



NaturePlast
Bioplastics Expert

A little bit of vocabulary:

Bioplastics

Biobased

Biodegradable

Bioplastics are **biobased and/or biodegradable polymers**. These materials are split into two groups: **biobased polymers** equivalent to existing fossil-based polymers (PE, PET, biobased PA, etc.) **and biobased and/or biodegradable polymers** with innovative structures (PLA, PHA, PBS, PBAT, etc.)

The term “biobased” (in agreement with the norm EN 16575 : 2014) represents a part **of material made completely or partially from renewable resources**. This part can represent a variable proportion of the material. To this day, there is no established minimum rate that specifies the use of this term.

We can talk about a **biodegradable** material if it can be **decomposed and absorbed** by micro-organisms (bacteria, fungus, algae, etc.). The result of this process is the **formation of water, CO₂ and/or methane** and possibly by-products non toxic for the environment (residues, a new biomass). (Technical Datasheets, ADEME, 2012).



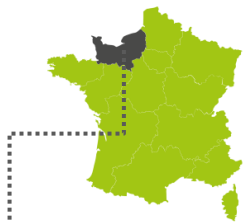
Presentation of the company:

2007



SAS with a capital of 163 572 €

NATUREPLAST European supplier
with the largest range of bioplastic



Caen (Normandy)

2010
Subsidiary
company



CIR and CII agreement

(Research and Innovation tax credit)

SASU with a capital of 30 000 €

BIOPOLYNOV is the **only R&D center** dedicated to the improvement and modification of bioplastic properties in Europe.

Sales team



R&D and production team



 Our goal?

TO SUPPORT FRENCH AND INTERNATIONAL COMPANIES
(manufacturers and end users)
TO SWITCH TO BIOPLASTIC



YOUR IDEA



YOUR EXPECTATIONS



OUR EXPERTISE



YOUR BIOPLASTIC SOLUTION

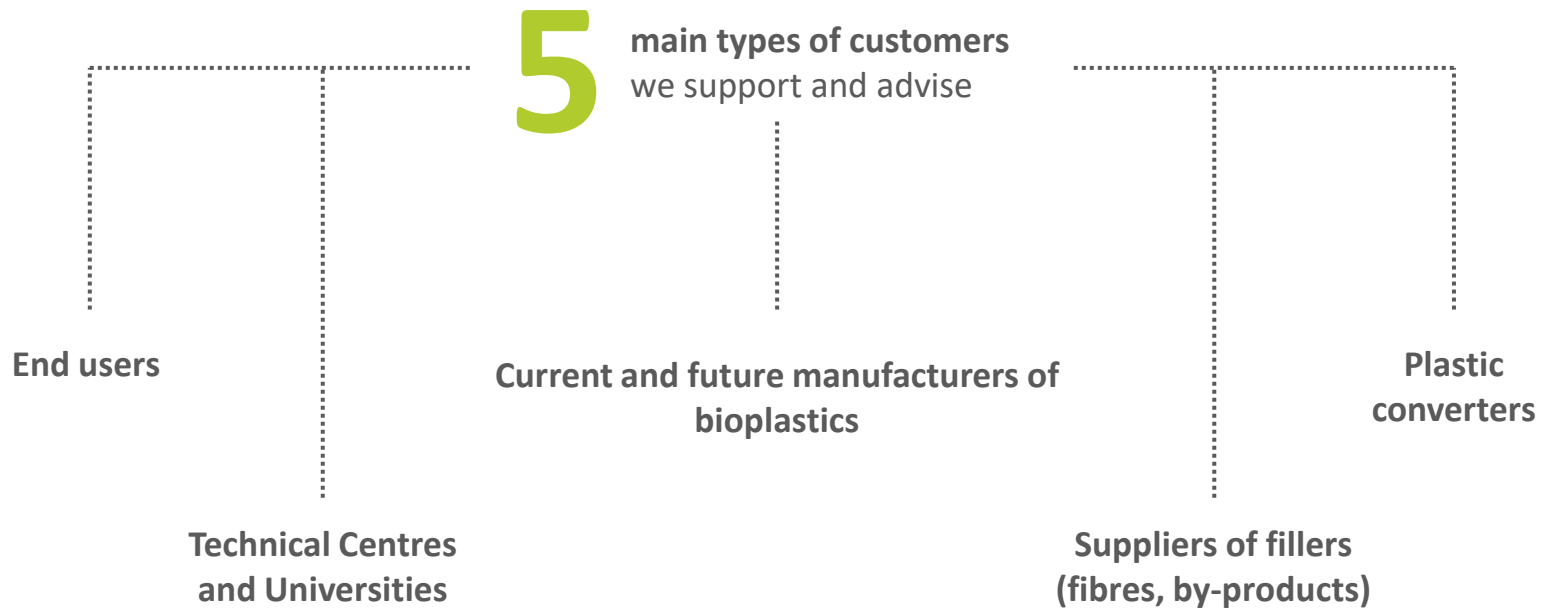


Our areas of expertise:



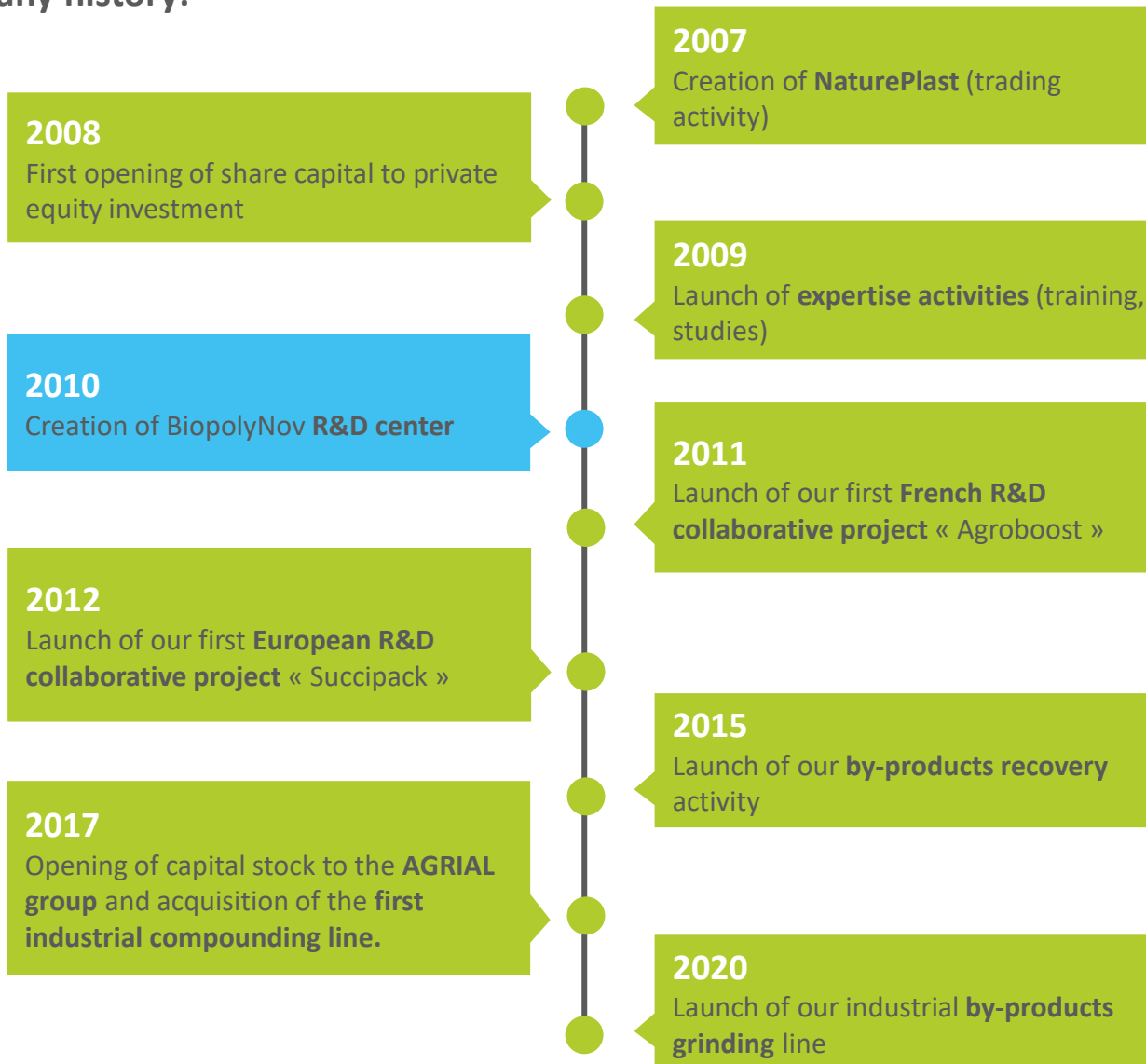


Who do we work for?





