



- Press release -

Carbios produces first clear plastic bottles from enzymatically recycled textile waste

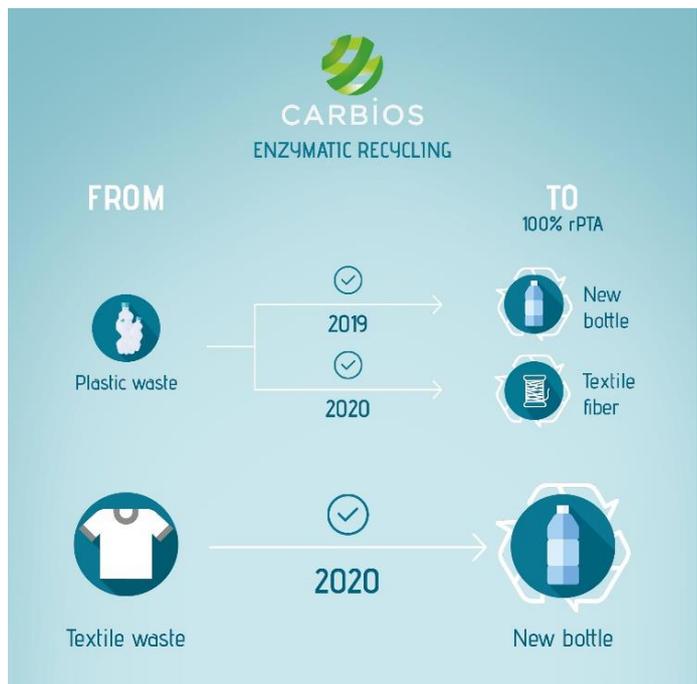
- The company's latest recycling milestone brings new value to an otherwise waste-destined 42 million tons of polyester textiles produced annually¹

Clermont-Ferrand, France, November 19th, 2020 (06:45 AM CET) – CARBIOS (Euronext Growth Paris: ALCRB), a company pioneering new enzymatic solutions to reinvent the lifecycle of plastic and textile polymers, today announced it has successfully produced **the first bottles containing 100% recycled Purified Terephthalic Acid (rPTA) from textile waste** that contains a high PET content. This result confirms the capacity of Carbios' technology to recycle textile waste and opens up access to an additional waste stream of up to 42 million tons per year, worth over \$ 40 billion.

"I am very proud that we successfully transformed polyester textile waste into clear bottles, which have identical properties as those made from virgin PET. This major innovation allows us to expand our sources of supply which, until now, consisted primarily of PET plastic waste," said Professor Alain Marty, Chief Scientific Officer of Carbios.

Currently, mechanical recycling technologies do not enable clothing waste **to be recycled efficiently**. The few textiles that can be reused, are incorporated into lower quality applications such as padding, insulators or rags. This process is called "downcycling".

In contrast, the breakthrough developed by Carbios enables polyester textile fibers to be "upcycled" in a high quality grade of PET suitable for the production of clear bottles.



"This result demonstrates the extent of our technology's possibilities: We can now produce transparent bottles from polyester textile waste or from post-consumer colored bottles. This works both ways – so we can also make a t-shirt from bottles or disposable food trays," said Professor Marty. Indeed, Carbios has succeeded in producing **PET fibers for textile applications** with 100% rPTA, from enzymatically **recycled PET plastic waste**.

¹ Source: HIS Markit 2018

These major outcomes were achieved as part of the CE-PET (Circular Economy PET) research project, of which Carbios is the lead alongside its partner TWB (Toulouse White Biotechnology). This project was financed by ADEME (the French Environment and Energy Management Agency)².

Carbios' process enables low-value waste to be recovered and to have a new life in more challenging applications – in short, it facilitates infinite recycling of PET-based plastics and textiles. This innovative enzymatic waste recycling technology is fully in line with European objectives of creating a circular economy and strengthening environmental protection.

About Carbios:

[Carbios](#), a green chemistry company, develops biological and innovative processes to revolutionize the end of life of plastics and textiles. Through its unique approach of combining enzymes and plastics, Carbios aims to address new consumer expectations and the challenges of a broader energy transition by taking up a major challenge of our time: plastic and textile pollution.

Established in 2011 by [Truffle Capital](#), the mission of Carbios is to provide an industrial solution to the recycling of PET plastics and textiles (the dominant polymer in bottles, trays, textiles made of polyester). The enzymatic recycling technology developed by Carbios deconstructs any type of PET plastic waste into its basic components which can then be reused to produce new PET plastics of a quality equivalent to virgin ones. This PET innovation, the first of its kind in the world, was recently recognized in a scientific paper published in the prestigious journal [Nature](#). Additionally, Carbios is working hand in hand with multinational brands — like L'Oréal, Nestlé Waters, PepsiCo and Suntory Beverage & Food Europe — to implement its technology, and to lead the transition toward a truly circular economy.

The Company has also developed an enzymatic biodegradation technology for PLA (a bio sourced polymer) based single use plastics. This technology can create a new generation of plastics that are 100% compostable in domestic conditions, integrating enzymes at the heart of the plastic product. This disruptive innovation has been licensed to [Carbiolice](#), a joint venture created in 2016, in which Carbios now holds a majority stake alongside the SPI fund operated by Bpifrance.

For more information, please visit <https://carbios.fr/en/>

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Carbios (ISIN FR0011648716/ALCRB) is eligible for the PEA-PME, a government program allowing French residents investing in SMEs to benefit from income tax rebates.

CARBIOS

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² Project carried out under the Future Investment Program (PIA n° 1882C0098). The innovations announced were carried out as part of the validation of the second key stage of the project. As such, Carbios received in the first half of 2020 a total amount of one (1) million euros.

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