

# Responsible Management of Pesticide Packaging

## CMS Collection data 2020

CLE  
Packaging Expert Group  
September 2021

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version appositely prepared for wide sharing*



# Container Management Programmes

## Aims and Overall Objectives

## 2030 Commitments For the Future of #Ag

### Circular Economy



**III** Establish an average **75% collection rate** of plastic pesticide and biopesticide containers across EU Member States by 2025.

**IV** Ensure that a container scheme is available in **all EU Member States by 2025**, expanding the programme in two additional Member States each year.

More recovery and plastic container recycling, with less plastics waste.

2021: The Netherlands & Latvia

2022: Czech Republic & Ireland

2023: Estonia & Denmark

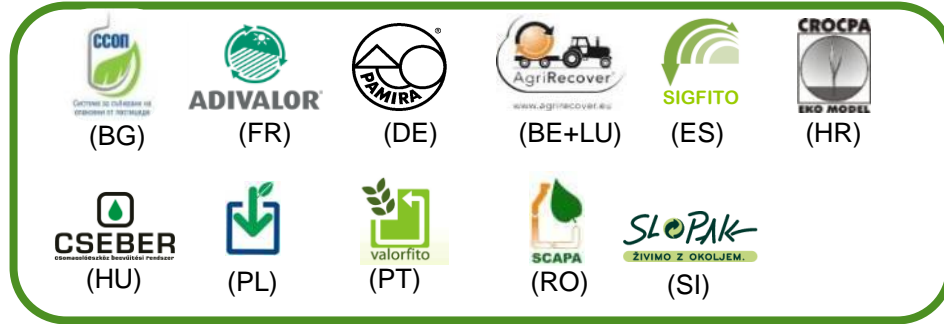
2024: Finland & Malta



# Container Management Programmes

## Overview of CMS in Europe (2020)

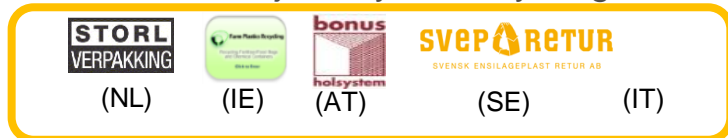
### Nationwide industry run CMS ("EU12")



### Industry run pilot CMS

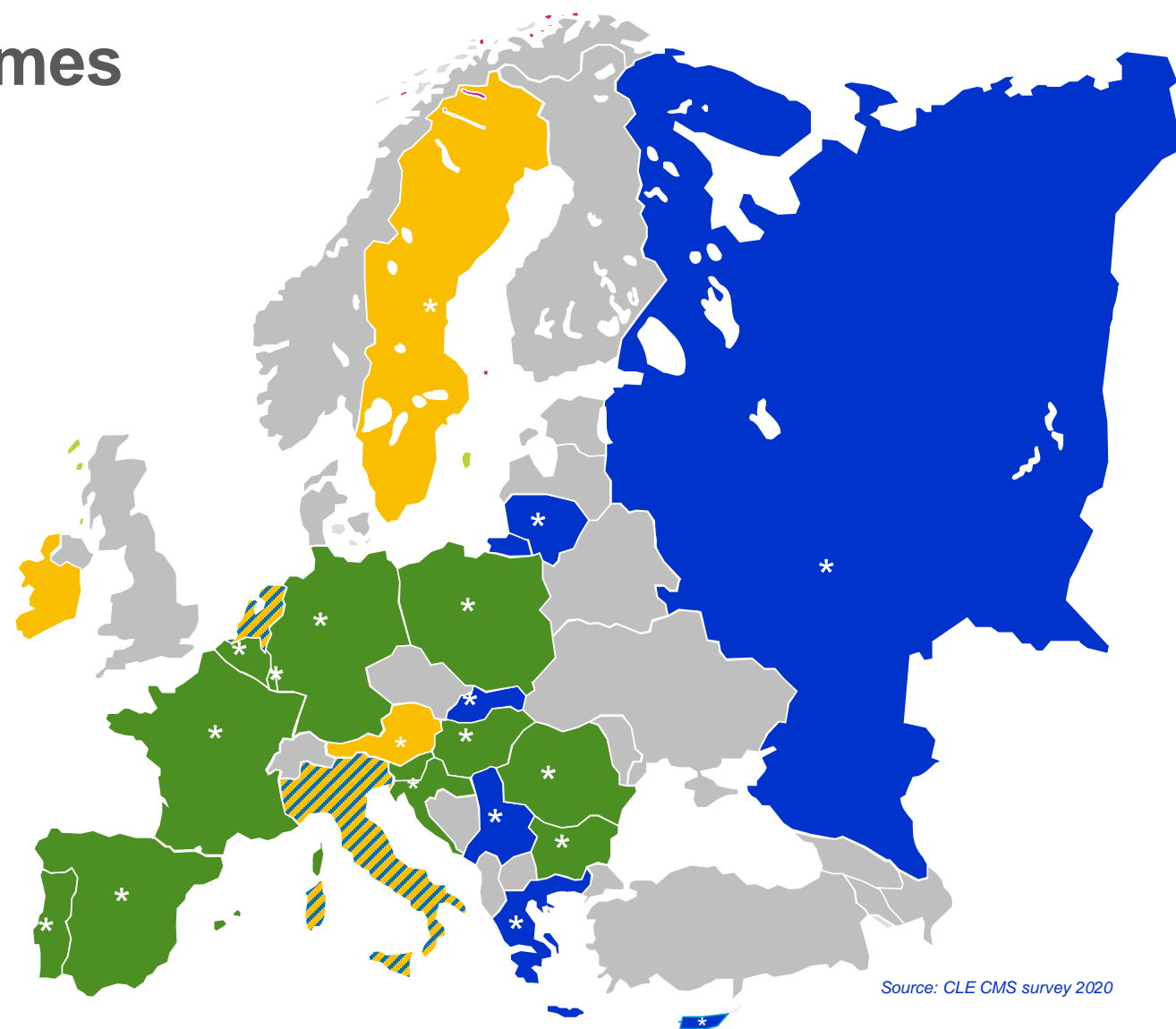


### Countries with independent collection programme(s), some of them joint by industry. E.g.:



☐ Countries with no (known) dedicated CMS. Pesticide packaging waste are collected via collection systems for domestic or special / industrial wastes (tbc!)

\* "EU18" countries covered by annual ECPA statistics (=EU12 + 6 pilots). In addition, Italy, Sweden and Netherland also provided partial collection data.



