



We create chemistry

# Business case - Ecovio<sup>®</sup>

compostable polymers with biobased content

Leuven, 29-11-2018



# BASF Overview

- The World Leader in Chemistry

« We create chemistry for a sustainable future »

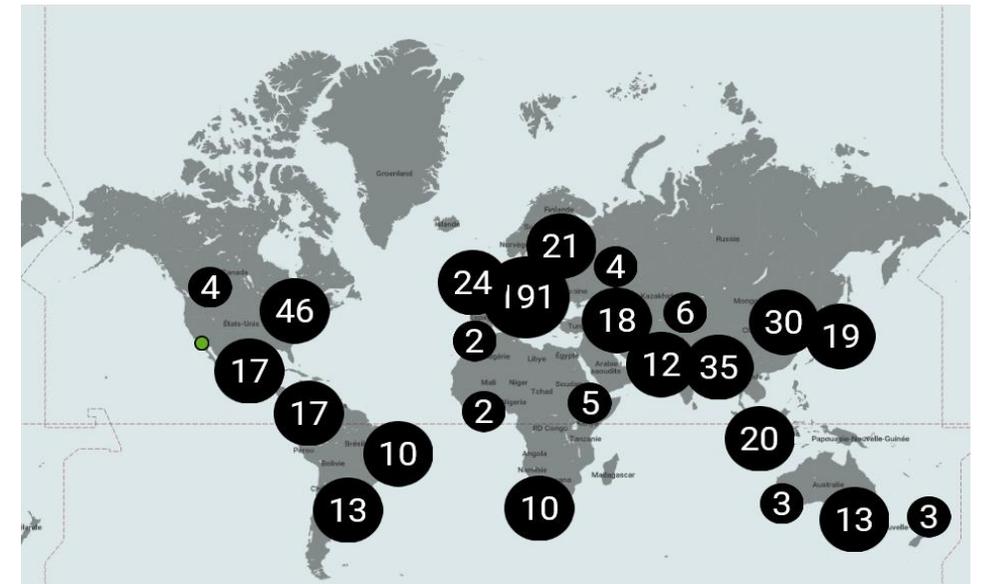
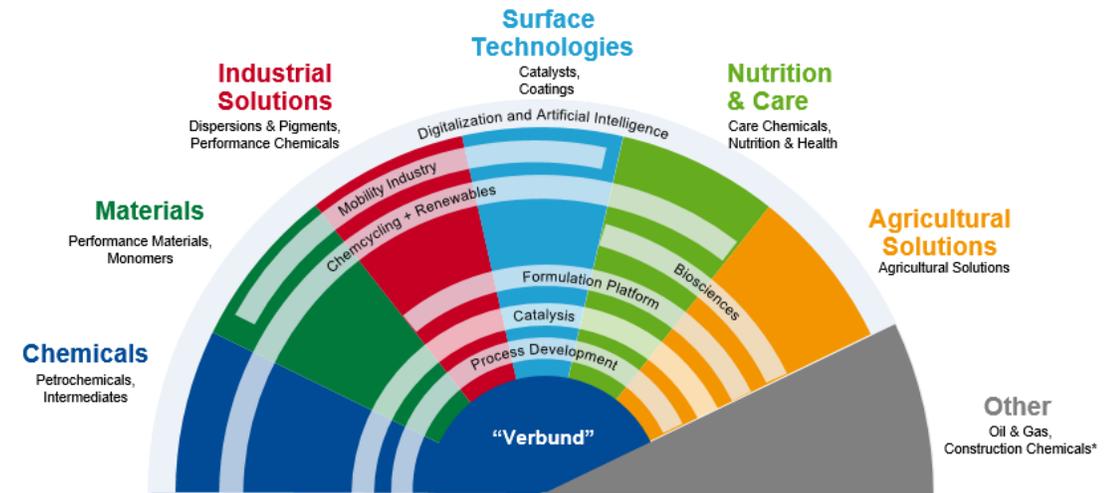
- Wide range of Sectors

e.g. Agriculture, Construction, Energy, Electronics, ...

- More than 80 countries and 115,000 employees

- Turnover of more than €60 billion

- Around 700 products



# Today's Ecological issues

- Climate change
- Biodiversity loss
- CO<sub>2</sub> emissions and pollution
- Plastic in the oceans



# Bioplastic = Biobased and/or Biodegradable

■ Plastic = Polymer (chain of monomers)