Company history:



Our three ranges of products:

RAW MATERIAL bioplastics

NaturePlast is **the only supplier in Europe** providing all biobased and/or biodegradable bioplastics



COMPOUNDS bioplastics

NaturePlast produces a range of bioplastic compounds with **optimised properties**



BIOCOMPOSITES fibres and by-products

NaturePlast produces a **range of biocomposites containing natural fibres or by-products from different activities**



 Our sectors of activity :



**Agriculture
and horticulture**



Pet industry



Construction



Cosmetic packaging



Food packaging



High Tech



Luxury industry



Toys



Medical



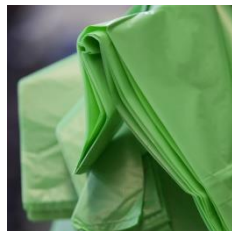
Stationery



Disposable products



Baby product industry



Plastic bags



Sport and leisure



Textiles and nonwoven



Transport



Our expertise:



Optimisation
of bioplastics' properties



Valorization
of by-products

4

Major thematic in which
Biopolynov is specialized.

Modulation
of bioplastics' shelflife

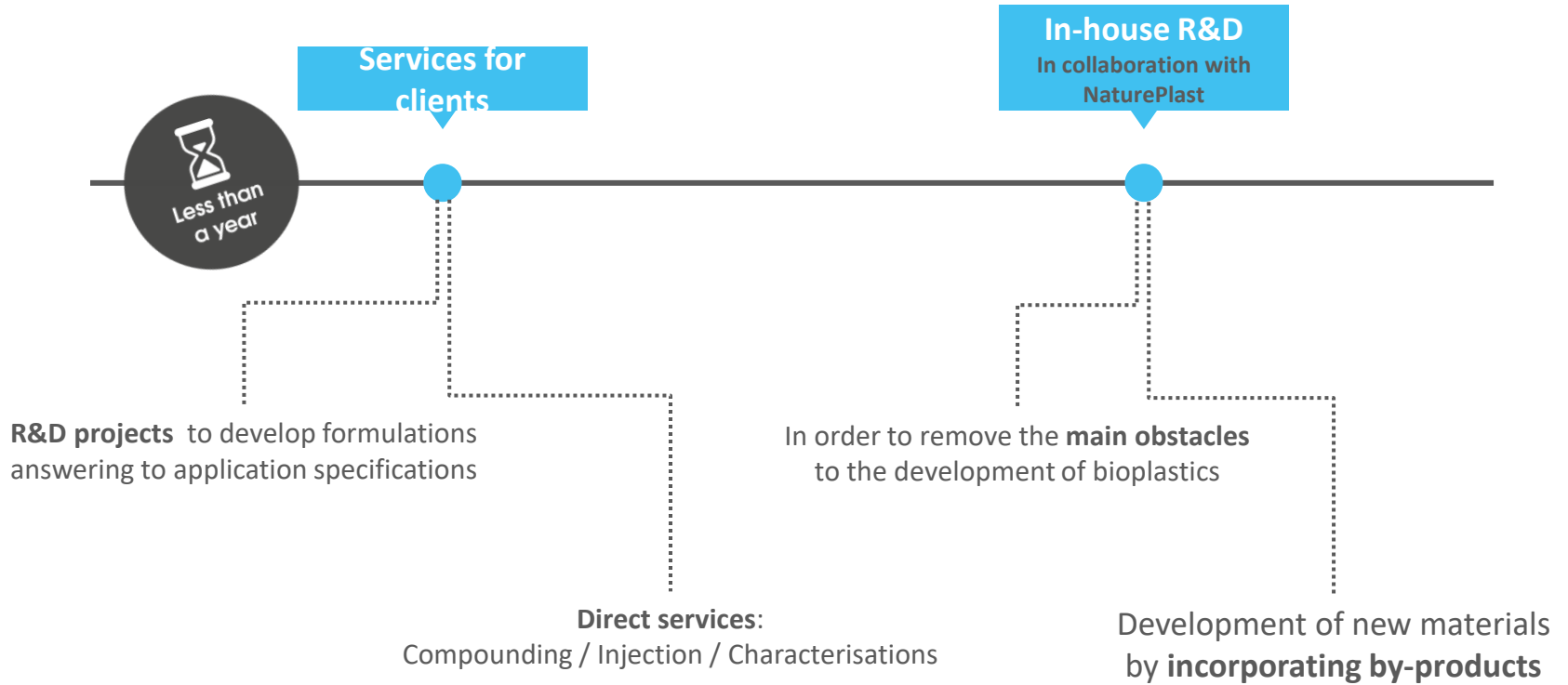


Adding
of function to a biopolymer





Our R&D projects by BiopolyNov:



100 formulations developed per year (clients/collaborative projects /in-house R&D)