Source: CLE CMS survey 2020

## KPIs of benchmarked CM Systems



# CMS Statistic

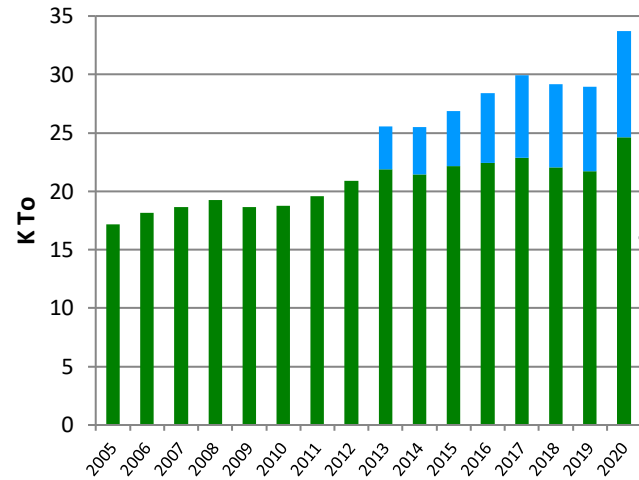
## General comments

- Figures originate from information provided by benchmarked countries or studies (e.g. Italy).
- Reference data changes due to inclusion of new countries (e.g. Romania in 2007; 6 pilot countries in 2013-2015), new studies, etc.
- Quality of data varies and data harmonization between countries is sometimes difficult (e.g. definition of total cost; different sorting and collection rules) and requires in-depth review work. Data also sometimes includes other packaging (e.g. from fertilizers)
- Data usually represents the quantity placed on the market by members companies; the total market is bigger in most of these countries. Similarly, the quantities reported for collection and recycling cover the material managed by the benchmarked CMS programmes only. More packaging waste might be collected through other routes of disposal (e. g. municipal schemes; waste operators contracted by farms owners)
- The benchmark figures cover a subset of systems and the overall coverage is probably higher
- The data illustrates overall trends and progresses; it is not intended to be used to compare or rank the performance of individual CMS systems**

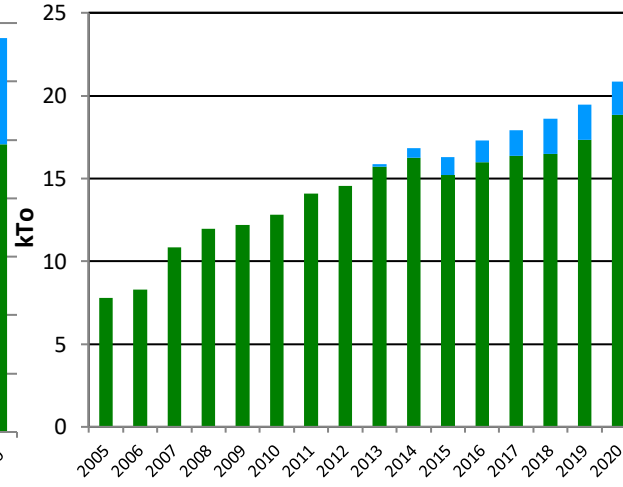
# Container Management E18\*

## Synopsis 2005 – 2020 (Plastic containers)

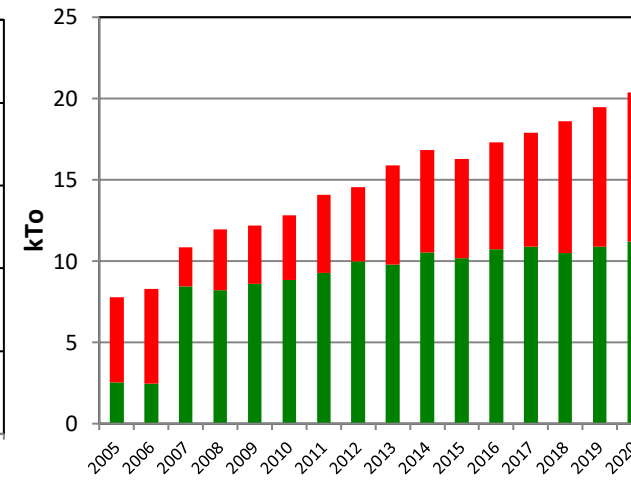
Quantity shipped **Mature/Pilots**  
[Plastics; To]



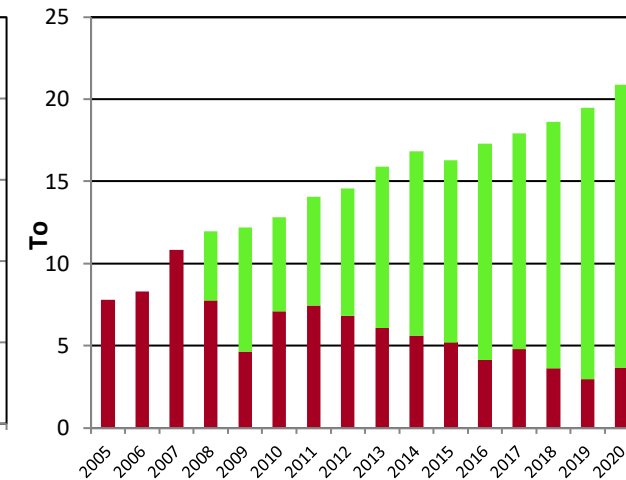
Quantity collected **Mature/Pilots**  
[Plastics; kTo]



