

THE EU BIO-BASED CHEMICAL SECTOR

Environmental Sustainability Challenges and Opportunities



The chemical industry is the fourth largest industry in the EU.

The EU is the second largest chemical producer worldwide.



The largest EU chemical producers are:



ENVIRONMENTAL SUSTAINABILITY

3rd

The chemical sector is the **third largest GHG emitter** of the EU.

- 60 million tonnes (Mt) of carbon dioxide equivalent (CO₂eq) were emitted in 2020.
- GHG emissions are now decoupled from production growth, and decreased by 54% over the last 30 years.



The EU **depends on raw materials and energy** from other countries.

- The chemical sector has a high energy demand.
- This makes the EU vulnerable to price volatility.
- These countries can have a fossil energy mix.



Plastic pollution

Poor management has led to **plastic debris and microplastics** ending up in rivers and marine ecosystems. The production of plastic has also been linked to **high GHG emissions**.



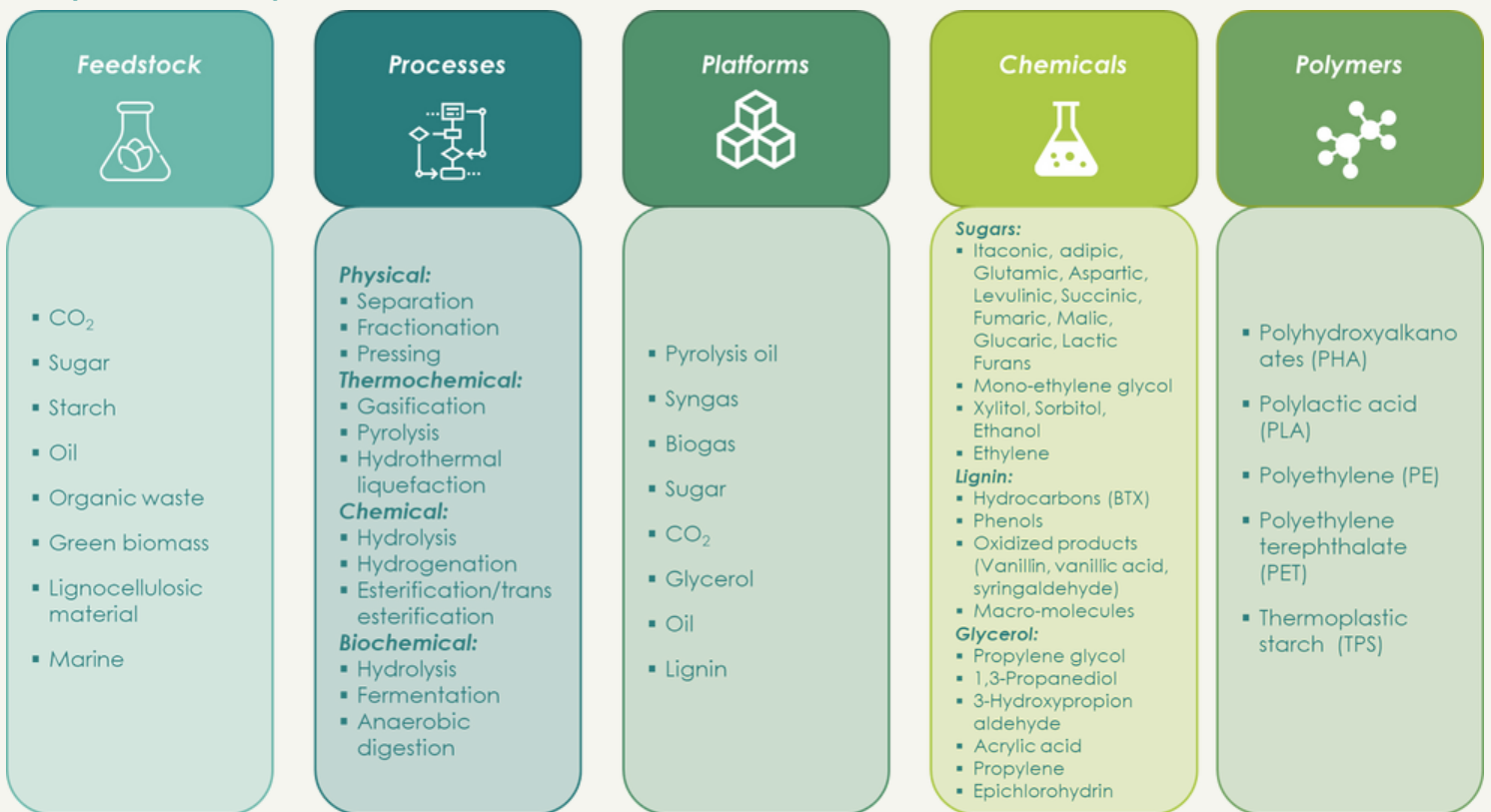
Recycled plastic represented **10%** of the total plastic production in the EU.

- This amounted to 57.2 Mt in 2021.
- This is 20% more than 2020, and five times more than the amount of bio-based plastics produced in 2021.



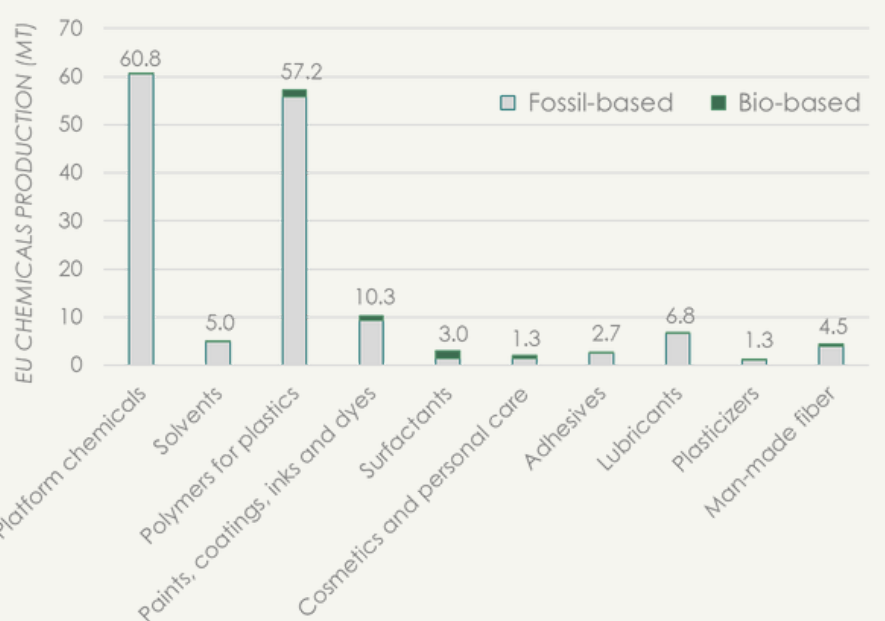
BIO-BASED CHEMICAL SECTOR

Many bio-based options available:



But still only a relatively small share of chemicals are bio-based:

Bio-based and fossil-based share of EU chemical production



Opportunities:

- Add value to biomass, support sustainable development, GHG mitigation, autonomy, and innovation
 - Benefits from biofuels knowledge and infrastructure
- Use of:
- Sugary, starchy and oily crops
 - Lignocellulosic crops and residues
 - Lignin, organic wastes and CO₂

For more information, please visit our website:

www.alignedproject.eu



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