



# From linear to circular value creation

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 **BASF**  
We create chemistry

# Cautionary note regarding forward-looking statements

*This presentation contains forward-looking statements. These statements are based on current estimates and projections of the Board of Executive Directors and currently available information. Forward-looking statements are not guarantees of the future developments and results outlined therein. These are dependent on a number of factors; they involve various risks and uncertainties; and they are based on assumptions that may not prove to be accurate. Such risk factors include those discussed in Opportunities and Risks on pages 158 to 166 of the BASF Report 2020. BASF does not assume any obligation to update the forward-looking statements contained in this presentation above and beyond the legal requirements.*

# BASF at a glance

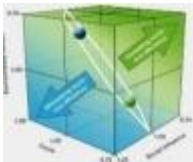


- Our chemistry is used in almost all industries
- We combine economic success, social responsibility and environmental protection
- Amongst top 10% of performers in diversified chemicals (Sustainalytics), leader in climate protection (CDP)
- Sales January – September 2021: €58.8 billion, EBIT before special items January – September 2021: €6.5 billion
- Employees (as of September 30, 2021): 110,672
- 6 Verbund sites and 241 other production sites
- Around 90,000 customers from various sectors in almost every country in the world

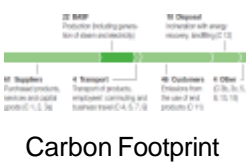
# Sustainability has been at the core of our strategy for decades



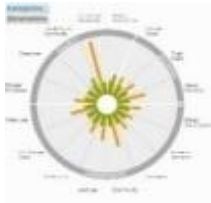
Eco-Efficiency Analysis



SEEBALANCE®



Carbon Footprint



AgBalance™



Investment evaluation



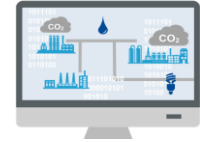
Sustainable Solution Steering



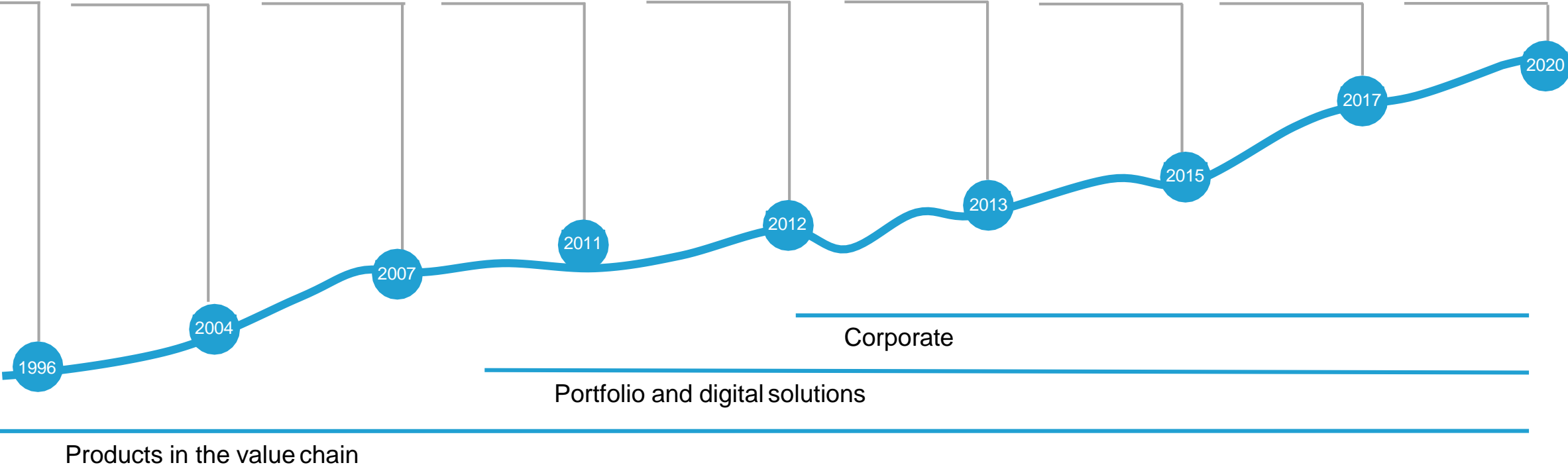
Advanced IT solutions for customers



Value-to-Society



Digital application for CO<sub>2</sub> product footprint



# The European Green Deal will accelerate the transition to a circular economy



“The Green Deal is Europe’s ‘Man on the Moon’ Moment”