★ = monomers

■ Fossil based vs Biobased



Fossil-fuel source

★ Monomer has a fossil origin



Fossil based plastic = can be a bioplastic



Renewable source

★ Monomer has a biological origin



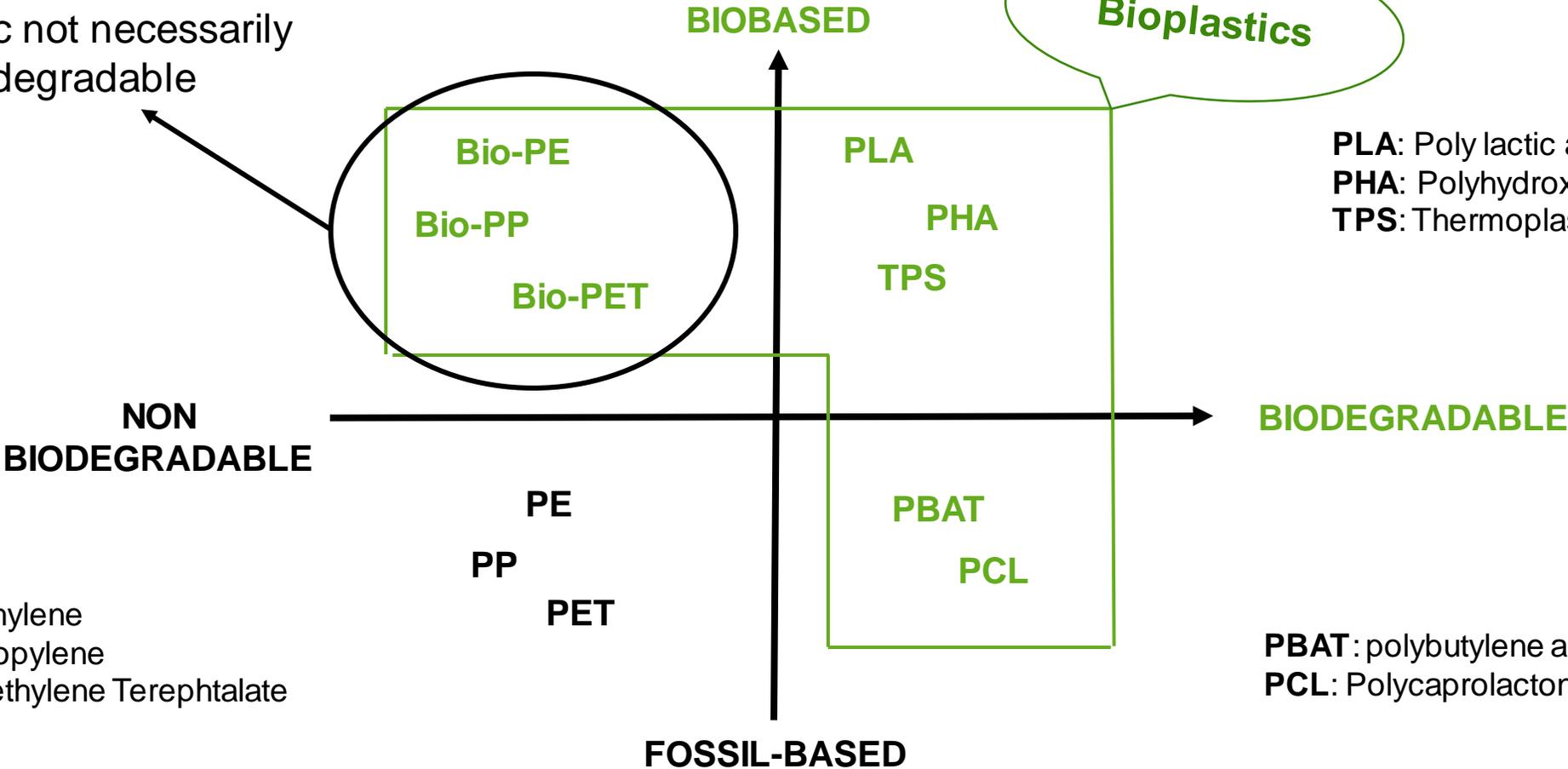
Biobased plastic = Bioplastic

■ Biodegradable

- ▶ Polymer naturally degradable by microorganisms into organic matter
- ▶ Organic matter is re-usable by organisms (e.g. plants) to be part of living organisms

