PUReSmart Workshop
CRE Update Dec 1 2022
Recticel Wetteren, Belgium

December 1, 2022 10.30 -12.00 CET

Online

CHEMICAL RECYCLING EUROPE

What is your story?

Plastics are important for our modern world

Plastic waste is a major problem that needs to be solved

First heard the term “chemical recycling” on February 6, 2020

Chemical recycling is an important part of the solution

It is great to be here

Feb 1988 onwards, Texas, Europe... into the 21st century

April 2019, Northern Greece

Sept 28 2022, Amsterdam

Chemical Recycling Industry and the European Circular Economy

- Foresight to invest in innovation is beginning to pay off
- Europe leveraging its leading position in waste collection and sorting
- Turning circularity from a consultant's buzz word into an implemented reality
- Implementing circularity in plastics and valuable carbon based products
- Making the Green deal real, reaching the targets set
- European circular economy jobs
- Keep on leading in circularity Europe, it's important

Chemical Recycling Europe: why are we here?

Chemical Recycling Europe was **established in 2019** to **promote** and **implement** the innovative solutions that the chemical recycling of plastic waste offers to benefit our economy and society.

Chemical Recycling Europe **represents the interests of the European chemical recycling industry towards the public and European institutions**. Chemical recycling technologies **play a decisive role in closing the loop** and supporting the transition towards a more sustainable and **circular economy in Europe**.

Chemical Recycling Europe is united by **one common goal: closing the loop for the plastics industry** by **offering the technology to chemically recycle plastic waste** back into its original components and/or other value-added materials.

Chemical Recycling Europe (Dec 1 2022)

agilyx

ARCUS

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ITERO

MURA TECHNOLOGY

PLASTIC ENERGY

PROMECO

Pryme

PYROWAVE

QUANTAFUEL

Ravago

Renasci

Chemical Recycling Europe: working groups

Policy

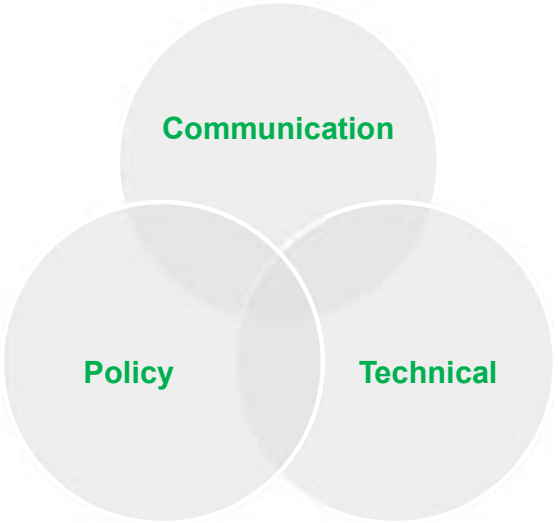
- Definition and positioning of chemical recycling in regulatory/legal infrastructure
- Mass balance accounting at EU and member state levels

Technical

- Application of LCA methodogy to chemical recycling technologies
- Guidelines and specifications
- EU research projects

