FEAD
European Waste Management Association

FEAD Strategic Workshop

How to make the circular economy work?

A new alliance between the waste management and manufacturing industries

6
JULY

6 July 2023

FEAD Strategic Workshop

Welcome!

Claudia Mensi

FEAD President

6 July 2023

FEAD Strategic Workshop

Early Warning Report on waste

What are the reasons behind Member States' performance?

Aurel Ciobanu-Dordea

Director of Circular Economy,
European Commission

Early Warning Report 2023

Unfulfilled obligations – missed opportunities
… and a credibility issue

Waste recycling targets for 2025
Landfill reduction target for 2035

Scope

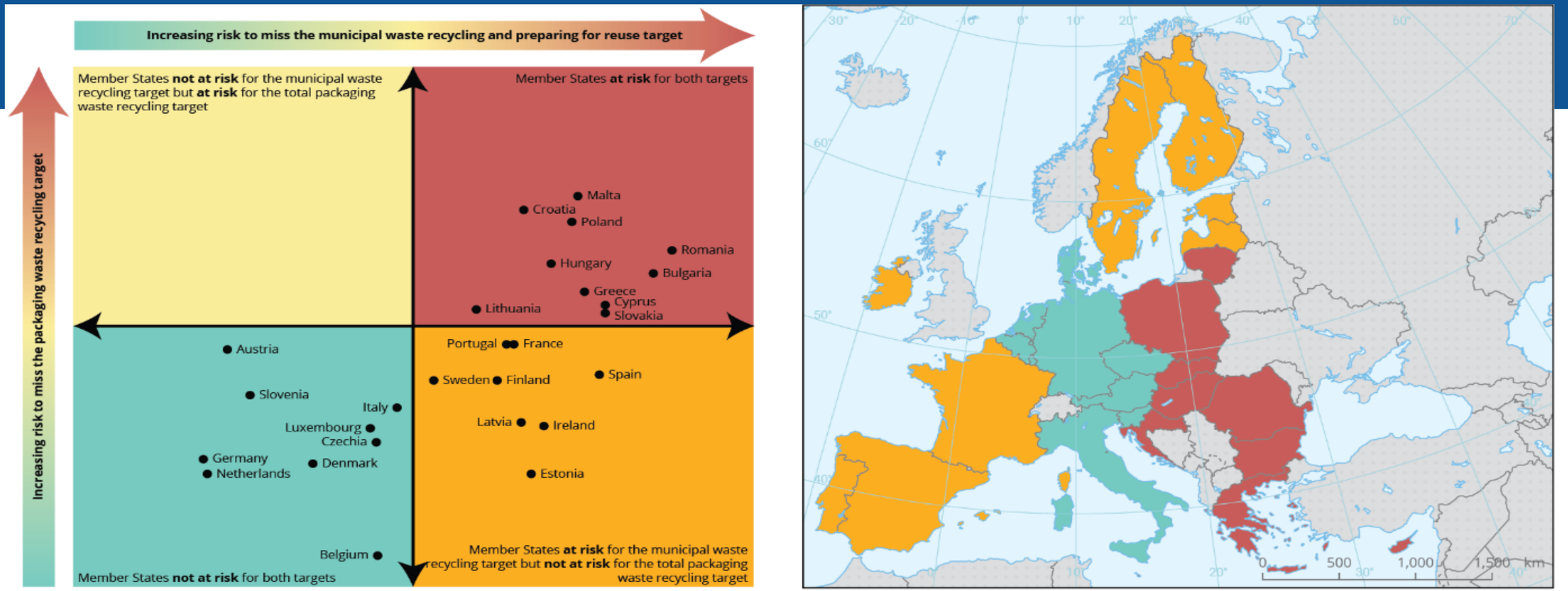
- The Waste Framework Directive (WFD), the Packaging and Packaging Waste Directive (PPWD) and the Landfill Directive (LD) set specific targets for recycling and landfilling of waste to be achieved by **2025**:
  - **55 %** preparation for re-use and recycling of municipal waste
  - **65 %** recycling of total packaging waste
  - Material specific recycling targets for packaging waste (**75 %** paper and board, **70 %** glass, **50 %** plastic and aluminium, **25 %** wood)
- In addition, the LD obliges MS to reduce the landfilling rate of municipal waste to **less than 10 %** by **2035**.

EWR 2023: comprehensive income

- **9** MS are **close** to or have already achieved both objectives (AT, BE, CZ, DK, DE, IT, LU, NL, SI)
- **18 out of 27 MS are at risk of not meeting** the 2025 targets for preparing for re-use and recycling of municipal waste (MSW):
  - **8** Ms are at risk of not meeting the MSW target **(** ET, FI, FR, IE, LV, PT, ES, SE).
  - **10** Ms are at risk of not **meeting the targets for MSW and packaging** (BG, HR, CY, GR, HU, LT, MT, PL, RO, SK)

EWR 2023: comprehensive income

- **21 MSs** (even some of the best performing ones) are at risk of not meeting one or more targets for specific packaging waste streams (AT, BG, HR, CY, CZ, DK, ES, FI, FR, GR, HU, IE, IT, LV, LT, LU, MT, PL, PT, RO, SK).
- In addition, **13 MS** are at risk of not achieving the 10 % MSW discharge target by 2035.



Reference data: ©ESRI

Prospects for EU Member States of meeting the recycling targets for municipal waste and packaging waste

Risk score

- Member states not at risk for both targets
- Member States not at risk for the municipal waste recycling target but at risk for the total packaging waste recycling target
- Member States at risk for the municipal waste recycling target but not at risk for the total packaging waste recycling target
- Member states at risk for both targets
- Outside coverage

Why is it important?

- *In the face of the current crisis and rising energy prices, effective waste management can strengthen EU strategic autonomy in energy, raw materials and fertilizers.*
- *It also represents an economic opportunity for businesses, including SMEs and start-ups.*
- *It can also boost research to develop innovative solutions.*

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The EU's necessary actions to boost the circular economy

PANEL A

PANEL DISCUSSION

Aurel Ciobanu-Dordea

Director of Circular Economy,
European Commission

Patrik Brodd

Counsellor – Working Party on the Environment,
Swedish Presidency of the Council of the EU

Victor Dries

President,
OVAM

Herwart Wilms

FEAD Vice-President,
Director, REMONDIS, Germany

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Plastics upcycling for automotive industry

What is the role of Circular Economy in the new projects developments?

