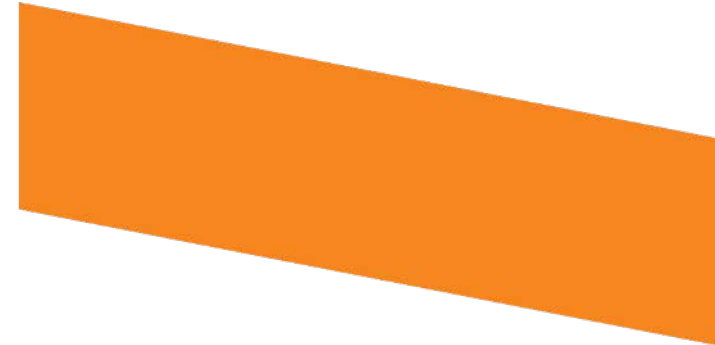


LE2C Workshop

Syschemiq policies
and tools to enhance
plastic waste:
Turning waste into
opportunity

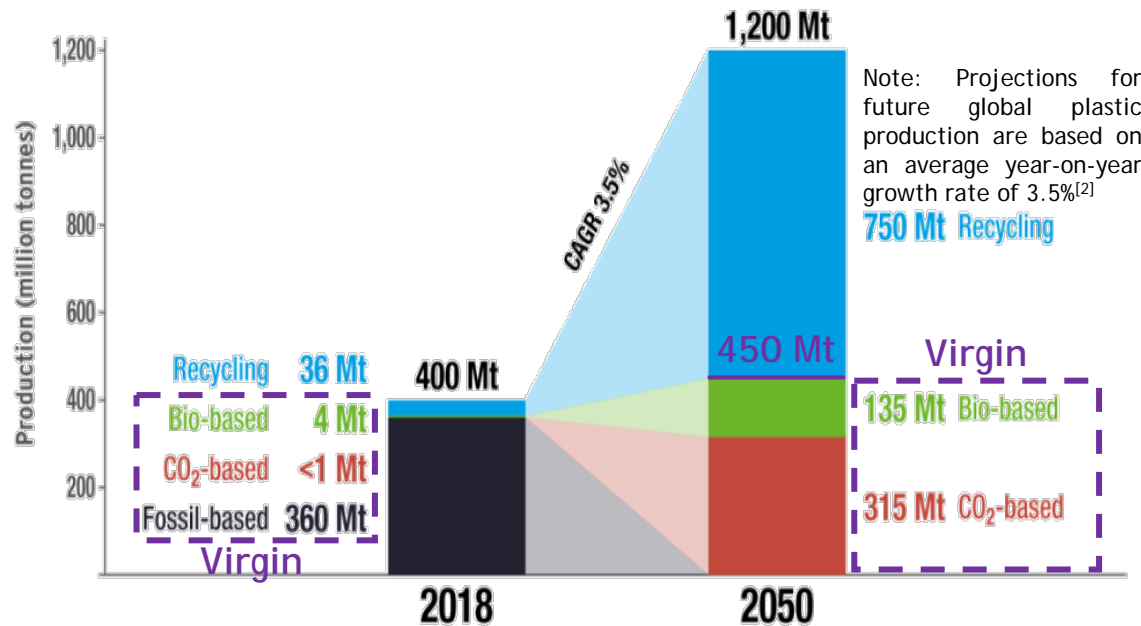
March 12th, 2025



THE 'PLASTIC DILEMMA': «We need Polymers, but not Plastic Waste!»

How to meet the plastic demand while increasing sustainability targets?