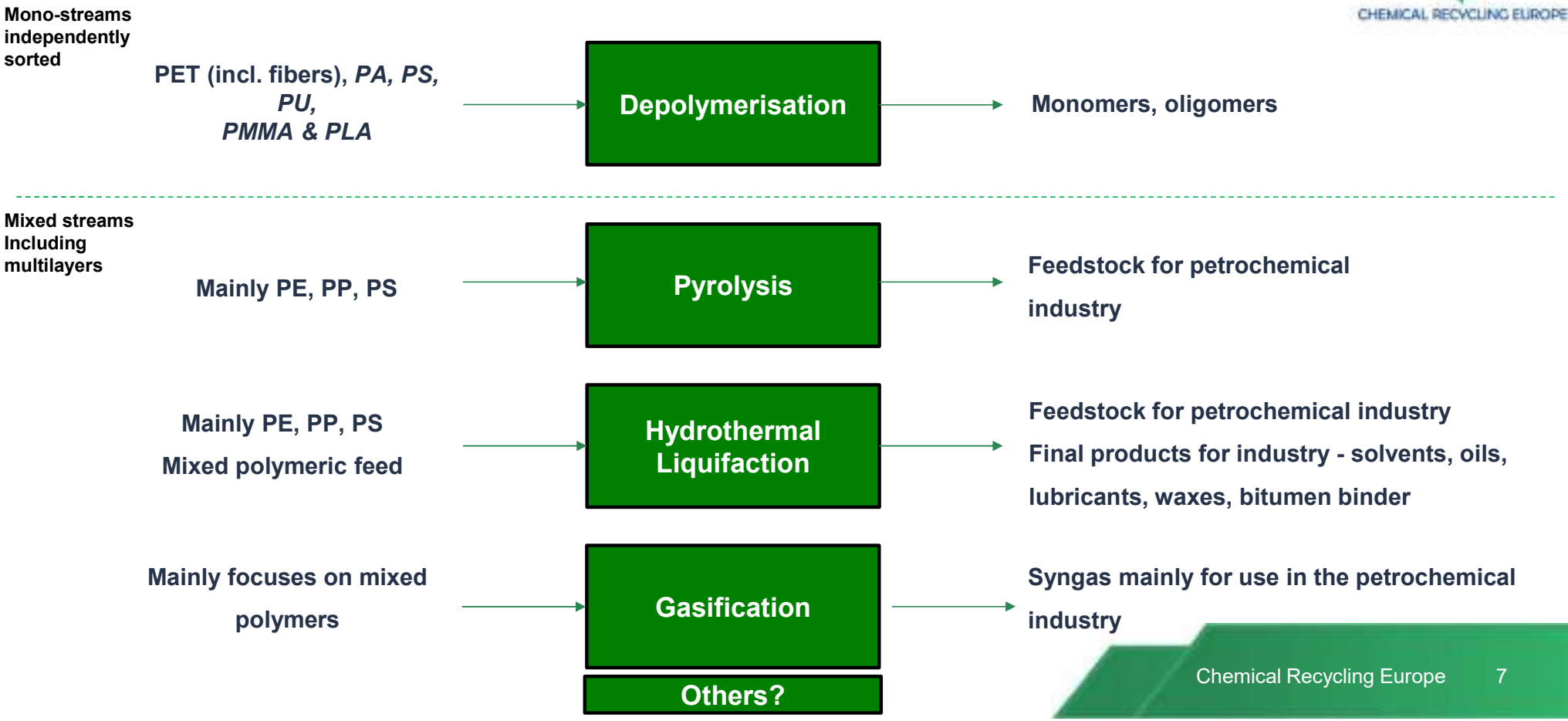
Communication

- Demystify the complexity of chemical recycling
- Communicate the state of the industry
- Communicate the importance of chemical recycling



