



Consorzio Nazionale
per la raccolta,
il riciclo e il recupero
degli imballaggi
in plastica

APPROACHING PET TRAYS CIRCULARITY THE COREPLA EXPERIENCE



GIOVANNI
BELLOMI

GENERAL MANAGER - COREPLA



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WHO WE ARE?

COREPLA (***National Consortium for the Collection and Recycling of Plastic Packaging***) is the main Italian **EPR** scheme aimed at **managing the end-of-life** and the transition to a new life of **plastic packaging placed on the Italian market** arising from separate waste collection.

We are in charge of achieving the recycling targets set by the Italian and European regulations.



COREPLA MISSION

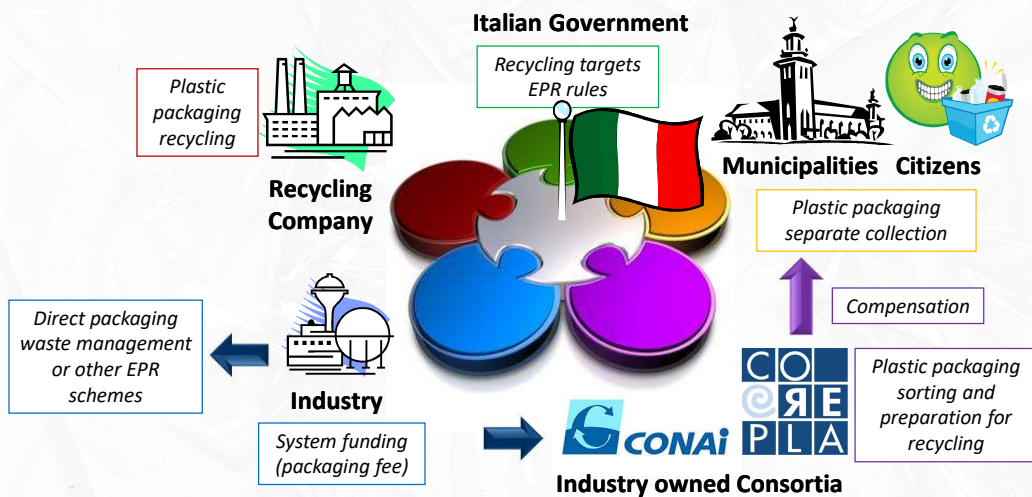
COREPLA is the industry's reference for the **separate collection of plastic packaging** placed on the Italian market. Waste packaging is sorted by polymer and packaging type into homogeneous waste streams, that are supplied to the European **recycling** market to be converted into **secondary raw materials**, with the aim to increase the recycling of plastic packaging, transforming it from **waste to resource in a fully sustainable way**: environmental, economical and social.



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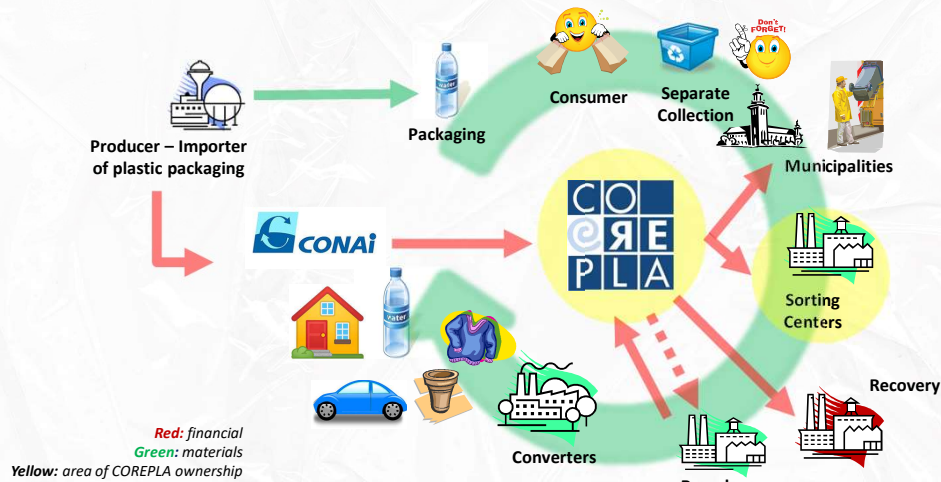
EXTENDED PRODUCER RESPONSIBILITY IMPLEMENTATION IN ITALY