Until 2030, 24 USD billions are expected to be spent on material conversion capacity, mainly on (chemical) recycling and biomass conversion. About 15% of all plastics globally will be produced from alternative carbon sources in 2030.^[1]



Sources:

[1] LUX RESEARCH - "The Plastic Dilemma Market Study", May 2024

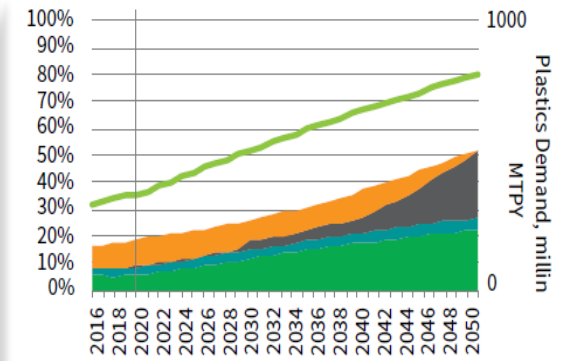
[2] NOVA INSTITUTE - Carbon Dioxide (CO₂) as Chemical Feedstock for Polymers

[3] Data independently collected. Estimated figure @ 2024 accounts for >400Mln t

➤ Global plastic demand will keep on growing, while there will be the need to comply with evolving national / international policies & regulations and to overcome Mechanical Recycling limited applications