## Selected Green Deal objectives



First climate-neutral continent by 2050



Lead the way to a circular economy

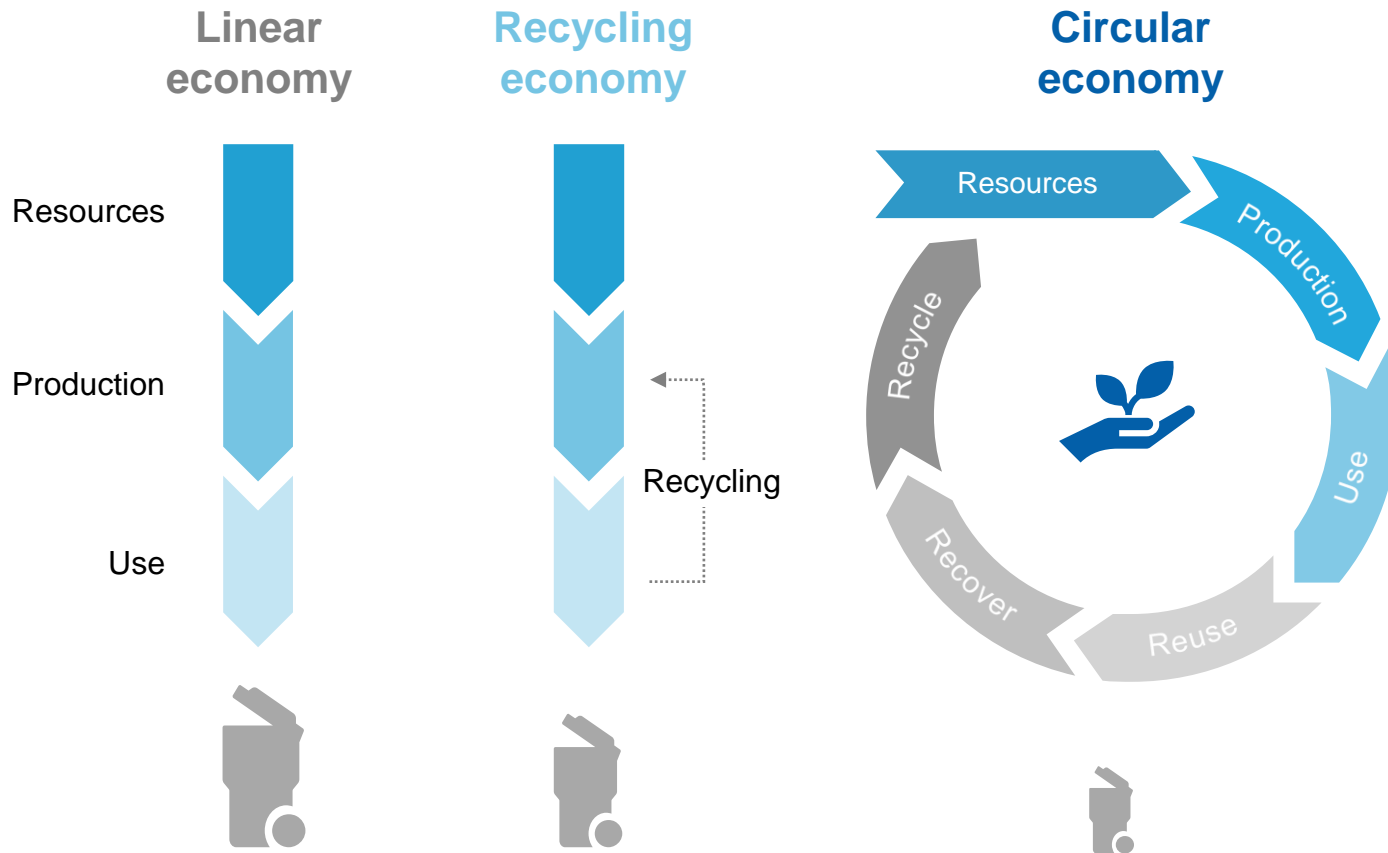


Move to a zero-pollution environment



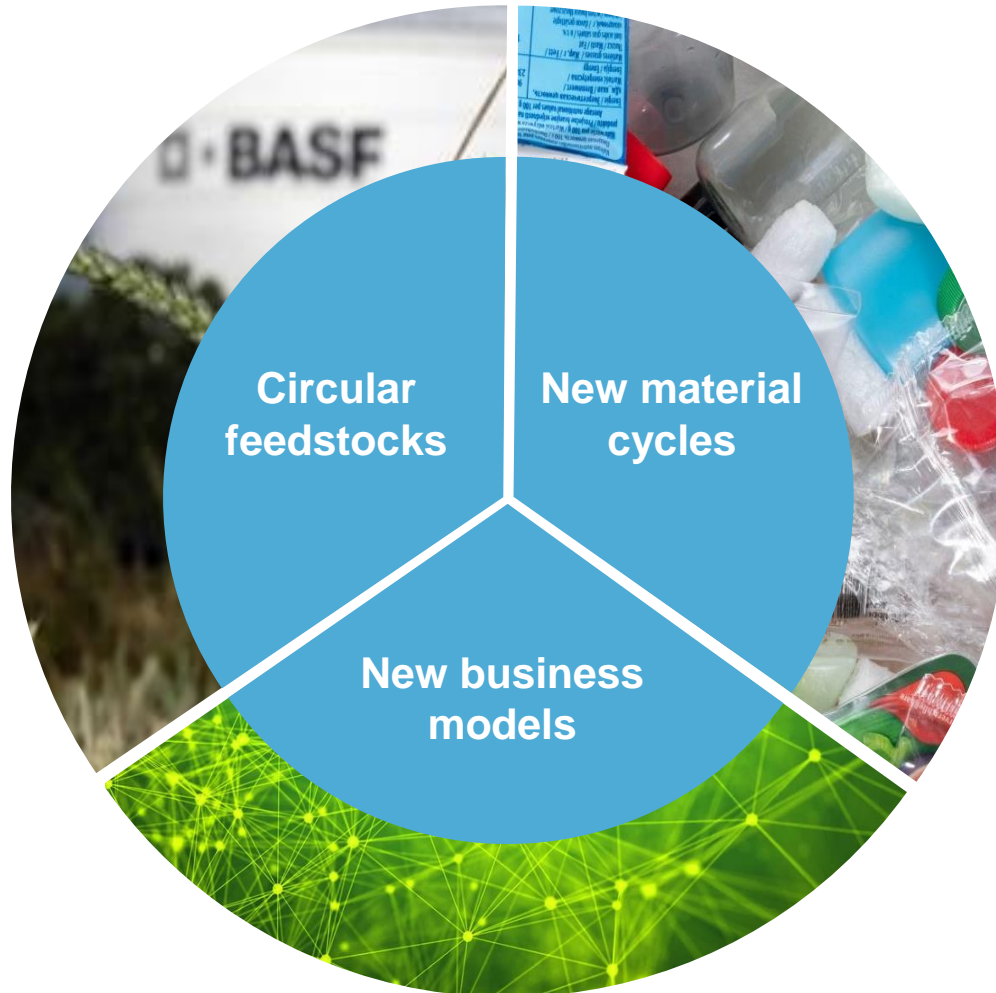
Accelerate to a sustainable food system

# A circular economy aims to decouple growth from resource consumption and is regenerative by design



- **Rethink design** and use of resources and **keep them in use as long as possible**
- **Recover and recycle** products and materials
- **Avoid waste** and **pollution** and **protect natural systems**

# BASF's Circular Economy program: Our approach



## Circular feedstocks

We will increase the volume of renewable and recycled feedstocks from sustainable sources, also via the certified mass balance approach.

