



- Press release -

France's Decree on Single-use Plastic Bags Reinforces CARBIOS' Unique Positioning

Clermont-Ferrand, France, February 22, 2016,

French Environment Minister recently announced a project of decree providing for a ban on single-use plastic carrier bags. The draft decree is intended to accelerate and provide impetus to the ongoing changes of manufacturers and consumers practices.

Impact of the Decree on Everyday Lives

From 1 July 2016, no more disposable plastic bags shall be distributed at supermarket checkouts. Then, as of 1 January 2017, only home-compostable plastic bags (other than checkout bags) that are – partly or fully – made from bio-sourced materials shall be permitted.

Impact of the Decree on the Market of Plastic Bags

Plastic checkout bags that will be banned account for ca. 20,000 tons per year in France, while many other types of single-use bags, thinner than 50 microns, shall remain permitted if biodegradable and partially or totally bio-based, such as fruit and vegetable bags that, alone account for ca. 35,000 to 40,000 tons per year¹ and for which CARBIOS' technology is fully appropriate. Beside that, garbage bags and green waste bags which are not concerned by the decree provide an additional market opportunity.

CARBIOS is Turning Regulatory Challenges into Business Opportunities for the Plastic Industry.

CARBIOS develops enzymated plastics that match to lawmaker's expectations. Such enzymated plastics biodegrade within months under household waste composting condition. There is no need for industrial composting facilities or tight control of moisture and temperature.

The range of enzymated biodegradable plastics under development at CARBIOS also includes polymers that are partly or fully made from bio-sourced materials. CARBIOS products shall therefore not only match to the immediately enforceable provisions of the planned decree, but also to those that shall be enforced at a later date. Especially, according to the draft legal text released, the minimal percentage of bio-sourced materials in the composition of the permitted plastic bags shall increase from 30% in 2017 up to 60% in 2025.

"We are very proud of the innovations we've been developing in France, said Jean-Claude Lumaret, CEO of CARBIOS. Our unique technology allows for a zero waste offering and provides unprecedented business opportunities. It helps the plastic industry to face with increasingly stringent regulation, reinforce its competitiveness and increase its product appeal for the consumers".

¹ Source : La Dépêche-Le Petit Meunier, interview of Christophe Doukhi-de Boissoudy, president of the bioplastics Club, in 2014

CARBIOS Validated Processes & Industrialization planned for 2017

After having validated a production process for biodegradable PCL (polycaprolactone) at pilot-scale, CARBIOS validated in June 2015 a second process for the manufacturing of PLA (polylactic acid), a polymer that is both bio-sourced and biodegradable. The results were achieved within the frame of THANAPLAST®, a large collaborative R&D program on plastic life cycle launched and led by CARBIOS. These remarkable achievements earned CARBIOS a “Europe 1 Environment Trophy” award in the category of “Eco-innovative startup”.

“We aim at taking soon our first plastics with controlled lifetime to the next stage with a full-scale industrial and commercial demonstration, Jean-Claude Lumaret emphasized. This would also enable us to implement our business model with selected industrial partner(s)”.

The draft French decree is in line with an overall trend, especially in the EU, for more stringent regulations on the life cycle of plastics and its impact on the environment. It confirms and strengthens the relevance of CARBIOS’ products and processes.

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 today. CARBIOS acquired the rights to research that was conducted over a number of years by various public and private sector laboratories. By leveraging the unique properties of biological catalysts (enzymes), it has used this research as the foundation for developing innovative industrial bioprocesses that optimize the technical, economic and environmental performance of polymers (thermoplastic materials and synthetic or food-based fibers). The company has focused its efforts on a strategic application sector: plastics. CARBIOS’ growth strategy is based on a clear business model of industrial value creation that targets attractive markets, develops innovative and competitive bioprocesses and licenses them to major industrial stakeholders for commercialization. CARBIOS benefits from the financial support of the leading European venture capital firm [Truffle Capital](#). CARBIOS was founded in 2011 and has been managed, since its inception, by the *Holding Incubatrice Chimie Verte* fund. CARBIOS was granted the label “Young Innovative Company” by Bpifrance (former OSEO) and is eligible for investments by private equity mutual funds (FCPIs).

For more information, please visit: www.carbios.fr

CARBIOS is eligible for the PEA-PME, a government program allowing French residents investing in SMEs to benefit from income tax rebates.



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