



Carbios presents its 2022 Annual Results and the progress of its industrial and commercial deployment

- Project to build, in France, the world's first PET biorecycling plant: Progress in line with 2025 unit commissioning target⁶
- Excellent results from the demonstration plant validating the industrial scale-up of Carbios technology
- Carbios licensing documentation ready for worldwide industrial and commercial deployment
- Long-term exclusive strategic partnership with Novozymes to ensure supply of enzymes at industrial scale for the Reference Unit and all future licensee plants
- Creation of fiber-to-fiber consortium with On, Patagonia, Puma, PVH Corp., and Salomon
- CE-PET research project successfully completed
- Participation in WhiteCycle project co-funded by Horizon Europe and coordinated by Michelin
- Publication of scientific articles in the prestigious *Biophysical Journal* and in *Chemical Reviews*
- Carbios hosts world's first PET Biorecycling Summit
- Carbios publishes first Sustainability Report and outlines objectives for environmental, social and governance (ESG) initiatives
- Carbios joins Ellen MacArthur Foundation's circular economy network
- €30 million European Investment Bank loan drawn down in 2022
- Group's cash position of €101 million as of December 31, 2022

Clermont-Ferrand, France, 06 April 2023 (6.45am CEST). Carbios (Euronext Growth Paris: ALCRB), a pioneer in the development and industrialization of biological technologies for reinventing the life cycle of plastics and textiles, announces today its operating and financial results for the year 2022. The financial statements as of December 31, 2022, were approved by the Company's Board of Directors at their meeting on April 5, 2023. The Company's accounts have been audited by the Statutory Auditors and will be available today on the Company's website.

"In 2022, Carbios continued to build on its momentum to grow and structure its partnerships. Most notably, Carbios signed an exclusive, long-term strategic agreement with Novozymes that guarantees the production and supply of Carbios' PET degradation enzymes on an industrial scale for our Reference Unit and future licensees of our technology. We also founded a fiber-to-fiber Consortium with On, Patagonia, PUMA, Salomon and PVH Corp. to collaborate on developing a more circular textile industry. We can also be proud of the outstanding results achieved in our demonstration unit, which proved the performance and robustness of our technology. At the same time, the design engineering studies for our Reference Unit have progressed in line with the objectives of being operational in 2025," commented **Emmanuel LADENT, Chief Executive Officer of Carbios**. *"Looking ahead, we remain focused on executing our roadmap and are fully committed to working with our partners to begin construction this year of this Reference Unit, the world's first PET biorecycling plant. We are confident that we will grant the first licenses for this disruptive innovation combining economic performance and environmental efficiency by 2024. I would like to thank all Carbios' employees and all our stakeholders for their shared commitment to reducing plastic pollution and making Carbios a key player in the circular economy."*

[A webcast and conference call will take place today at 2:00pm CEST \(Paris time\)](#)

Emmanuel Ladent – Chief Executive Officer / Pascal Bricout – Chief of Strategy and Financial Officer

Access to the webcast: <https://edge.media-server.com/mmc/p/mg8626u7>

France Dial-in: +33 (0)1 70 91 87 / UK Dial-in: +44 121 281 8004 / US Dial-in: +1 718 705 8796



FINANCIAL HIGHLIGHTS FOR 2022

The consolidated financial statements of the Company as of December 31, 2022, are presented in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB) and adopted by the European Union.

For 2022, these IFRS consolidated financial statements include the financial statements of Carbios, the parent company, and the financial statements of its fully integrated subsidiaries Carbiolice and Carbios 54¹ at December 31, 2022.

For 2021, these IFRS consolidated financial statements include the full-year financial statements of Carbios, as well as the equity-accounted securities of its subsidiary Carbiolice until June 3, 2021, and then the fully consolidated financial statements of the latter as of December 31, 2021, following Carbios' acquisition of Carbiolice, and without Carbios 54 entity which was created on June 8, 2022. For comparison purposes, a *proforma* situation is presented below. It takes into account the takeover of Carbiolice on January 1, 2021 instead of June 3, 2021, and consequently presents Carbiolice as fully consolidated for the full-year 2021. The group formed by Carbios, Carbiolice and Carbios 54 is hereinafter referred to as the "Group".

