

# Best Environmental Management Practices

## A toolkit to make the most of EMAS

*Learning from frontrunners – helping to improve*

**Pierre Gaudillat** – European Commission, Joint Research Centre  
Seville, 03/05/2018 - Presentation at ENHANCE Thematic Workshop WS4



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science and knowledge service**  
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# Best Environmental Management Practices

A toolkit to make the most of EMAS

## Content of this presentation

The EMAS Sectoral Reference Documents and the Best Environmental Management Practices (BEMPs)

BEMPs, Environmental Performance Indicators and Benchmarks of Excellence

Sectors addressed and examples of BEMPs

Looking forward: the Green Best Practice Community

# The Joint Research Centre (DG JRC)

- *We are the science and knowledge service of the European Commission*
- *Our mission is to support EU policies with independent evidence throughout the whole policy cycle*
- *We work on nearly all science and policy areas*
- *We are policy neutral*

**3000 staff, 30+ nationalities, 6 locations**



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# EMAS



EMAS Performance, Credibility, Transparency

## What is EMAS?

**EU Eco-Management and Audit Scheme**

✓ An Environmental Management System

✓ An EU Regulation

✓ An environmental performance reporting tool



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**EMAS is a commitment to...**



**... in environmental performance**

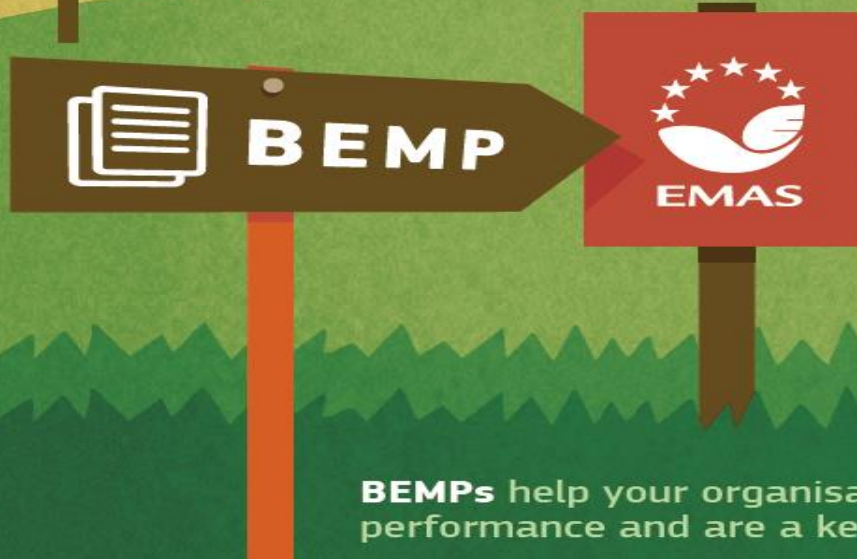


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# *BEMPs for EMAS*

According to the EMAS Regulation, the European Commission shall develop EMAS Sectoral Reference Documents on Best Environmental Management Practices (BEMPs)



**BEMPs** help your organisation to improve its environmental performance and are a key element of the **EMAS** framework.

# *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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# Main elements of the Sectoral Reference Documents: an example

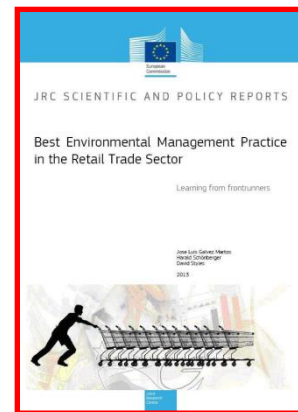
- Best environmental management practice (BEMP)

## Food waste minimisation by retailers



- Environmental performance indicator  
kg food waste generation per m<sup>2</sup> of sales area
- Benchmark of excellence  
Zero food waste sent to landfill or incineration

An example from:



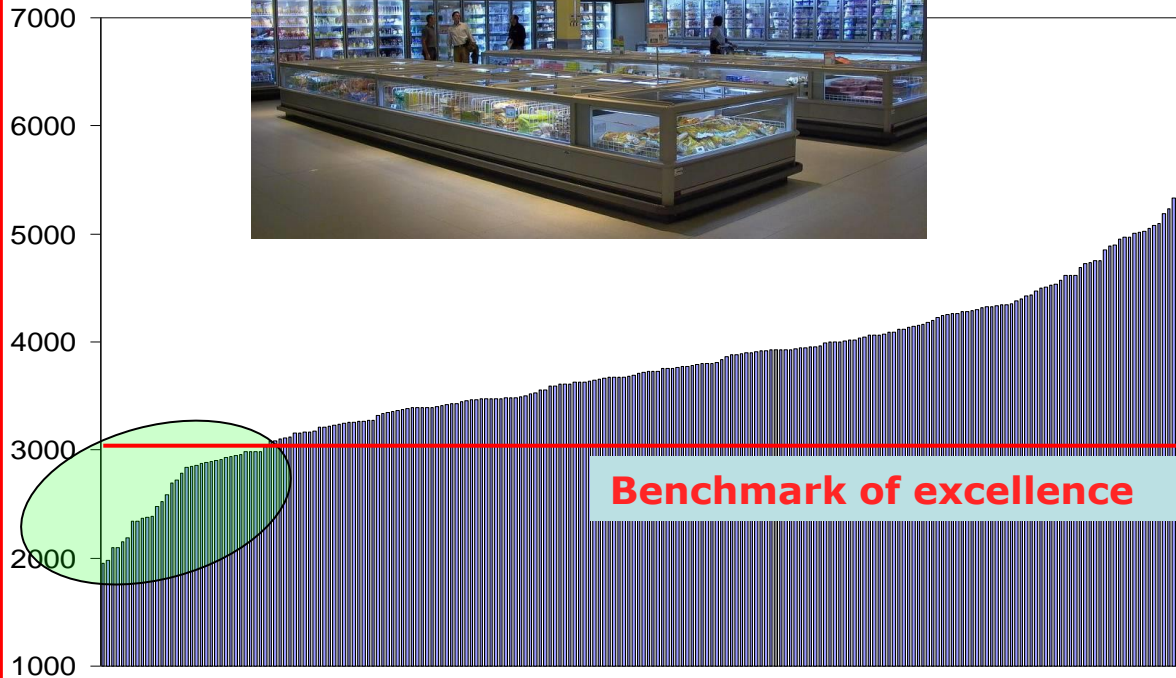
Retail Trade



# Another example of BEMP

Sector specific environmental performance indicator

Specific linear refrigeration consumption, kWh/m<sup>2</sup>/yr



An example from **Retail Trade**:

**BEMP**: Minimising the energy consumption of commercial refrigeration of food:

- Display cases covering
- Improved system design (e.g. heat recovery)
- Better maintenance

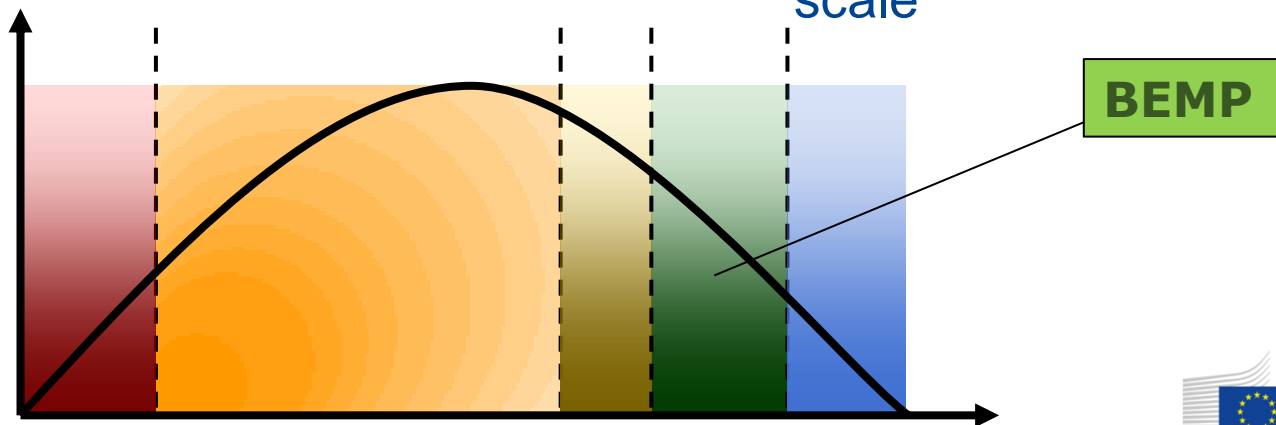
# What is BEMP

- those techniques, measures or actions that allow organisations of a given sector to minimise their impact on the environment
- direct and indirect aspects
- technical/technological as well as management /organisational type
- fully implemented by best performers
- technically feasible and economically viable