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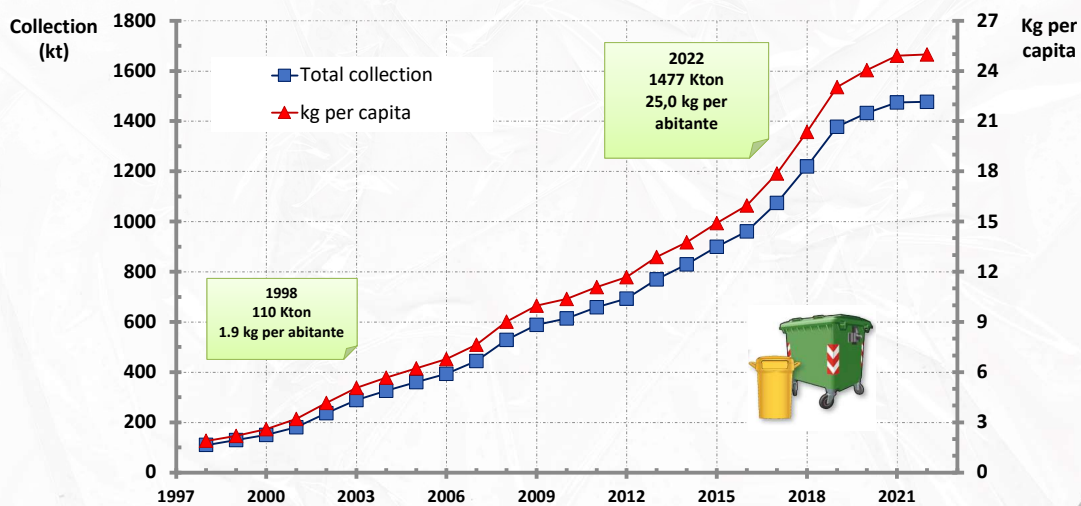
CENTRAL ROLE OF COREPLA IN THE PLASTIC PACKAGING VALUE CHAIN



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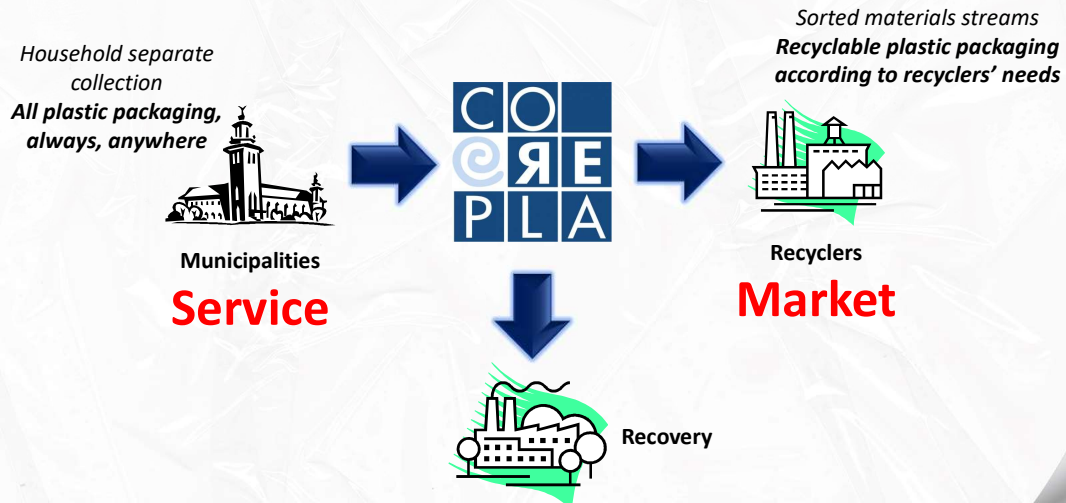
HOUSEHOLD PLASTIC PACKAGING WASTE SEPARATE COLLECTION IN ITALY



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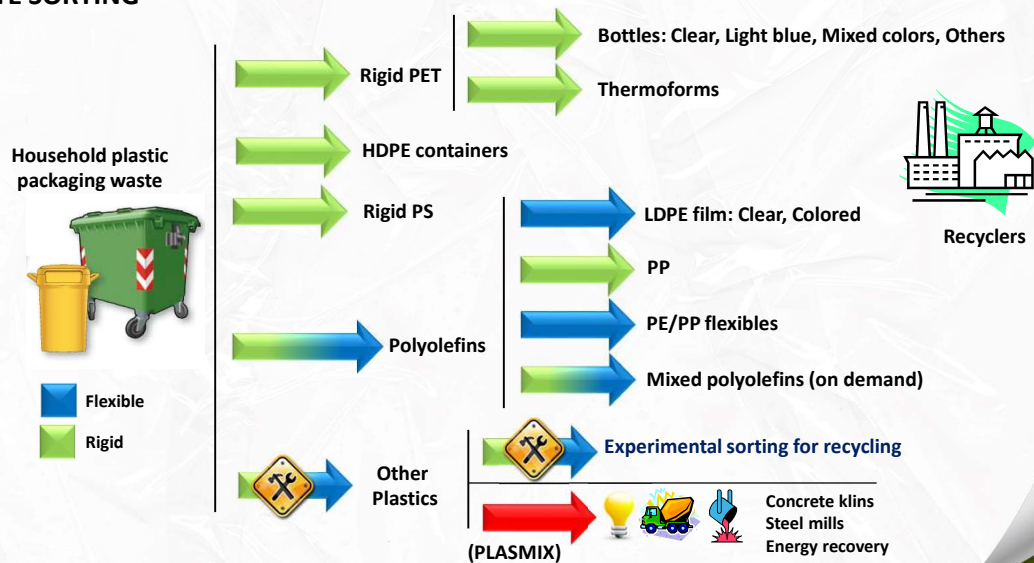
COREPLA: BETWEEN SERVICE AND MARKET