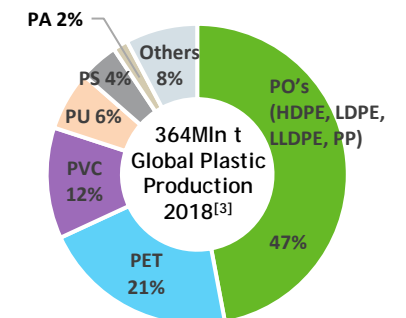
➤ POs are the main polymer cluster produced in terms of tons/year; they represent more than 50% of Plastic Waste and the majority of Plasmix

➤ PET is the main polymer produced in terms of tons/year; it's the most recycled polymer (10%, mechanically)



Legend for the line chart:

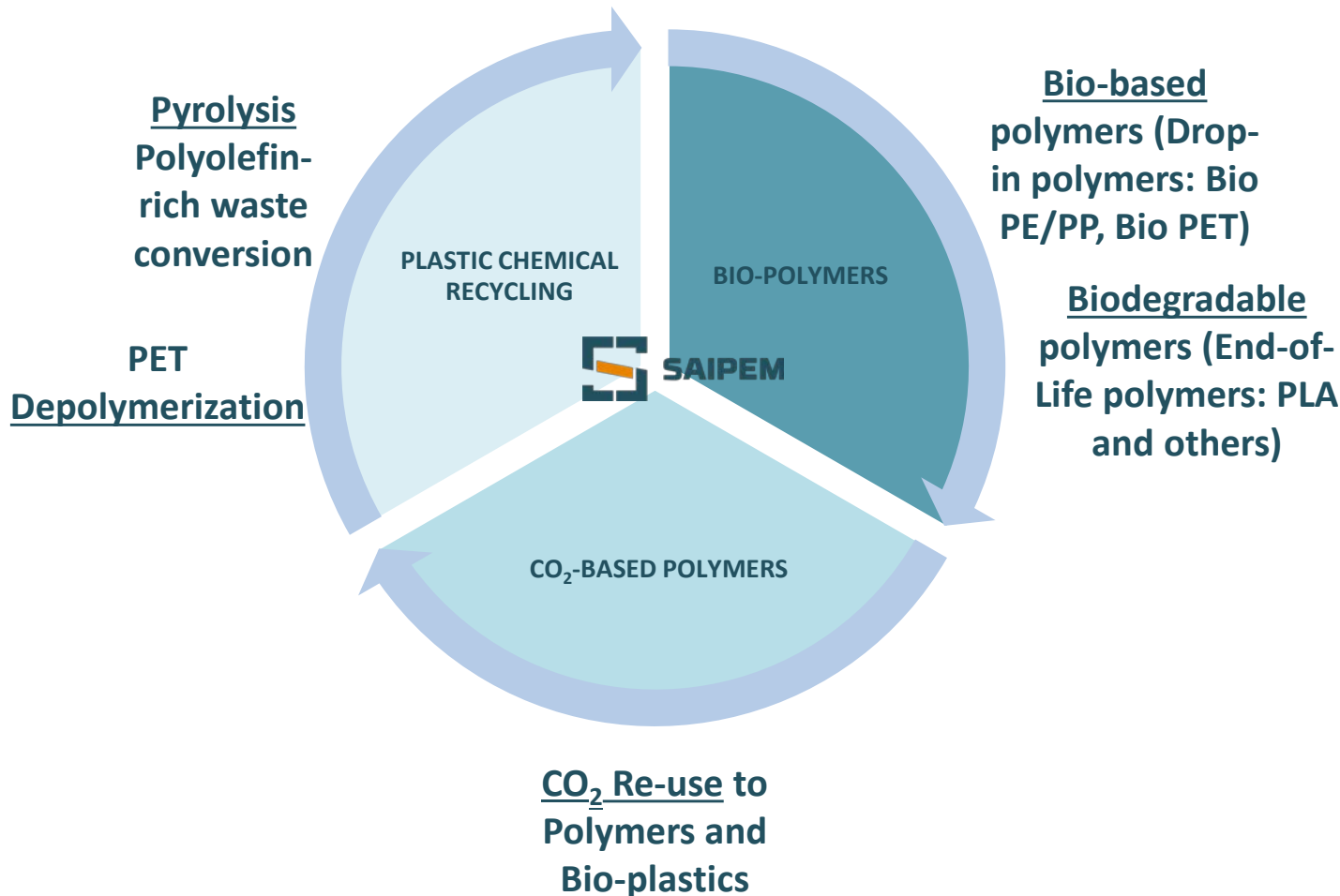
- Plastics to Landfill, Energy Recovery, etc.
- Large Volume Demand Sinks (e.g. Lumber, Asphalt, etc.)
- Chemical Recycle
- Mechanical PCR Displacing virgin
- Global Plastics Demand