# What is not BEMP

- Obsolete techniques
- Common practice
- Good practice
- Emerging techniques
  - are available and innovative
  - not yet proved their economic feasibility
  - not yet implemented at full scale



# *Environmental performance and benchmarks of excellence*

- **Environmental performance indicators:** "specific expression that allows **measurement** of an organisation's **environmental performance**" (EMAS Regulation)
  - Core indicators 
  - Specific indicators
  - (Alternative indicators)
- **Benchmarks of excellence:** level of **environmental performance** achieved by the **best performers** (frontrunners)

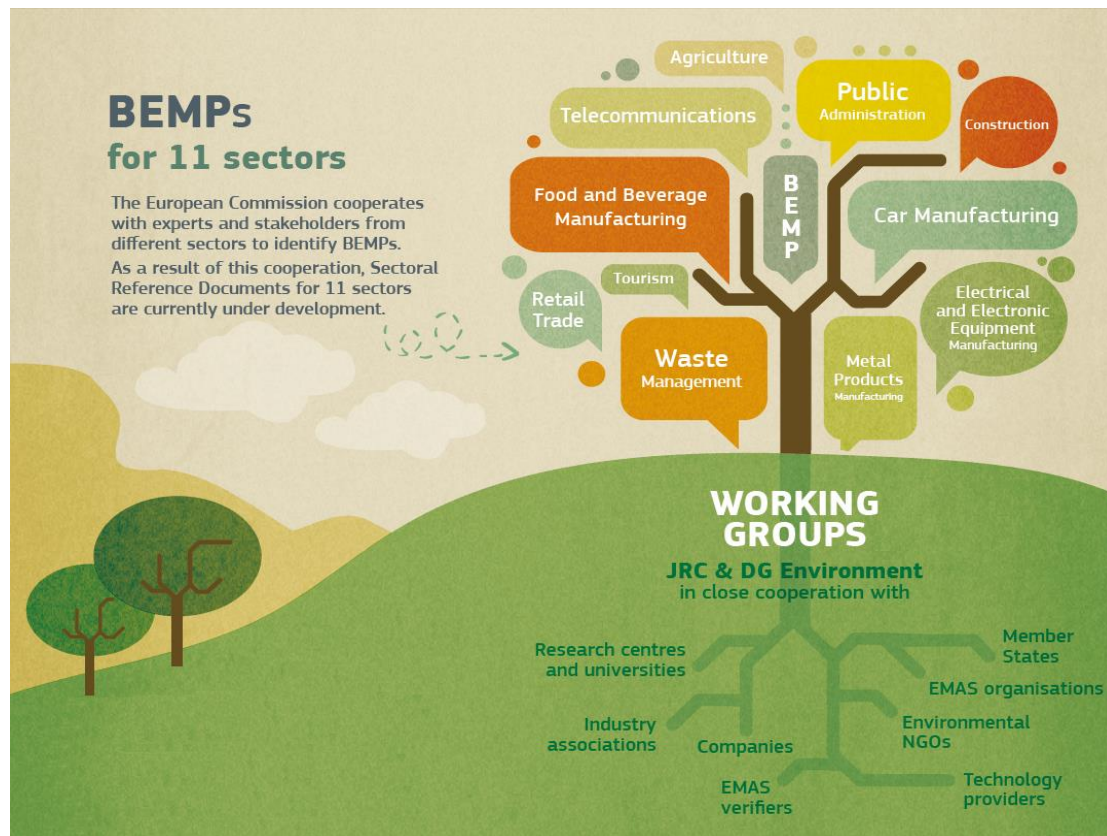
- (i) Energy efficiency
- (ii) Material efficiency
- (iii) Water
- (iv) Waste
- (v) Biodiversity and
- (vi) Emissions.

# How BEMPs are developed: The frontrunners approach





# Stakeholder involvement





# A development process based on stakeholder involvement

Three phases:

- **Desk research** (background collection of information from literature, frontrunner organisations and experts)
- **Information exchange** within the forum of a **Technical Working Group** comprising sector experts to identify and validate the best practices identified, the indicators and the benchmarks of excellence
- **Adoption process** (European Commission, member state representatives in the EMAS Committee, public consultation)

