



Waste selective collection: crucial factor in the circular economy

Porto - EDP Auditorium | May 29th, 2018

Best Environmental Management Practices for the Waste Management sector

- Learning from frontrunners

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Joint Research Centre
European Commission



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Organisers:

lipor



Best Environmental Management Practices for the Waste Management sector

Content of this presentation

Who we are and what we do

Best Environmental Management Practices (BEMPs)

Examples of Waste Management BEMPs

The way forward: a Green Best Practice Community

The Joint Research Centre (DG JRC)

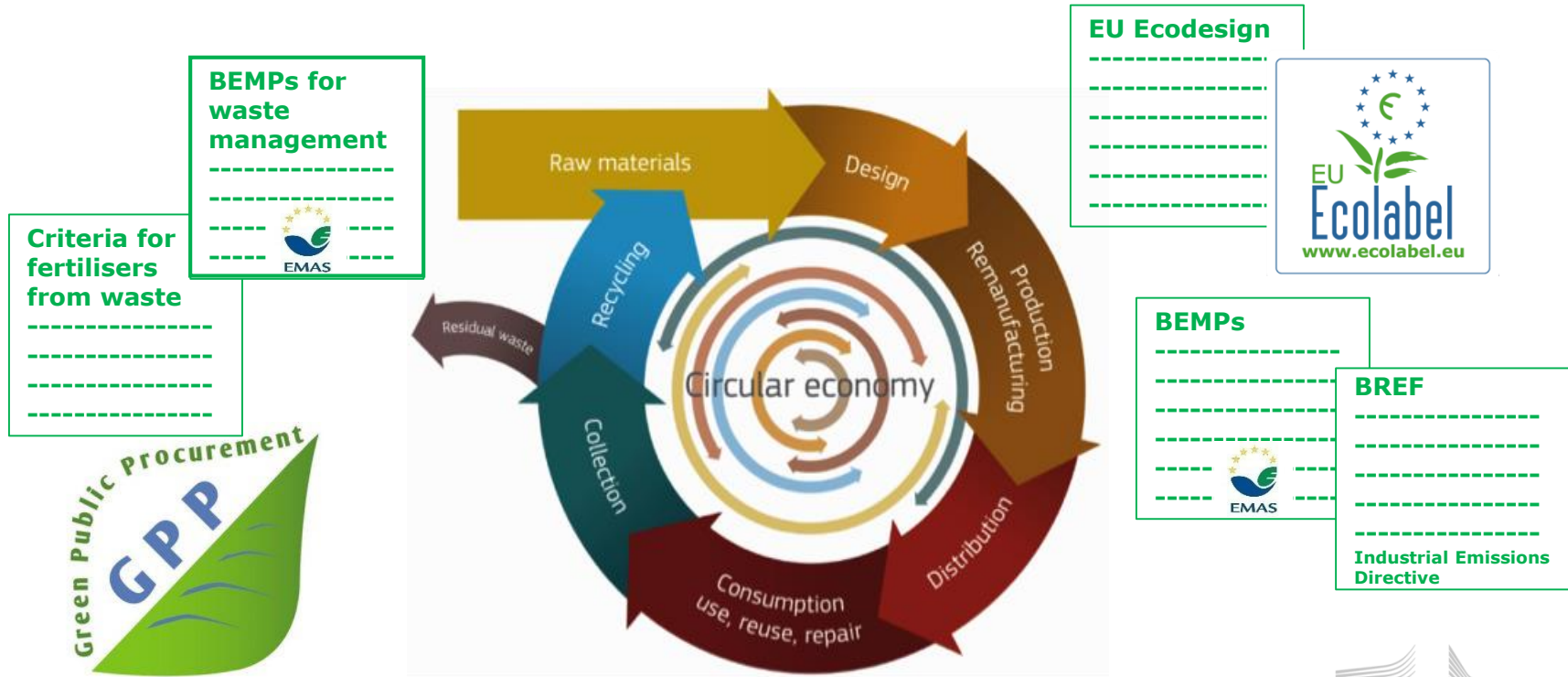
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The Joint Research Centre and the circular economy – some examples