Leonardo Forner

Group Marketing & Sustainability Coordinator,
Sirmax Group

The role of Circular Economy in the new projects developments – plastic upcycling for automotive industry

FEAD – Strategic Workshop
How to make the circular economy work?
A new alliance between the waste management and manufacturing industries

Bruxelles, July 6th

Leonardo Forner
Marketing & Sustainability Coordinator – Sirmax Group

Agenda

- ❑ Sirmax at a glance
- ❑ How to upcycle Plastic Waste: Group Strategy
- ❑ Case studies: Home appliance and automotive applications

A global, family company since 1964

Revenue

€500 Mln
with customers in **46** countries

Plants & production capacity

13 plants
395 Kton capacity

Employees

850
worldwide

Global presence

Among the first 5 independent polypropylene compounders
in the world and of engineering compounds in Europe

Assets

61 production and
13 R&D extruders

Investment

€40 Mln
nel 2021/2022

Research and innovation

More than **500** new formulations developed

R&D Laboratories

6 R&D centers
13 quality control labs

Cooperation

University of Padua,
University of Turin,
Sapienza University of Rome,
Ghent University,
UMass Lowell,
Massachusetts Institute of Technology

13 plant around the world, each with a specific mission

SIRMAX
PROXIMITY COMPOUNDING

Europe


Italy

Sirmax
Cittadella HQ
PP Compound
and R&D

50 kton/yr


Italy

Sirmax
San Vito al Tagliamento
EPC Compound
and R&D

23 kton/yr


Italy

Sirmax
Isola Vicentina
Logistic Hub


Italy

Sirmax
Tombolo
EPC Compound

35 kton/yr


Italy

S.E.R.
Salsomaggiore Terme
rPP, rHDPE Polymers
and R&D

35 kton/yr


Italy

Sirmax BioComp
Mellaredo di Pianiga
Biocompound
and R&D

24 kton/yr


Poland

Sirmax Polska
Kutno 1
PP Compound

85 kton/yr


Poland

Sirmax Polska
Kutno 2
TPE, EPC Compound
and R&D

30 kton/yr

Americas


USA

Sirmax North America
Anderson, IN
PP Compound

48 kton/yr


USA

SER North America
Anderson, IN
rPP Polymers

18 kton/yr


Brazil

Sirmax do Brasil
São Paulo
PP Compound

15 kton/yr

Asia


India

Autotech Sirmax
North - Palwal
PP Compound

12 kton/yr


India

Autotech Sirmax
West - Valsad
PP, EPC Compound
and R&D

20 kton/yr

Production capacity

A broad and sustainable product portfolio

Core Business

Polyolefin Compounds

Engineering and Styrenic Compounds

Growth options

Thermoplastic Elastomers

Circular Solutions

Bio Solutions

Fields of application

- Automotive
- Home Appliance
- Electrical & Electronics
- Building & Construction
- Furniture
- Sport & Leisure
- Power Tools
- Packaging
- Gardening & Agriculture

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Upcycling is the milestone to reach our vision

Step 1
UPCYCLING
Reuse discarded material in such a way as to create a product of higher quality or value than the original

Step 2
CLOSING THE LOOP
Collecting end-use applications made by Sirmax materials and recycling them

Mechanical Recycling has the lowest environmental impact…

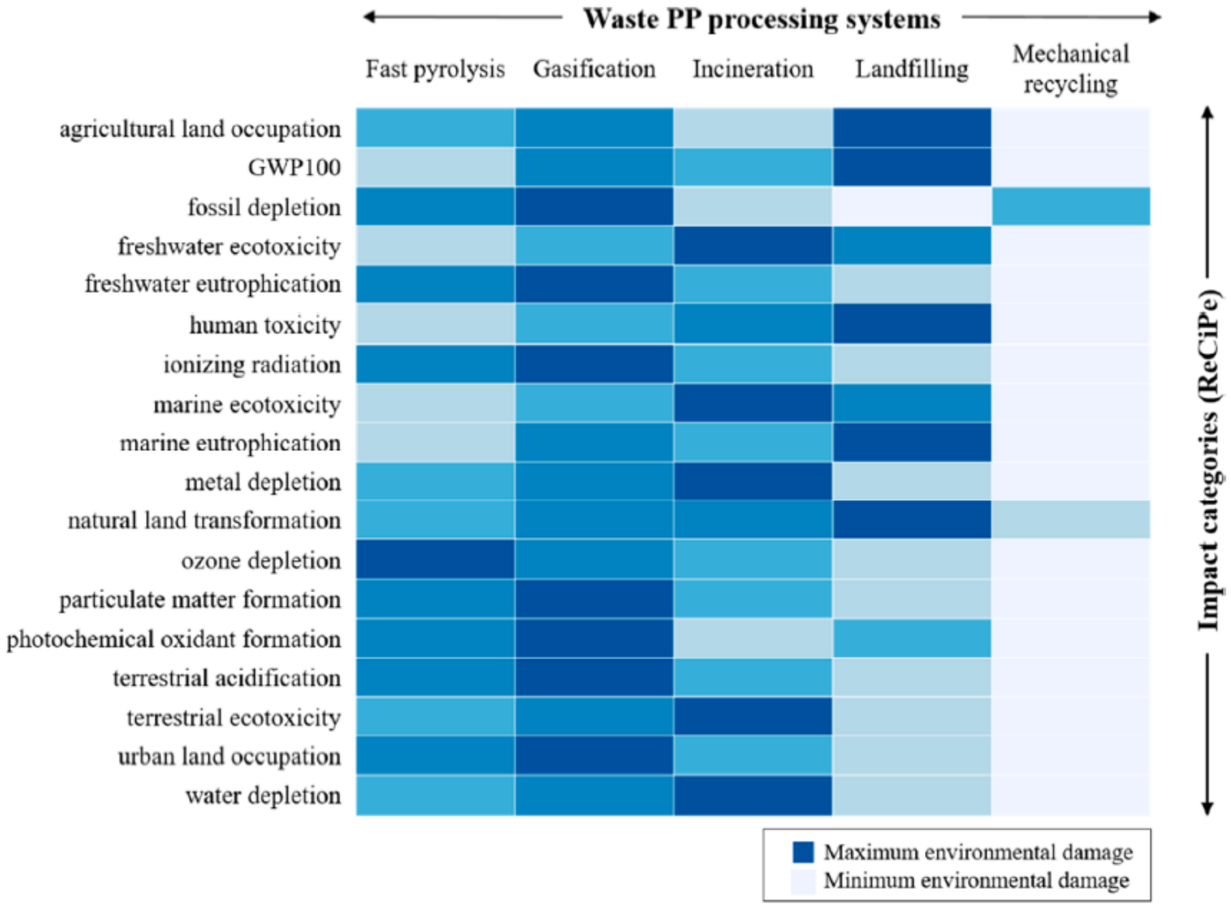
BENEFIT

- **Better environmental performance** as it preserves the natural resources and energy required for producing virgin plastic
- **Prevent waste from going to landfill**
- **Better output-input ratio (1:1)** compared with chemical recycling (0.22:1)

CHALLENGES

- **Raw material availability and its quality** (inconsistency, contamination)
- Post consumer **multilayered plastic** packaging is difficult to separate

COMPARATIVE LCIA ASSESSMENT



ACS Sustainable Chem. Eng. 2020, 8, 16350−16363

Two plants among EU and US for plastic recycling

S.E.R. Italy

In 2019 the Sirmax Group acquired the Ser plant in Italy. Today, **production capacity has doubled** to meet the growing demand for circular compounds.