## New material cycles

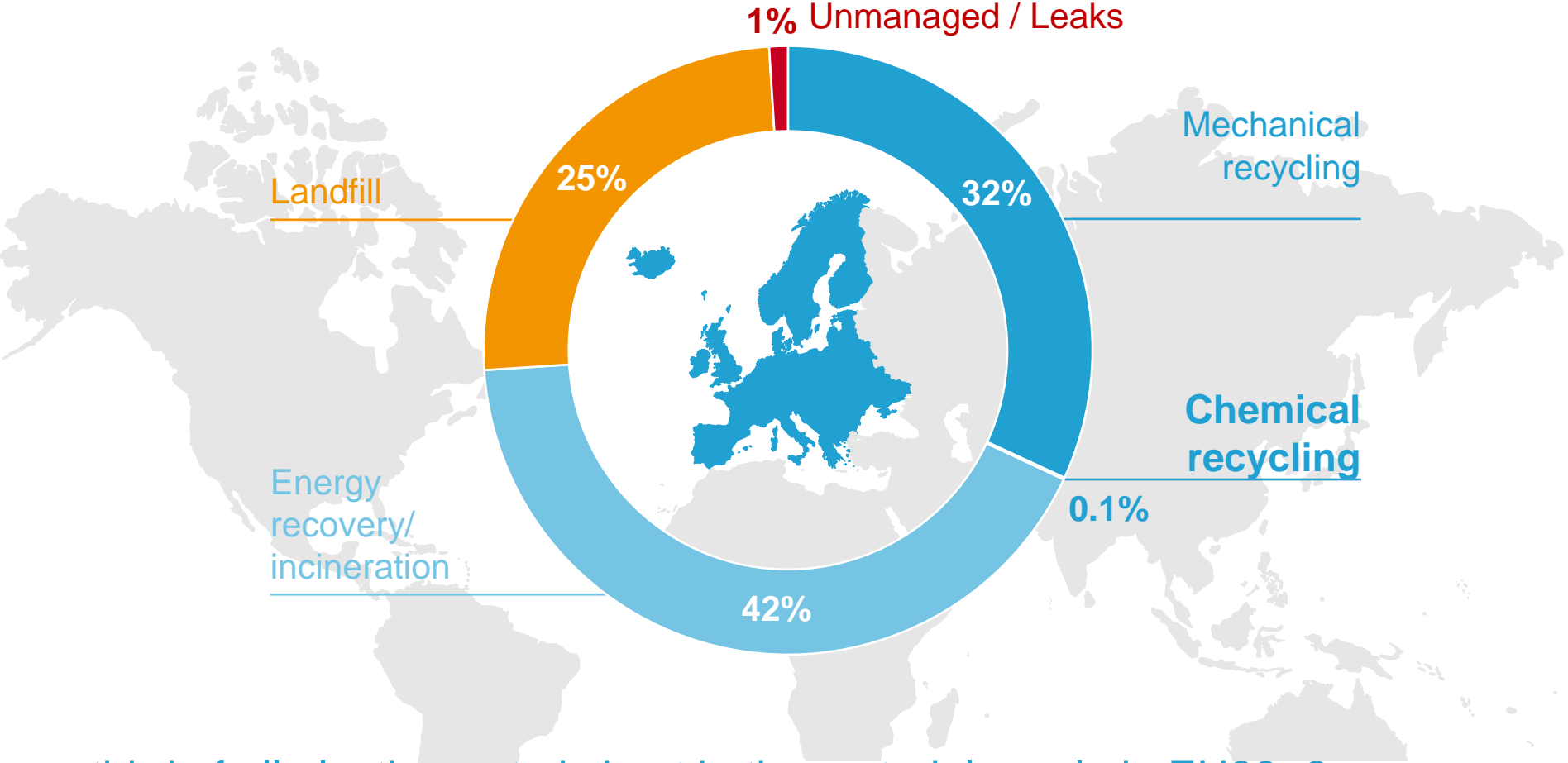
We design materials for circularity, develop solutions which improve or enable recycling and establish product-specific recycling loops.

## New business models

We enter new markets, create smart digital solutions and offer new services which allow a decoupling of growth from resource consumption.