Feedstocks, Technologies and Outputs

complexity



Feedstock Complexity

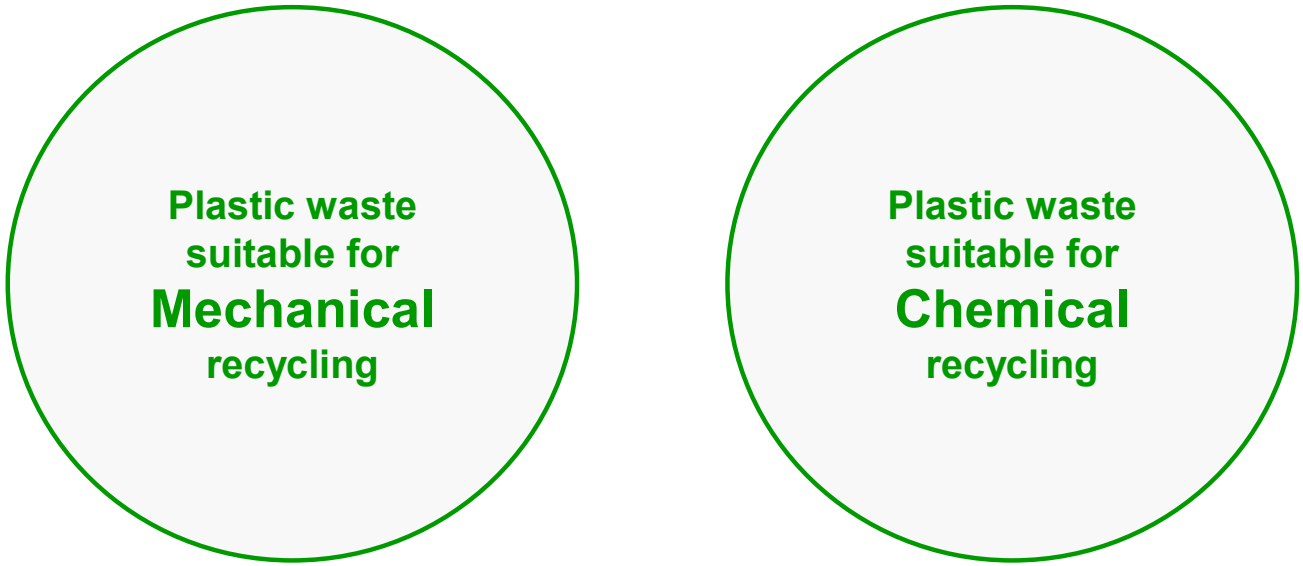
Plastics Industry

- **Quality control from the petrochemicals industry**
- **Well established processes, technologies, specifications**
- **Delivered typically by pipeline to the polymer producer**

Chemical Recycling Industry

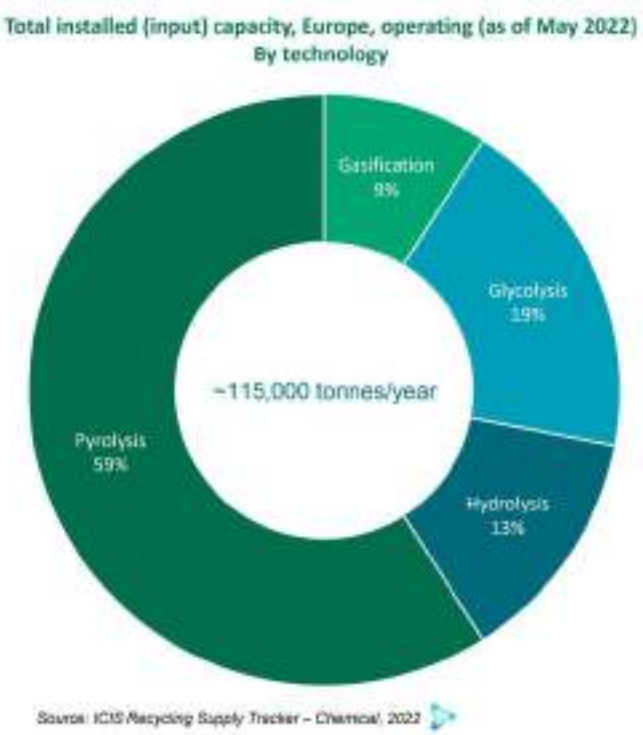
- **Quality control begins in the kitchen**
- **Hundreds of millions of European kitchens**
- **Although Europe is ahead of other regions, standardisation of waste collection is needed**

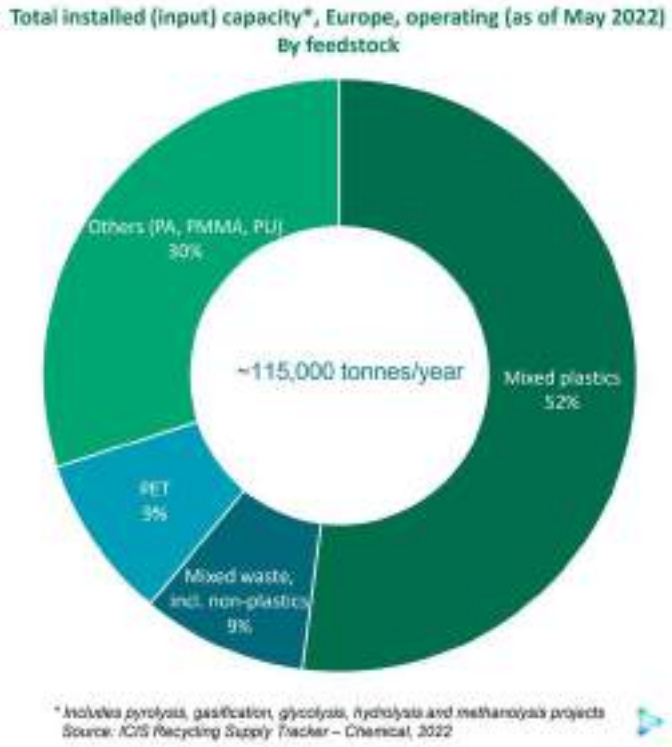
Feedstock Complexity and Waste Hierarchy



