



- PRESS RELEASE-

Carbios to build in France its first-of-a-kind manufacturing plant for fully bio-recycled PET in partnership with Indorama Ventures

- **The plan for the reference plant is to be operational in 2025¹ in France (Longlaville) with a processing capacity of 50.000 tons of PET² waste per year and creating 150 direct and indirect new jobs.**
- **Indorama Ventures, the world's largest producer of recycled PET for beverage bottles, plans to co-invest in this project³ and will consider expanding Carbios' unique biological recycling process at other PET sites⁴ for future developments.**
- **This strategic project is strongly supported by the French Government and the Grand-Est Region⁵, with significant non-dilutive financing.**

Clermont-Ferrand, Wednesday February 23, 2022 (9:00 pm CET) - [Carbios](#) (Euronext Growth Paris: ALCRB), a pioneer in the development of enzymatic solutions dedicated to the end-of-life of plastic and textile polymers and Indorama Ventures (Bloomberg ticker: IVL.TB), one of the world-leading PET manufacturer, jointly announced a collaboration to build a manufacturing plant operating Carbios' PET bio-recycling technology at Indorama Ventures' PET production site in France (Longlaville, Meurthe-et-Moselle).

Bruno Le Maire, French Minister of the Economy, Finance and the Recovery: "We are very pleased that Carbios and Indorama Ventures have chosen France to build their first 100% bio-recycled PET manufacturing plant. From cutting-edge science, Carbios has developed a disruptive technology and process that enables efficient transformation of plastic waste into novel valuable products. This breakthrough project showcases the government's ambition within *France 2030*: getting ready for the challenges of the next decade. Combining biotechnology and a renewed industrial ambition will be key to achieve a more circular economy."

¹ Estimated date, depending on the grant of the authorizations to build and operate and on the terms and conditions remaining to be defined for this collaboration between both parties.

² Polyethylene terephthalate (PET) is the most abundantly used synthetic polyester in circulation today, with an estimated global production of 82 million metric tons per year (IHS Markit in 2020).

³ Subject to the completion of technical and economical due diligence in the coming few months.

⁴ Indorama Ventures operates 19 PET production plants on four continents in 11 countries ([PET | Indorama Ventures](#)).

⁵ Conditioned to aid notification to the European Commission and in-additional assessments by French authorities.

Agnès Pannier-Runacher, Minister Delegate for Industry: “The announcement by Carbios of a flagship project of enzymatic plastic recycling demonstrates our ability to foster the emergence of innovative industry leaders with cutting edge technologies for the energy transition. It is a success for industrial startups in France as well as a key milestone in the *France 2030* strategy, making our industry ready to meet the needs of the Transition.”

Jean Rottner, President of Grand-Est Region: “Contributing to a cleaner planet while creating new jobs and economic value is our core mission. Hence, we are very pleased to welcome Carbios in Grand-Est Region and very proud to greet Longlaville site selection for their world-first 100% bio-recycled PET plant, in partnership with Indorama Ventures, already present and very active in our Region. Carbios reference plant is fully integrated within Grand-Est Region ambition to become a leading territory for PET circular economy. This project represents a first significant milestone in building our complete ecosystem.”

After having successfully started-up its demonstration plant in Clermont-Ferrand, Carbios is now moving one step further towards the industrialization and commercialization by partnering with Indorama Ventures. The goal is to build and operate in France the world’s first industrial-scale enzymatic PET bio-recycling plant, with a processing capacity estimated at ca. 50.000 tons of post-consumer PET waste per year, equivalent to 2 billion PET bottles or 2.5 billion PET trays.

“With this first medium-sized plant, we want to become the world reference for the Circular Economy of plastics and textiles. By engaging in such a partnership with Indorama Ventures, we confirm our commitment to pursue our initial industrial development in France. This plant will pave the way towards international commercial and industrial deployment. We are grateful to our shareholders, partners, the French Government, and Grand-Est Region for sharing Carbios’ ambitions and vision towards a profitable Circular Economy.” **Comments Emmanuel Ladent, Chief Executive Officer of Carbios.**

After the positive results of Indorama Ventures’ initial analysis on the technical soundness of Carbios’ technology over the past several months, both parties agreed to complete a due diligence process. A feasibility study will be conducted for the industrialization of Carbios’ technology on Indorama Ventures’ French production site. Subject to the successful completion of these technical and economical evaluations, Indorama Ventures would co-invest in the project.

