



# *Wie gelingt die „Polyolefins Circular Economy“*

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**Kunststoff-Kreislaufwirtschaft**

WK Salzburg, Februar 2020

EverMinds™

Thinking Circular

 **BOREALIS**

Keep Discovering

# Borealis auf einen Blick

## Worldwide



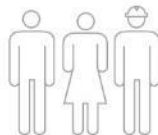
Head Office **in Vienna, Austria**.  
Operating on **five continents**  
in **120 countries**

## Market Position



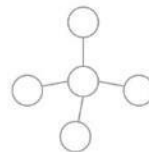
**#2** among polyolefin  
producers in **Europe**

## Employees



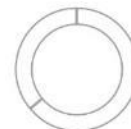
More than  
**6,800 employees**

## Line of Business



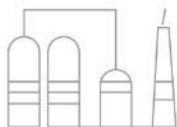
Production and distribution of  
**polyolefins** and **base chemicals**

## Ownership Structure



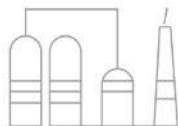
**64%** Mubadala, United Arab  
Emirates / **36%** OMV, Austria

## Joint Venture



**Borouge** – the world's largest  
integrated polyolefin complex  
in Ruwais, UAE

## Joint Venture



**Bayport Polymers** – brings  
Borstar® technology to American  
polyethylene markets

## Circularity



Two **polyolefin recycling**  
**operations** in Europe

## Patents



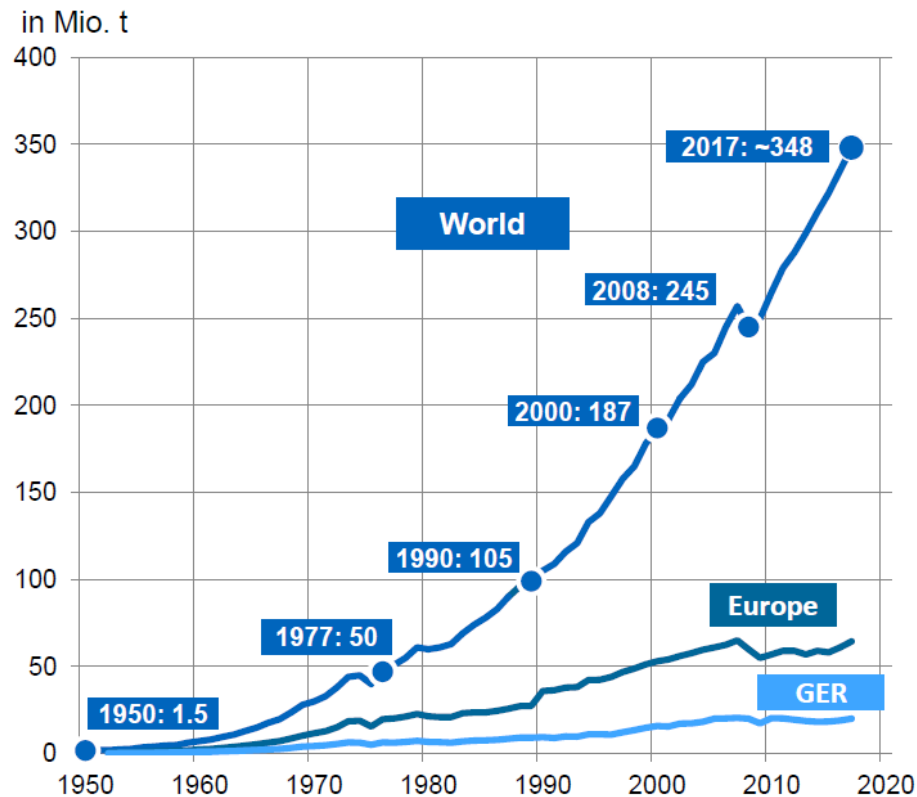
**117 priority patents**  
filed in 2018

# Kunststoff – Material von heute!

*“One word: Plastics.”*

What the neighbour man told Ben  
when discussing about  
a really viable career future...