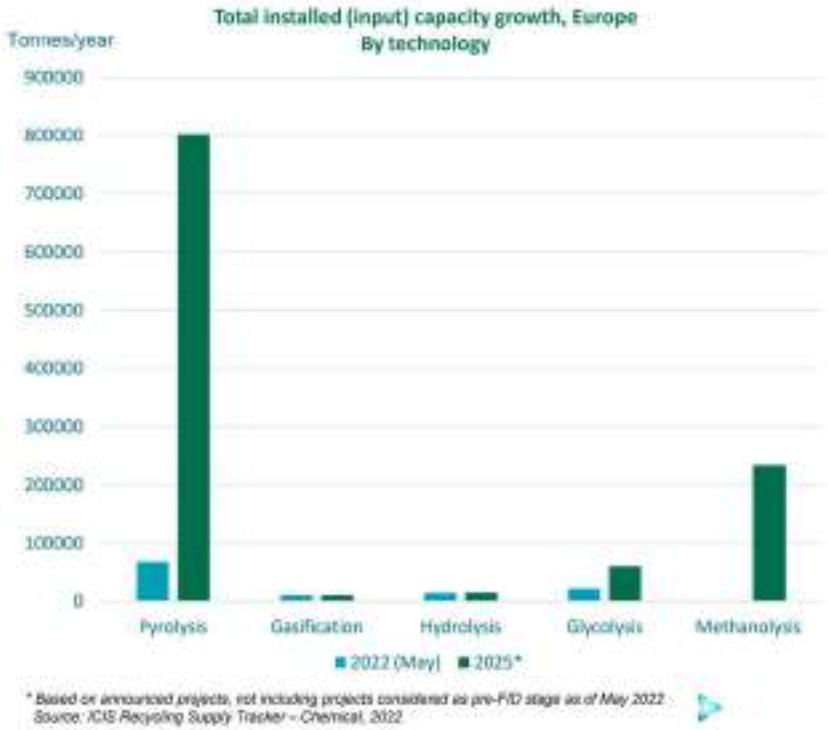
Capacity is needed

CHEMICAL RECYCLING EUROPE

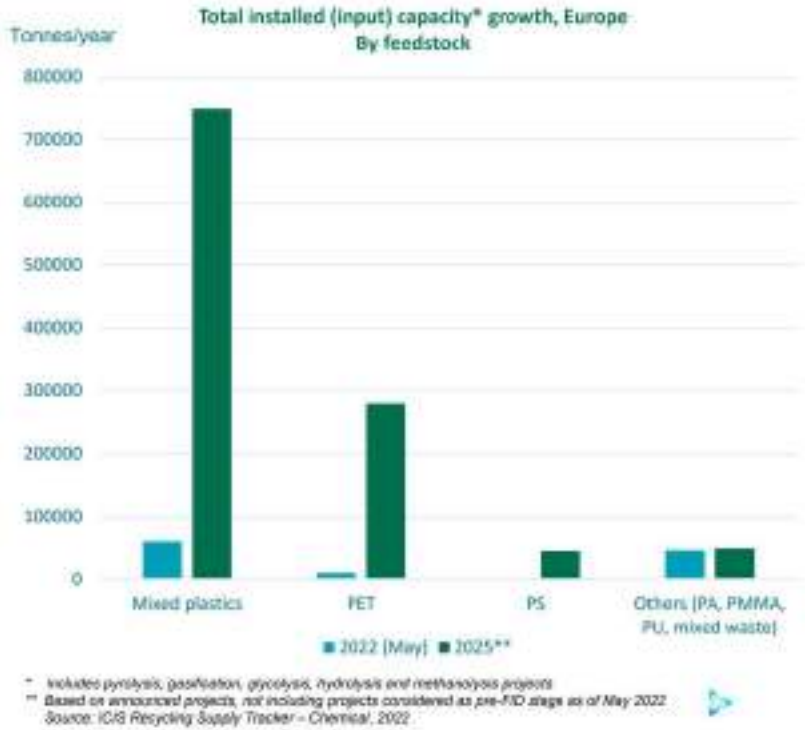




Capacity is needed, capacity is coming



* Based on announced projects, not including projects considered as pre-FID stage as of May 2022
Source: ICIS Recycling Supply Tracker – Chemical, 2022



