

Entrepreneurs succeed in transforming used PET into mineral paper

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In order to cut down fewer trees and avoid wasting water, a group of young Mexicans designed a system that converts used PET bottles into mineral paper or peta paper, which is biodegradable and meets quality standards required to print books, boxes and general stationery.

"We manufacture ecological [paper](#) created with recycled plastic bottles,

[calcium carbonate](#) and stone. We don't use water or chemicals, such as chlorine. The mineral paper is stronger than the standard. You cannot break it with your hands, it is waterproof, it is photodegradable and only absorbs the necessary amount of ink when printing," said Ever Adrian Nava, cofounder of the "Cronology" company, located in Ecatepec, a municipality in Mexico State, just north of Mexico City.

Powered by "Cronology" technology, making one ton of paper saves up to 20 trees and 56,000 liters of water. The production process is also 15 percent cheaper because it requires no chemicals like chlorine. Another benefit of this system is that with 235 kilograms of pellets (beads of PET) a ton of mineral paper is made. The process takes just eight hours for 24,000 kilograms of to be obtained.

Before converting the PET into paper, it is necessary to first convert the recycled plastic bottles into pellets (plastic beads) by crushing them with various pieces of calcium carbon, to create a mixture which is subjected to a casting process at over a hundred degrees Celsius, to form sheets of large paper that are rolled to form sheets.

The original purpose of this type of paper is reducing production costs and avoiding deforestation, since the country currently produces 700,000 tons of paper per year to meet the needs of the local market.



About 33 percent of paper produced in Mexico is for books and notebooks, 25 percent for wrapping, and the rest for [toilet paper](#) and wrapped foods. This new company intends to replace them with its process.

The machine, created by Ever Nava with his teammate Erick Zamudio, is similar to machines for tortilla manufacture, since the peta paper is made from a "paste" that results in a waterproof paper with a similar

texture to baking vouchers and it is friendly to the environment because it degrades in just six months. The only downside is that it cannot be written on with ink gel because it contains alcohol and the product does not support it.

"By not using trees or water, we reduce costs and help the planet. To produce one ton of traditional paper causes a deterioration of 100 years to the environment. With peta paper, we eliminate that," says Ever Nava.

Companies manufacturing peta paper with similar processes already exist in Spain and Taiwan, but the Cronology system is four times cheaper. However, to consolidate the project, the founders participated in a contest for emerging green companies that has been organized for the last five years in Mexico, in order to get financing for their company.

Provided by Investigación y Desarrollo

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