Waste classification  
**Non-hazardous / Hazardous**

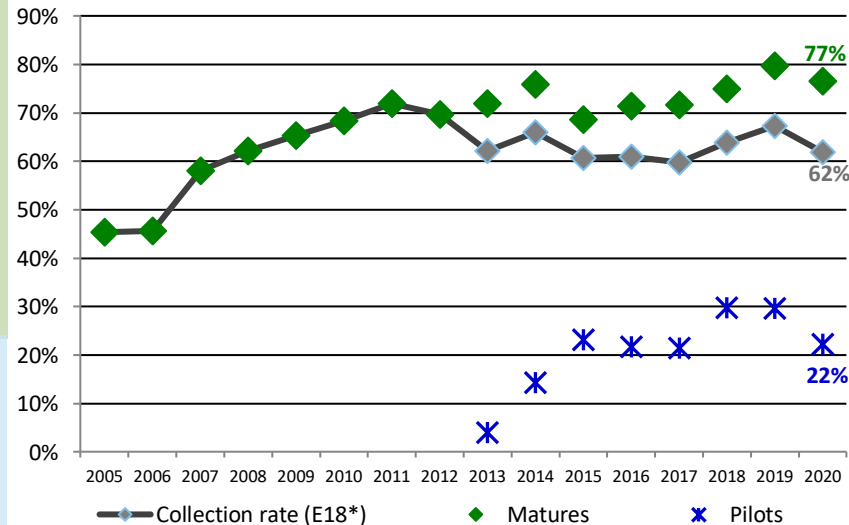


Treatment:  
**Recycled / Not recycled**

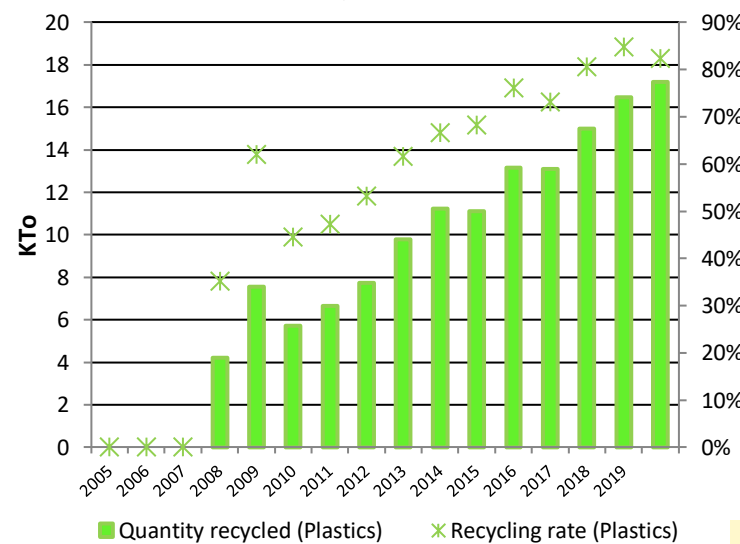


\*E18 monitored countries

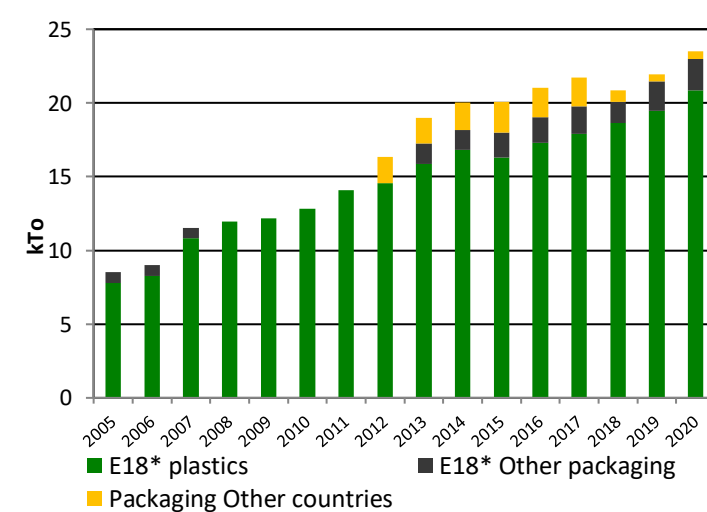
Collection rate  
[rigid plastics; %]



Recycling  
[rigid plastics; %]








Quantity collected  
(incl. Other Packaging; Other countries)

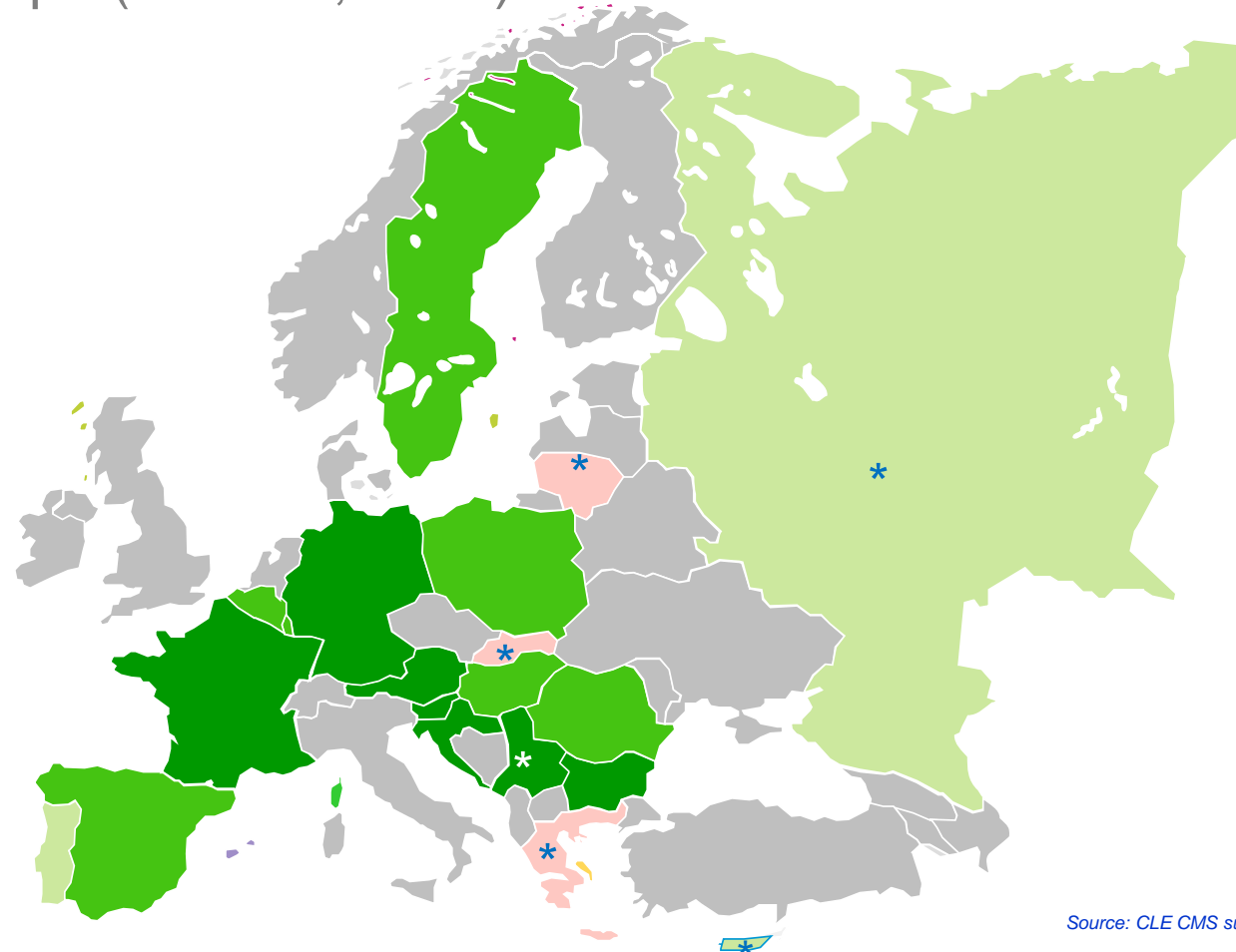


Other Countries: Austria; Italy (2013-2018); Sweden; The Netherlands

# Container Management E18\*




Overview of Container Management in Europe (Plastics; 2019)

-  Collection rate > 75%
-  Collection rate 50% – 75%
-  Collection rate 25% – 50%
-  Collection rate < 25%
-  Pilot projects



Source: CLE CMS survey 2020

## Contributions to the Circular Economy and the EU Plastics Strategy:

-  Risks reduction at the source (packaging design; rinsing; separate collection; minimized production of hazardous waste)
-  Collected over 265,000 metric tonnes of packaging since 2005
-  Recycled over 140,000 metric tonnes of high valuable plastics in safe applications since 2005

# Container Management Strategies










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## CMS performance for industry-run CMS programmes in Europe (2020)

Primary objective for pesticide container management strategies (CMS) is to reduce risks at the source by requesting product users to properly rinse their empty containers and by maximising the return of packaging wastes. **Collection rate** is the key performance indicators for the collection and the recovery programmes for pesticide containers.