# Sectors addressed

→ Development of BEMPs for 11 priority sectors



Retail



Tourism



Construction



Public  
Administration



Agriculture



Waste management



Telecommunications



Metal products  
manufacturing



Electronic equipment  
manufacturing

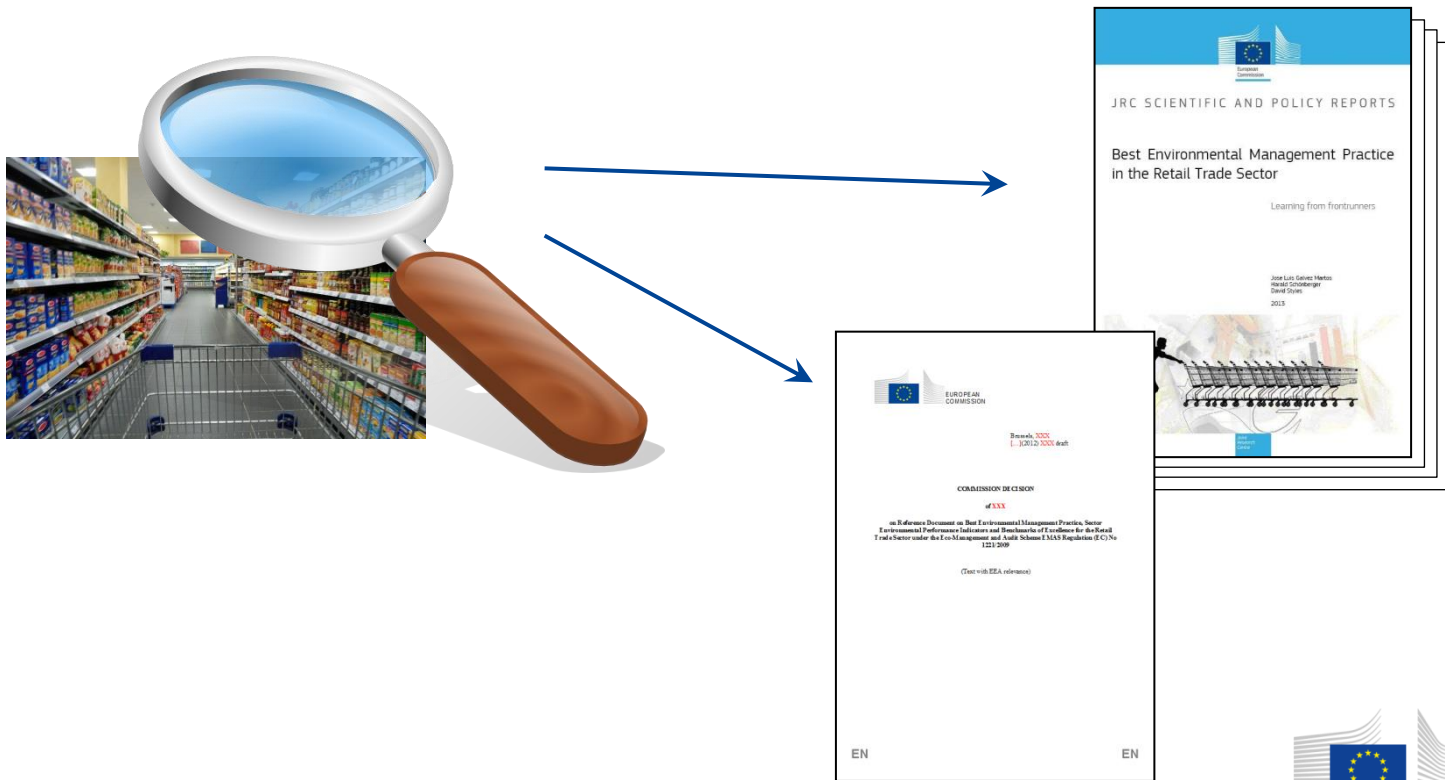


Car  
manufacturing



Food & beverage  
manufacturing

# Two final outputs



# Best Environmental Management Practices for the food and beverage manufacturing sector

## → BEMPs for all food and beverage manufacturers



## → BEMPs for specific sub-sectors





# BEMP: CO<sub>2</sub> recovery in beer production

BEMP is:

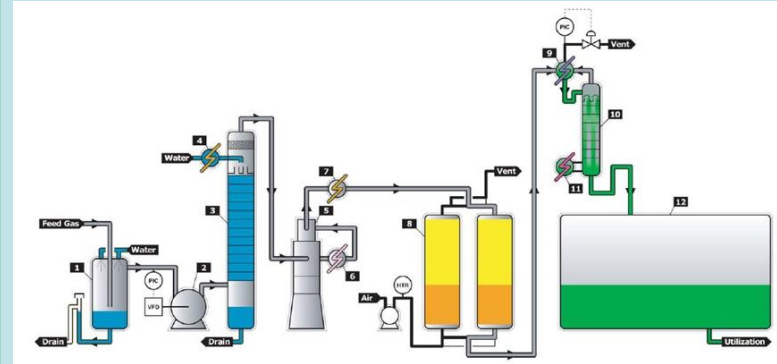
- Recover the CO<sub>2</sub> generated from the tops of the fermentation tanks/vessels, the maturation vessels and the bright beer tanks
- Scrub, purify and compress for storage
- Use the recovered CO<sub>2</sub> in-house (e.g. for carbonation and bottling) or sell to others (e.g. in the framework of industrial symbiosis)

Indicators

- kg CO<sub>2</sub> recovered / hL beer produced

Benchmarks

- 50% of CO<sub>2</sub> produced by fermentation is recovered



# BEMP: Whey recovery in cheese making

## The BEMP on whey recovery:

- Improves resource efficiency of cheese making
- Helps selecting the most circular options
- Turns a burden into broadened business opportunities



### Practical guidance



- Processes for recovering whey from cheese production
- Use of the recovered whey for:
  - Production of whey powder
  - Production of whey cheeses and drinks



### Environmental performance indicators

- Share of the whey that is recovered and processed to obtain products for human consumption (%)



### Benchmark of excellence

- 100% of whey is recovered and processed to obtain products for human consumption

## Why it matters

### High volumes

About 60 million tonnes of whey are produced annually in the European Union

### Nutrient losses

Up to 55% of milk's total nutrients are retained in whey during cheese processing

