# ChemCycling™: From plastic waste to virgin-grade products

## An innovative approach

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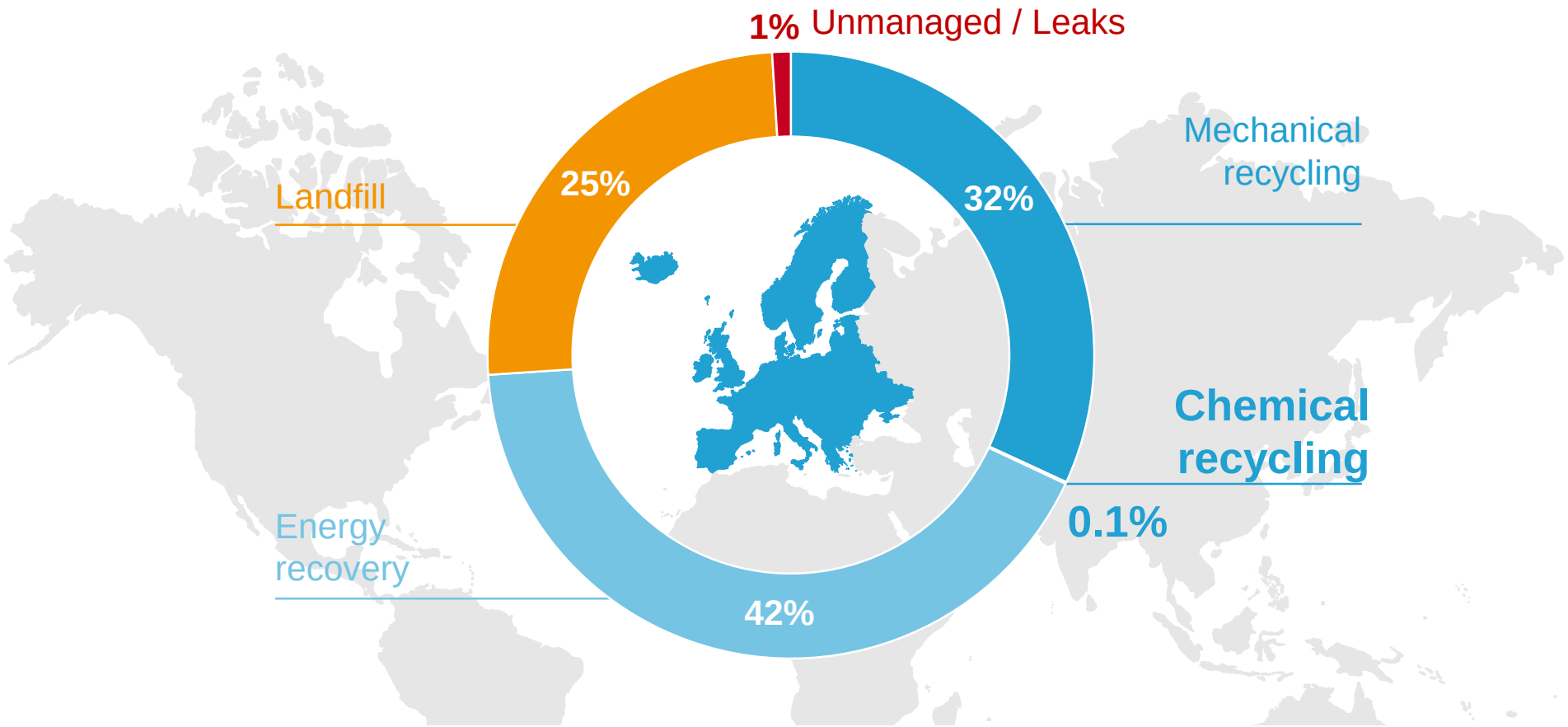
# Today’s recycling landscape for plastic waste

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




Increasing chemical recycling will keep more plastic waste in the material cycle and at the same time reduce landfill and incineration