Safe and controlled recycling of the plastic material is an important contribution to the sustainability of these programmes and to the Circular Economy.

Trademark CMS programmes (year of collection start)			Collection rate [%; 2020]	Final treatment
BG (2014)	SCPP(ССОП) <a href="http://www.bgcpa.eu">www.bgcpa.eu</a> 		95%	Recycling
BE (1997)	AgriRecover <a href="http://www.agrirecover.eu">www.agrirecover.eu</a> 		73%	Recycling
LU (2002)	*) Collection activities on hold		63%*	Recycling
DE (1996)	PAMIRA <a href="http://www.pamira.de">www.pamira.de</a> 		81%	Recycling
ES (2002)	SGIFITO <a href="http://www.sigfito.es">www.sigfito.es</a> 		72%	Recycling
FR (2002)	ADIVALOR <a href="http://www.adivalor.fr">www.adivalor.fr</a> 		86%	Recycling
HR (2008)	CROCPA EKO MODEL <a href="http://www.crocpa.hr">www.crocpa.hr</a> 		97%	Energy Recovery
HU (2003)	CSEBER <a href="http://www.cseber.hu">www.cseber.hu</a> 		65%	Energy Recovery Recycling
PL (2004)	System PSOR <a href="http://www.systempsor.pl">www.systempsor.pl</a> 		70%	Recycling Energy Recovery
PT (2006)	Valorfito <a href="http://www.valorfito.com">www.valorfito.com</a> 		45%	Recycling

Trademark CMS programmes (year of collection start)			Collection rate [%; 2020]	Final treatment
RO (2007)	SCAPA <a href="http://www.aiprom.ro">www.aiprom.ro</a> 		74%	Recycling; Energy Recovery
SI (2010)	SloPak <a href="http://www.slopak.si">www.slopak.si</a> 		82%	Energy Recovery
AT	Various collection programmes		85%	Recycling; Energy Recovery
SE	SvepRetur <a href="http://www.svepretur.se">www.svepretur.se</a> 		58%	Energy Recovery
CY (2015)	Green-dot Cyprus <a href="http://www.greendot.com.cy">www.greendot.com.cy</a> 		29%	Energy Recovery
EL (2014)	HERRco (Green dot Greece) CYCLOS (from 2022/23) <a href="http://www.esyf.gr">www.esyf.gr</a> 		1%	Recycling
LT (2016)	Lithuanian Crop Protection Association (LAAA) <a href="http://www.augaluapsauga.lt">www.augaluapsauga.lt</a> 		3%	Energy Recovery
RU (2014)	ECOPOL <a href="http://www.ecopole.ru">www.ecopole.ru</a> 		25%	Recycling
SR (2013)	SECPA EKO MODEL <a href="http://www.secpa.rs">www.secpa.rs</a> 		77%	Energy Recovery
SK (2014)	Zora <a href="http://www.scpa.sk">www.scpa.sk</a> 		5%	Energy Recovery

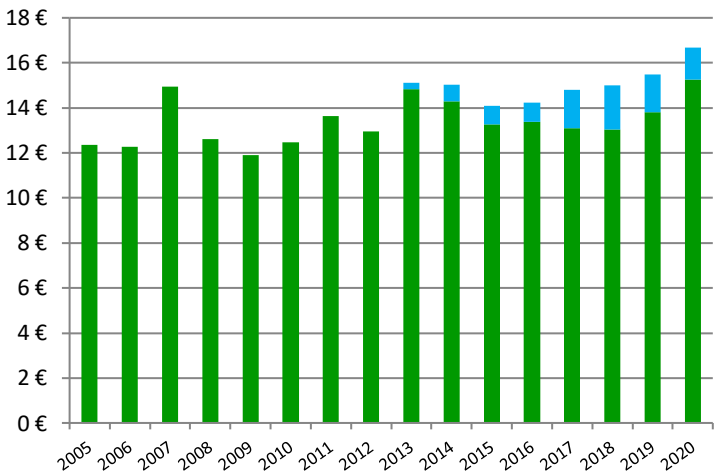


# CMS Europe E18: Cost reduction

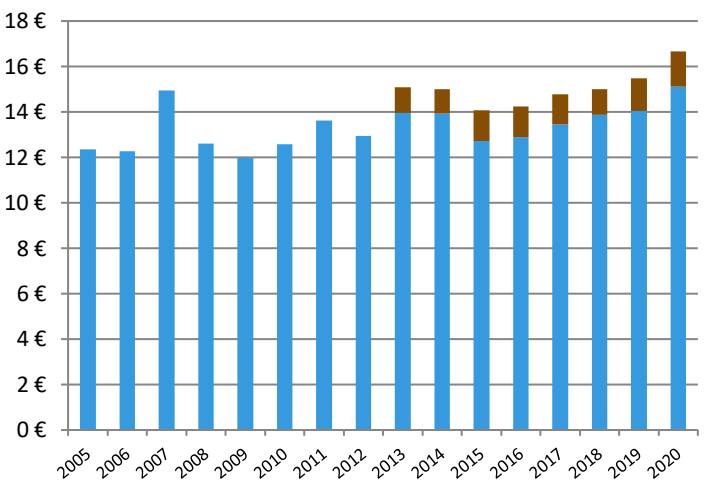
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TOTAL CMS COST (Mature and Pilots)  
[All Packaging; MEuro]



TOTAL COST E18\* (Plastics & Other Materials) [MEuro]



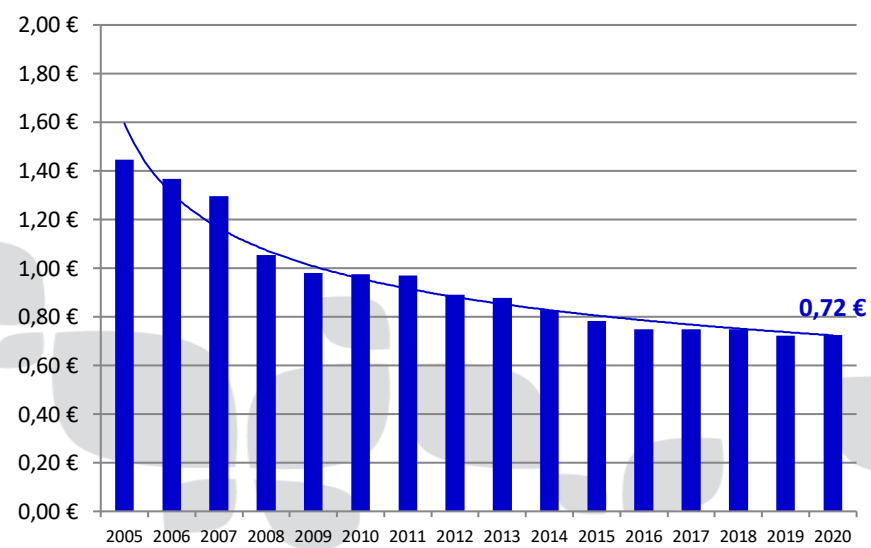
**Key trends of costs figures:**

**Increased cost efficiency** in countries allowed to control the total industry's investment for CMS in Europe, while at the same time:

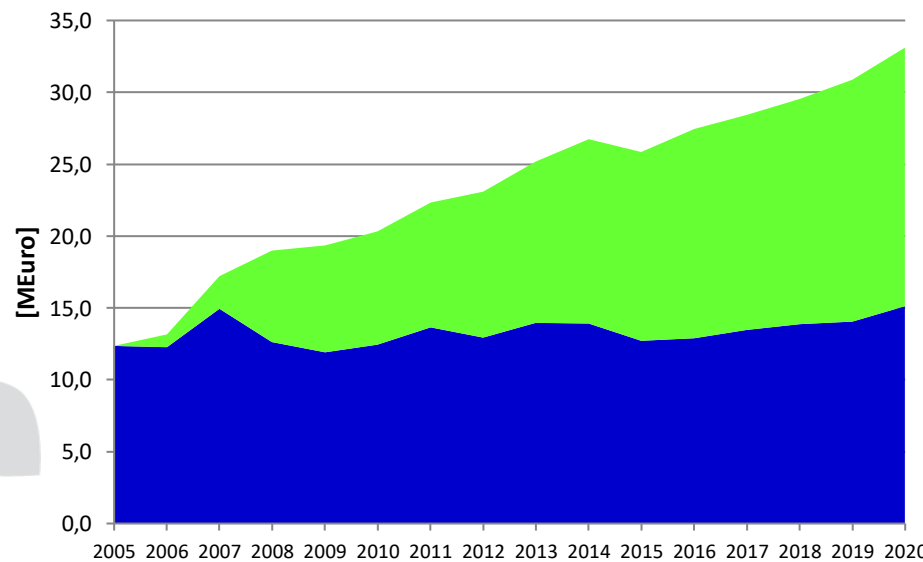
- the number of CMS programmes has **tripled!**
- the quantity of packaging collected and recovered has **increased by a 2,5 factor!**
- the overall collection rate for Plastics has **increased from 38% to 62%!**

Unit cost (E18\*, All Packaging)  
[EURO/kg collected]

- \*E18 monitored countries**
- Matures (12):**
- Belgium
  - Bulgaria
  - Croatia
  - France
  - Germany
  - Hungary
  - Luxemburg
  - Poland
  - Portugal
  - Romania
  - Spain
  - Slovenia
- Pilots (6):**
- Cyprus
  - Greece
  - Lithuania
  - Russia
  - Serbia
  - Slovakia



Total estimated cost reduction 2005 - 2020 [Plastics; E18]



**Fixed cost (as of 2005)**

**Accumulated cost saving Σ: 161 M€**

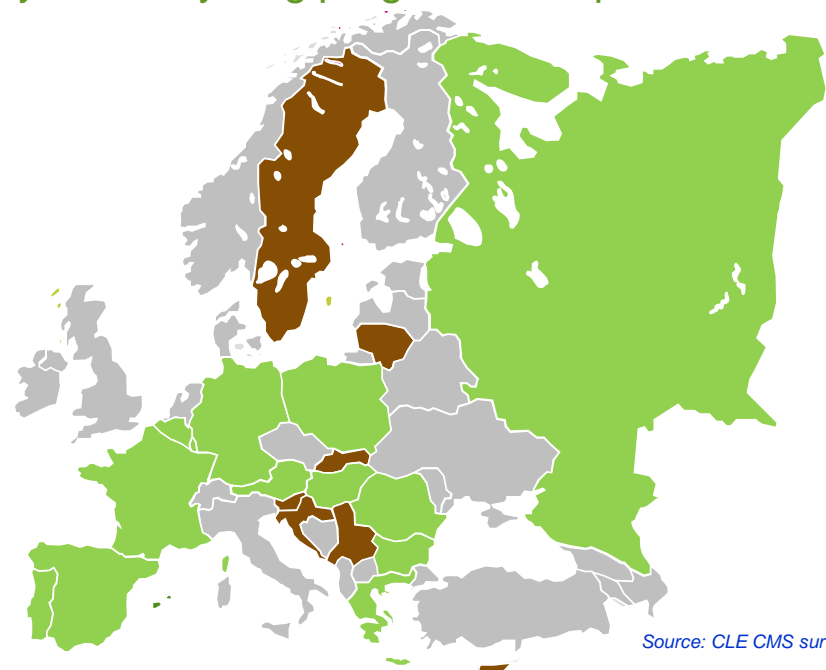
**Actual cost**

**Actual cost vs. cost development with fixed specific cost of 2005 (1,59€/kg)**

# Implementation of Container Management Strategies

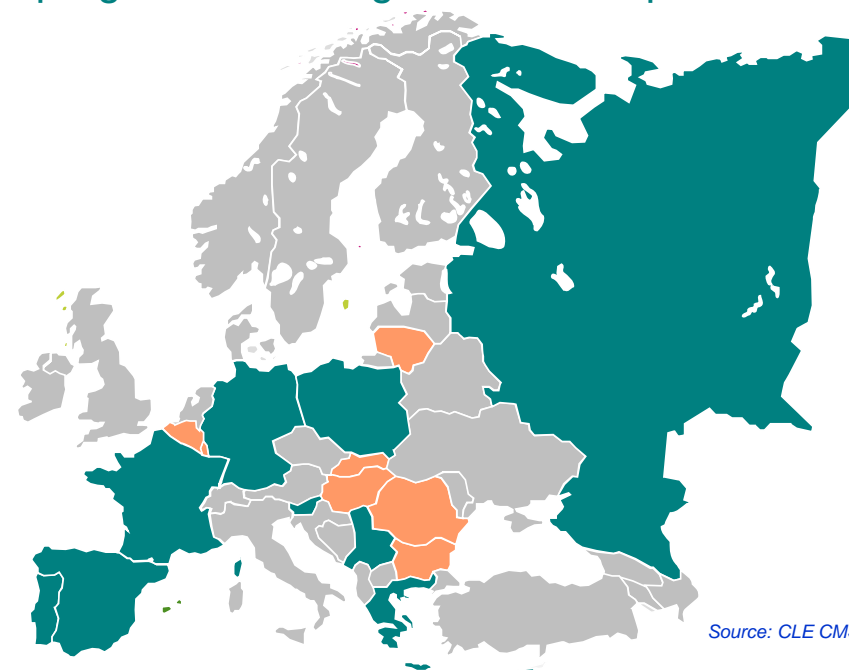
CMS with recycling programmes; CMS recognised as compliance EPR programme