These IFRS financial statements for the Group have been prepared to provide high quality information in line with that of similar companies and based on international standards.

Statement of income

Consolidated statement of income (in thousand euros)	December 31, 2022 12 months	December 31, 2021 12 months	December 31, 2021 <i>proforma</i> 12 months ²
Income	70	105	126
Net Research and Development expenses	(12,993)	(7,727)	(8,998)
<i>Research and Development expenses</i>	(19,057)	(11,732)	(13,377)
<i>Subsidies and other income from activities</i>	4,776	3,597	3,971
<i>Capitalisation of development costs</i>	1,287	409	409
Sales and marketing expenses	(4,373)	(1,976)	(2,300)
General and administrative expenses	(8,807)	(6,251)	(7,001)
Operating expenses	(26,173)	(15,954)	(18,300)
Other operating income and expenses	2	21,211	(20,104)
Operating income (2)	(26,101)	5,363	(1,931)
Financial income	(1,640)	(454)	(504)
Income before tax	(27,741)	4,908	1,426
Income tax	-	-	-
Share and profit (loss) of equity affiliates (3)	-	(1,128)	-
Net income (loss) for the period (4)	(27,741)	3,780	1,426
IFRS accounting impact related to the takeover of Carbiolice:			
<i>Other operating income and expenses (1)</i>	-	21,211	20,104
<i>Share of profit (loss) of equity affiliates (3)</i>	-	(1,128)	-
Operating income (loss) « adjusted » of the IFRS impacts related to the takeover of Carbiolice (2)-(1)	(26,101)	(15,848)	(18,173)
Net income (loss) « adjusted » of the IFRS impacts related to the takeover of Carbiolice (4)-(1)-(3)	(27,741)	(16,303)	-18 678

¹ A wholly owned subsidiary of Carbios for its industrial operations in Longlaville

² Data from the *proforma* consolidated financial information summary for the year ended December 31, 2021, as presented in section 5.4 (pages 128 to 130) and 5.5 (page 131) of the Universal Registration Document filed with the AMF on April 20, 2022 under number D.22-0317

2022 figures include the full-year accounts of Carbios and Carbiolice, as well as the accounts of Carbios 54 for the period from June 8, 2022 to December 31, 2022, whereas the 2021 figures show the full-year accounts of Carbios, as well as the accounts of Carbiolice from June 4, 2021 to December 31, 2021, since Carbiolice was accounted for as an equity affiliate until June 3, 2021, and without Carbios 54 entity which was created on June 8, 2022.

However, to ease the comparison of 2022 and 2021 figures, the comments on activities around the income statement will be based, for 2021, on the *proforma* situation which fully takes Carbiolice into account for the year 2021, as if it was fully consolidated as of January 1, 2021.

- **Income according IFRS 15 standards**

For the financial years 2021 and 2022, income accounted under IFRS 15 are related to feasibility studies, tests, and research services, as well as deliveries of raw materials and samples of the Masterbatch by Carbiolice.

As of December 31, 2022, the Group's income stood at €70 thousand, compared to €126 thousand for the year ended December 31, 2021.

- **Operating expenses – Current portion**

With regards to the presentation of its IFRS consolidated statements, the Group shows a statement of income by *destination*. Thus, current operating expenses are categorized and presented as: Net Research and Development expenses, Sales and Marketing expenses, as well as General and Administrative expenses.

Operating expenses stood at €26,101 thousand for 2022, compared to €18,300 thousand in the *proforma* 2021 situation.

To support the growth of its activities, the average number of employees within the Group increased from 80 in 2021 to 104 in 2022.

Net Research and Development expenses: The Group pursued its research and development efforts on all its proprietary pipeline of innovations and notably on its PET biorecycling technology. For the year 2022, the Group's Net R&D expenses stood at €12,993 thousand, compared to €8,998 thousand for 2021.