Sectoral Reference Documents on Best Environmental Management Practice (BEMP)

- Legal basis: **EMAS Regulation** (EC) No 1221/2009
- BEMPs support **all businesses and other organisations** to improve environmental performance, not only EMAS registered organisations



BEMP

Best practices to reduce environmental impacts

Already in Use by Best Environmental Performers



Practical
Guidance



Environmental
Performance
Indicators



Benchmarks
of Excellence



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11 Sectors



Retail



Tourism



Construction



Public
Administration



Agriculture



**Waste
Management**



Telecommunications



Metal products
manufacturing



Electronic equipment
manufacturing



Car
manufacturing



Food and Beverage
manufacturing

Working together with stakeholders



Best Environmental Management Practices for the Waste Management sector

The scope

Municipal solid waste

Construction and demolition waste

Healthcare waste

Waste
management
companies

Waste
authorities
(local
authorities)

Waste
management
strategy

Waste
prevention

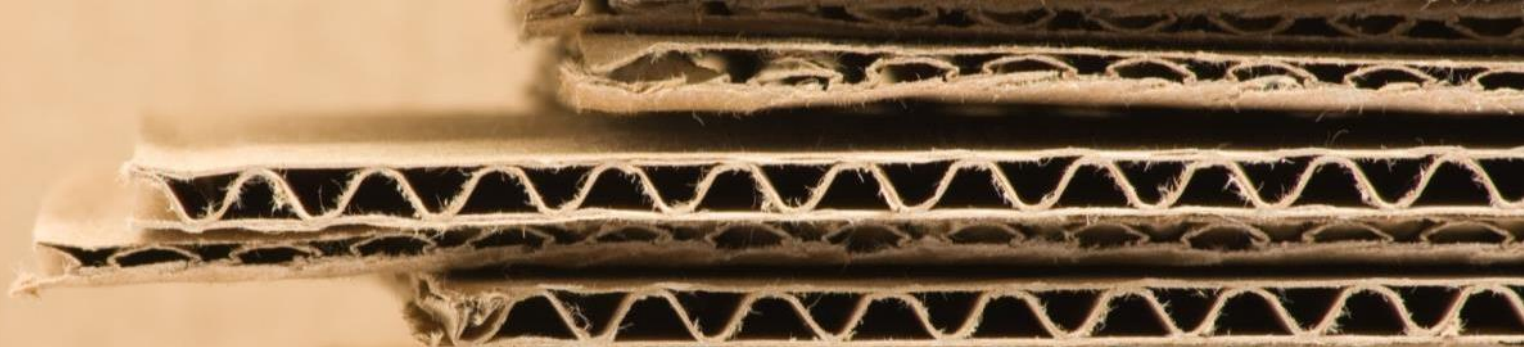
Waste
collection

Waste re-
use

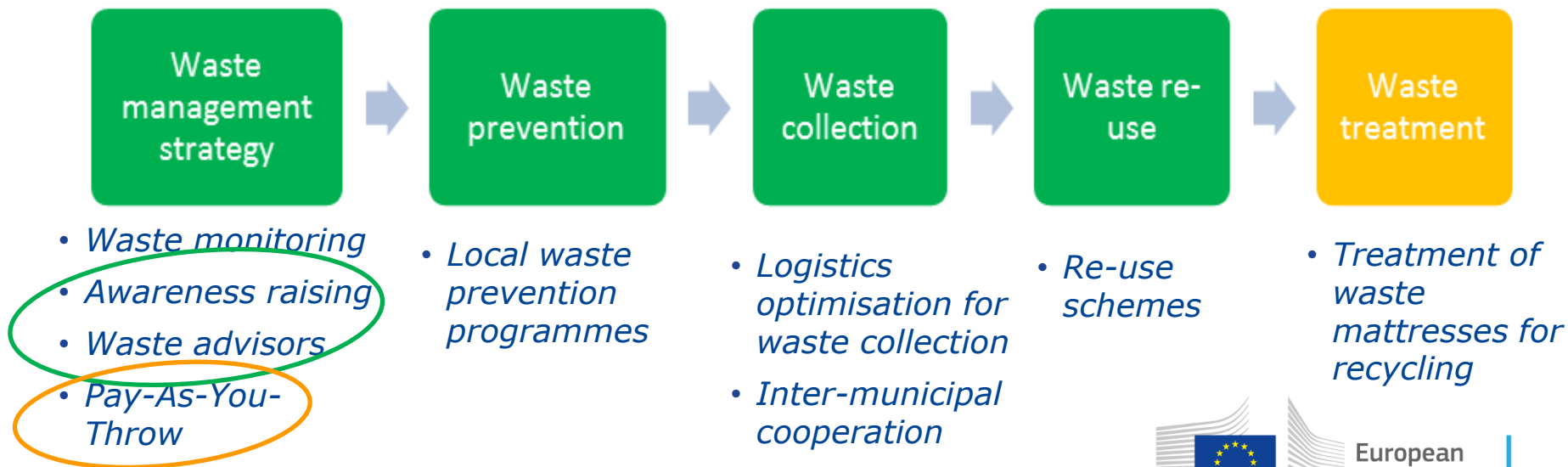
Waste
treatment

Material
recycling, energy
recovery, waste
disposal





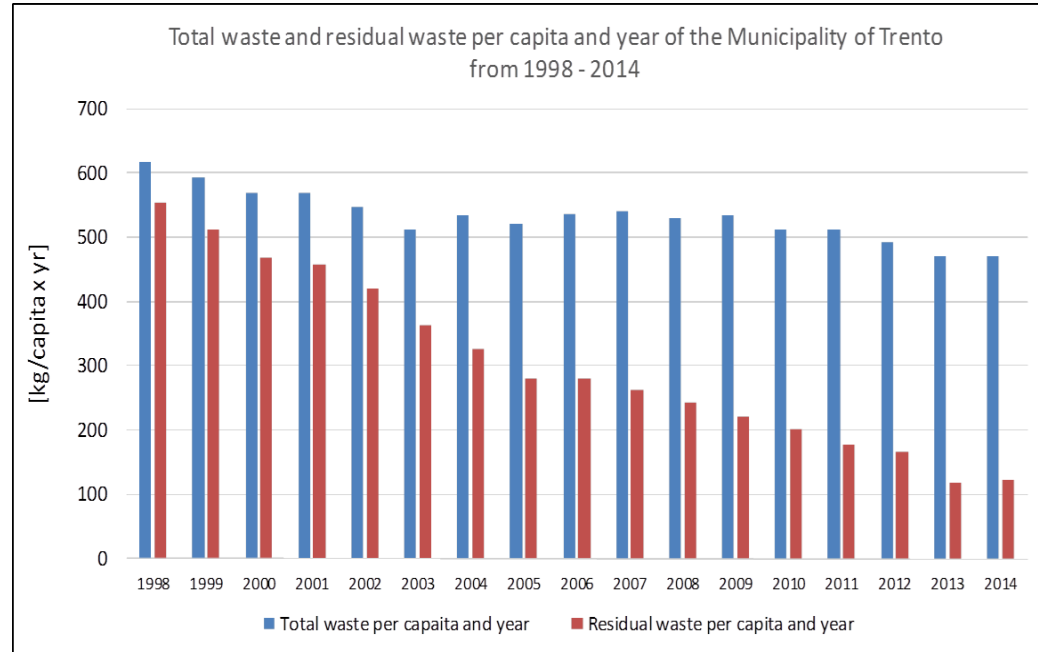
A few examples of BEMPs for **municipal solid waste**





Pay-as-you-throw

- Introduce a system where citizens **pay per weight** or **per bag** of residual waste generated.
- Ensure that **infrastructure to collect and to process the recyclables** is available and efficient.
- Residents are **well informed**.
- **Organic waste** and **bulky waste** are also weighted.