35 Kton
production capacity

rPP and rHDPE
from post-consumer waste

SER North America

The twin plant in the US relies on the **expertise of the Italian plant** to meet the demand of the **American market.**

18 Kton
production capacity

rPP
from post-industrial scraps

Production flow: the process to obtain 100% recycled plastics

SORTING
Metals, polymer and color

SHREDDING

HORIZONTAL WAREHOUSE STORAGE

Coarse regrind

CENTRIFUGAL WASHING
Elimination of impurities
Floating weight separation

DRYING AND REVISION MILL
Floating weight separation
Second Mill

OPTICAL SORTING

HORIZONTAL WAREHOUSE STORAGE

Regrind (flakes)

EXTRUSION PROCESS
With potential addition of additives and colorants

Sertene® PE
Sertene® PP

From Recycling to Upcycling

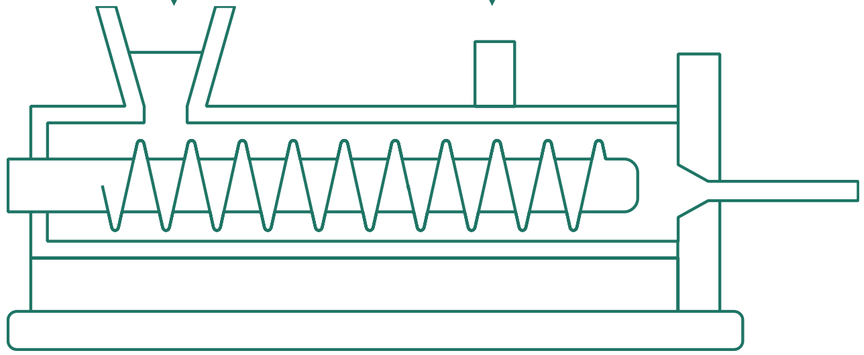
Sertene® PP
100% Recycled Polymers

Prime polymer
in different %

Mineral filler /
Glass fiber

+

Color /
Additives



Green Isofil®
PP Circular Compound mineral filled

Green Isoglass®
PP Circular Compound glass fiber reinforced

Partnership and co-design is the key to overcome challanges – supply chain structure

SIRMAX GROUP

OEM

TIER

RECYCLER

COMPOUNDER

ENGINEERING

ENVIRONMENTAL TARGETS	TECHNICAL REQUIREMENTS	MATERIAL OMOLOGATION	MATERIAL SELECTION	MATERIALS SAMPLE	CO-DESIGN AND MOLD ENGINEERING

FINAL COMPONENT

*All trademarks, logos and brand names are the property of their respective owners. All company, product and service names used in this presentation are for identification purposes only. Use of these names, trademarks and brands does not imply endorsement.

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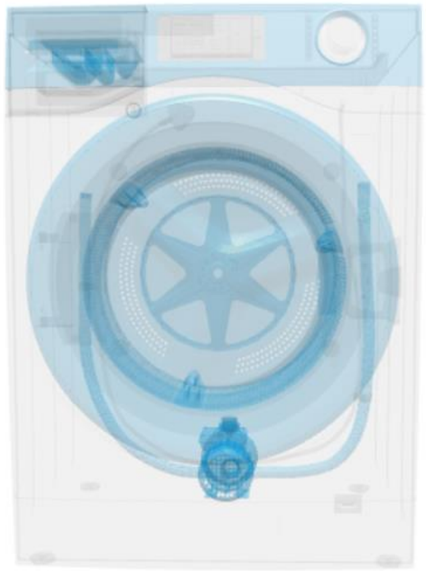
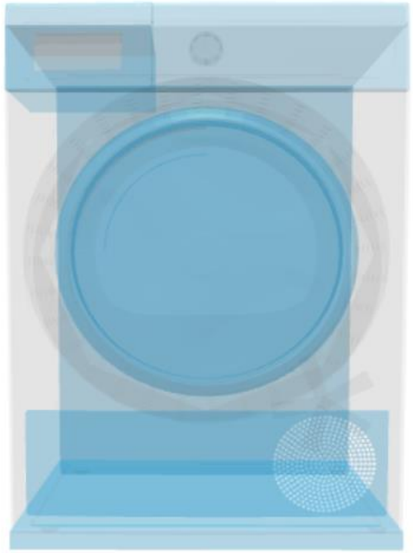