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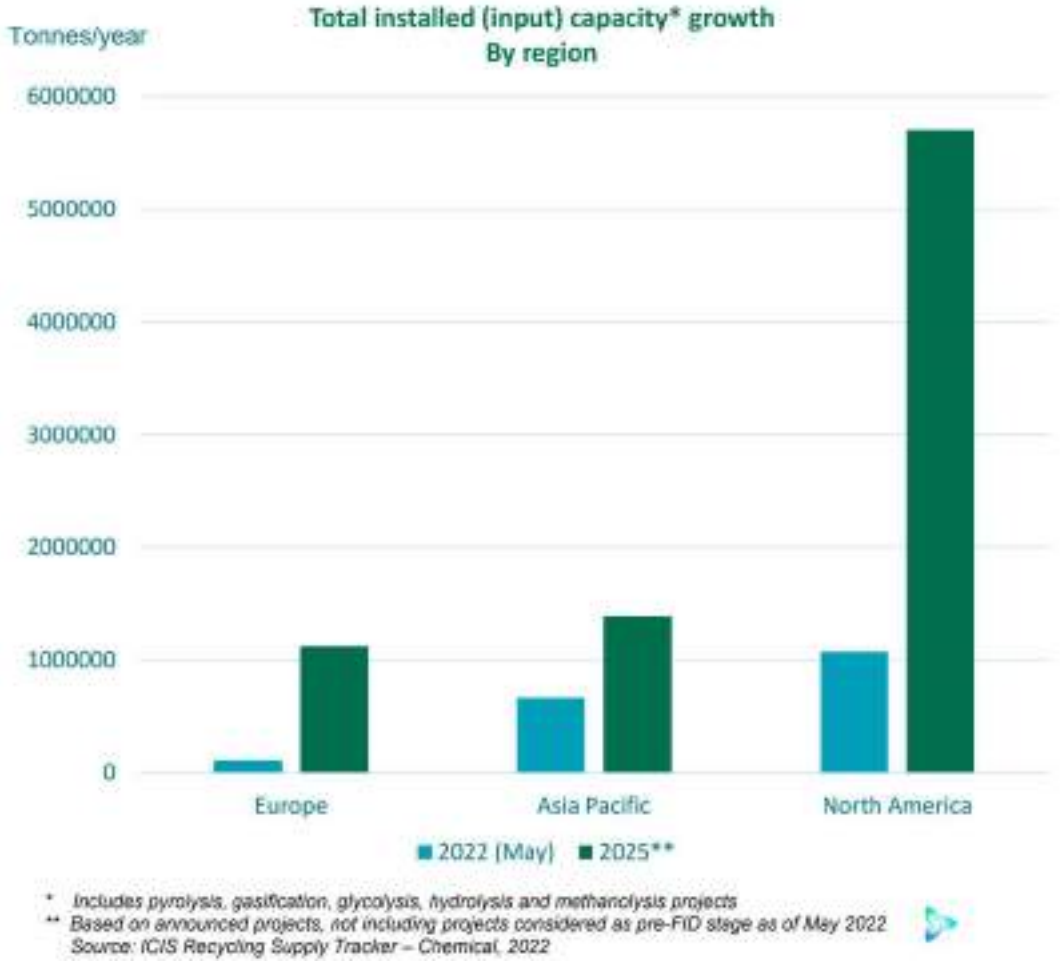
Capacity is needed, capacity is coming