## Country with recycling programme in place



- Recycling programme in place for rigid plastics (HDPE)
- Incineration with energy recovery
- No info available

## CMS programmes recognised as compliant EPR scheme



- Accredited EPR scheme (i.e. in principle, subject to EPR regulation and targets)
- Independent collection and recovery programme, i.e. members must also declare their packaging to a recognised local Producer Responsibility Organisation (PRO) to fulfil their legal EPR obligations.
- No EPR obligation on PPP packaging or information not available

### Remarks:

- For the EU legal targets for 2025/2030, only the packaging that has been “prepared for reuse or recycling”\* will be recognised.
- CMS programmes that are recognised as EPR scheme will have to comply with EU legal targets 2025/2030; i.e. to have recycling programme in place, unless regulated differently by the local laws

\*) waste which, having undergone all necessary checking, sorting and other preliminary operations to remove waste materials that are not targeted by the subsequent reprocessing and to ensure high-quality recycling, enters the recycling operation whereby waste materials are actually reprocessed into products, materials or substances (PPWD 94/62EC, Art. 6a)

# Container Management E18

Synopsis 2005 – 2020: Trends

## Trends 2020 (E18; plastics)

- Increase of total **quantity of plastics collected** (though not as significant as the increase of quantity shipped)  
**20,8 kto** (PY: 19.5 kto)
- Significant decrease of **collection rate** (mainly due to the strong increase of packaging placed on the market)  
**61,8%** (PY: 67,3%)
- Increase of quantity of **recyclates** & light decrease of **recycling rate**  
**17,2 kto; 82,4%** (PY: 16,5 kto; 84.7%)
- Increase of **overall cost** (Plastics)  
**15,1 M€** (PY: 14,1 M€)
- Overall, similar **unit CMS cost (€/kg collected)**  
**0.72 €/kg** (PY: 0.72 €/kg)

Data 2020 (rigid plastics!) (vs. 2019)	Matures (“E12”)	Pilots (6)*	“E18”	E18 + Other countries
Tonnes rigid <b>plastics shipped</b> to market	24 648 (+14%)	9 103 (+26%)	<b>33 751</b> (+17%)	<b>34 586</b>
Tonnes <b>plastics collected</b>	18 823 (+9%)	2 021 (-5%)	<b>20 844</b> (+7%)	<b>21 338</b>
Tonnes <b>plastic recycled</b>	15 372 (+6%)	1 804 (-12%)	<b>17 176</b> (+4%)	<b>17 430</b>
Overall <b>collection rate</b>	76,4% (-4%)	22,2% (-25%)	<b>61,8%</b> (-8%)	<b>61,7%</b>
Overall <b>recycling rate</b>	81.7% (-2%)	89,2 (-7%)	<b>82,4%</b> (-3%)	<b>81,7%</b>
k€ <b>Total cost (plastics!)</b>			<b>15 104</b> (+8%)	
€/kg average <b>cost per kg plastics collected</b>			<b>0.72</b> (+0,5%)	

\*E18 monitored countries

Matures (12):

Belgium  
Bulgaria  
Croatia  
France  
Germany  
Hungary  
Luxemburg  
Poland  
Portugal  
Romania  
Spain  
Slovenia

Pilots (6):

Cyprus  
Greece  
Lithuania  
Russia  
Serbia  
Slovakia

Other countries:

Austria  
Sweden


# Impact of COVID on the performances of CMS systems

## Reports from countries


Overall, the increase of the quantity collected (+7%) was not as strong as the increase of the quantity placed on the market (+17%), leading to a drop of the collection rate (-5,5% points). Can COVID explain in part this lower collection performance?

 Feedbacks from countries on the difficulties with COVID and collection performance:

- In pilot countries, difficulties to expand the collection to new area and to reach out to new PPP users due to the impossibility to organise trainings and to visit farms holdings;
- Delays with the annual collection launch in some countries due to logistic and workforce disruption (e.g. lock-downs in 2020/Q1-Q2)
- Some CMS programmes measured a notable drop of the number of farmers show-up at collection points, presumably by fear of COVID exposure. Users with limited quantities of empty packaging probably preferred to stockpile for some months.

 Overall, the total CMS net unit cost (€/kg collected) remained similar to previous year (0,72€/kg collected), though with important and divergent trends across countries:

- The cost variation was up to 25% for CMS programmes respective to 2019, though some as a cost increase and others as a cost drop.
- There is no clear trend about reasons for cost variation. Factors like waste classification, main final treatment (recycling or incineration), size of markets, location (East-Waste-South or North of Europe), etc. do not give clear directions on the cost variation. However, some systems reported lower recycling revenues in 2020 due to unfavourable pricing for recycled HDPE.
- Beyond the CMS sphere, the growing demand for recycled polymers and a lack of collection and recycling capacity in Europe has created major shortage across the recycled plastics supply chain in the first half of 2021, leading to an increase of pricing for recycled plastics from early 2021 (and of revenues for our CMS recycling programmes!)

 Return of eventual stockpiling by users in 2020, collection of empty packaging from products surplus from 2020 and good pricing for recycled HDPE from early 2021 could mean a very favourable collection conditions for our CMS in 2021!

