# Projects

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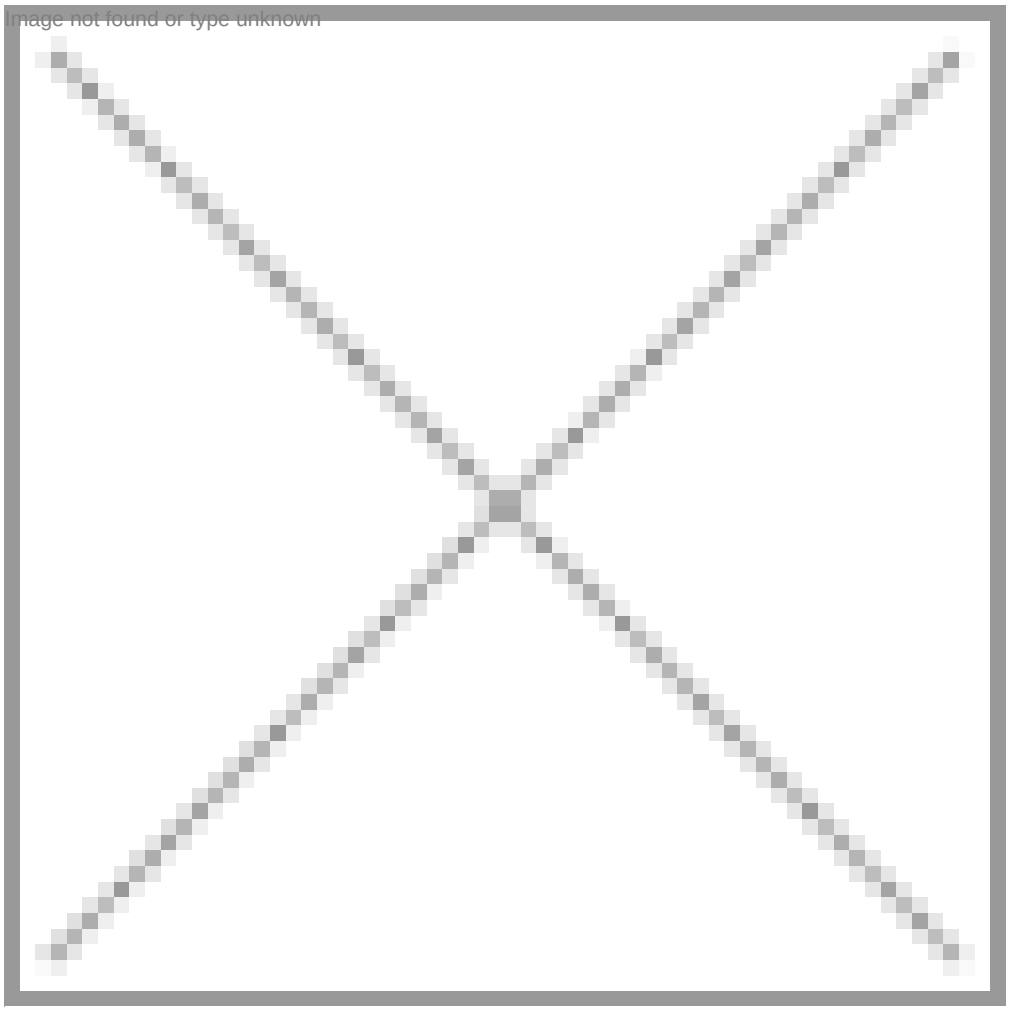

**The project will deliver a demonstration plant, at TRL 7, which will close the plastics loop. Unsorted plastics will be processed, in a novel way, to become feedstock for polyethylene and polypropylene production. Char will be repurposed for cement production. GHG emissions will be decreased by up to 80% when compared to existing processes.**

In 2018, Europe produced 29.1 million tons of plastic waste; only 17% was recycled. In response, the Plastics2Olefins project will design, build, and run a demonstration plant for recycling of unsorted plastic waste at Repsol's industrial site (Spain), which will be digitalised and run on 100% renewable (electric) energy.

It will be a two-step process. First, testing and validating at a pilot scale of 10kg/h, and then designing, constructing and operating a 1 ton/h capacity plant.

The plant will be based on a novel plastics recycling process based on high-temperature pyrolysis.

It will achieve TRL 7 by the end of the project. The new process will reduce the lifecycle GHG emissions by more than 70%, compared to existing plastics recycling processes for unsorted plastic waste, and by more than 80% compared to incineration.

The gas and liquid product fractions derived from the recycling of plastic waste will be further used in the petrochemical complex of Repsol, using the light olefins obtained in its polymerisation processes for polyethylene and polypropylene production. The char produced will be valorised as an alternative sustainable solution to cement production instead of pet coke.

**Follow the project's next steps on its website.**