



Press release

- ✓ *What if plastic waste became a cost-effective, reusable raw material for industry?*
- ✓ *What if we could break down plastics using new bioprocesses?*
- ✓ *And what if plastic waste became an opportunity for industry, rather than a burden?*

CARBIOS achieves the first key milestone in the THANAPLAST™ project and receives almost 1.7 million euros from Bpifrance

Major results from Carbios and Valagro confirm the possibility of planning the life cycle of plastics as claimed by the CNRS / Valagro patent given exclusively to Carbios

THANAPLAST™ is seeking to create genuine industrial value from plastic materials at the end of their useful life. The consortium will leverage biological catalysts with exceptional properties and will develop and patent innovative technologies for producing, transforming and recycling a broad range of plastic materials.

Clermont-Ferrand, October 7th 2013 – [Carbios](#), a green chemistry company specializing in the development of innovative industrial bioprocesses, proposing new competitive approaches for recovering plastic waste and producing biopolymers today announced that it received €1.683 million from Bpifrance following the achievement of the first key phase in the THANAPLAST™ project: putting together a toolbox that includes biological catalysts. Carbios will use these tools to break down the 10 key polymers used in the plastics industry and to develop its industrial bioprocesses.

Carbios also announced that new results from Valagro confirm Carbios' ability to integrate enzymes in plastic materials, maintain enzymatic activity to temperatures reaching 170°C and using it to control the speed of plastic degradation. *"While these major results have already been implemented on a specific type of polymer, they will enable us to enter the preindustrial development phase for biodegradable plastics... The revolution promised by Carbios is underway!"* said Jean-Claude Lumaret, CEO of Carbios.

Carbios received €3 million today and will receive another €3.8 million from Bpifrance as various THANAPLAST™ phases are completed. The THANAPLAST™ consortium led by Carbios is one of the first plastics-industry projects for the optimization of plastics at the end of their useful life. Carbios leads a team of participants from industry and academia that includes INRA, TWB, INRA [sic] Deinove, Limagrain, and the Barbier Group. More than 60 researchers are working on the

Thanoplast project, which has a five-year budget of €22 million. Bpi has provided Thanoplast with €9.6 million in financing as part of a program to help ISI (Strategic Industrial Innovation) projects. As initiator and head of this strategic project, Carbios will be responsible for most of the budget—€15 million—and will receive €6.8 million of the €9.6 million in financing awarded by Bpifrance to Thanoplast.

"We are very happy with Bpifrance's continued confidence in us. Now that we've put together our kit of biological catalysts, this financing will enable us to continue our development. We will provide biological solutions needed to optimize plastics at the end of their useful life through better recycling of plastic waste, create biodegradable plastics on demand, and develop competitive biopolymers by introducing innovative use of raw materials and plastic waste. This investment shows that our development is progressing smoothly, highlights our upstream collaborative research effort and confirms that the THANAPLAST™ project is highly innovative," said Jean-Claude Lumaret, CEO of Carbios. "Thanoplast™ is the foundation for our future development and will help us provide an increasingly comprehensive toolbox for the production of bioprocesses," said Jean-Claude Lumaret.

25 million tons of plastic waste are produced in Europe each year^[1] (only 25% of which are recycled), which constitutes a valuable store of unexploited renewable resources. Reclaiming such waste is one of Carbios' central concerns.

About Carbios:

Carbios is a young innovative green chemistry company, whose mission is to find biological solutions to the environmental and sustainable development issues faced by industrial businesses. Carbios has acquired the rights to exploit research performed over a number of years by various public- and private-sector laboratories and has used them as a foundation for the development of innovative industrial bioprocesses for optimizing the technical, economic and environmental performance of polymers (including thermoplastic materials and synthetic or food-based fibers) by leveraging the unique properties of biological catalysts (enzymes). The company has initially chosen to focus its work on a strategic application sector: plastics. Carbios's growth strategy is based on a clear business model for industrial value creation that targets attractive markets, develops innovative, competitive bioprocesses and licenses them to major industrial stakeholders for commercialization. Carbios was founded in 2011 with financial support from the leading European venture capital firm Truffle Capital via the latter's *Holding Incubatrice Série I Chimie Verte* fund. For more information, please visit: www.carbios.fr

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^[1] **Source:** April 2011 European Commission (DG Environment) – Plastic waste in the environment.⁴ Holding