Awareness-raising campaigns



recyclenow



Dose
certa



Indicators

- **Number of waste advisers** per 100 000 residents.
- **Share of population advised by waste advisers** (e.g. % of residents per month).

Establish a network of waste advisers

- Set up a local network of **"waste advisers"** to:
 - **raise awareness** on waste management;
 - **offer a service** to residents and entrepreneurs/small businesses;
 - **gain a better understanding** of what happens on the ground (drivers, reasons).



Benchmarks of excellence

- A network of waste advisers is in place with at least **1 waste advisor per 20.000 inhabitants**.
- **Awareness campaigns** are systematically implemented for different types of target groups (e.g. pupils, general public, users of civic amenity sites) and the **annual budget** devoted to awareness raising activities is at least **5€ per resident**.

Common indicators for Municipal Solid Waste

Generation

Total municipal solid waste generation
[kg/capita/year]

Collection

Amount of mixed waste collected
[kg/capita/year]

Bio-waste in mixed waste [kg/capita/year]

Capture rate for glass [%]

Impurity rate for separately collected glass [%]

Capture rate for paper/cardboard [%]

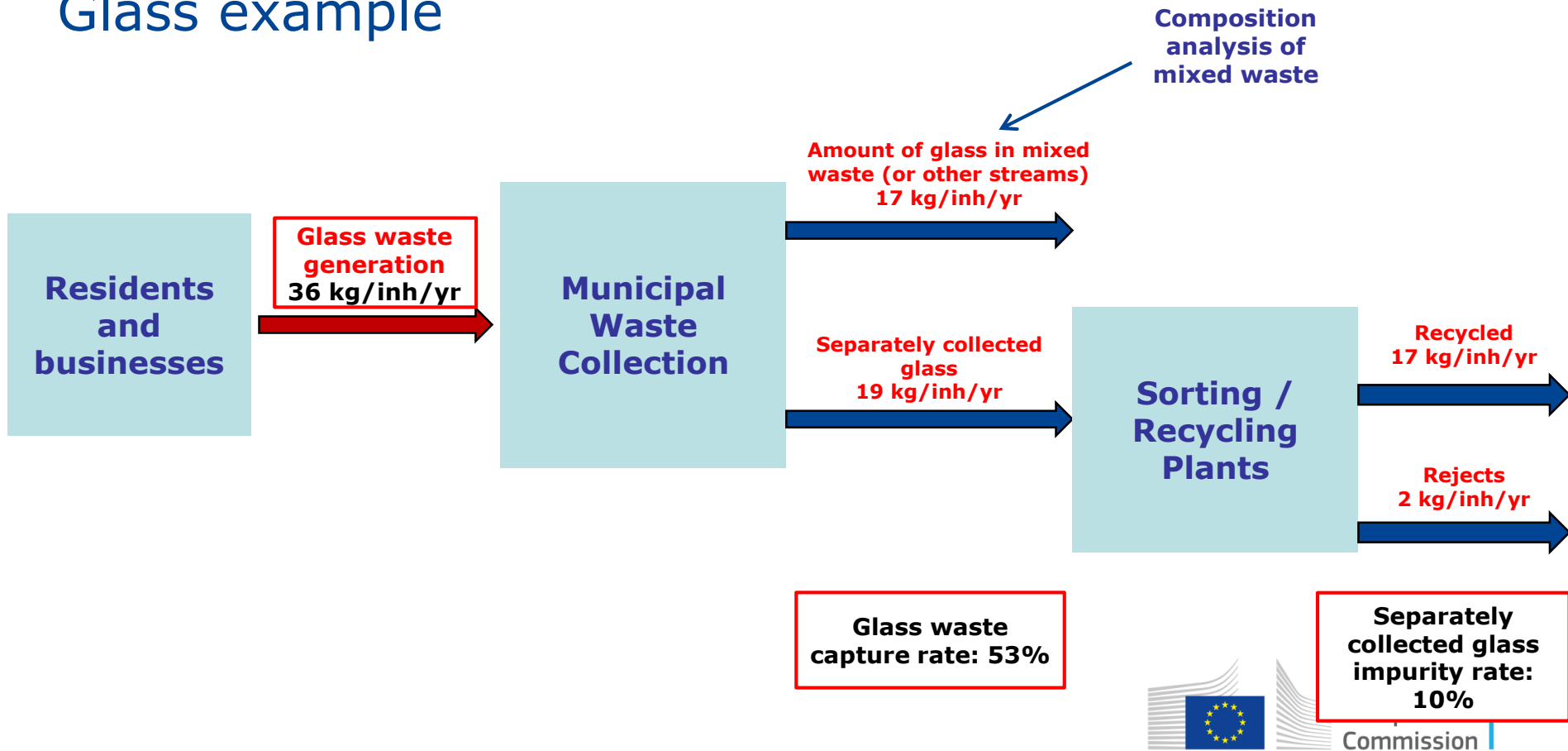
Treatment

Waste sent to energy recovery and/or disposal
[kg/capita/year]

Waste sent to disposal
[kg/capita/year]

Example: use of capture rates and impurity rates

Glass example



Common BoE for MSW



Municipal solid waste (MSW) generation - Benchmark of excellence:

The annual generation of MSW in the territory administered or managed (collected by all different waste collection systems available in the area) is:

- lower than 75% of the national average of municipal waste generation, using the national definition of municipal waste of their own country; **or**