For the year 2022:

- On R&D, the Group spent €19,057 thousand, in line with its industrialisation ambitions. The significant rise in R&D expenses is mainly due to the operations carried out within its industrial demonstration facility as well as to expenses incurred in connection with its Reference Unit project. The main changes are explained by the full-year operation of the demonstration facility, as well as the use of external services (in connection with the Reference Unit project) and the sustained efforts in R&D (particularly with the Company's academic partners)
- *On Subsidies and other income* from operations, the Group recorded €4,776 thousand, partially offsetting its R&D expenses. This item includes notably a research tax credit of €2,538 thousand for Carbios and €655 thousand for Carbiolice in 2022 (as opposed to respectively €2,265 thousand and €721 thousand in 2021, these amounts having been received in 2022).
- Finally, the Group has capitalized €1,287 thousand *development expenses* related to the Company's PET enzymatic recycling project in 2022. This activation started on October 1, 2021, in accordance with the capitalization criteria of the IAS 38 standard.

Sales and Marketing expenses: sales and marketing expenses stood at €4,373 thousand in 2022, compared to €2,300 thousand in 2021. This rise comes mainly from increased efforts to secure the commercial roll-out of Carbios technology, by developing partnerships and structuring the value chain (supply, market targets...). Thus, the increase stems both from external resources (fees) and internal resources, noticeable by the change in composition of the Executive Committee.

General and Administrative expenses: General and administrative expenses stood at €8,807 thousand in 2022, as opposed to €7,001 thousand in 2021. This increase is mainly due to personnel expenses, as a result of the significant increase in the number of employees in 2022 to further structure the Company's functions, and to consulting services to a lesser extent.

- **Other operating income and expenses, “adjusted” operating income and “adjusted” net income**

In application of IFRS standards, the takeover of Carbiolice, dated June 4, 2021, has generated IFRS accounting restatements impacting the 2021 consolidated income statement on the aggregate of “Other operating income and expenses”.

As of December 31, 2021, by application of IFRS 3 standards, the sale of the shares accounted for by the equity method of associates (prior to the acquisition of all the shares of Carbiolice) generated a non-cash net bonus valued on the basis of the share previously held by Carbios in Carbiolice at fair value, which amounts to €21.2 million. As a result, these items had no impact in terms of cash flow for the Group.

To ease the reading and understanding of these financial statements, the Group presents an “adjusted” operating income, which corresponds to the operating income restated for items relating to the Carbiolice operations included in “Other operating income and expenses” and which reflects only the impact of revenue and “current” operating expenses. This adjusted operating result corresponds to a loss of €26.1 million as of December 31, 2022, as opposed to €18.1 million as of December 31, 2021 in the *proforma* situation. This increase is mainly related to the above-mentioned R&D and G&A expenses.

The Group also presents a net result “adjusted” of the IFRS impacts of the takeover of Carbiolice, which takes into account the financial result, the income tax, and the restatement/cancellation of the “share of profit (loss) of equity affiliates” (this amount being neutralized in the *proforma* accounts). This net “adjusted” result corresponds to a loss of €27.7 million as of December 31, 2022, as opposed to a loss of €16.3 million as of December 31, 2021 (the *proforma* loss amounted to €18.7 million euros).

Balance Sheet items

Consolidated statement of financial position (in thousand euros)	December 31, 2022 12 months	December 31, 2021 12 months
ASSETS		
Goodwill	20,583	20,583
Intangible assets	22,457	23,188
Tangible assets	24,965	16,466
Right-of-use assets	6,765	6,989
Equity accounted securities	-	-
Financial assets	906	388
Non-current assets	75,674	67,614
Trade receivables	57	16
Other current assets	7,670	6,128
Cash and cash equivalents	100,557	104,956
Current assets	108,284	111,120
Total assets	183,959	178,734

