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## Microwaves pave the way for PET recycling

**08.10.2019** - A large European research project is testing a new method that makes it easier and more eco-friendly to recycle PET plastic. Among other things, PET is used to make packaging, soda bottles, and clothing.



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symbol image

“By combining new microwave technology with a well-known chemical reaction, a unique process has been created that allows us to recycle PET in a way that is economically efficient and to use the recycling method industrially,” says Ioannis V. Skiadas, Associate Professor at DTU Chemical Engineering and Project Manager for the Danish part of the DEMETO project (Depolymerization by Microwave Technology).

The degradation of PET is called depolymerization, and for the first step of the process, a unique mi-

crowave technology invented by Swiss company GR3N is used.

### Reuse of degraded PET

The microwaves convert PET waste into a mass of hydrolysed plastic. Then the researchers from DTU Chemical Engineering take over.

Our job is to separate from the mass the ingredients which can be used to make new PET. This is done using a complicated purification process. Among other things, we examine how we can optimize the steps between the individual processes, minimize energy consumption, and how we can reuse the chemicals,” says Ioannis V. Skiadas.

A list of companies will test whether the degraded PET can be reused for the production of new PET products.

The DEMETO project is funded by the EU's Horizon 2020 programme and will run for three years, ending in 2020.