Our R&D projects - NaturePlast:

{ Regional, National and European fundings }

7 Current collaborative R&D projects, NaturePlast being a partner:



- **ALGRIPLAST** – *Région Normandie / FEDER* – Production of biobased and biodegradable materials based on byproducts
- **INDIGO** – *Interreg France Angleterre* – Development of biodegradable fishing gear
- **BIOPLASTICS EUROPE** – *H2020 BG 2018-2020 IA* – Development of biobased and biodegradable solutions
- **URBIOFIN** – *H2020 BBI JTI 2016* – Valorization of municipal waste to produce biobased materials (including PHAs)
- **MYPACK** – *H2020 SFS 2017* – Development of innovative technologies for food packaging
- **WOW !** – *Interreg NWE* – Production of biobased materials (including PHAs) using waste water
- **DEEP PURPLE** – *H2020 BBI-JTI-2018* – Conversion of urban bio-waste into sustainable materials (including PHAs) by photo-biorefinery process

8 Finished projects

- **AGROBOOST, SUCCIPACK, NICEDAY, BIOSOURC’AIR, SEAPLAST, COPROPLAST, MATADORE, BIOC COMPLACK, etc.**

NaturePlast-BiopolyNov team is task leader for activities which involves modification / optimization of materials:

- **Supplier sourcing / Materials supply**
- **Research and development of formulations**
- **Compounds production / Injection of test specimens / Characterization**

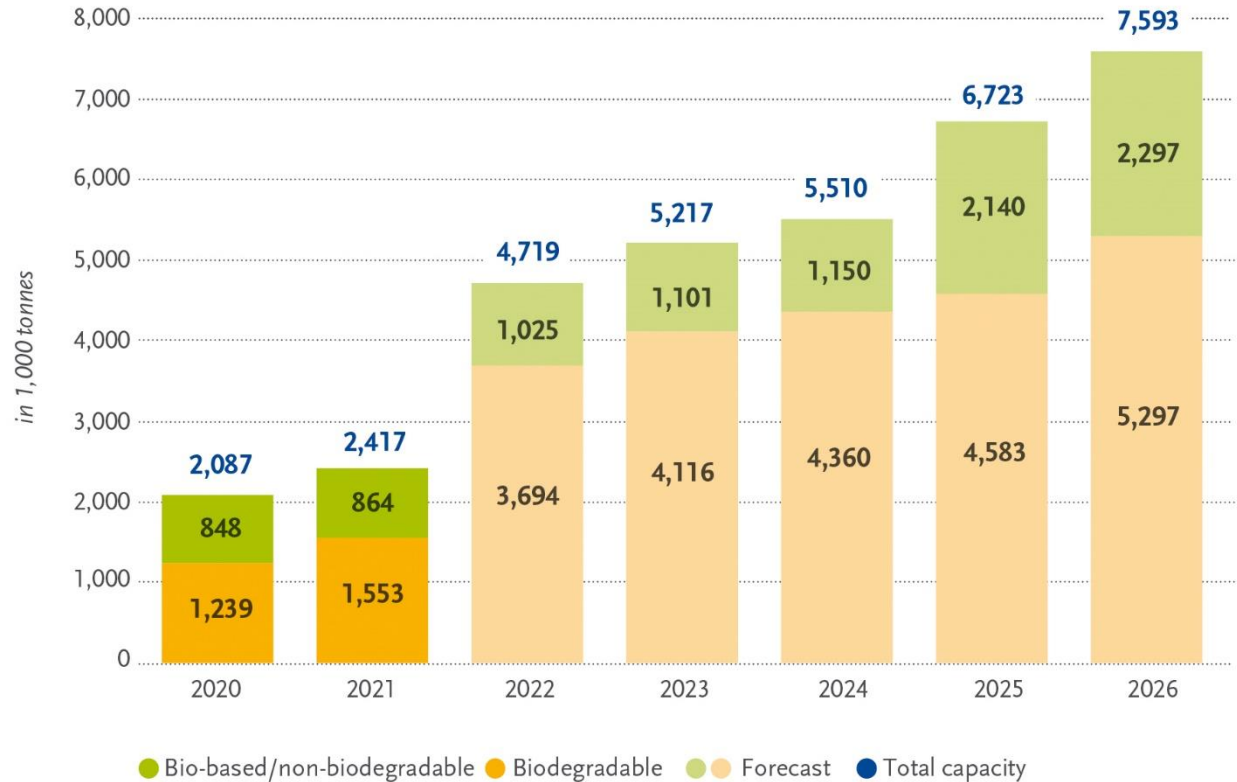


The bioplastic market

Global production capacities of bioplastics

Annual production of bioplastic 2021
(without PUR):