SUSTAINABLE POLYMERS

Main activities & areas of attention

Sustainability Development Goals focused by SAIPEM



SAIPEM value proposition

Exploit decades of experience as Technology Solutions Provider applied to the Plastic Dilemma: identify sustainable and circular ways to produce polymers solving the plastic waste issues.

Innovation Technologies Deployment through business opportunities to convert good ideas into projects and industrial initiatives. Scale-up of R&D solutions to Market needs helping Clients to solve their daily faced issues.

Technology Ongoing Activities

Scouting of New Technologies

Saipem constantly performs Market Analysis and assessment of Technologies competitive landscape to identify Technology Providers and Players to partner with, to realize sustainable projects with a circular approach.

Technologies Development and Industrialization

Saipem co-develops and industrializes new technologies in order to shift them from batch to continuous mode, scale-up from lab/pilot to commercial capacity, design industrial based unit operations.

SOLUTIONS TO PLASTIC WASTE BY



400 MLN TONNES

of plastic waste produced in the world yearly

10%

the amount of plastic waste currently recycled

>50%

can be targeted by Saipem's Plastic Recycling Solutions

Saipem's Solutions aims to reduce the environmental footprint of plastic waste through chemical recycling, in a low-carbon circular economy perspective.

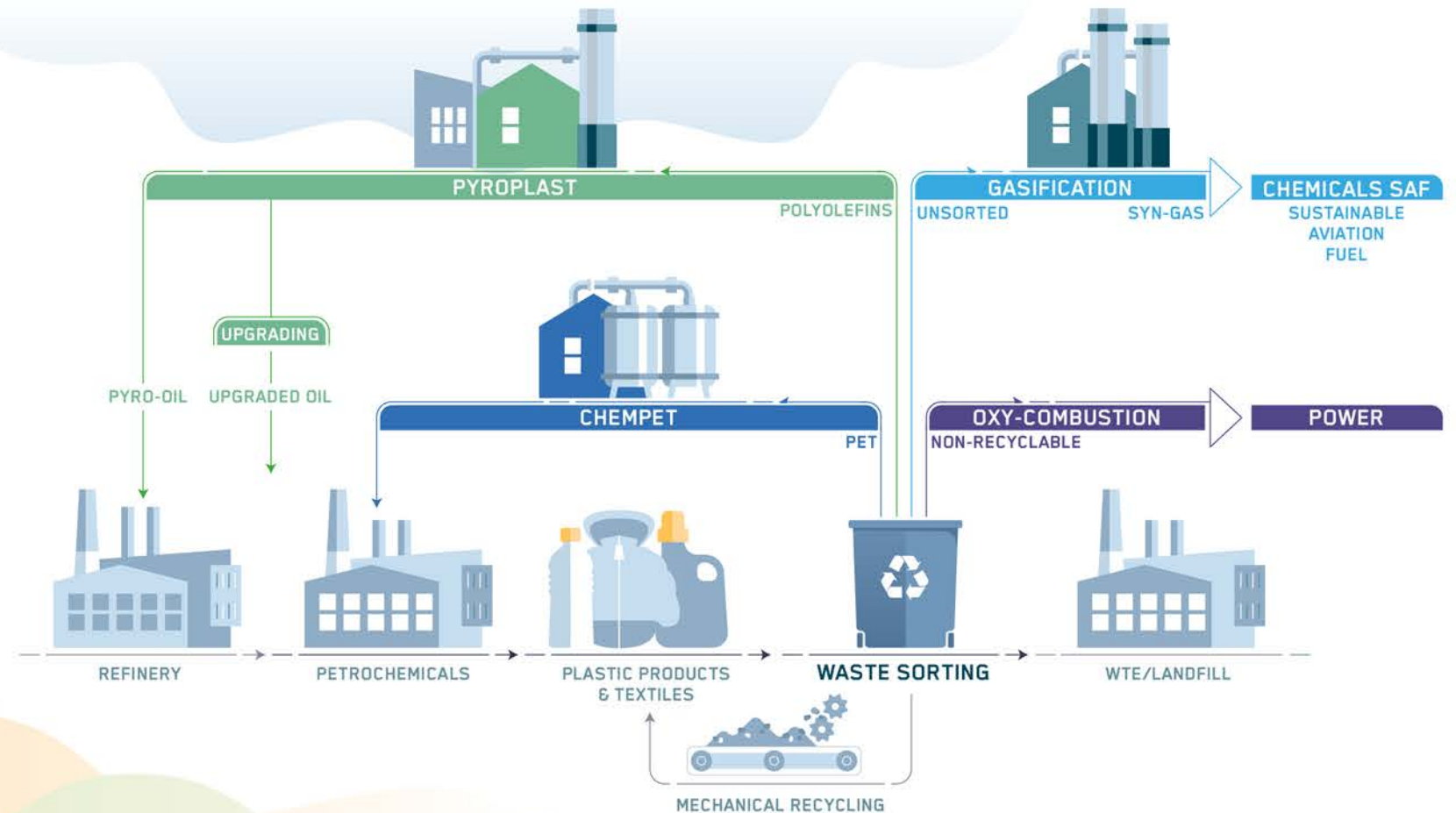
Each solution targets specific plastic waste fractions, complementing mechanical recycling and is designed with an industry-wide replicable approach.