Consolidated statement of financial position (in thousand euros)	December 31, 2022	December 31, 2021
EQUITY AND LIABILITIES		
Share capital	7,870	7,826
Share and contribution premium	146,968	146,337
Consolidated reserves	(5,482)	(10,604)
Retained earnings	(3,826)	(600)
Net income – share attributable to equity holders of the parent company	(27,741)	3,780
Shareholders' equity	125,441	146,739
Provisions – Non-current portion	184	202
Loans and financial liabilities – Non-current portion	35,395	11,941
Lease liabilities – Non-current portion	5,142	5,358
Other liabilities – Non-current portion	546	-
Deferred tax liabilities	1,694	1,694
Non-current liabilities	42,961	19,194
Provisions - Current portion	-	76
Loans and financial liabilities – Current portion	2,782	1,376
Lease liabilities – Current portion	1,346	1,256
Trade payables	4,021	5,137
Other current liabilities	7,408	4,956
Current liabilities	15,557	12,801
Total liabilities and equity	183,959	178,734

As of December 31, 2022, Cash and cash equivalents amounted to €101 million, as compared to €105 million for the year ended December 31, 2021.

The other key balance sheet items as of December 31, 2022 are:

- €20,6 million corresponding to the Goodwill calculated between the market value of Carbiolice and the net assets acquired;
- Intangible assets for a net book value of €22.5 million for the year ended December 31, 2022; Pursuing on its active policy of securing its Intellectual Property, Carbios continued to enrich its IP portfolio with the filing of 3 new patent families. The Group's intellectual property portfolio at the end of 2022 included 53 patent families.
As a result of the full integration of Carbiolice in 2021, €22.3 million were also recognized for the purchase price of Carbiolice, with a net amortization position of €19.7 million as of December 31, 2022, including:
 - €11.3 million net (€12.5 million gross) for the technology license (or "reacquired rights"). Under IFRS 3, the technology license between Carbios and Carbiolice is assimilated to a pre-existing relationship giving rise to the recognition of a "reacquired rights" asset that has been valued using the expected cash flow method; and
 - €8.3 million net (€9.8 million gross) market value of the acquired technology (Masterbatch) valued using the royalty and restoration cost method;
- Tangible assets for a net book value of €25 million, as compared to €16.5 million for the year ended December 31, 2021. This strong increase is mainly due to continued investment in the industrial demonstration facility (€17 million) and to the development of the Cataroux site for the regrouping of four of the Group's business units, which took place in 2022 and was completed in 2023 with the arrival of Carbiolice teams;
- Rights-of-use asset for a net book value of €6.8 million corresponding to the market value of the tangible and intangible assets benefiting to the Group through its various lease contracts. In return, "lease debts" are recorded on the liabilities side of the balance sheet as financing for these assets; and

- Shareholder's equity of €125.4 million, including the net proceeds of the €114 million capital increase successfully completed in May 2021³ with French and International investors, as compared to €146.7 million for the year ended December 31, 2021.

To date, Carbios holds 29.5 million shares of Carbiolice valued at €38.3 million in its financial statements and 10 thousand shares of Carbios 54 valued €10 000 in its financial statements since June 2022.

Cash flow statement

Consolidated cash flow statement (in thousand euros)	December 31, 2022	December 31, 2021
Cash at beginning of year	104,956	29,077
Cash flow from operating activities	(21,820)	(9,044)
Cash flow from investing activities	(9,327)	(22,837)
Cash flow from financing activities	26,747	107,761
Change in cash position	(4,399)	75,880
Cash at end of year	100,557	104,956

Benefiting from the net proceeds of the €114 million raised in 2021, as well as from the €30 million loan granted to Carbios by the European Investment Bank (EIB)⁴ which has been drawn down in the first half of 2022, the Group closed out with a net cash position of €101 million at year-end 2022, enabling it to pursue current developments beyond the next 12 months.

2022 AND 2023 YTD HIGHLIGHTS:

- [Reference Unit project](#)⁶

In February 2022⁵, Carbios announced a collaboration with **Indorama Ventures** for a project to build the world's first manufacturing plant using its PET biorecycling technology.

This Reference Unit is designed to process 50,000 tons of PET waste annually. It will also strengthen Carbios' business model which consists of licensing its technologies and know-how and the sale of enzymes to its licensees, who will build and run their own PET recycling production units.