“We are pleased to implement Carbios’ innovative and transformative technology at our Longlaville site. Bio-recycled PET addresses customers’ growing demand to contribute to a cleaner planet through high-quality plastics while decreasing the use of hydrocarbons.” **adds D K Agarwal, Chief Executive Officer of Indorama Ventures.**

The capital investment required for the project is expected to be around €150 million for Carbios core technology, including in particular an additional purification step, which has been integrated into the process. In addition, an estimated €50 million investment will be allocated for the infrastructure preparation of the site. The project is expected to create approximately 150 direct and indirect full-time jobs. In the coming months, Carbios expects to finalize a strong non-dilutive financial support from French Government and from the Grand-Est Region⁵, based on the offer received last week by Carbios, from the Minister of Industry, Agnès Pannier-Runacher and the President of Grand-Est Region, Jean Rottner.

This financial support will be conditional on the notification to the European Commission and on contractualization by French authorities. Carbios announced in its half-year results on the 30th September 2021 a cash position of €112 million. Since then, Carbios has also secured a €30 million loan from EIB⁶.

⁶ Cf. [Press release dated December 20th, 2021.](#)

This collaboration reflects both parties' ambition to address the growing concern of plastics pollution through the development of Carbios' enzymatic bio-recycling process. This disruptive technology could accelerate the transition to a plastics Circular Economy.

With its world-first enzyme-based biological process, Carbios' technology, named C-ZYME™, converts PET (the dominant polymer in bottles, trays and textiles made of polyester) into its core monomers, which can then be used to manufacture 100% recycled and infinitely recyclable PET. This first-of-a-kind manufacturing plant combines Carbios' science and technology with Indorama Ventures' world-class manufacturing capabilities. This collaboration will meet the growing needs of both demanding consumers and large consumer goods companies including Carbios' partners and shareholders (L'Oréal, Michelin, L'Occitane, Nestlé Waters, PepsiCo, Suntory Beverage & Food Europe) for more sustainable packaging.

FOLLOW CARBIOS' WEBCAST ON THE ANNOUNCEMENT



Emmanuel Ladent – Chief Executive Officer / Kader Hydra – Chief Financial Officer

24th February 2022, 11:00 am CET – Paris Time https://channel.royalcast.com/landingpage/carbios-fr/20220224_1/

24th February 2022, 17:00 pm CET - Paris Time https://channel.royalcast.com/landingpage/carbios-fr/20220224_2/

Paris: +33 (0) 1 70 37 71 66

UK-Wide: +44 (0) 33 0551 0200

New York: +1 212 999 6659

About Carbios

[Carbios](#), a green industrial biotech, develops biological and innovative processes representing a major innovation in 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 ecological 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, which is now Carbios' subsidiary.

For more information, please visit www.carbios.com/en

Twitter: [Carbios](#) LinkedIn: [Carbios](#) Instagram : [carbioshq](#)



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.

About Indorama Ventures

Indorama Ventures Public Company Limited, listed in Thailand (Bloomberg ticker IVL.TB), is one of the world's leading petrochemicals producers, with a global manufacturing footprint across Europe, Africa, Americas, and Asia Pacific. The company's portfolio comprises Combined PET, Integrated Oxides and Derivatives, and Fibers. Indorama Ventures products serve major FMCG and automotive sectors, i.e. beverages, hygiene, personal care, tire and safety segments. Indorama Ventures has approx. 24,000 employees worldwide and consolidated revenue of US\$10.6 billion in 2020. The Company is listed in the Dow Jones Emerging Markets and World Sustainability Indices (DJSI).

Indorama Ventures is headquartered in Bangkok, Thailand with global operating sites in

EMEA:	The Netherlands, Germany, Ireland, France, UK, Italy, Denmark, Lithuania, Poland, Czech Republic, Luxembourg, Spain, Turkey, Nigeria, Ghana, Portugal, Israel, Egypt, Russia, Slovakia, Austria, Bulgaria
Americas:	USA, Mexico, Canada, Brazil
Asia Pacific:	Thailand, Indonesia, China, India, the Philippines, Myanmar, Australia

For more information, please visit www.indoramaventures.com

Facebook: [Indorama Venture PCL](#) LinkedIn: [Indorama Ventures PCL](#) Twitter: [IVLTeam](#) Instagram: [indoramaventures_official](#)

COMPANY & MEDIA CONTACTS:

Carbios: Laura Perrin / Agnès Mathé / Benjamin Audebert contact@carbios.com +33 (0)4 73 86 51 76

Media Relations (Europe): Tilder Marie-Virginie Klein mv.klein@tilder.com +33 (0)1 44 14 99 96

Media Relations (U.S.): Rooney Partners Kate L. Barrette kbarrette@rooneypartners.com +1 212 223 0561

Indorama Ventures:

Media Relations (worldwide): Stuart Kelly stuart.k@indorama.net +66 2 661 6661 ext. 508

Translation is for information purposes only.

In case of discrepancy between the French and the English version of this press release, the English version shall prevail