# Container Management Strategies

CMS performance in EU & Tracking of progresses towards ECPA’s 2030 Commitment

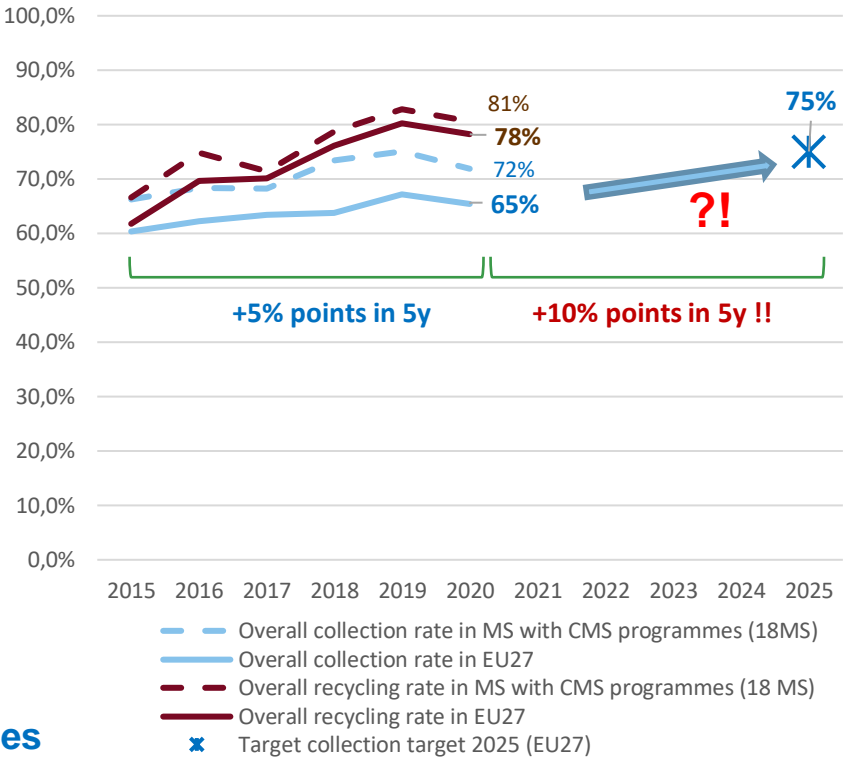


### 2030 Commitments For the Future of #Ag

Monitoring of CMS programmes in the EU	Overall Performance 2020 (Plastics)	2030 Commitment To achieve by 2025: (Primary packaging)
<b>EU MS with dedicated CMS programmes: 18 MS</b> Mature programmes (12 MS): BE, BG, DE, ES, FR, HR HU, LU, PL, PT, RO, SI Pilots programmes (4 MS): CY, GR, LT, SK Independent programmes (with data; 2 MS): AT, SE	<b>Collection rate:</b> 72% <b>Recycling rate:</b> 81% (of quantity collected)	<b>CMS in all MS, with Collection rate &gt;75%</b> <i>With new CMS projects in ("Roadmap"):</i> LV & NL (2021) CZ & IE (2022) ET & DK (2023) FI & MT (2024)  <b>More Recycling</b>
<b>All EU Member States: 18 MS / 27MS</b> Mature programmes (12 MS): BE, BG, DE, ES, FR, HR HU, LU, PL, PT, RO, SI Pilots programmes (4 MS): CY, GR, LT, SK Independent programmes (with data, 2 MS): AT, SE Countries with no specific scheme for pesticide packaging or with no monitoring of KPIs data (9 MS): CZ, DK, EE, FI, IE, IT, LV, MT, NL	<b>Collection rate:</b> 65%* <b>Recycling rate</b> 78% (of quantity collected)	

\*) Calculated as Total quantity collected by monitored programmes / Total quantity plastic packaging shipped in the EU market (where data is not available, quantity is estimated based on market sales data)

### Overall CMS performance EU27



### Conditions for achieving the CLE’s Commitments for Circular Economy:

- 📌 Dedicated CMS programmes established in all MS by 2025, with particular efforts in **new countries**
- 📌 **Pilot programmes** are fully developed into mature CMS programmes by 2025 with a target of 75% collection rate
- 📌 **Mature CMS programmes** with collection rate below 70% shall have a plan of measures to reach the collection targets by 2025
- 📌 Management solutions & data monitoring in place for **all primary packaging**
- 📌 Safe and controlled **recycling programmes** in place, where possible
- 📌 Harmonized & certified **CMS KPIs**

Notes:

- Data are for rigid plastic containers. As of 2020, data about other primary packaging (e.g. multilayer flexible sachets) are not systematically collected at country level.
- Data represent the quantities managed by the CMS programmes; Real total market might be bigger. Likewise, the real collection quantity might be higher due to other routes of collection.

# Survey: impact of waste classification



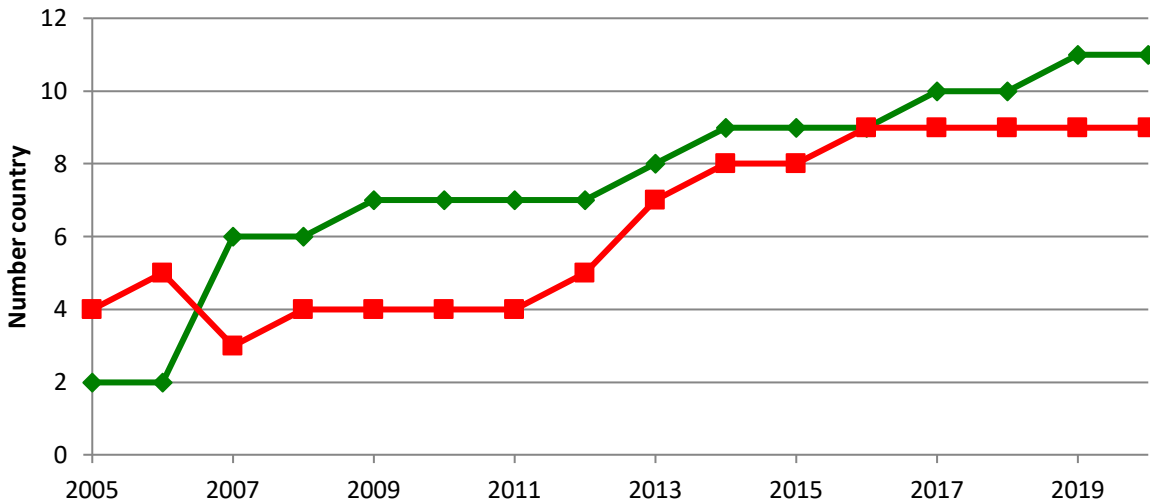
# Container Management Strategies

## Classification of rinsed PCR in Europe

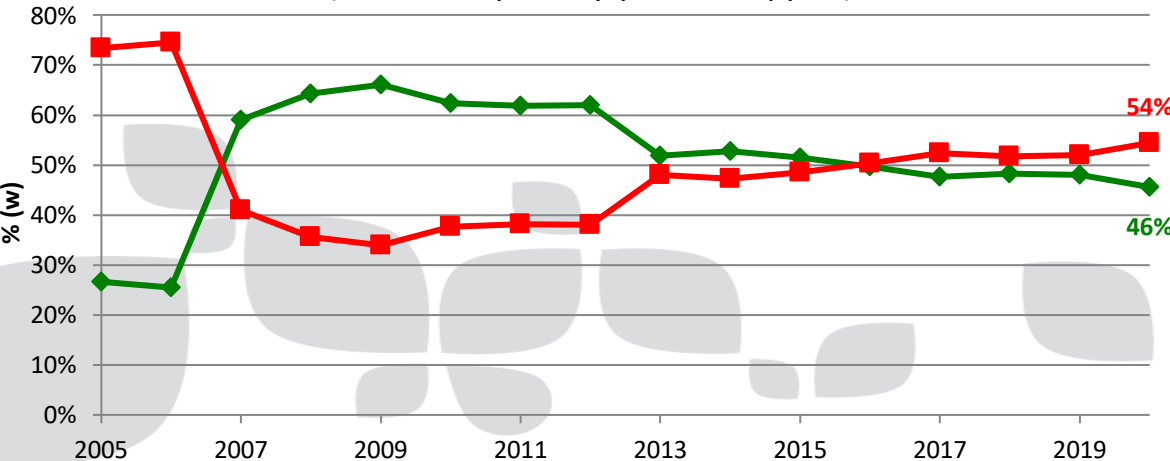
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Waste classification in monitored CMS



