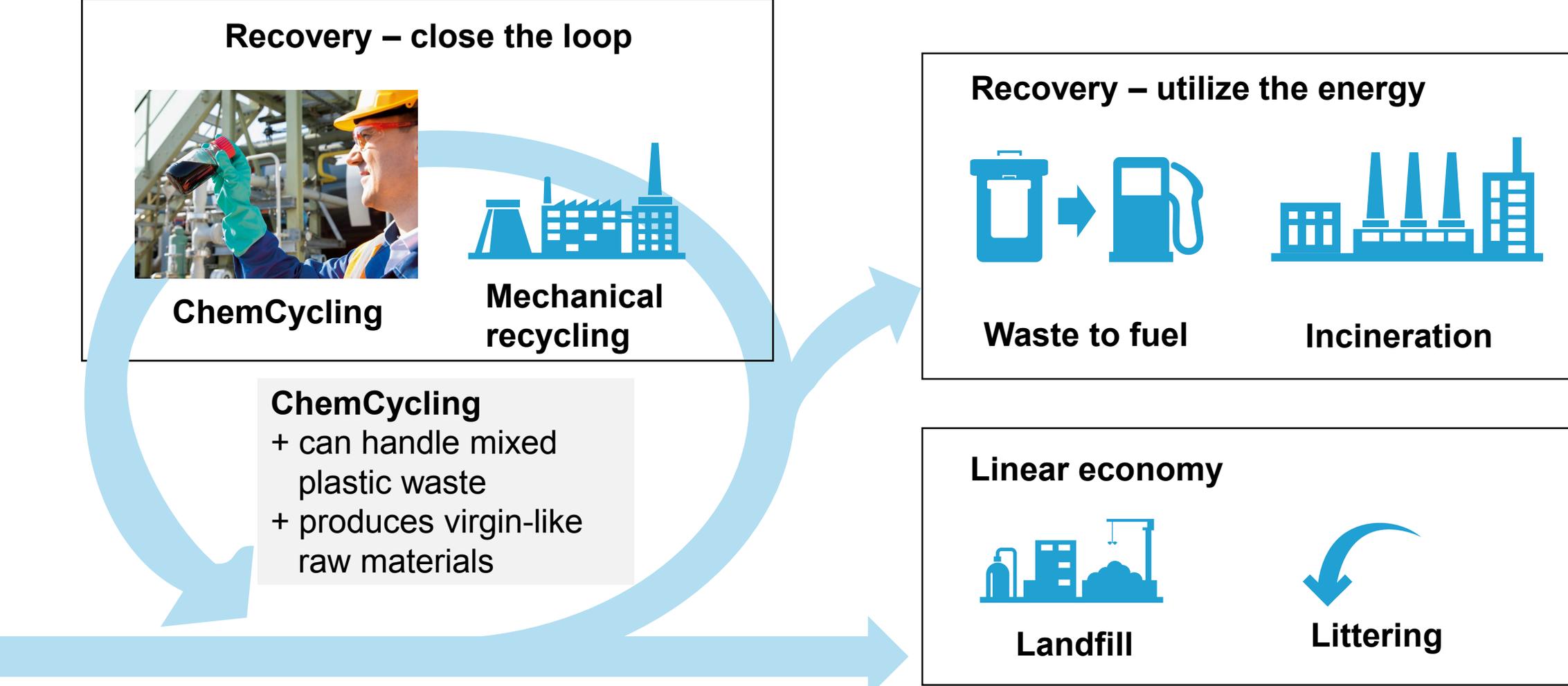




ChemCycling

From plastic waste to chemically recycled products

Chemical recycling represents a missing link to close the loop



BASF is breaking new ground in plastic waste recycling



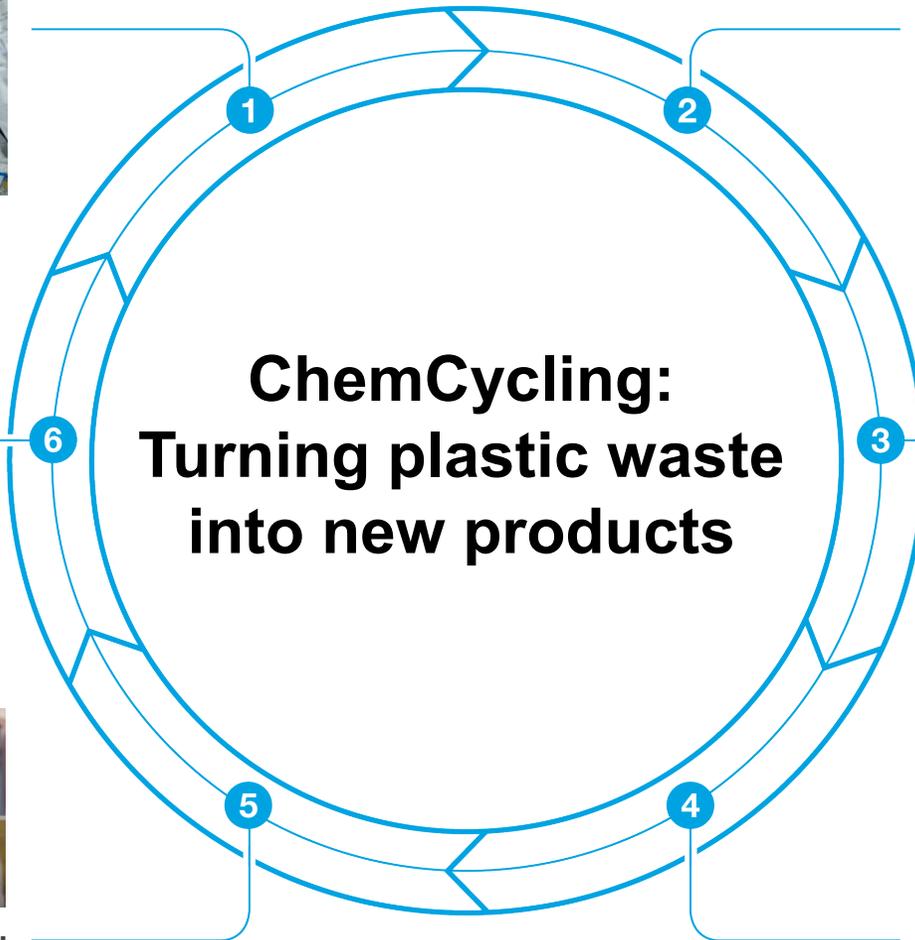
Waste companies supply recyclers with plastic waste