2,4 millions tons (Less than 1% of
polymer global market)



Source: European Bioplastics, nova-Institute (2021)

More information: www.european-bioplastics.org/market and www.bio-based.eu/markets



The bioplastic market

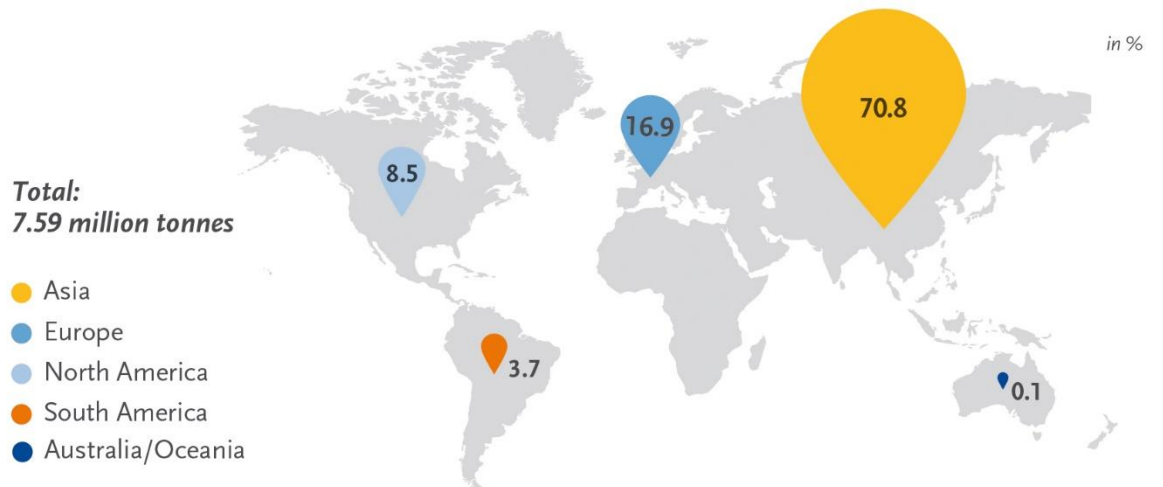
Global production capacities of bioplastics in 2021 (by region)



Source: European Bioplastics, nova-Institute (2021)

More information: www.european-bioplastics.org/market and www.bio-based.eu/markets

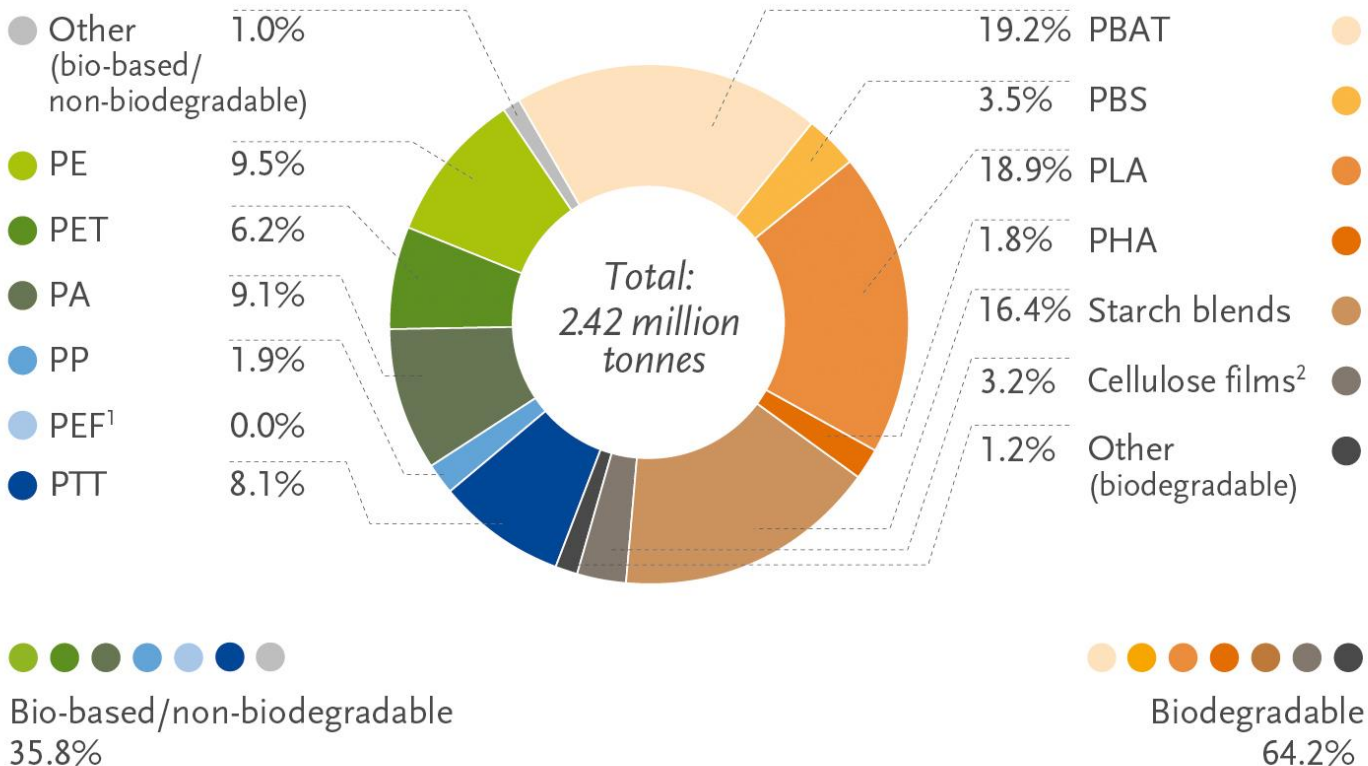
Global production capacities of bioplastics in 2026 (by region)