Sources: Conversio “Circular Economy of Plastics 2018 EU28+2”, p. 68



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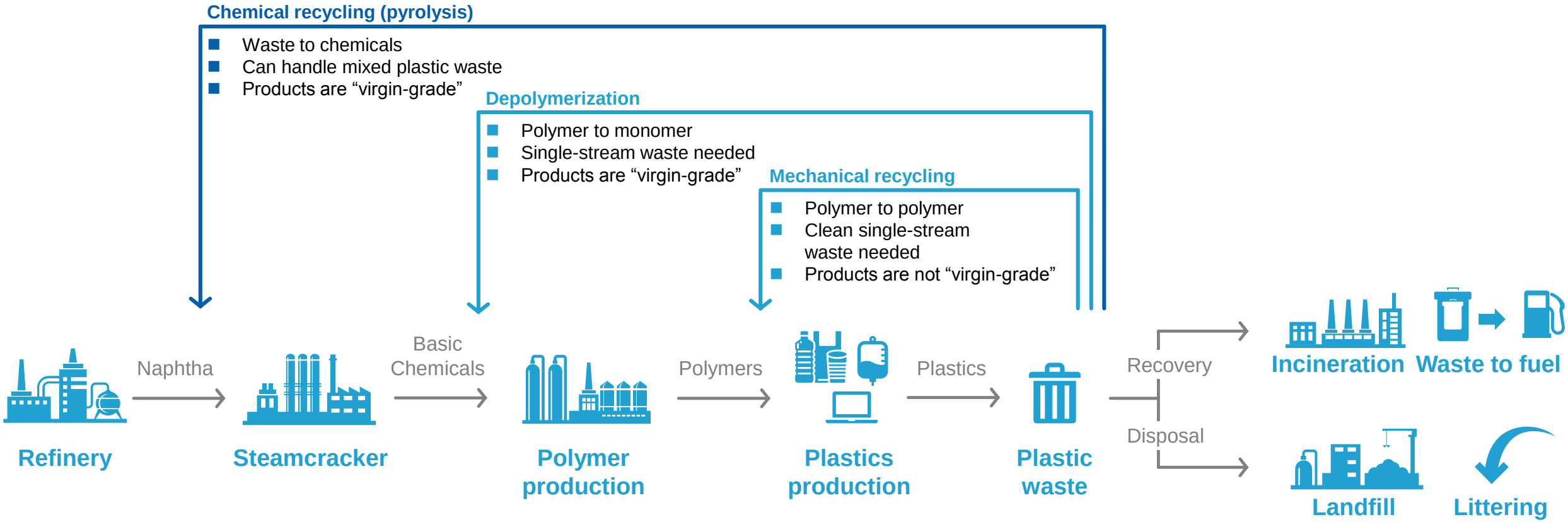
# The role of chemical recycling in a Circular Economy

## Different loops are necessary for a successful transition towards circularity




## Chemical recycling is complementary to mechanical recycling



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# BASF's ChemCycling™ project

## An innovative way to use recycled raw materials for demanding applications


01 Consumers use and dispose plastic products (e.g. packaging, tires)

02 Waste companies collect and sort the waste and supply BASF's technology partners with it

03 Our partners convert the plastic waste into pyrolysis oil through a thermochemical process

04 Pyrolysis oil is purified to be used as feedstock at the beginning of BASF's Verbund production

05 BASF can allocate the recycled feedstock to all chemicals produced in this Verbund via a certified mass balance approach

06 Our customers use these chemicals to make their own products

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# Benefits of ChemCycling™

## Why BASF is developing chemical recycling for use on industrial scale

**Complementary approach** to existing recycling methods, thus overall recycling rates of plastic waste will be increased

**Solution oriented** end-of-life option for high-performance plastics, e.g. multi-layer packaging

**Contributing to a circular economy** as plastic waste is turned into feedstock for the chemical industry

**Replacing fossil resources** and **saving $CO_2$ emissions** against conventional plastics production

**Virgin quality** products for demanding applications can be manufactured, e.g. food packaging or automotive parts

**Supporting our customers** in achieving their recycling targets

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# ChemCycling™ project

## Status quo

- First commercial applications and several prototypes realized with customers
- Investments into Quantafuel and Pyrum and collaboration agreement with New Energy to secure supply pf pyrolysis oil
- Technological support for partners to gain speed in process development and plant start-ups
- Mass balance allocation and products themselves are certified by independent auditors
- Life Cycle Assessment (LCA) shows how $CO_2$ emissions can be saved with ChemCycling

We are actively exploring chemical recycling's potential and are constantly working to improve this innovative recycling technology


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