Waste classification in countries with monitored CMS  
(based on quantity plastic shipped)



Classification of rinsed PPP packaging waste

- non hazardous
- hazardous
- non hazardous except T+
- unclear

France: ADIVALOR

- ≤20 t non hazardous;
- >20 t hazardous

Monitored countries

**Matures:**

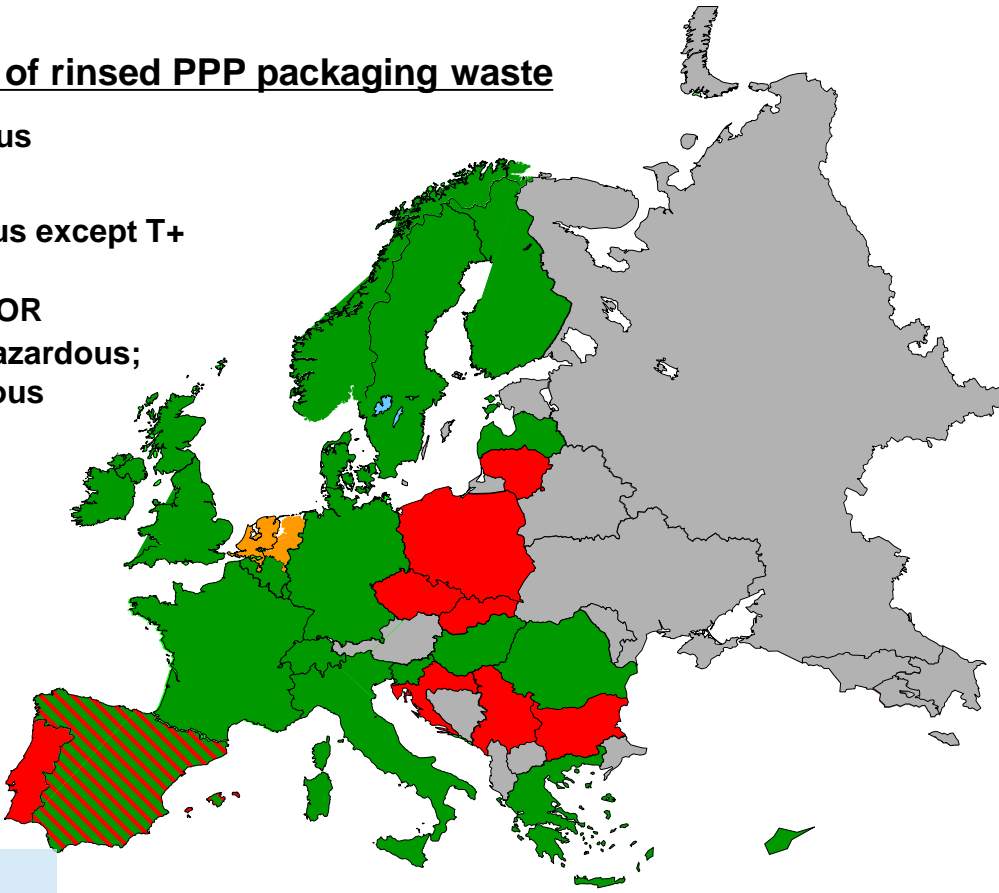
- Belgium
- Bulgaria
- Croatia
- France
- Germany
- Hungary
- Luxembourg
- Poland
- Portugal
- Romania
- Spain
- Slovenia

**Pilots:**

- Cyprus
- Greece
- Lithuania
- Russia
- Serbia
- Slovakia

**Independent:**

- Austria
- Sweden



Source: CLE CMS survey 2020

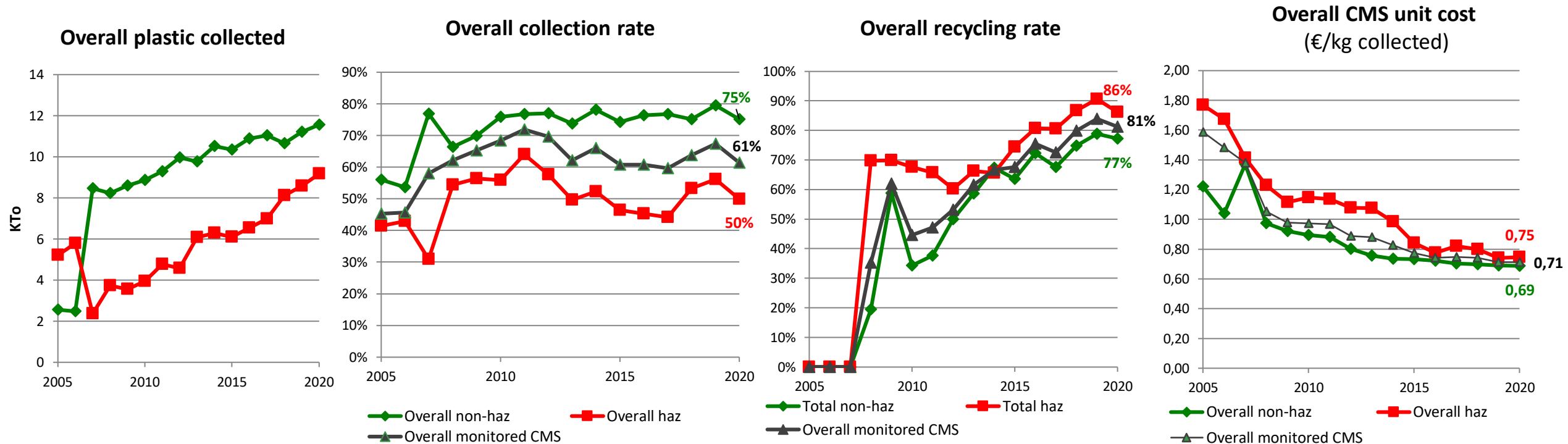


# Container Management Strategies

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Benchmark of the impact of classification on CMS performance (E18)



## Trends (plastics, 2020):

- Statistically appropriate to benchmark countries with **hazardous** / **non-hazardous** classification because similar number of countries (9/11) and market size (54%/46% of overall quantity packaging shipped)
- Overall, the **collection rate is higher** when the classification is **non-hazardous**:  
**Non-hazardous CMS: 75%;** **Hazardous CMS: 50%**
- Overall, the **recycling rate is higher** in systems with **hazardous classification**:  
**Non-hazardous CMS: 77%;** **Hazardous CMS: 86%**
- Overall, the **unit cost (€/kg collected) is lower** with **non-hazardous** classification (3-60% lower over the last 15 years)
- At country level, these trends can show very different pattern.
- The recent increase of quantity of hazardous waste collected is in part due to collection increase in pilot countries where the classification is **hazardous** for a majority of cases.



**Thanks**