Washing machine front load

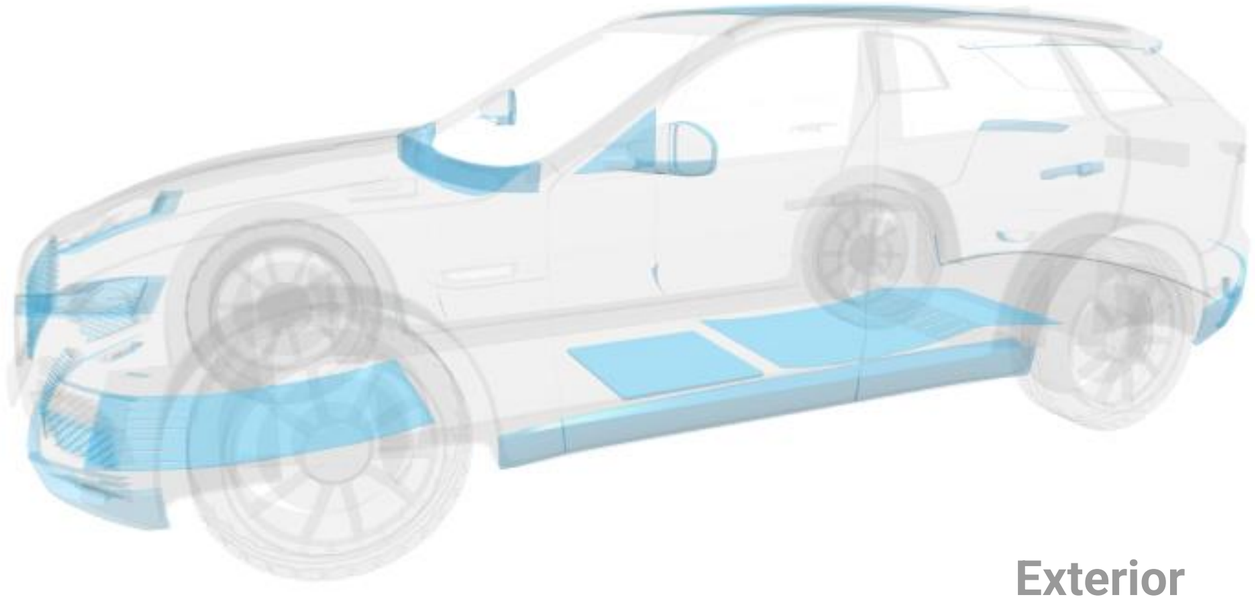


Dryer

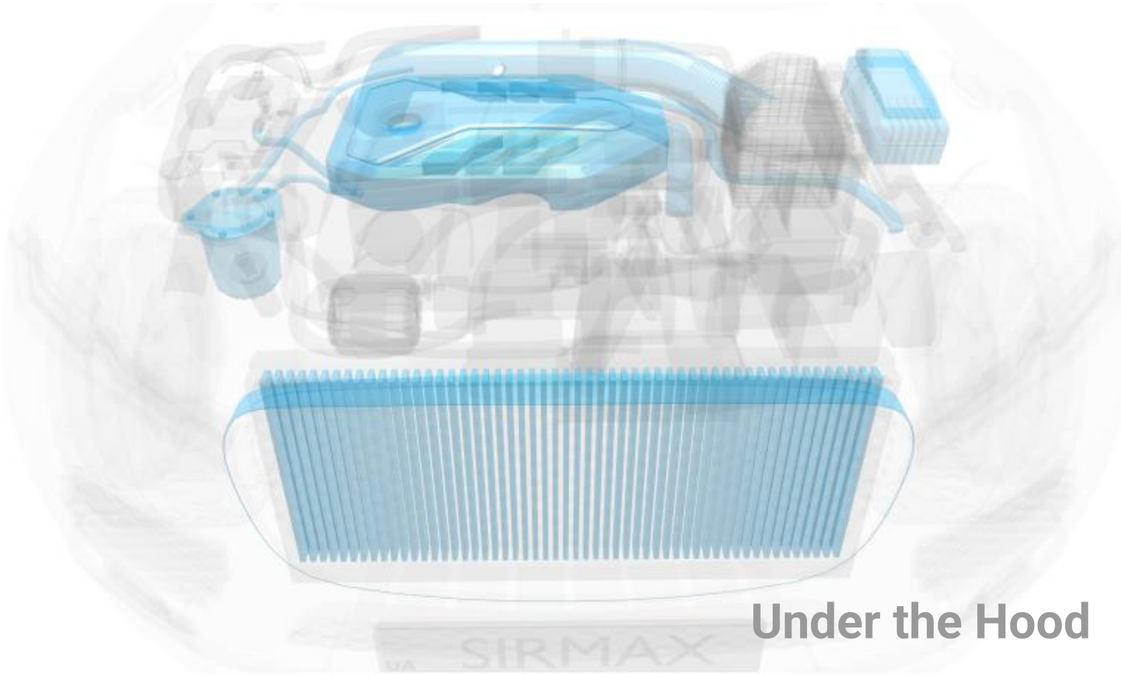
HOME APPLIANCE

Dishwasher

Washing machine top load



Exterior



Under the Hood

AUTOMOTIVE

Interior

Dashboard

PRODUCTS

Tomorrow industry challenges for an high quality recycling

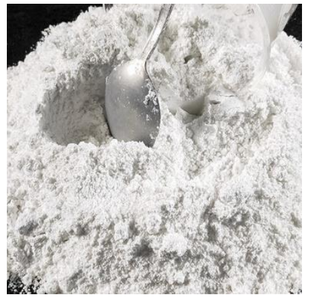
Multilayer films

COMPONENTS: PP-PE, PP-Al, PP-PET

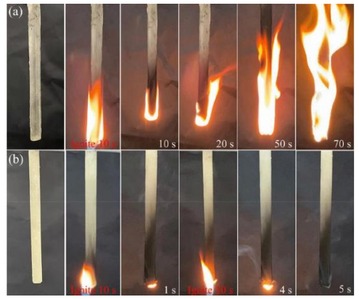
Multi-material packages

Ink

Additives in the packaging formulation



Mineral and glass fillers



Flame retardant, TiO2, carbon black,...

SIRMAX GROUP

Thanks!

Find out more on
SIRMAX.COM

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Secondary Raw Materials (SRM) Market

How is the performance of SRM markets in Europe?

Almut Reichel

Circular economy and waste expert,
European Environment Agency

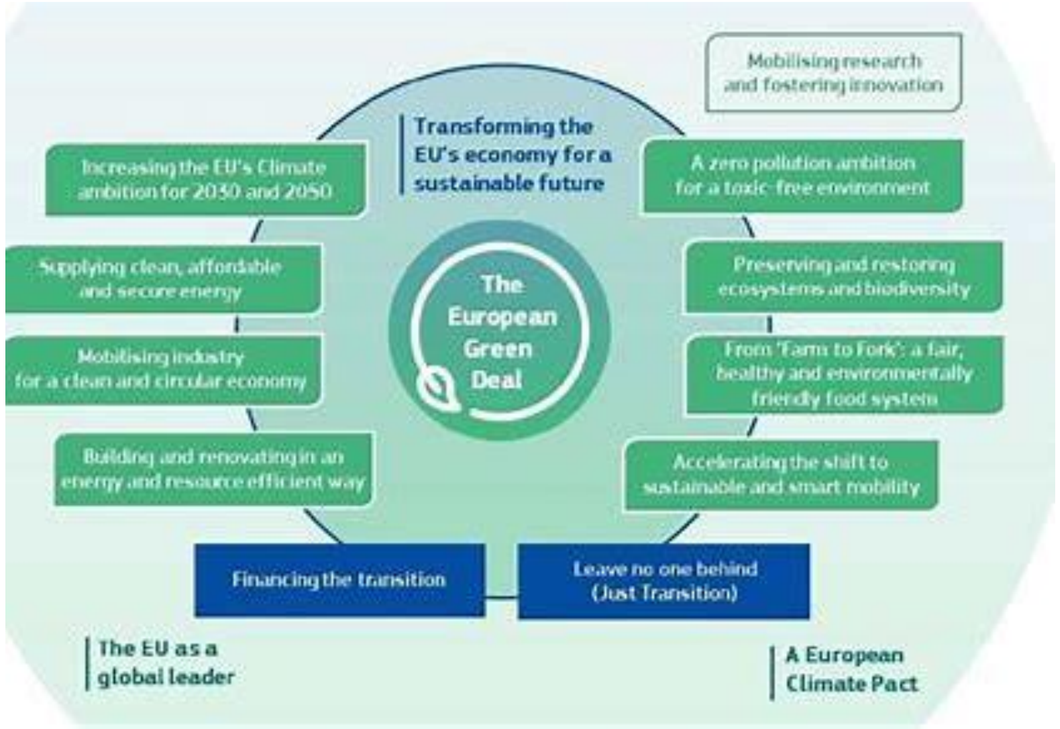
Investigating Europe's secondary raw material markets

