

## Expected Impact

DEMETO will be:

The first industrial plant in Europe to conduct a full waste-to-monomer recycling of PET

The only facility to treat all sorts of post-consumer PET in one process

The first European project to apply chemical recycling at an industrial scale

As a frontrunner project DEMETO will set new standards for the entire PET recycling industry



## Demeto Value Chain



Modular, scalable & high performance depolymerization by microwaves



A sustainable, clean, safe and profitable way to recycle PET waste for a circular plastics economy

Stay updated and join the chemical recycling revolution at [www.demeto.eu](http://www.demeto.eu)

Contact us at [info@demeto.eu](mailto:info@demeto.eu)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement N° 768573, DEMETO.

## Context

PET, one of the most widely used materials in the clothing & packaging industry

With about 70 million tons produced in 2015

And a growing market of 9.1% on average per year

YET, so far only a fraction of PET waste is treated with mechanical recycling

Coloured, complex, contaminated and fibre-based waste is incinerated or disposed



## Business Opportunity

### Closing the Loop

With its innovative technology DEMETO will allow difficult to recycle PET waste to re-enter the value chain

It will open up the untapped **MARKET OF TEXTILES,**

offer an alternative **SOURCE OF RAW MATERIALS** to the plastics industry,

& develop a **LEAD EXAMPLE** of chemical recycling



Monomers (EG + PTA) & Additives

Depolymerization in Microwave Reactor

Water & Energy

Total Available Market  
PET waste could currently supply around  
**100 plants in Europe**  
&  
**1,000 plants globally**

## Technology

DEMETO exploits an innovative technology developed by gr3n. The patented technology uses an alkaline hydrolysis as depolymerization reaction. By using microwave radiation, the reaction is intensified and accelerated.

### Advantages:

- Full depolymerization in ~10 min
- Cost competitive with petrochemical-based monomers
- Virtually all treatbale PET as feedstock
- Production of virgin grade monomers
- Robust to contaminants
- No flow of hazardous chemicals

On top of this, chemical recycling uses less energy and produces less CO<sub>2</sub> compared to the production of virgin PET:



-67.4%



-38.5%