Source: European Bioplastics, nova-Institute (2021)

More information: www.european-bioplastics.org/market and www.bio-based.eu/markets

Global production capacities of bioplastics 2021 (by material type)



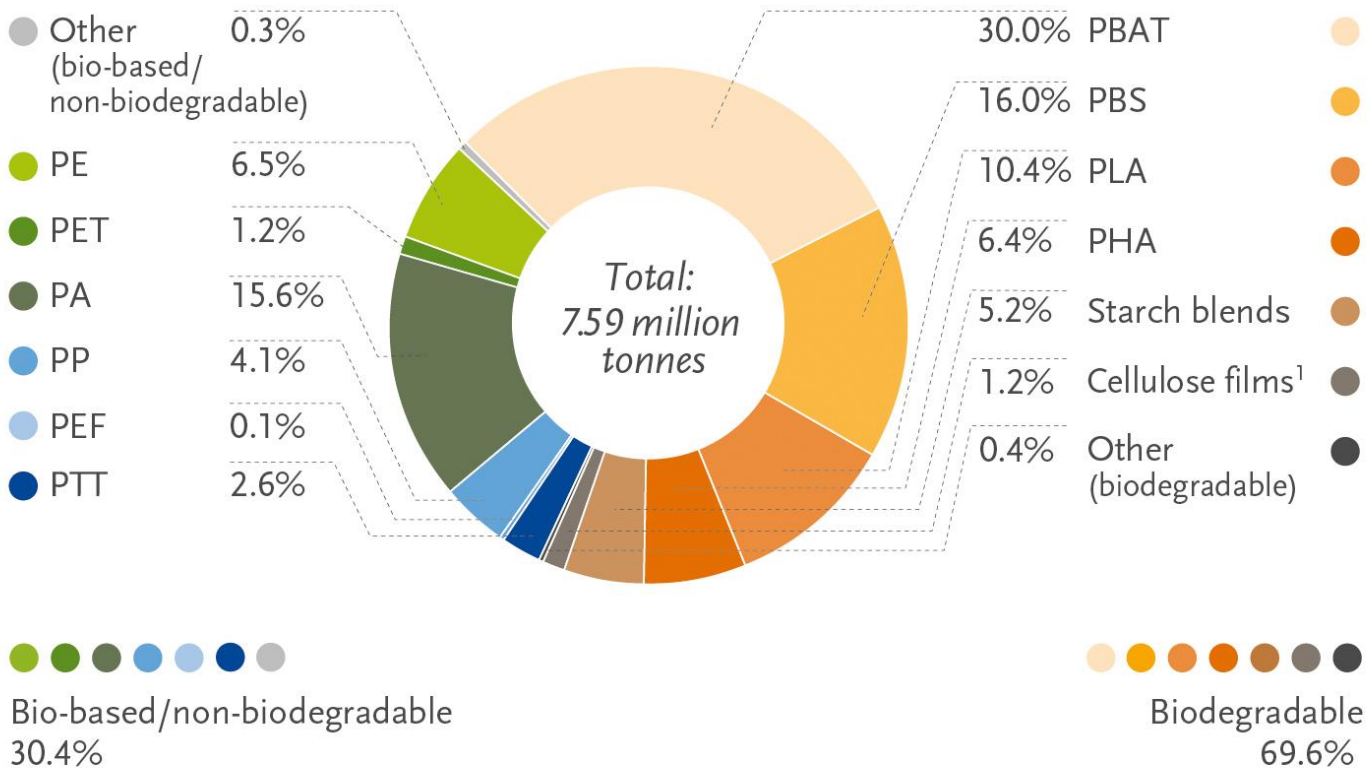
¹PEF is currently in development and predicted to be available at commercial scale in 2023. ² Regenerated cellulose films