(link to the publication)

FEAD Strategic workshop, 6 July 2023

Almut Reichel

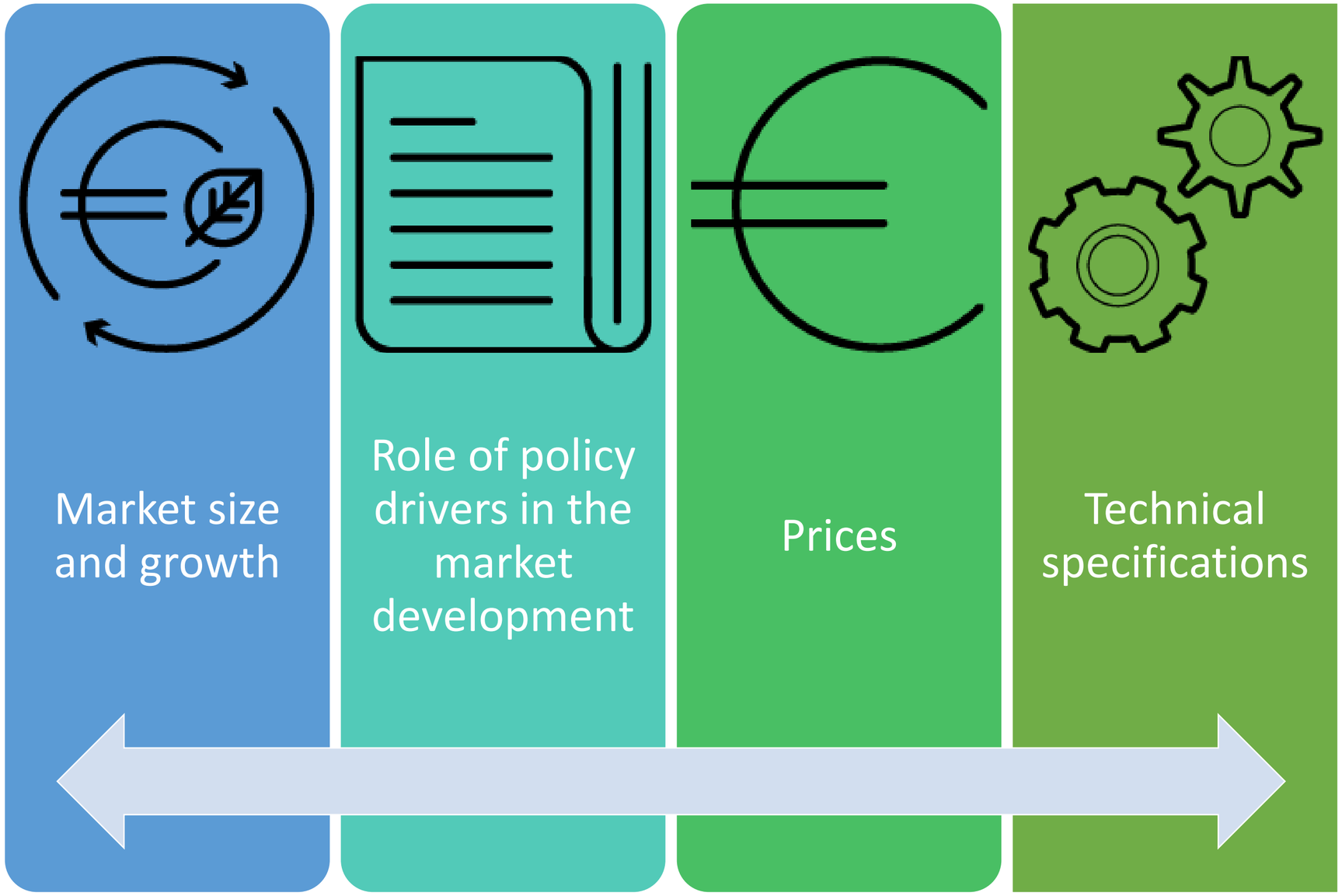
Policy Context



Circular Economy Action Plan (2020)

"Creating a well-functioning EU market for secondary raw materials"

Criteria for assessing the functioning of SRM markets



Are Secondary Markets working well?

Aluminium

Paper

Glass

Wood

C&D

Plastics

Biowaste

Textiles

- established long time ago
- open and international
- significant market share in overall manufacturing

- small size compared to virgin materials market
- weak demand
- lack of technical specifications

Example: aggregates

C&D

High supply but varying demand

Very local markets

Low-grade recovery and use in road building dominates

Lack of information to demand and supply market actors

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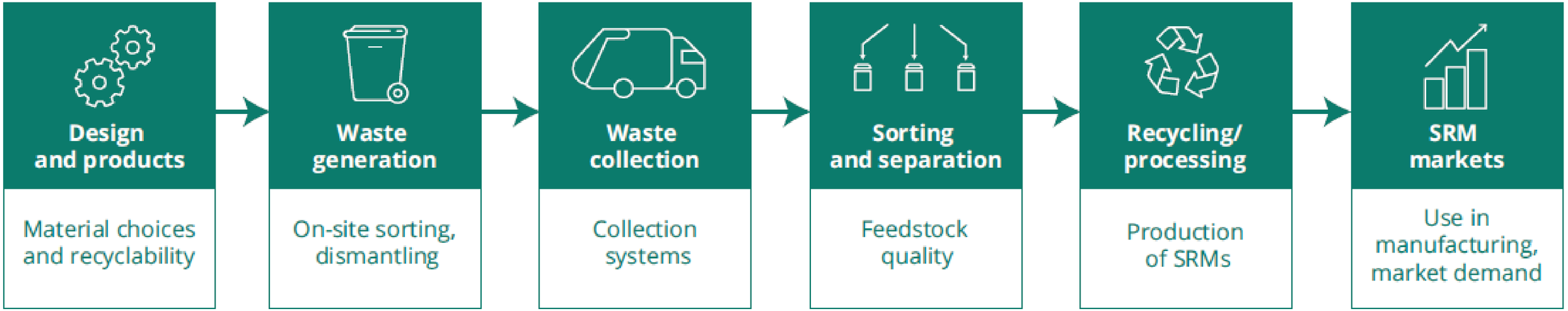
SRM markets: barriers to their full potential