The site chosen for the project is adjacent to the Indorama–Glanzstoff plant in Longlaville (France).

Engineering design studies are progressing in line with the calendar for the commissioning of the Unit. Working meetings are held with stakeholders – including local politicians, the prefecture, and DREAL and DDT... – to think through the next stages of the project.

As a reminder, the provisional calendar⁶ and key steps for the building of the Unit are:

Key steps of the Reference Unit project⁶ :

2022	✓ building and operating permits filed with local authorities ✓ First orders of long-delay equipment
2023	• Start of construction of the Unit, at reception of permitting in Q3 2023
2024	• Recruitment of Carbios 54 operations team and training at the Cataroux Demonstration facility
2025	• Mechanical completion and commissioning
2026	• Ramp-up

³ Cf. [May 10, 2021 press release](#)

⁴ Cf. [December 20, 2021 press release](#)

⁵ Cf. [February 23, 2022 press release](#)

⁶ Estimated dates, depending on the grant of the authorizations to build and operate, environmental authorizations and on the terms and conditions remaining to be defined between Carbios and Indorama Ventures

- [Industrial demonstration plant: From project to operations](#)

In accordance with the Company's provisional calendar, all stages of the process, from pre-treatment of PET waste to monomer production, are now linked together. The demonstration plant is operated by technical team of 12 engineers and technicians.

The core elements of the process, the depolymerization kinetics and the yield from enzymatic recycling of PET plastic waste, are achieving identical results to those in the laboratory and pilot schemes. At these stages, the key challenges lie in optimizing productivity, yields and in the qualification of sources of raw materials. At the same time, the purification train is being made more reliable and fine-tuned in close collaboration with the design team for the Reference Unit and technology suppliers.

- [Carbios licensing documentation ready for worldwide commercial deployment](#)

In April 2023⁷, Carbios announced that its licensing documentation was now ready for the global commercialization of its PET biorecycling technology. The successful ongoing operations in its demonstration unit in Clermont-Ferrand and the advanced engineering study for its first commercial plant define the engineering basis and operational guidelines for units to be operated under license agreements. From technology promotion with the Technical Information Summary to project development with a specific Process Design Package and Process Book, future Carbios licensees will be handed all necessary process documentation to reliably engineer, procure, construct and operate their PET biorecycling plants under stringent HSE⁸ standards and with high product quality.

- [Strategic partnership with Novozymes](#)

In January 2023⁹, Carbios and Novozymes, the world leader in biological solutions, announced an exclusive long-term partnership. This major agreement guarantees the long-term production and supply of Carbios' proprietary PET-degrading enzymes at an industrial scale for the world's first biological PET-recycling plant due to be operational in 2025 in Longlaville (France), as well as Carbios' future licensee customers.

Exclusive Global Partnership

Carbios and Novozymes have had a partnership since 2019 to develop enzyme-based solutions and address the sustainability challenge of plastic pollution. Building on the current Joint Development Agreement, Carbios and Novozymes will extend their collaboration to develop, optimize and produce enzymes that will subsequently be supplied by Novozymes to all licensees of Carbios' technology. The new agreement grants both parties exclusivity in the field of the partnership.

- [Fiber-to-Fiber consortium](#)

In July 2022¹⁰, Carbios announced the signing of an agreement with **On, Patagonia, PUMA and Salomon**, to develop solutions that will enhance the recyclability and circularity of their products. An important aim of the two-year deal will be to speed up the introduction of Carbios' unique biorecycling technology, which represents a breakthrough for the textile industry. Carbios and the four companies will also research how products can be recycled, assess possible solutions for collecting worn polyester items, including sorting and dismantling technologies, and gather data on fiber-to-fiber recycling as well as circularity models. The common goal of the consortium members is to create real circularity in this industry by innovating to recycle fibers from one product into another and so reduce the problem of textile waste in a collaborative approach that helps create a more sustainable future.

In February 2023¹¹, Carbios announced that **PVH Corp.**, whose global iconic brands include *Calvin Klein* and *Tommy Hilfiger*, has joined this fiber-to-fiber consortium.