# Today's recycling landscape for plastic waste

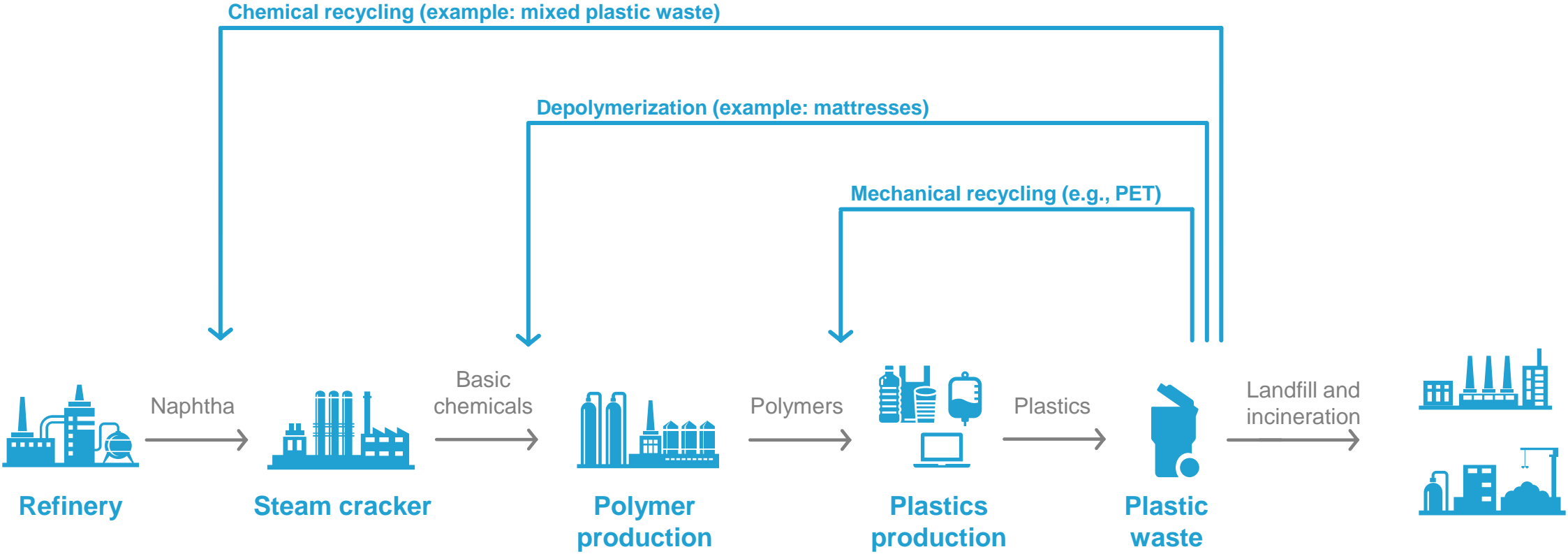
End-of-life treatment of 29 million tons of plastic waste in EU28+2 in 2018



Only one third of all plastic waste is kept in the materials cycle in EU28+2.



# Chemical recycling complements mechanical recycling



Chemical recycling is one of many measures to close the loop in the plastics industry

# BASF's ChemCycling™ project is breaking new ground in plastics waste recycling



# The Mass Balance approach: Replacing fossil resources through a certified allocation method

## Feedstock

Fossil



Renewable or Recycled



## BASF Production Verbund



Conventional product



Biomass Balance or recycling based product

Allocation of renewable feedstock to selected products

Use of renewable or recycled feedstock in very first steps of chemical production (e.g., steam cracker)

Utilization of existing Production Verbund for all production steps

# ChemCycling™ enables manufacturing of trousers from end-of-life tires

- BASF and VAUDE take a step towards sustainable textiles
- Ultramid® Ccycled™ polyamide from chemically recycled tires forms the basis for outdoor pants
- Available in stores as of March 2022
- Potential for further recycled equipment, such as backpacks
- Further outdoor equipment producers expressed interest to cooperate with BASF

Ultramid® Ccycled™ polyamide saves fossil raw materials while offering the identical quality as conventional polyamides



Photo: Attenberger

# Enabling composting of plastics with biodegradable and bio-based polymers

- ecovio® is a high-quality, versatile bioplastic
- Meets international and national standards and regulations for industrial composting<sup>1</sup>
- Used to produce:
  - organic waste bags
  - fruit and vegetable bags
  - carrier bags with dual-use
  - packaging applications and agricultural films



ecovio® improves the collection and recovery of food waste and helps avoid microplastics in soil

# Depolymerization of polyurethane foams permits recycling of end-of-life mattresses

- 30 million used mattresses are thrown away annually in Europe alone
- Mattresses are easy to collect, but majority ends up in incineration or in a landfill
- BASF developed a chemical recycling process for used mattresses to recover high-quality polyols
- Recovered materials can be used to produce new mattresses




Recycling of mattresses closes the loop and allows for a significantly lower carbon footprint

# Chemically extracting lithium from discarded batteries will help close the loop in electric mobility

- In 2030, 1.5 million metric tons of end-of-life batteries are expected globally
- BASF will utilize end-of-life batteries and extract battery-grade lithium with a proprietary process
- Recycling will help meet growing demand for critical metals
- Using recycled metals will significantly reduce CO<sub>2</sub> emissions in the production of electric vehicles



BASF will close the loop and offer a best-in-class CO<sub>2</sub> footprint for battery materials



“Business **success**  
tomorrow **means**  
creating **value** for the  
**environment, society**  
and **businesses.**”

Saori Dubourg, Member of the Board of  
Executive Directors, BASF SE





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