Weak requirements/ incentives for design for recycling

Lack of proper separation at source

High investment costs and uncertainty of stable supply

Distrust in SRMs due to lack of standards and risk of unstable supply

regulatory – economic – technical barriers

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Policy options to improve SRM markets

Product manufacture and design	Supply of SRM	Demand for SRM
• Eco-modulated extended producer responsibility fees • Design for environment measures • Restrictions on substances inhibiting recycling • Green public procurement	• Recycling targets • Waste export restrictions • Harmonising collection schemes • Promoting material recovery over energy recovery • Standardising SRMs • End of waste criteria	• Recycled content requirements • Ecolabel/product passports • Tax on primary raw materials • VAT reduction on SRMs

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Thank you!

almut.reichel@eea.europa.eu

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The potential role of a new alliance between the waste management and manufacturing industries

PANEL B

PANEL DISCUSSION

Almut Reichel

Circular economy and waste expert,
European Environment Agency

Sandro Gozi

Member of the European Parliament,
Renew Europe, France

Cédric de Meeûs

President,
Construction Products Europe

David Lamy

FEAD Vice-President,
Director, SUEZ France

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Unveiling FEAD's vision

What is the future of waste management?

Claudia Mensi

FEAD President

FEAD Strategic Workshop

How to make the circular economy work?
The potential role of a new alliance between the waste management and manufacturing industries

6 July 2023

FEAD Vision

Presentation by Claudia MENSI

FEAD President

FEAD
European Waste Management Association

SITUATION TODAY

M-S at risk -
MSW

M-S on track to
MEET THE
TARGETS

MS at risk –
MSW & PACKAGING

MS at risk -
LANDFILL

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European Waste
Management Association

OUR VISION

- **Shifting Europe's overall material use towards recycled materials through industrial excellence in waste management.**

OUR MISSION

- **Supply the European economy with secondary raw materials and energy,** while
- **managing waste in a safe and environmentally responsible way.**

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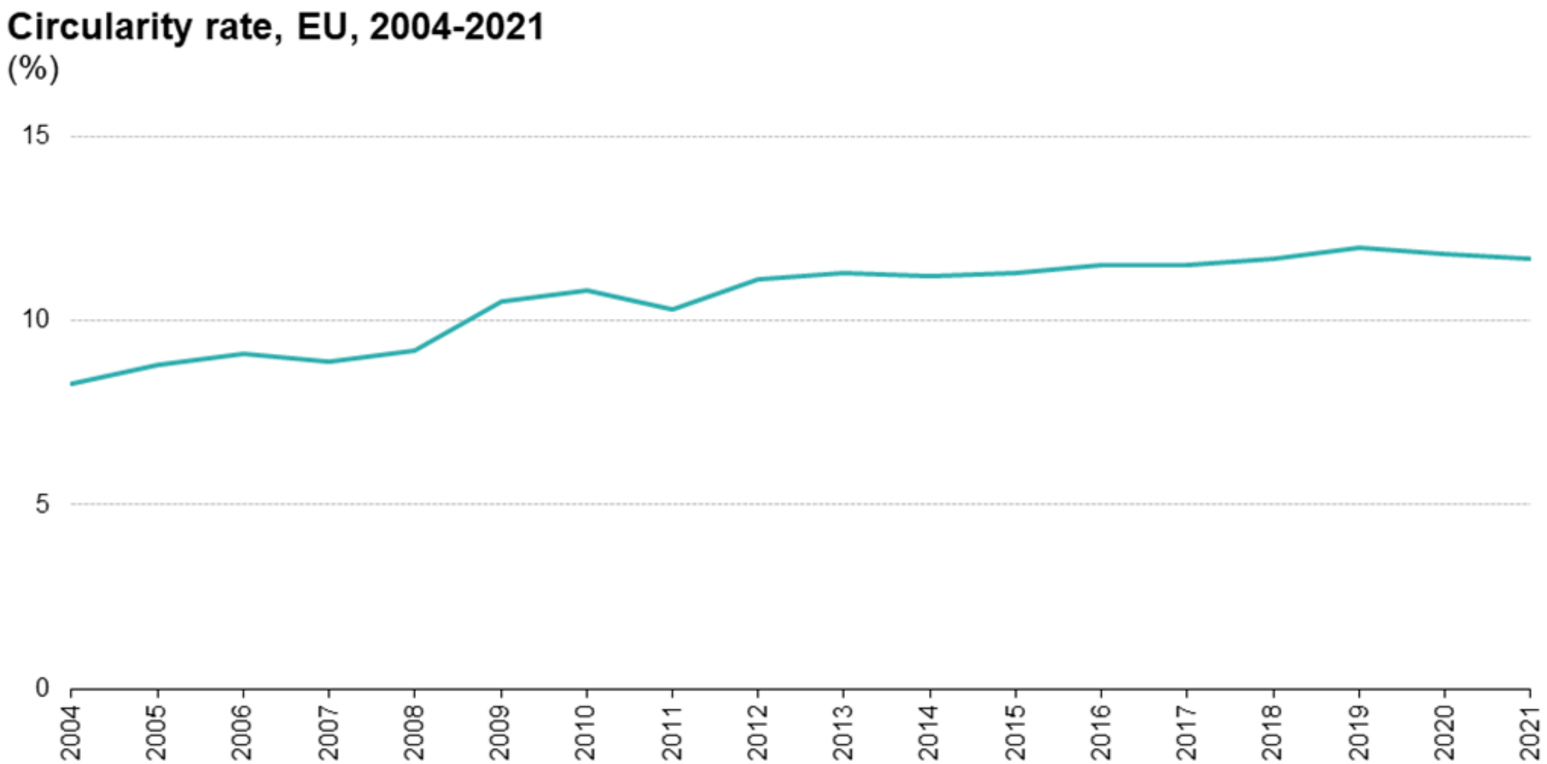
DIAGNOSIS



Source: Eurostat (online data code: env_ac_cur)

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eurostat

Why is the EU circularity rate not progressing?