### A significant environmental burden

Disposal of whey leads to a very high organic load in waste water



# 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

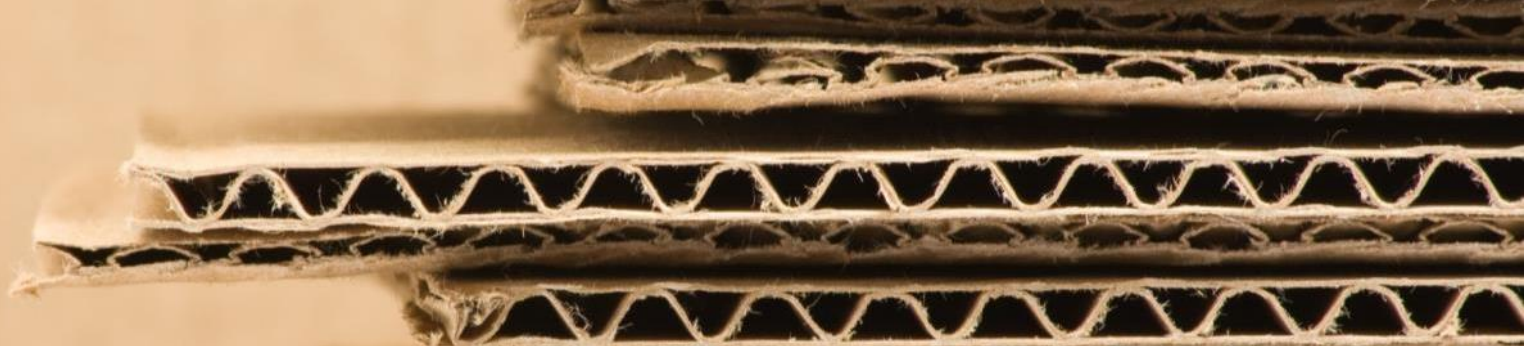
Waste  
collection

Waste re-  
use

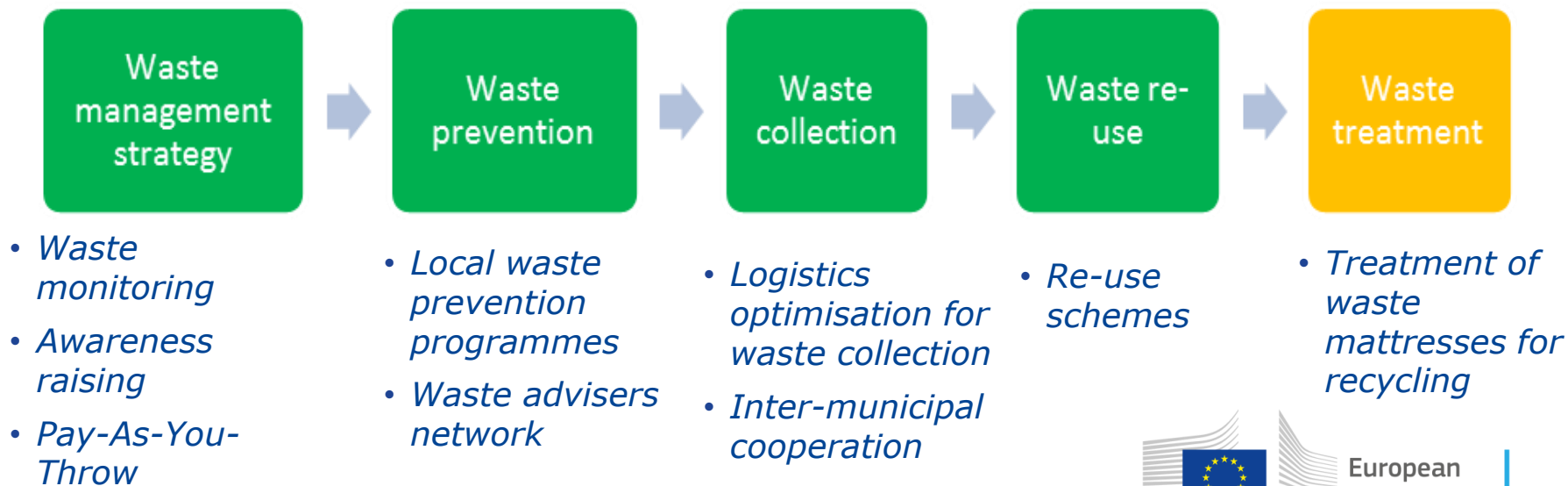
Waste  
treatment

Material  
recycling, energy  
recovery, waste  
disposal





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





# TAKE A GREEN STEP

## BEMPs made easy: introducing [takeagreenstep.eu](https://takeagreenstep.eu)

The one-stop online place for tips on how to make your **hotel and restaurant** more eco-friendly.

Funnelling readers to the relevant information, [takeagreenstep.eu](https://takeagreenstep.eu) includes:

- Introductory **articles** on big and small green steps for your business
- To go further... **Case studies** showing how others have achieved it
- To get the full technical details... References to the **full Best Practices** in an easy-to-read format
- As well as **practical tools** you can use immediately such as signs for guests and checklists for staff

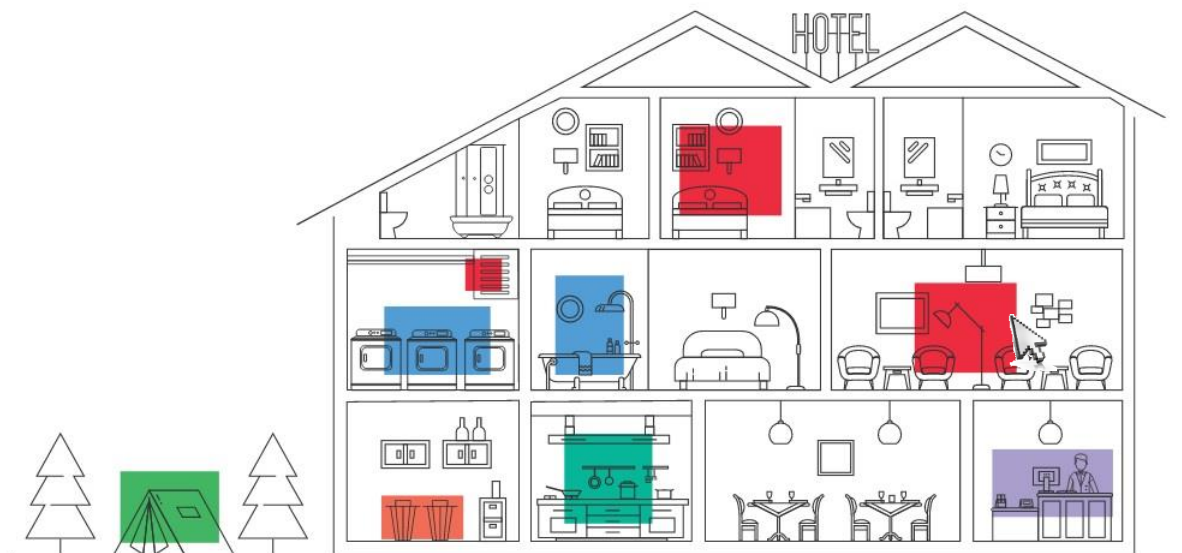
In 5 languages



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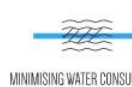
# TAKE A GREEN STEP