- lower than 360 kg/capita, if calculated only for the following waste fractions: (i) organic/biowaste (e.g. green cuttings, food, kitchen waste), (ii) co-mingled packaging, (iii) paper and cardboard, (iv) glass, (v) plastics, (vi) metals, (vii) bulky, (viii) WEEE and (ix) mixed waste.

Frontrunners: Ljubljana (SI), Bristol (UK), Val di Non (IT)

MSW sent to energy recovery and/or disposal - Benchmark of excellence:

The annual amount of collected mixed MSW sent to energy recovery and/or disposal is:

- lower than 15% of the national average of municipal waste generation; **or**
- lower than 70 kg/capita.

Frontrunners: Treviso (IT), County of Aschaffenburg (DE), Val di Non (IT)

MSW sent to disposal - Benchmark of excellence:

The annual amount of MSW sent to disposal is:

- lower than 2% of the national average of municipal waste generation; **or**
- lower than 10 kg/capita.

Frontrunners: Vienna (AT), Ljubljana (SI), County of Aschaffenburg (DE)



The concept for a Green Best Practice Community

Continuous
identification of
BEMPs

Are there new best
practices in the
sector?

Are some BEMPs
outdated?

*Let frontrunners and
organisations tell us*

Getting the
message out

Meet actual needs of
organisations

User friendly format

Partner with relevant
multipliers

Broaden
stakeholder
engagement

Stimulate
contributions

Engage key
sectoral actors



A very first mock-up

WELCOME

Nunc vestibulum condimentum nisi. Nam erat diam, suscipit vitae nisl eget, tempus tempus eros. Proin vel diam convallis, bibendum mi id, faucibus eros. Donec mi nisl, auctor quis aliquet a, ultricies vel metus. Ut rhoncus nulla augue, in egestas metus fringilla non. Sed sit amet felis dignissim, ornare elit vel, mattis augue. In adipiscing euismod purus id rutrum. Nulla facilisi. Nulla vitae dui lectus.