REASONS

Ecodesign

Insufficient ecodesign: design for recycling and mandatory use of SRMs in products

Separate collection

Lack of large-scale and effective separate collection systems

EoW Criteria

Lack of harmonised EoW criteria at EU level

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REASONS

Market Instability

Uncertainty/instability of demand

GPP untapped

Potential of GPP not used

Lack of implementation

Lack of implementation EU legislation

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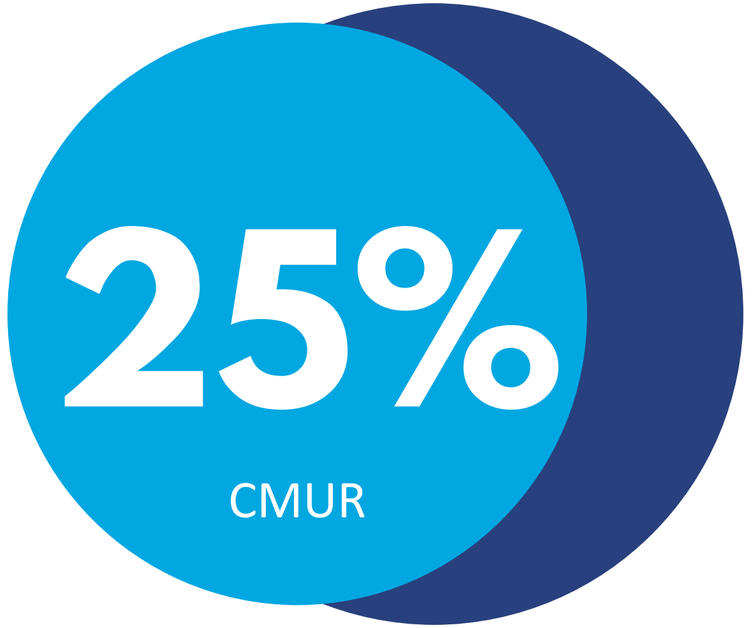
OUR GOAL

FEAD supports the European Union's ambition to **double** its Circular Material Use Rate (CMUR) by 2030.



How to achieve this?

- **WASTE PREVENTION**
- **RECYCLING**

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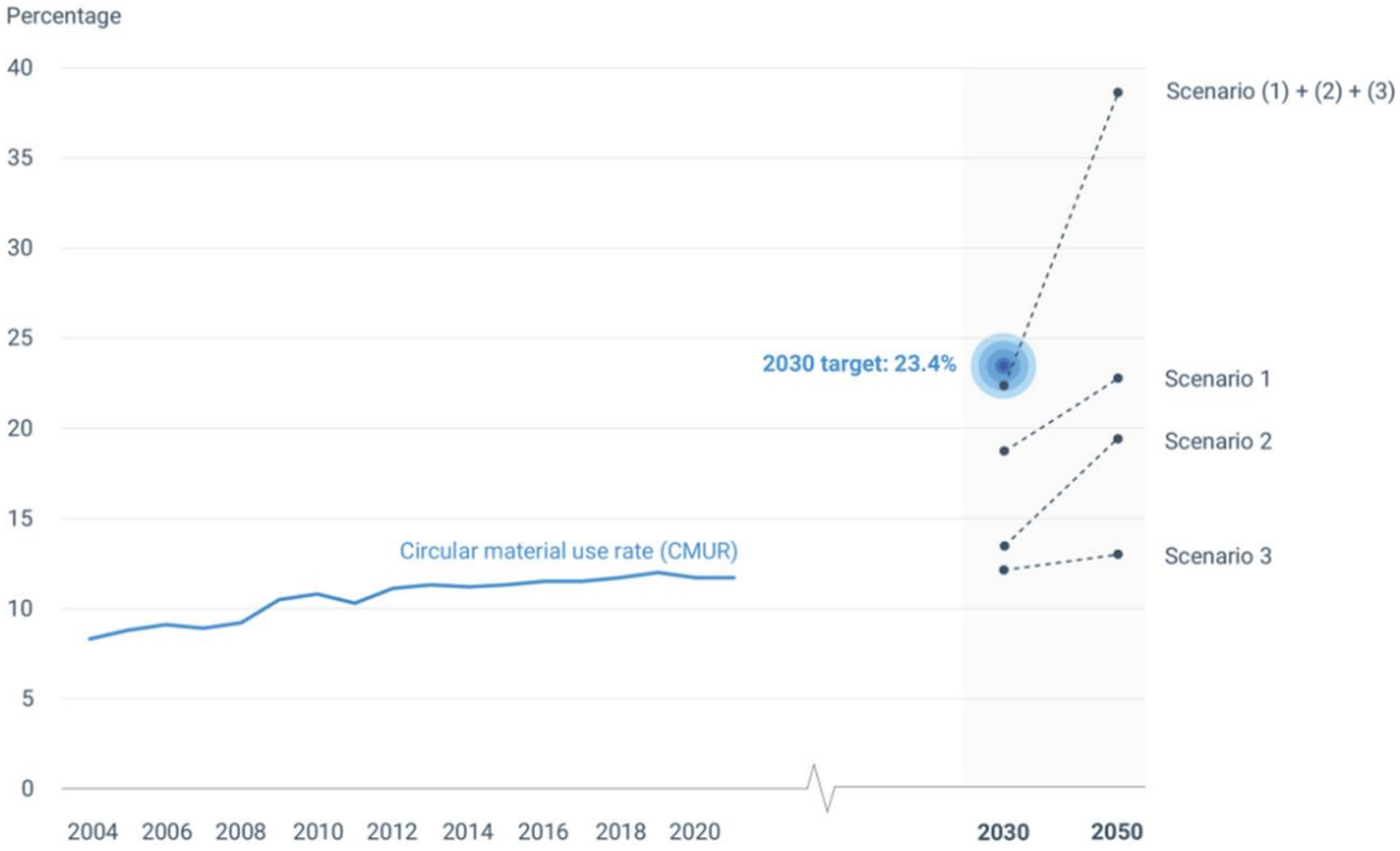
NUMBERS

Figure 3. Circular material use rate under different exploratory scenarios



Sources: Developed by the EEA and the European Topic Centre on Circular Economy and Resource Use (ETC CE). A more detailed description of the scenarios and how they are modelled is available in ETC CE (2023). CMUR trend 2004-2021: Eurostat (2023a).