RESTAURANT AND HOTEL KITCHENS



WASTE MANAGEMENT IN  
TOURIST ACCOMMODATION



MINIMISING WATER CONSUMPTION  
IN TOURIST ACCOMMODATION



MINIMISING ENERGY USE IN  
TOURIST ACCOMMODATION



CAMPSES



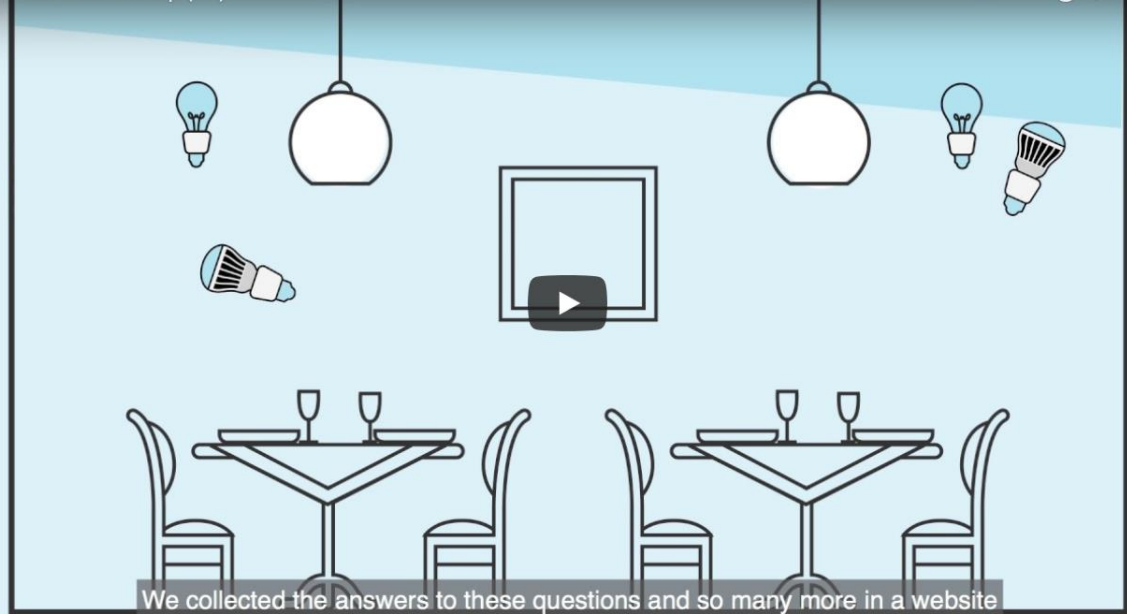
CROSS CUTTING ISSUES



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# TAKE A GREEN STEP

Take a Green Step (EN)

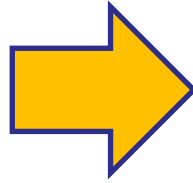


# From BEMP reports to an online tool & community

- *BEMPs for 11 sector*
- *Interest from stakeholders*

*But there are improvement opportunities:*

- Reports are not the best format for communication
- When does a BEMP need update?
- Need to sustain motivation and minimise efforts for stakeholders



## ***Development of the new approach***

- *On-line tool to access information*
- *Community*

*Features:*

- More user friendly outputs
- Systematic monitoring and stakeholder involvement
- More flexible information exchange



## The new concept

Continuous  
identification of  
BEMPs

Getting the  
message out

Broaden  
stakeholder  
engagement

Are there new best  
practices in the  
sector?

Are some BEMPs  
outdated?

*Let frontrunners and  
organisations tell us*

**Focus on SMEs**

Meet actual needs of  
organisations

User friendly format

Partner with relevant  
multipliers

Stimulate  
contributions

Engage key  
sectoral actors

**Develop a community**



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# *Thanks*

Any questions? Interested to stay in touch?

You can reach us at



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[JRC-EMAS-SRD@ec.europa.eu](mailto:JRC-EMAS-SRD@ec.europa.eu)



