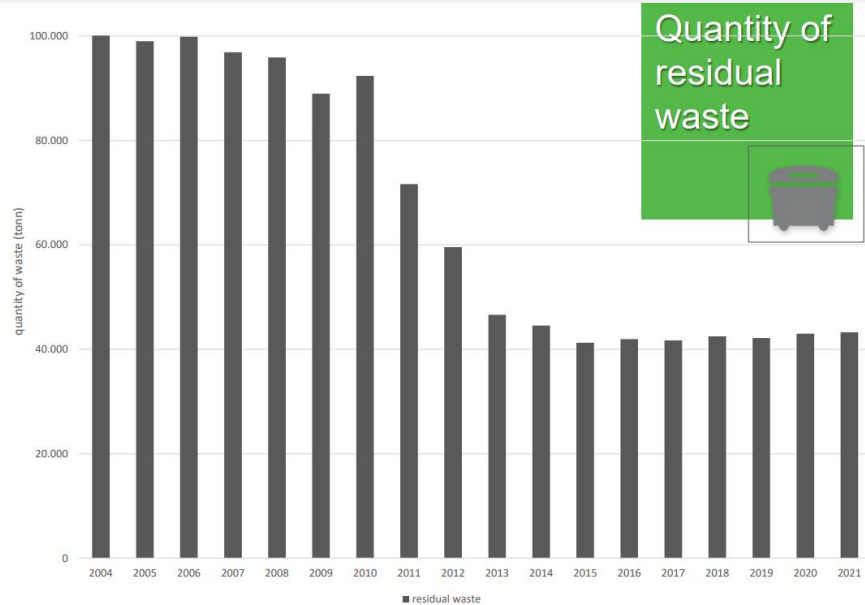


Quantity of separately collected waste (in tonnes)





■ biološki odpadki

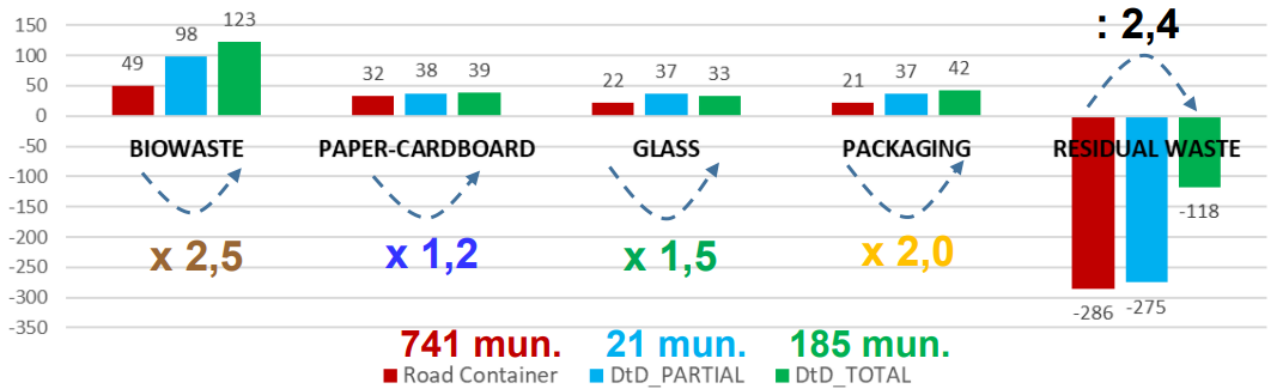


■ residual waste

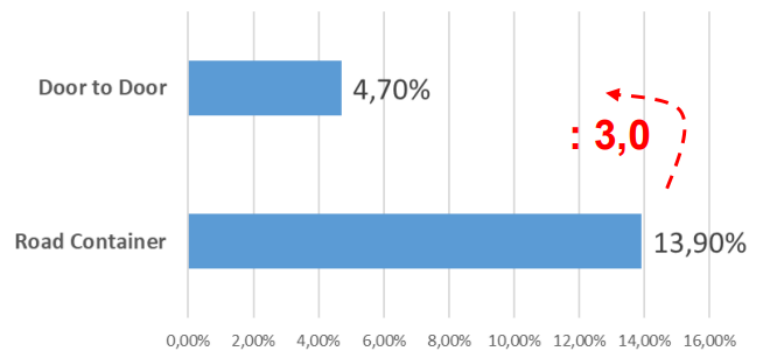
Importance of door-to-door collection



Performances of Separate Collection (per fractions & SC System)
Year 2020 (Kg/inhab-yr)