⁷ Cf. April 3, 2023 press release

⁸ Health, Safety and Environment

⁹ Cf. January 12, 2023 press release

¹⁰ Cf. July 06, 2022 press release

¹¹ Cf. February 18, 2023 press release

- [CE-PET research project](#)¹²

In March 2022¹³, Carbios successfully completed the 3rd and final technical stage of the CE-PET research project supported by the French State as part of the Investments for the Future Program, now integrated into France 2030, and operated by ADEME, (France's Environment and Energy Management Agency)¹⁴. The work done on this project by Carbios and academic partner INRAE¹⁵-TWB (Toulouse Biotechnology Institute) resulted in the successful manufacture at pilot scale of a white PET fiber that is 100% enzymatically recycled from colored textile waste. Thanks to the successful completion of this stage, which sought to develop Carbios' biorecycling process to recover textile waste, the Company will receive €827 thousand (€206,800 in subsidies and €620,400 in repayable advances).

In February 2023¹⁶, Carbios announced the validation of the final key stage of the CE-PET research project which enabled to demonstrate Carbios' ability to enzymatically recycle complex waste to produce bottles and fibers and prove the robustness of its process.

For the validation of the whole project, Carbios will have received a total amount of €4,136,000 (€1,034,000 in grants and €3,102,000 in repayable advances) and its partner INRAE-TWB €3,416,000.

- [Scientific publications](#)

In July 2022¹⁷, Carbios and the Toulouse Biotechnology Institute (TBI) announced the **publication of an article entitled "An NMR look at an engineered PET depolymerase"** in the prestigious *Biophysical Journal*. The article describes how the authors used Nuclear Magnetic Resonance spectrometry to investigate the thermal stability of PET depolymerization enzymes and how the enzyme is absorbed by the polymer. This novel approach, which required months of development, is a world first and opens up new ways to improve the performance of these enzymes. Publication of this article further consolidated Carbios' international lead in developing the most effective enzymes for plastic depolymerization and recycling.

In March 2023¹⁸, Carbios announced the **publication of an article entitled "Enzymes' power for plastics degradation"**¹⁹ in *Chemical Reviews*, one of the 10 most influential scientific journals in the world. The article is a comprehensive and critical review of research published to date on the enzymatic degradation of all types of plastics (PET, PLA, polyolefins, polyurethanes, polyamides) and includes almost 700 references. Co-authored by biotechnology researchers from Carbios and its academic partner TBI, as well as two eminent professors in polymer science from the University of Bordeaux, the work brings together expertise in the fields of enzymology, polymer science and industry in order to accelerate the transition to a circular economy for plastic. Beyond the comprehensive bibliographical study, the authors analyzed the data to discuss the scope, limitations, challenges and opportunities of enzymatic plastic recycling with a view to developing innovations and industrial processes. The article's unique standpoint and added value with regard to issues surrounding plastic pollution is its critical view on technology transfer and industrial scalability.

- [Awards](#)

In May 2022²⁰, Carbios announced that it had received the **Efficient Solution label from the Solar Impulse Foundation** for its PET biorecycling solution. As part of the renewal of this label, the technology implemented by Carbios has been reassessed by a group of independent experts according to multiple criteria covering the three main themes of technical feasibility, social and environmental impact, and economic profitability.

In August 2022²¹, Carbios announced that its Chief Scientific Officer, Prof. Alain Marty, had received the **Biocat Award** in the "Industry" category. This award is considered one of the most prestigious in biotechnology. Prof. Alain Marty is

¹² CE-PET: Circular Economy PET

¹³ Cf. [March 10, 2022 press release](#)

¹⁴ Project carried out under ADEME's Future Investment Program (PIA 1882CO098).

¹⁵ France's National Research Institute for Agriculture, Food and Environment

¹⁶ Cf. [February 3, 2023 press release](#)

¹⁷ Cf. [July 20, 2022 press release](#)

¹⁸ Cf. [March 21, 2023 press release](#)

¹⁹ Source: <https://pubs.acs.org/doi/10.1021/acs.chemrev.2c00644>

²⁰ Solar Impulse Foundation

²¹ Cf. [August 31, 2022 press release](#)

recognized for his significant achievements in the field of enzymatic recycling of PET plastics and polyester fibers. The award recognizes his work on enzymatic optimization and the application of enzymes' extraordinary specificity to support the circular economy of plastics.