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



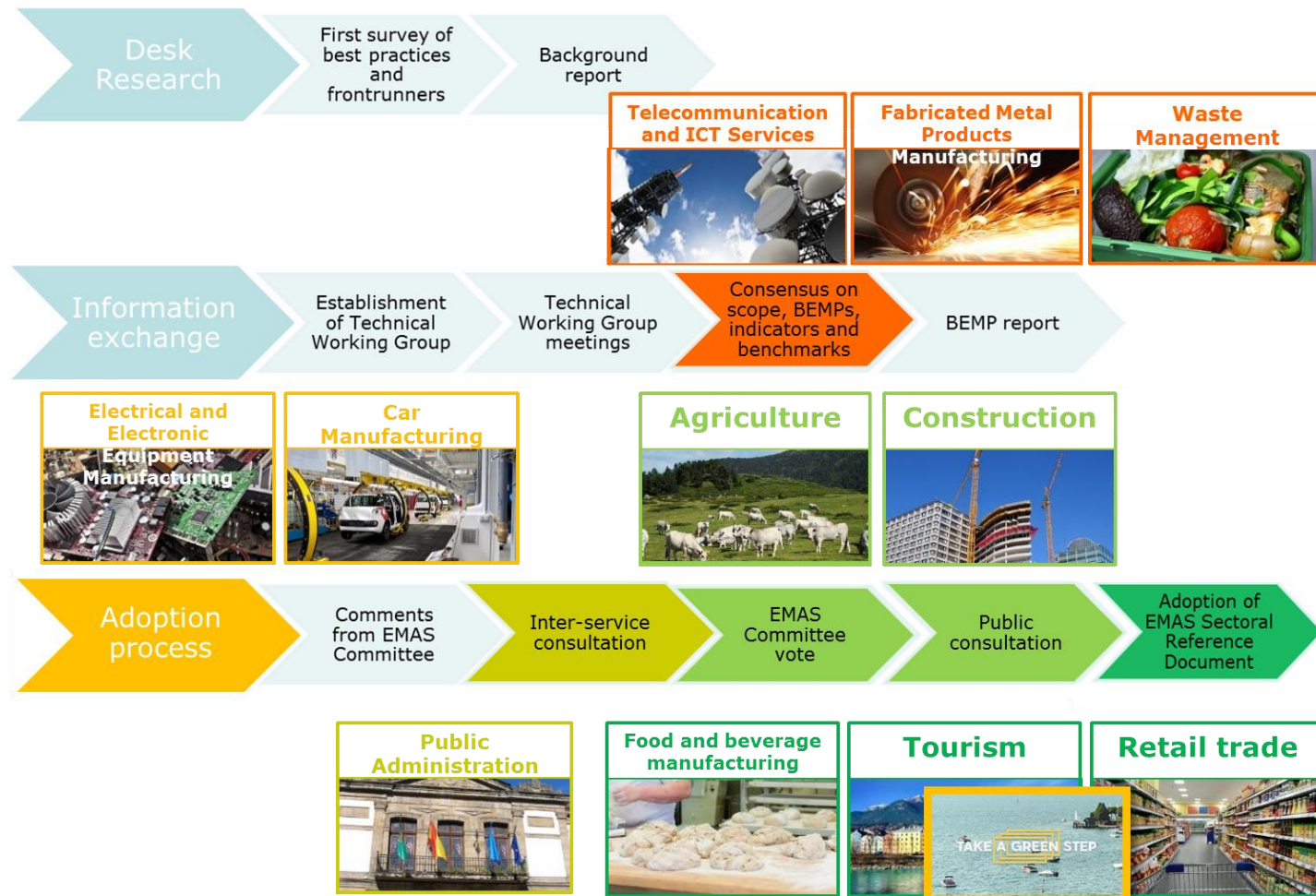
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# *Backup slides*

# State of play



# Summary

## **BEMPs**

- **What:**

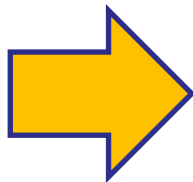
- A set of best practices for all organisations to use for inspiration and guidance
- Based on actual frontrunners' achievements
- Contributing to Circular Economy goals
- Bringing value across different economic sectors

- **Who:**

- JRC: the European Commission's in-house science and knowledge service
- Working with key stakeholders in industry, academia, civil society & beyond
- Bringing together European and global experts in the sectors covered (Technical Working Groups)

- **How:**

- Science, evidence-based working methods (e.g. Sevilla process)
- Focus on excellence
- International reach and recognition



## **Green Best Practice Community**

- **What:**

- An open community for sharing experiences, findings, achievements, difficulties and contribute to developing BEMPs
- A set of tools to help organisations finding the most relevant and useful BEMPs
- A living knowledge base

- **Who:**

- JRC + European and global experts + stakeholders in industry, academia, civil society & beyond
- Partnering with sectoral associations, EU project consortia, other initiatives with similar aims

- **How:**

- Focus on organisations' needs
- Trustable expert-validation of published content
- A “shop window” for those working on environmental best practices