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WASTE SORTING



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THE STARTING SITUATION FOR PET THERMOFORMS

Separate collection of waste plastic packaging in Italy enlarged to all household packaging since 2003

- **PET thermoforms are separately collected since 20 years**

Found as contaminant in PET bottle streams

- Complaints from PET recyclers
- Maximum allowed threshold in PET bottle bales (2%)
- Manual removal of excess trays



No recycling opportunity with PET bottles

Left in residual stream «PLASMIX»

- Energy recovery, cement kilns and steel mills



Loss of a potentially valuable material

Recycled... but not recycled

High levels of recycled content in PET thermoforms (rPET coming from bottles)



Dedicated stream

Waste PET thermoforms not recycled



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THE CHALLENGES IN CLOSING THE LOOP

High feedstock variability

- PET monomaterial
- PET Multimaterial (different multilayer technologies)
- Lids, printing and labels

Lower yields in traditional PET bottles recycling plants

- Fines generation by mechanical friction
- High organic contamination

Lower resulting rPET quality

- No interest from downstream rPET users
- Very low value material with **very limited applications**

Learning by doing (2012-2020)

Sorting and recycling trials of a dedicated PET thermoforms stream

- Improve sorting quality
- Adapt the recycling process
- Identify market outlets

Technically feasible (with some plant and process adaptations) but **not economically sustainable**



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PET TRAYS RECYCLING DEVELOPMENT

Improvements in sorting

- New generation of NIR detectors
- Fine tuning of detectors' software



Fine tuning of sorting

Improvements in recycling

- Higher yields
- Improved output quality



Dedicated/adapted processing plants

Improved
rPET quality

New market attitude

- Lower availability and higher price of rPET from bottles
- Sustainability pledges from brand owners and retailers
- Market pressure for recyclability to avoid replacement with other polymers/materials
- Regulatory developments calling for recyclability and recycled content



*Claiming recyclability
Final goal: close the loop*

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THE CURRENT SCENARIO

Dedicated stream created

- PET thermoforms (clear, coloured and multilayer PET based)
- Fine tuning ongoing (based on recyclers' feedback)

Results so far

- More than 10 PET recyclers tested the stream and provided valuable feedback
- Stable supply to several European PET recyclers in 2023
- Increasing volumes
 - 2021 – 2100 t
 - 2022 – 4100 t
 - 2023 – more than 10000 t (forecast)



**WORK IN PROGRESS FOR
TRAY TO TRAY RECYCLING (T2T)**

Future plans

- Gradually extend PET thermoforms sorting to all sorting plants in Italy, following demand
- Fine tuning of quality (monomaterial, multimaterial multilayer, colour)
- Flexible approach (sorting center to recycler match)

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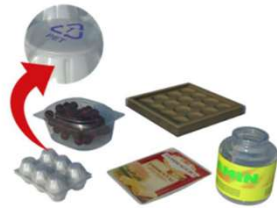


RECOGNISING RECYCLABILITY IN ECOMODULATION OF PACKAGING FEE

2018 – 2022

C Ecomodulation Band

Packaging for which no industrial recycling value chain in place or not sortable/recyclable with existing industrial technologies



2023

B 2.3 Ecomodulation Band

Other sortable/recyclable packaging with value chains under consolidation and development

Imballaggi termoformati in PET (es. vaschette, vasetti, vassoi e blister), trasparenti e non metallizzati o accoppiati con altri materiali di imballaggio. Sono tollerate le soluzioni multistrato in plastica, purché il PET sia il materiale prevalente.

Source: CONAI guide to packaging fee ecomodulation for plastic packaging

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RECYCLING IS A COLLABORATION EFFORT



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THANK YOU!