The waste is collected and sorted by waste companies



Consumers and companies use and dispose of products



Plastic waste is converted into feedstock by third parties through thermochemical processes



This feedstock can be used in the BASF Verbund as an alternative to fossil feedstock to create all kinds of chemicals and products, including new plastics



Customers use these to make their own products

Reasons for BASF to start chemical recycling



Through chemical recycling, **plastic waste** which currently is landfilled or incinerated can and will be **recycled**.



Customers have committed themselves to use recycled material in their products. We help our customers achieve these targets.



Regulations all over the world are aiming to increase the recycling of plastics, e. g. through **higher recycling targets**.

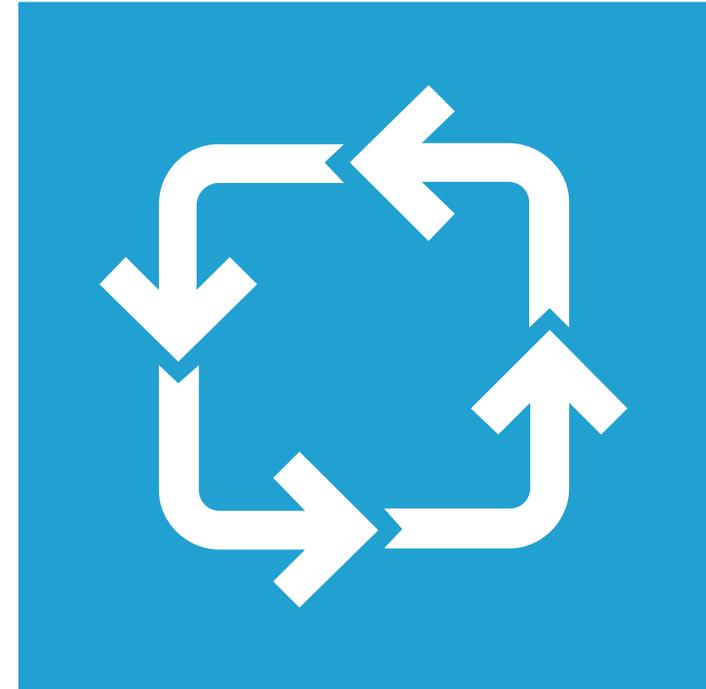


Pyrolysis oil or gas can partly **replace fossil feedstock** as raw material, saving fossil resources.



Why chemical recycling is environmentally benign

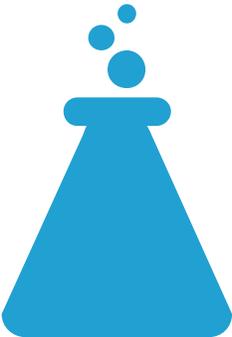
- **At the end of life of a plastic product, the most eco-efficient solution should be chosen.**
- **Chemical recycling is complementary to mechanical recycling and can be a more sustainable alternative to incineration or landfill.**
- **With a life-cycle analysis we ensure that the innovative approach creates value for the environment.**



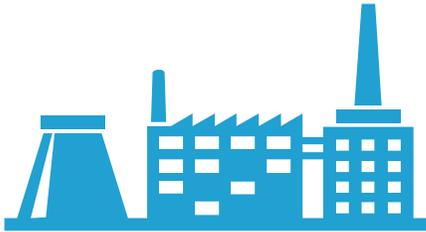
Chemical recycling is currently tested with first pilot products. BASF intends to develop the technology on an industrial scale

With ChemCycling we can:

Recycle plastics for which there are no recycling solutions today



Turn waste into feedstock for the chemical industry



A third party certified system allocates the proportion of recycled resources in each product



Remove undesired substances in the process



Produce virgin-grade recycled material



How chemical recycling can reach market maturity

Technological requirements

Existing technologies for conversion of plastic waste into pyrolysis oil or syngas need to be **further developed** and adapted to ensure a reliable high quality of the secondary raw materials.



Regulatory requirements

Clarify regulatory ambiguities, i.e. acceptance of chemical recycling and mass balance approaches for the fulfillment of recycling targets is crucial.



ChemCycling in motion



With ChemCycling however, a new source of raw material will be added to this:

<https://youtu.be/FFXNcXfudmk>

www.basf.com/en/chemcycling





We create chemistry