SECTOR

TOURISM



WASTE MANAGEMENT



PUBLIC ADMINISTRATION



FOOD AND BEVERAGE



NEWS

HEADING

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[Read more](#)

HEADING

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WASTE MANAGEMENT

SUBMIT 



ARTICLES

FIRST STEPS ON SUSTAINABLE MUNICIPAL WASTE MANAGEMENT
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[Read more](#)

HEADING
Nunc vestibulum condimentum nisi.
[Read more](#)


TRAINING KIT


FORUM



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TAKE A GREEN STEP

A very first mock-up

Search

SUBMIT

WASTE MANAGEMENT

Municipal solid waste

Construction and

Healthcare waste

Waste

Waste
management
strategy

1. Cost benchmarking
2. Advanced waste monitoring
3. Pay-As-You-Throw
4. Performance-based waste management contracting
5. Awareness raising
6. Establish a network of waste advisers
7. Home and community composting

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ARTICLES

FIRST STEPS ON SUSTAINABLE
WASTE MANAGEMENT

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nisi.

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HEADING

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nisi.

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TRAINING KIT



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A very first mock-up

BEMP: ESTABLISH A NETWORK OF WASTE ADVISERS

Set up a local network of “waste advisers” to:

- raise awareness on waste management;
- offer a service to residents and entrepreneurs/small businesses;
- gain a better understanding of what happens on the ground (drivers, reasons).

Key features:

- home/community visits (+ schools);
- working together to identify possibilities to reduce waste generation;
- improving source separation with practical what goes where sessions;
- focus on waste streams that are considered more problematic (food waste, WEEE, bulky waste, etc.).

COMMENT

Send

CASE STUDIES

STYRIA 

- Very dense network: an adviser every 20,000 inhabitants
- Target: children (including schools and kindergartens), private households and SMEs



INDICATORS

- Share of population in the waste management catchment area having contact with waste advisers over a given period of time (e.g. % population per month)
- Number of waste advisers per 100,000 inhabitants

BENCHMARKS

- A network of waste advisers is in place with at least 1 waste advisor per 20,000 inhabitants

SUBMIT 



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A very first mock-up

TAKE A GREEN STEP

Possibility to propose a BEMP, indicator, benchmark or case study (if your organisation is implementing a best practice and you would like to be featured in the website)

SUBMIT:

BEMP

Indicator
Benchmark
Case study

Information:


<insert data>

Include:

+ Indicator
+ Benchmark
+ Case study

Associate to:

+ BEMP
+ Indicator
+ Benchmark
+ Case study

SUBMIT 

INDICATORS

- Share of population in the waste management catchment area having contact with waste advisers over a given period of time (e.g. % population per month)
- Number of waste advisers per 100,000 inhabitants

BENCHMARKS

- A network of waste advisers is in place with at least 1 waste advisor per 20,000 inhabitants

BEMP: ESTABLISH

Set up a local network

- raise awareness
- offer a service to residents
- gain a better understanding of waste management

Key features:

- home/community waste management
- working together
- improving source separation
- focus on waste management, WEEE, bulky waste

COMMENT

CASE STUDIES

STYRIA

- Very dense
- Target: children (including schools and kindergartens), private households and SMEs



JRC SCIENCE FOR POLICY REPORT

Best Environmental Management Practices for the Waste Management Sector

Learning from frontrunners

Dri M., Canfore P., Antonopoulos I. S., Gaudillat P.

March 2018



Download the BEMPs for waste management:
<http://susproc.jrc.ec.europa.eu/activities/emas/documents/WasteManagementBEMP.pdf>

Get in touch with us at
jrc-emas-srd@ec.europa.eu
to be involved in the Green
Best Practice Community

CHECK OUR TIPS



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Thanks

Any questions? Interested to stay in touch?

You can reach me at



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- <http://susproc.jrc.ec.europa.eu/bemp>
- <https://ec.europa.eu/jrc/en/research-topic/best-environmental-management-practice>



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