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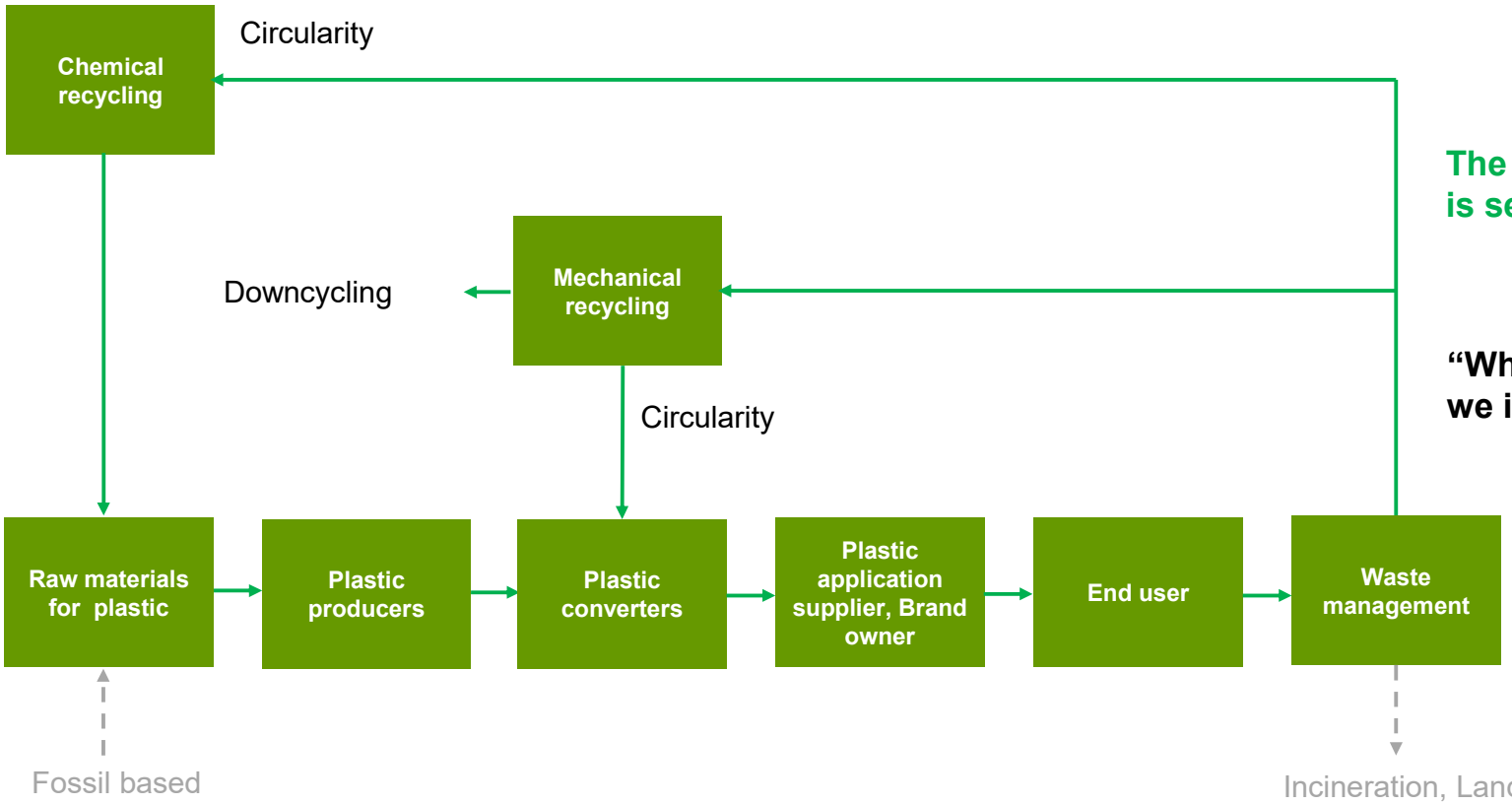
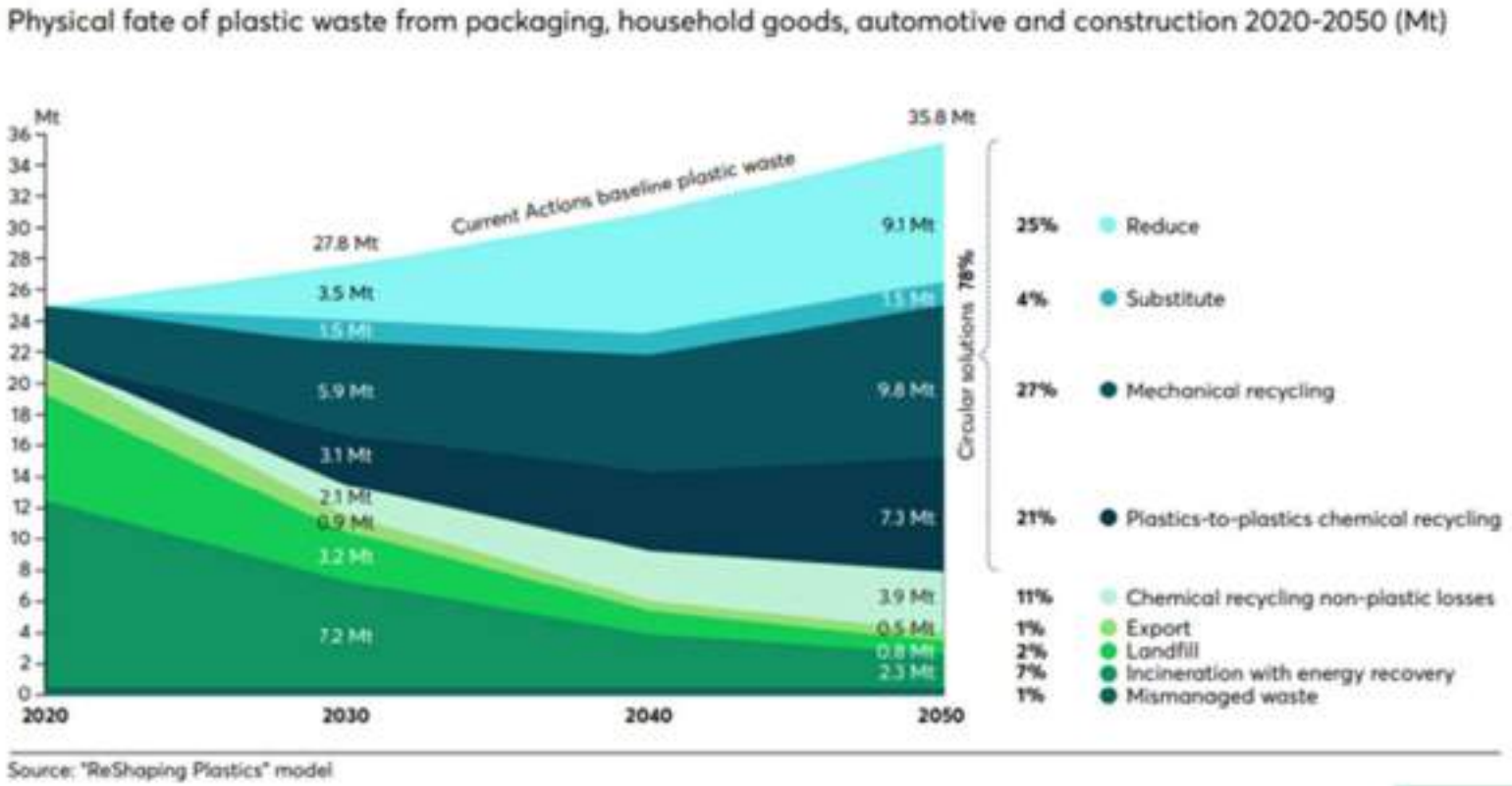
Towards Circularity in the Plastics Value Chain



The demand signal is sent:

"Whenever possible we insist on circular plastics"

Chemical Recycling and Circularity



Source: "ReShaping Plastics" model

Reshaping Plastics: pathways to a circular, climate neutral plastics system in Europe
SYSTEMIC, April 2022

Observations, Challenges and Opportunities

- Feedstock complexity: innovations in chemical recycling industry including link to waste management
- Legal definition of chemical recycling: positioning with respect to mechanical recycling
- Energy intensity: ongoing innovation in chemical recycling technologies, electrification of the petrochemicals value chain
- Substantiation of chemical recycling solutions versus end of life alternatives (incineration, landfill). Robust and correct application of LCA methodologies, etc.
- Establishing of mass balance accounting for chemical recycling at EU and member state levels. ISCC, innovations in tracebility, etc.
- Endure the valley of death
- Capacity is needed... it is good to be needed
- Capacity is coming, keep moving forward

Thank you. Come join us

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