Source: European Bioplastics, nova-Institute (2021)

More information: www.european-bioplastics.org/market and www.bio-based.eu/markets

The bioplastic market

Global production capacities of bioplastics 2026 (by material type)

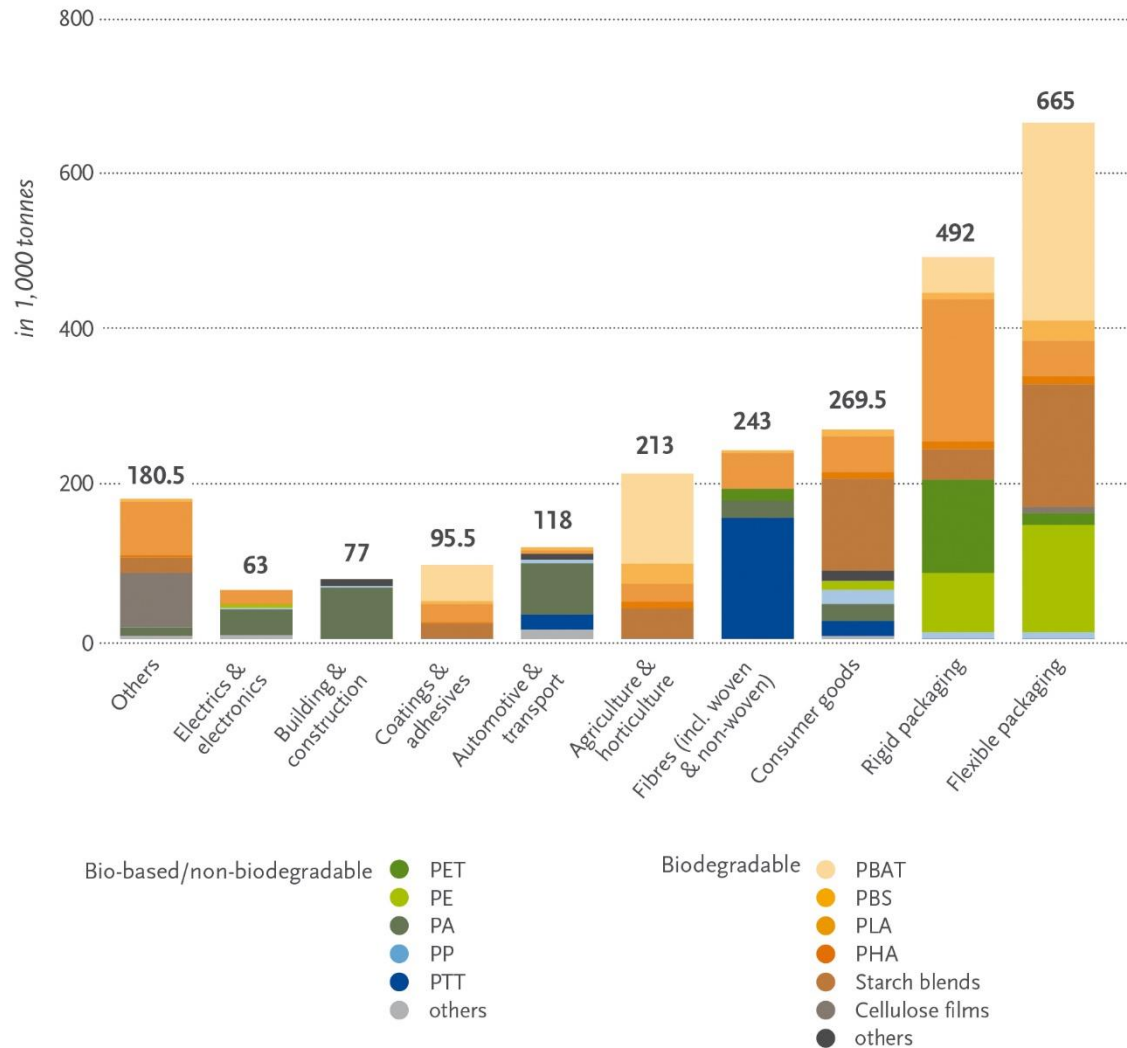


¹ Regenerated cellulose films

Source: European Bioplastics, nova-Institute (2021)