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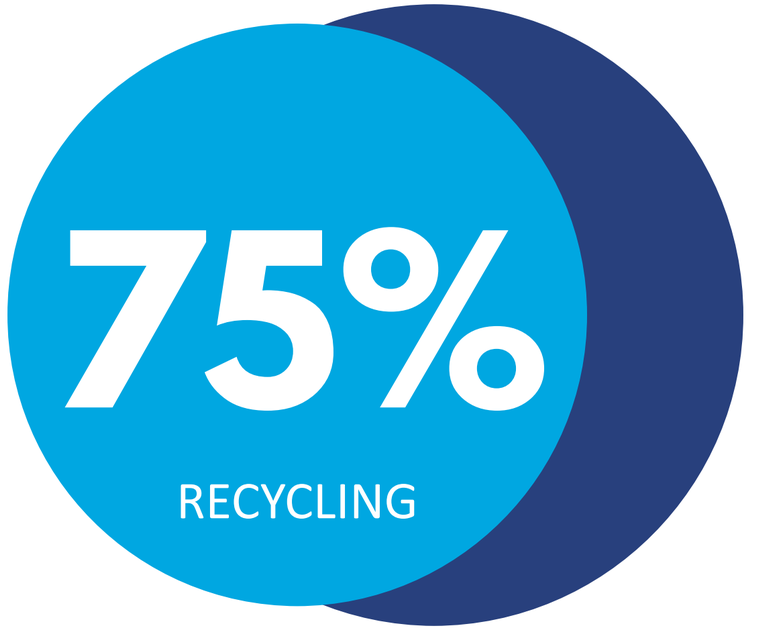
OUR TARGET

Achieve **75%** recycling for all waste in the EU by 2035.

- Ambitious target
- In line with the EEA scenarios on what it takes to double the CMUR



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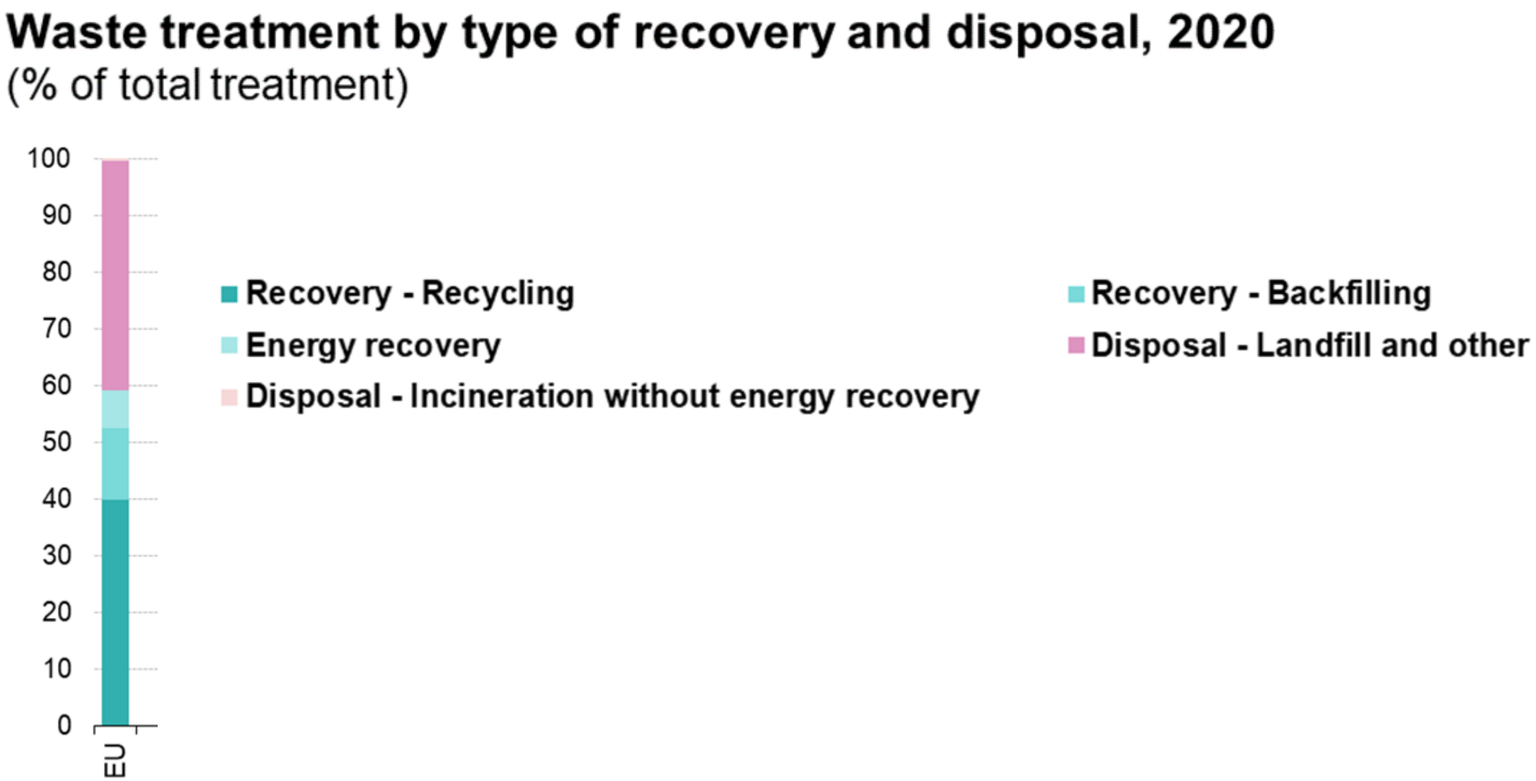
Where are we now?

Starting Point

40%



Source: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Waste_statistics#Waste_treatment

What will FEAD do.

We call for

Circular Economy Value Chain Partnerships

that connect the waste management sector with industrial production

MAJOR **PRINCIPLES**

- The establishment of large-scale and **effective separate collection systems,** where public authorities (in the case of municipal waste), waste producers and waste collectors cooperate on the basis of clear obligations and responsibilities;

- **Concerted action between the waste management sector, industrial production and product or service design**

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We stand

Industrial Excellence

The sector is set to invest 60 bn€ over the next 12 years in innovation and capacity-building

Communication

Strengthen communications on the value of waste to ensure public and industrial acceptance of the waste management sector as a reliable supplier of raw materials

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Thank you for your attention!

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