The Graduate, USA 1967



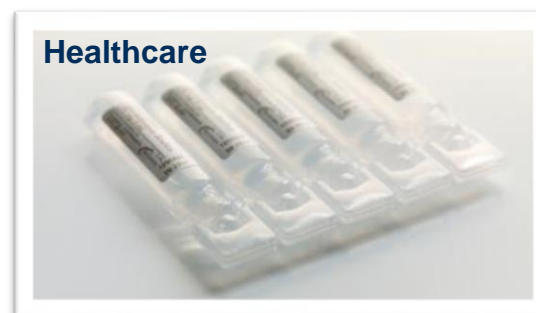
Includes Thermoplastics, Polyurethanes, Thermosets, Elastomers, Adhesives, Coatings and Sealants and PP-Fibers. Not included PET-, PA- and Polyacryl-Fibers

Source: PlasticsEurope Market Research Group (PEMRG) / Consultic Marketing & Industrieberatung GmbH

# Kunststoff – Material von heute!

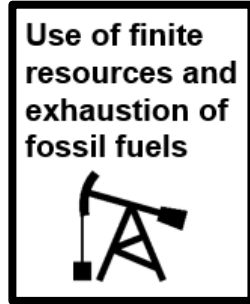
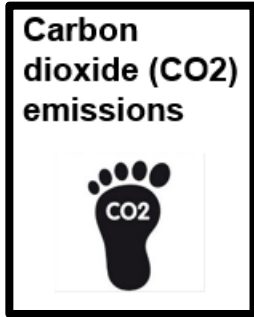
## Wert schaffen für die Gesellschaft

- Polyolefine (PO) haben einen **niedrigen CO<sub>2</sub> Fußabdruck** im Vergleich zu anderen Materialien
- Die **niedrige Dichte von PO** ermöglicht Leichtbaulösungen
- Polyolefine **schützen und bewahren Lebensmittel** – Borealis-Lösungen verlängern die Regallebenszeit bis zum 3fachen



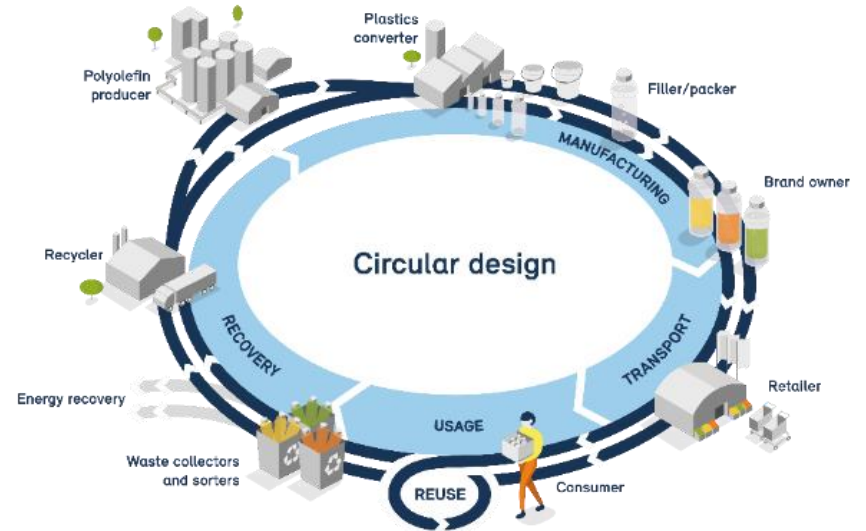
# Kunststoff – Material von heute!

... aber auch von morgen?