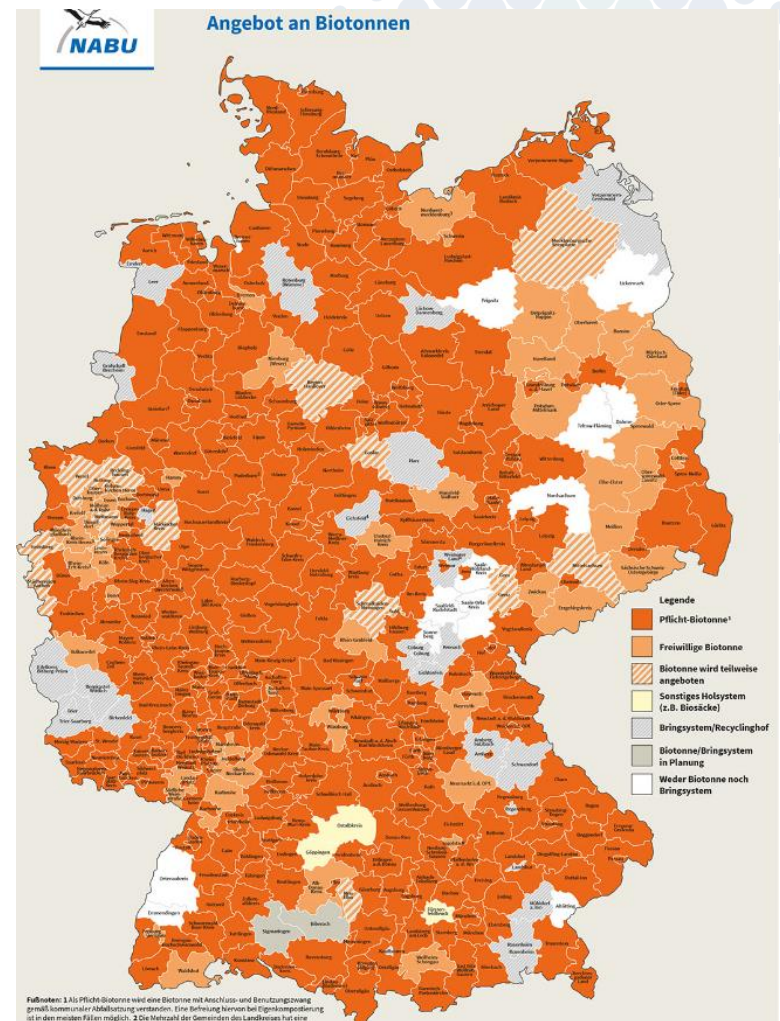
Biowaste Quality (% impurities) [2020]



Catalonia regional data

Germany as Europe's "leading" recycler

- In 16% of German districts and independent cities, there is no nationwide organic waste garbage-can service. In a further 14% only a voluntary organic waste garbage-can is offered
- On average, districts and cities with a mandatory organic waste garbage can have significantly lower residual waste volumes than areas with a voluntary organic waste garbage-can.
- Large independent cities with waste incineration plants collect on average significantly less waste via the organic waste garbage can and more waste via the residual waste garbage-can, than large independent cities without incineration plants.



Community Composting, Pontevedra (Spain)

- Implementation of a decentralised, community-led composting system for biowaste
- In 2019, after only 3 years, **more than 2,000 tonnes of biowaste** had been locally composted,
- Costs increase to set up the system until organic waste capture rates go above 40%. Yet, then costs were **proven to go down quite rapidly then until capture rates reach 75%**, after which the speed of cost reduction slows.
- Local composting, whilst more expensive initially to get started, costs 2-3 times less than incineration:
 - ◆ **Incineration costs: 235,5€/t (32.6% of which is associated with treatment, 67.4% with collection)**
 - ◆ **Individual composting: 95€/t**
 - ◆ **Community composting: 110€/t**
 - ◆ **Local composting plant: 140€/t**

Tallinn implementing reuse in public events

October 2019: Tallinn banned single-use plastic cups, plates, cutlery

Throughout 2022: Guidelines for organising sustainable events was rolled-out with partners

June 2023: Food and drinks may only be served in reusable containers and use only reusable cutlery at events below 30k attendees

January 2024: Only reusable dishes are allowed in public events in whole of Estonia, regardless the number of visitors.

Amount of mixed waste per person reduced



2019

178g



2023

60g

Key policies that have been successful in Europe (1)

- Commitment to reduce the usage of the local incinerator, towards an eventual phase out
 - ◆ No incentive to reduce waste generation without action on this
 - ◆ Sends a strong signal of intent to align a city's zero waste, decarbonisation and renewable energy strategies
 - ◆ City can align itself with EU vision and current moving away from incineration; increase of MRBT facilities to transition
- 100% coverage of organic waste collection, ideally door to door, and the promotion of home & community composting wherever possible (Milan captures 105 kg of food waste per capita of 120 kg generated =, 87.5%)
- Regular assessments of local residual waste to identify where further improvements can be made

Key policies that have been successful in Europe (2)

- Prevention as the priority embedded in all policies/strategies, recognising that recycling is not often closed-loop
 - ◆ E.G. 20% reduction in waste generated per capita from a set year; a limit on the volume of waste generated per capita
- Economic, regulatory & voluntary instruments to prevent waste (E.G local ordinances banning SUP, within public events, extra charges on the most problematic items, behavioural 'nudges')
- Communicating the joy, pride and excitement in becoming a zero waste champion



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@Jack_McQuibban

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Thank you!

Check out www.zerowastecities.eu for further information

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Thanks for your attention.



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