OPTIMIZED TIME-TO-MARKET

MINIMUM CAPEX

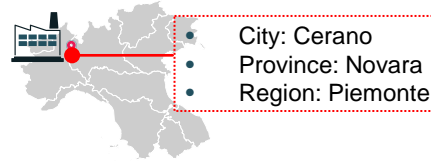
INTEGRATED WITH SAIPEM LOW CARBON SOLUTIONS (CCUS AND GREEN H₂)

LEVERAGING 60+ YEARS EXPERIENCE IN O&G PROJECT EXECUTION



Saipem and Garbo

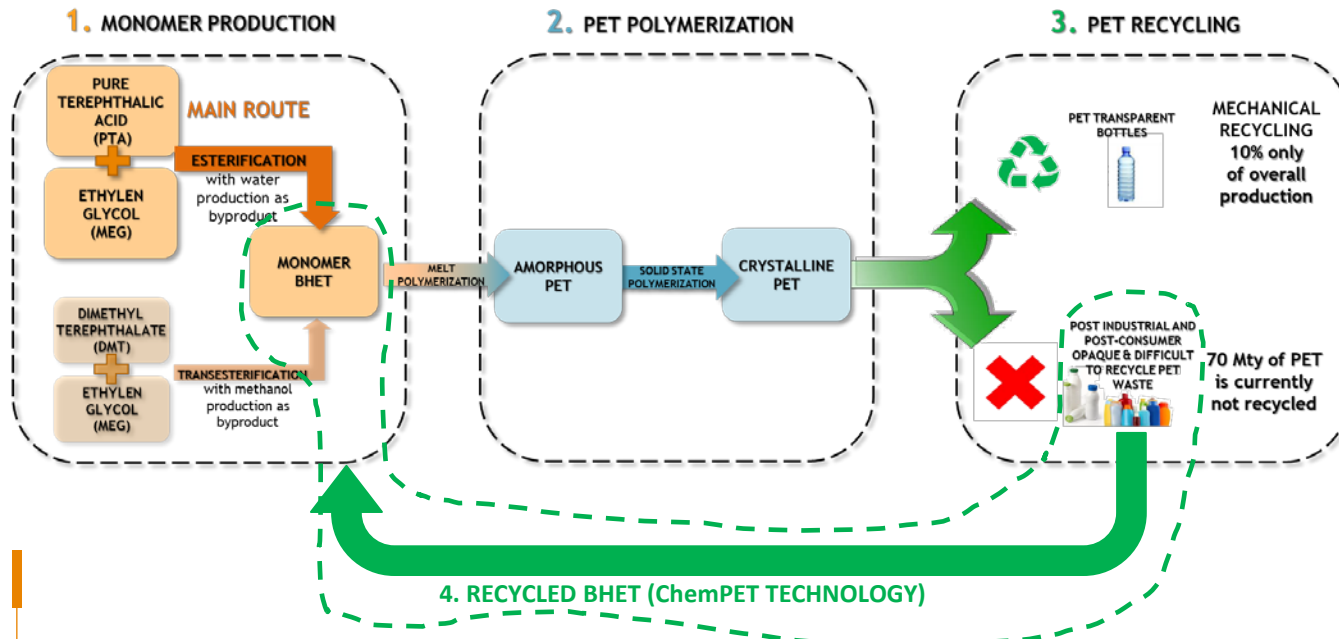
Partnered to deploy PET Circularity



In 2023, Saipem signed a partnership with Garbo to advance in a plastic chemical recycling technology called ChemPET (depolymerization based).

The partnership includes the construction of the first medium-scale industrial chemical plastic recycling plant in Italy (Cerano).

ChemPET SOLUTION: PET DEPOLYMERIZATION:

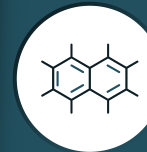


ChemPET innovative process addresses current gaps in plastic recycling:



Flexible Feedstock PET Waste

Enables the recycling of plastics for which no alternative solutions exist today. Handle various types of PET waste, including multi-layer packaging, textiles, dyed, colored and contaminated plastics.



High quality output

Produces high quality BHET¹ enabling the production of virgin-like PET suitable for food applications. Makes available BHET¹ in liquid or solid form allowing stable, storable and easily transport.



Safe and scalable process

Operates at mild operating conditions (low pressures and mild temperatures) and does not involve flammable substances. Offers a modular solution that can be easily scalable in further deployment.

1. BHET is Bis(2-Hydroxyethyl) terephthalate





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