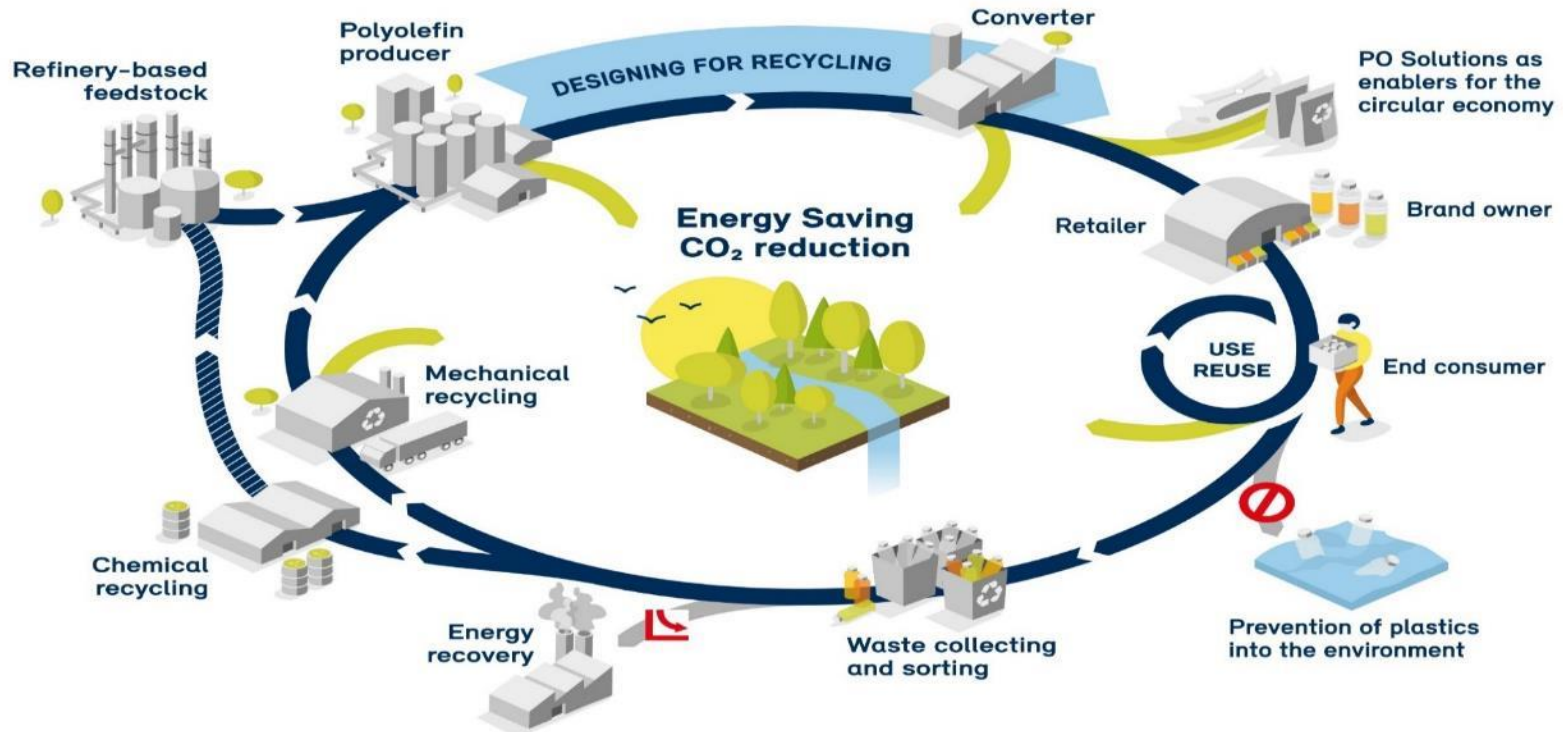
## The Chance

Circular economy could deliver €1.8tn for Europe (McKinsey, 2015)



# Der Weg zur „Polyolefins Circular Economy“

Viele Beiträge neben- und miteinander



# Der Weg zur „Polyolefins Circular Economy“

## Polymer Recycling



**Virgin PO solutions**  
following principles of  
Design for Recyclability  
(DfR)

**Compounds with**  
virgin + recycled contents



# Der Weg zur „Polyolefins Circular Economy“

## Polymer Recycling





# Der Weg zur „Polyolefins Circular Economy“

## Design for Circularity

### Design for Circularity:

- Design for **Reuse** (same application)
- Design for **Repurpose** (different application)
- Design for **Recycling**