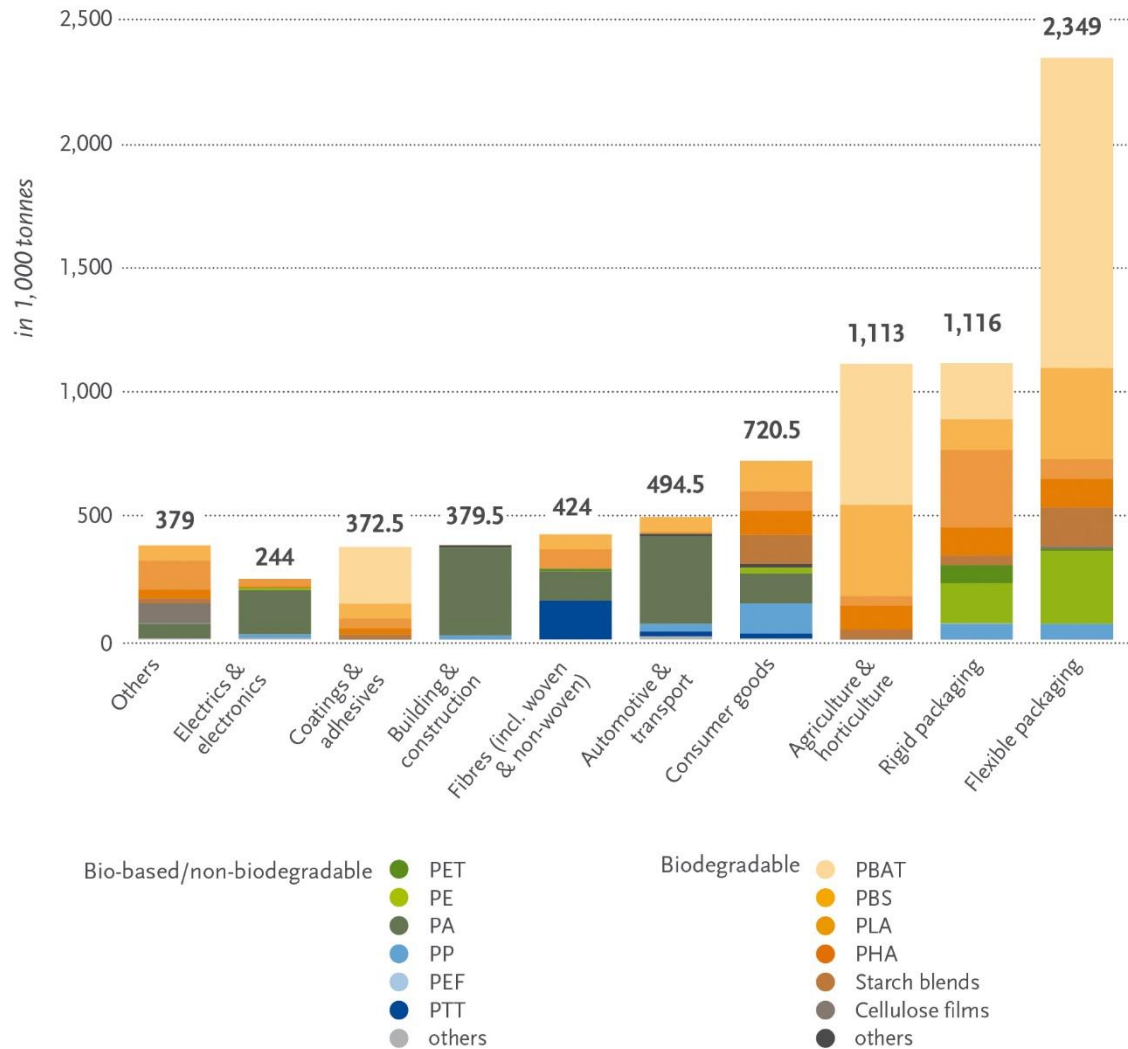
More information: www.european-bioplastics.org/market and www.bio-based.eu/markets

Global production capacities of bioplastics 2021 (by market segment)



Source: European Bioplastics, nova-Institute (2021). More information: www.european-bioplastics.org/market and www.bio-based.eu/markets

Global production capacities of bioplastics 2026 (by market segment)



Source: European Bioplastics, nova-Institute (2021). More information: www.european-bioplastics.org/market and www.bio-based.eu/markets



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