

# ReShaping Plastics in numbers

State of Play  
Today

**24.5 million tonnes**  
of plastic waste generated in 2020

**14%**  
of plastic waste were recycled, providing 3.5 Mt of recyclates in 2020

**50%**  
of today's European plastic waste is incinerated for energy recovery

**95 million tonnes**  
of CO<sub>2</sub>e are emitted per year in 2020, one-third is caused by incineration

**8-15 million tonnes**  
of unaccounted for plastic as a result of gaps in waste data

## The CIRCULARITY SCENARIO reduces 80% of end-of-life plastic disposal by 2050 compared to today,

effectively reducing system CO<sub>2</sub> emissions by 65% through the immediate implementation of 8 complementary system intervention levers in the plastics value chain

**8 SCALE UP CHEMICAL RECYCLING**  
for hard-to-recycle plastics to produce 7.3 Mt of secondary feedstock by 2050

**1 ELIMINATE**  
unnecessary packaging directly at source or through product re-design to reduce 8% of packaging waste

**2 REDUCE**  
1/3 of plastic packaging through reuse and new delivery models by 2050

**3 REDUCE**  
the overall vehicle stock and corresponding automotive plastics demand by 22% through shared mobility service models by 2050

**5 DESIGN FOR RECYCLING**  
decreases economically unrecyclable packaging by 30% and increases the vehicle dismantling rate to 15% for high quality recovery of automotive plastics

**6 EXPAND COLLECTION FOR RECYCLING**  
as well as sorting and dismantling in all sub-systems to turn waste into a high quality resource for secondary feedstock production

**7 INCREASE MECHANICAL RECYCLING CAPACITY**  
By a factor of 1.8x by 2050 to produce 9.8 Mt of recyclates and achieve an output recycling rate of ~40%

**4 SUBSTITUTE**  
plastic packaging with paper and compostables alternative to switch 8% of projected plastic waste by 2050

## The NET ZERO SYSTEMS CHANGE SCENARIO builds on the Circularity Scenario and brings the European Plastics system on a net zero pathway through 4 methods of GHG reduction:

**A CHANGE THE FEEDSTOCK CARBON SOURCE**  
to provide 1/4 of feedstock by 2050 via sustainable bio-based materials or captured carbon and hydrogen

**B APPLY BLUE AND GREEN HYDROGEN**  
as fuel and feedstock to reduce production emissions

**C ELECTRIFY HEAT SOURCES**  
for steam crackers with cumulative production capacity of 1.5 million tonnes by 2050

**D CAPTURE PRODUCTION AND END-OF-LIFE EMISSIONS**  
through applying CCS to steam crackers or CCU/S to waste-to-energy plants

## The NET ZERO SYSTEMS CHANGE SCENARIO achieves environmental and economic benefits

Target State  
2050

**-60%**  
(255 Mt) less waste incinerated between 2020-2050

**>70%**  
less virgin plastic produced from fossil fuels

**1.6 Gigatonnes**  
cumulative CO<sub>2</sub> emissions saved between 2020-2050

**+160,000**  
jobs from circularity levers

**1 in 4€**  
to be redeployed to innovative low carbon technologies and circular business models