# Der Weg zur „Polyolefins Circular Economy“

## Design for Circularity



- Partnership since July 2018
- Greentech foam injection moulding technology
- Speciality Borstar and Daploy PP products by Borealis
- Joint development and commercialisation
- Disruptive products (>50% weight savings, robust structure, designed for reuse and recycle)
- Disruptive business models (closed environment pilots ongoing)

**BOCKATECH**

In partnership with Borealis

BOCKATECH – Company logo and benefits overview, October 2019. Copyright 2019. All rights reserved.



**BorShape™ bimodal PE**  
allows the full PE laminate to be printed, laminated and run at packaging lines!



Blown MDO suitable for thin lamination films



Shopping bag consisting of 100% recyclate of full PE laminate.



High quality recycling



PE MDO film high speed rotogravure printing and lamination



High speed SUP production in VFFS with the Full PE Laminate



PE solution offers



LCA study on Full PE Laminate

At recycling rate of 50%

# Der Weg zur „Polyolefins Circular Economy“

Ist möglich – erfordert aber noch viele Anstrengungen!



Nachhaltige Entwicklung für eine wachsende Weltbevölkerung kann nur durch den Einsatz von “State-of-the-art” Werkstoffen funktionieren (Kunststoffen)...

- Design für Zirkularität
- Abfallsammlung und Management
- Entwicklung von Recyclingtechnologien
- Unterstützung durch Regelungen und Gesetzgebung
- Zusammenarbeit entlang der Wertschöpfungskette – oder besser: des Kreislaufs



# A city-partnership project co-founded by Borealis and SYSTEMIQ



**Project STOP**  
supports cities to design  
and implement low-cost,  
sustainable and more  
circular waste  
management models

- Three Objectives:**
- ✓ Zero leakage of waste
  - ✓ Driving circularity
  - ✓ Community Benefits

## Strategic partners



Norwegian Embassy



# EverMinds™

Thinking Circular

# Danke

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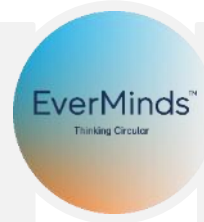


# The EverMinds™ platform – thinking circular

## Connecting Borealis' circular economy-related activities

### What EverMinds™ is about

- A platform to **heighten the visibility of plastics circularity**
- As the polar opposite of a dismissive “never mind” attitude, **establishes a more circular mind-set**
- Serves to streamline all Borealis circular economy related activities and boost their impact:
  - **Innovation**
  - **Commercial offerings**
  - **Corporate initiatives**
  - **Value-chain initiatives**
  - **Industry associations & memberships**
- **Sparks interaction and exchange** with stakeholders
- Acts as a catalyst **to inspire innovative circular polyolefin solutions**
- Represents people who **challenge the status quo, are smart, mindful and progressive**



### The EverMinds™ values



#### Mindfulness

We take action to shift towards a circular mindset



#### Quality

We strive to deliver premium performance whilst caring for the environment



#### Pioneering

We are constantly innovating our product portfolio; the reason our clients choose us



#### Collaboration

Only together we can shape a better tomorrow

# Borealis ist der Pionier beim Zusammenbringen des Neuwaremarkts mit Recycling



- Gegründet **1994**, Teil der Borealisgruppe seit **2016**
- Führender europäischer **Post-Consumer Recycler für Hartkunststoffe**
- Zwei Standorte in **Deutschland**
- Niedergebra ist **einer der größten Post-Consumer Recyclingstandorte in Europa**



© Patrol Group



- Gegründet **1989**, Teil der Borealisgruppe seit **2018**
- Führender europäischer **Post-Consumer Recycler für Polyolefinfolien**
- Standort in **Wildon, Austria**
- Erweiterung der Produktionskapazität in 2019 erfolgreich abgeschlossen

