



**GAW** powered by  
**CreaSolv®**  
technology

# Innovative solution to a multilayered problem

The award-winning technology for recycling of multilayered packaging materials for food and consumer goods: CreaSolv®

The CreaSolv® process is a solvent-based process that enables the recycling of complex plastic waste that was previously considered non-recyclable. This technology enables high-quality recyclates to be produced economically and in an environmentally friendly manner from mixed plastic waste fractions and plastic composites.



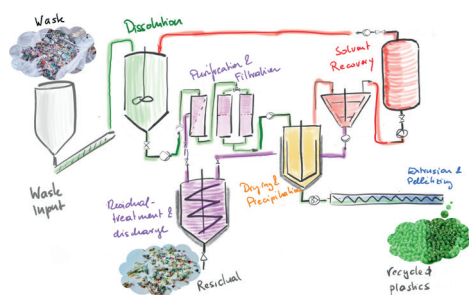
CreaSolv® unit operated in Indonesia



## How does it work?

CreaSolv® is a solution-based polymer refining and recycling process. The target polymer (PE, PP, PA, TPE, etc.) is selectively dissolved from a fraction of mixed plastic waste.

- Insoluble polymers, debris and contaminants are removed from the solution through separation and filtration stages with a fineness of  $< 10 \mu\text{m}$
- To recover the highly purified target polymer from the liquid solution, the solvent is evaporated
- In a closed loop the solvent is recondensed and reused in all following dissolving cycles
- The refined plastic finally is pelletized



## Advantages



The physical and chemical structure of the polymers remains unchanged during the physical dissolving process and does not degrade.

- Low thermal exposure of the polymers
- No exposure to mechanical stress (e.g., shear forces)
- No oxygen-induced molecular weight degradation
- The polymer can be stabilized during the process
- Highly attractive carbon footprint of the recyclate, compared to virgin material, landfill, incineration and other recycling paths
- The CreaSolv® Process has proven to be robust, simple and profitable to operate

## Demonstrator Unit

- In operation since 2021, designed as a flexible multi-material plant for the experimental processing of various waste fractions and the production of industrially processable recyclate quantities
- TRL 7; Capacity: approx. 100 kg/24 h
- Amount of recyclate produced to date:  $> 25$  tons
- **Processed waste fractions:**
  - › PE from post-industrial film laminates
  - › PE from post-consumer packaging films
  - › PP from film laminates and packaging
  - › Glass-fiber-reinforced PP (separation of plastic and glass fibers)
  - › Glass-fiber-reinforced PA (separation of plastic and glass fibers)
  - › PE/PP combinations from artificial turf waste (separation and purification of PE and PP)
  - › PA from PA/PE containing post-industrial film laminates
  - › Separation of aluminum from PE-film laminates
- Recyclates demonstrate excellent properties in industrial processing (up to 100% recyclate content possible)

## About GAW

GAW technologies is part of the GAW Group - a global technology group with approximately 700 employees, focused on the paper and plastics industries & process automation.

For 75 years, GAW has been delivering customized solutions in plant construction, process engineering, and industrial services to the sectors paper and plastics, chemicals, construction, food, medical technology, and infrastructure. GreenTech innovations include CreaSolv® plastics recycling, plants for the preparation and processing of recyclates, membrane processes for the recovery of valuable materials from process media, and hydrogen electrolysis.

## Great Applications Worldwide



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