# Bioplastic = Biobased and/or Biodegradable

Attention!  
Bioplastic not necessarily  
Biodegradable



**PLA:** Poly lactic acid  
**PHA:** Polyhydroxyalcanoates  
**TPS:** Thermoplastic starch

**PE:** polyethylene  
**PP:** polypropylene  
**PET:** Polyethylene Terephthalate

**PBAT:** polybutylene adipate terephthalate  
**PCL:** Polycaprolactone

# BASF Solution : Ecovio®

- **Bioplastic: Biobased and Compostable**

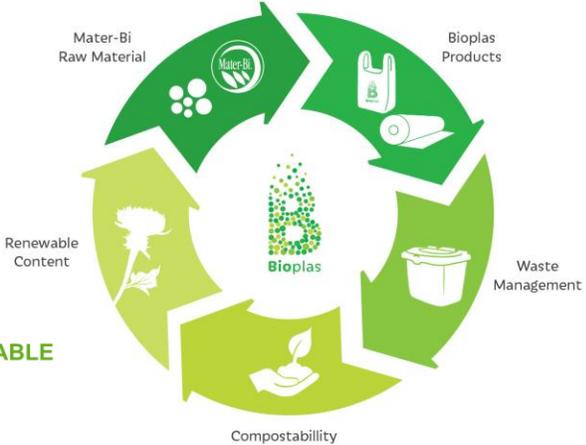
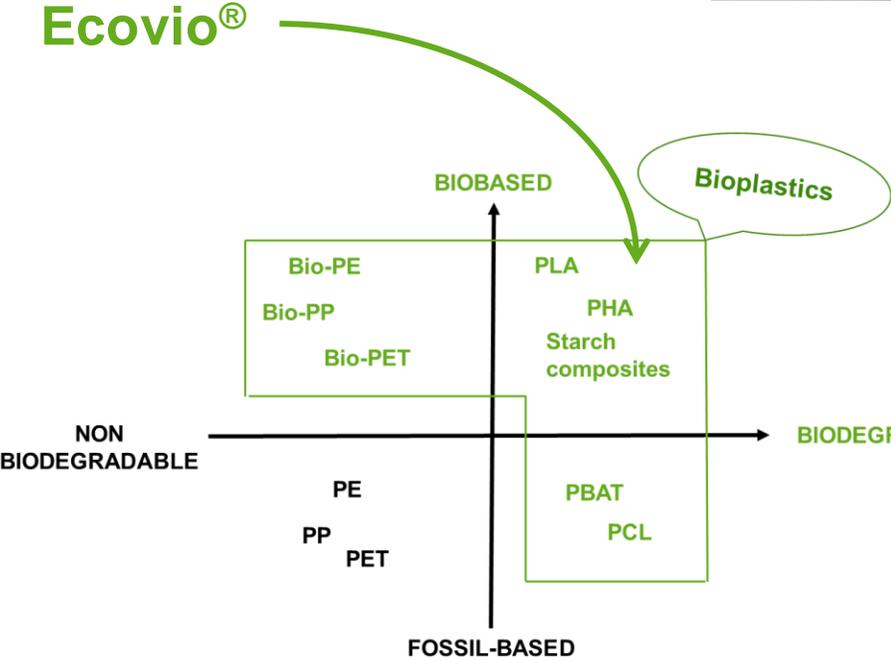
↳ = Accelerated Biodegradation

- **High-quality and high-performing plastic**

- **Finished compound**

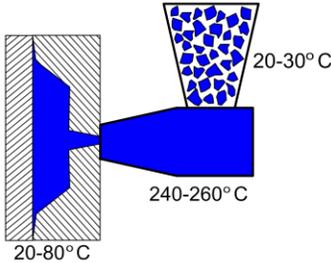
- **Highly Transformable**

Wide range of end use applications



# Ecovio® - Applications

- Organic waste bags and shopping bags
- Mulch films
- Paper coating
- Shrink film applications
- Thermoformed packaging
- Injection molding applications
- Transport packaging



# BASF and Sustainability

- Part of the **Dow Jones Sustainability World Index** for the 15<sup>th</sup> year in succession
  - ▶ Thanks to its **innovation** management, **environmental** and **social** reporting, **product** stewardship and **human** capital development
- **Sustainable Solution Steering**, 4 classes of solutions:
  - ▶ **Ecovio®** is a typical example of « **Accelerator** »
- BASF helps the **Sustainable Development Goal 12** with their products such as Ecovio®. BASF **contributes** to ensuring **sustainable consumption and production**



**Accelerator:** A solution with a substantial sustainability contribution in the value chain



**Performer:** A solution that meets the basic sustainability standards in the marketplace



**Transitioner:** A solution for which a specific sustainability issue is actively addressed



**Challenged:** A solution with a significant sustainability concern identified and for which an action plan is under development

# Your Challenge

- Find a new application for Ecovio<sup>®</sup> (can replace an existing product or not)
  - ▶ E.g. single-use cotton swabs, shopping bags, ...
- Determine its market potential
- Measure its ecological impact and feasibility
- Work out your business case with financial data
  - ▶ Average cost conventional plastic (fossil-based) : 1350 EUR/ton
  - ▶ Average cost Ecovio: 3600 EUR/ton



**BE CREATIVE, BE ORIGINAL, BE SUSTAINABLE !**

# Additional information about Ecovio<sup>®</sup> that could be used

- Good printability
- Adapted for use as packaging
- Depending on the grade of Ecovio<sup>®</sup> being used, softening point (61°C) and melting point (110°C) can vary
- Stiffness and strength of Ecovio<sup>®</sup> are comparable to PP and PET