- [Scientific Congress](#)

In December 2022²², Carbios hosted the world's first PET Biorecycling Summit with Bertrand Piccard, Initiator and Chairman of the Solar Impulse Foundation, as Keynote Speaker. The event attracted over 100 international participants from the scientific, academic, and industrial worlds to exchange on the advances in the field of biological recycling, and how to bring these innovations for a circular economy to market.

- [WhiteCycle project](#)

In August 2022²³, Carbios announced it had joined the **WhiteCycle project**, launched in July 2022 and coordinated by Michelin. The project's main goal is to develop a circular solution to convert complex²⁴ waste containing textile made of plastic into products with high added value. Co-funded by Horizon Europe, the European Union's research and innovation program, this public/private European partnership includes 16 organizations and will run for four years.

WhiteCycle envisions that by 2030 the uptake and deployment of its solution will lead to the annual recycling of more than 2 million tons of PET. This project should prevent landfilling or incineration of more than 1.8 million tons of plastic each year. It should also reduce CO₂ emissions by around 2 million tons.

WhiteCycle has a global budget of nearly €9.6 million and receives European funding of nearly €7.1 million, including approximately €0.6 million for Carbios.

- [Publication of Carbios' first Sustainability report](#)

In December 2022²⁵, Carbios announced the publication of its first Sustainability Report which outlines the Company's commitment to developing environmental, social and governance (ESG) initiatives that go beyond the industrial development of its innovative plastics biorecycling technologies. Carbios' sustainability strategy is based on three pillars (governance and ethics, the environment, social and societal issues) divided into 22 priority material challenges. Each one has led to the implementation of a dedicated policy and the monitoring of specific KPIs to anchor sustainable development in the day-to-day operations and at the heart of governance.

- [Ellen MacArthur Foundation](#)

In March 2023²⁶, Carbios announced its membership of the Ellen MacArthur Foundation's Network. Carbios shares the Foundation's commitment to accelerate the transition to a circular economy, especially in the areas of plastics and fashion. By joining the Ellen MacArthur Foundation's Network, Carbios will connect with other leaders within the Foundation's leading circular economy network of businesses, policymakers, academia, innovators, and thought leaders worldwide.

- [€30 million EIB loan drawn down](#)

In June 2022, **Carbios received the €30 million loan (€29.55 million net of costs) granted by the European Investment Bank (EIB)** as announced on December 20, 2021²⁷. The principal of the loan, which is supported by the European Commission's InnovFin energy demonstration program, will be repaid in constant annual installments between June 29, 2025 and June 29, 2030.

This type of finance is earmarked to support promising innovative projects, developed by companies seeking to effect major change in pursuit of the EU's climate goals, and is intended to help European industry take the lead in developing sustainable technologies. The €30 million loan, disbursed in one single tranche by the EIB, carries a fixed annual interest of 5%, with a

²² Cf. [December 9, 2022 press release](#)

²³ Cf. [August 09, 2022 press release](#)

²⁴ Complex waste: waste composed of multi-materials (rubber goods, composites and multi-layer textiles).

²⁵ Cf. [December 15, 2022 press release](#)

²⁶ Cf. [March 6, 2023 press release](#)

²⁷ Cf. [December 20, 2021 press release](#)

maturity of 8 years and the first repayment due in 2025. This agreement is supplemented by a warrants' issuance agreement under which Carbios issued 2.5% of its fully diluted share capital in warrants to the EIB, of which 1.25% with an exercise price of €40 per share, and 1.25% with an exercise price of €38.8861 per share, corresponding to the volume-weighted average of the trading price of an ordinary share of the company over the last three (3) trading days preceding the fifth day prior to the signing date. The creation and issuance of these EIB warrants, and therefore the disbursement of the €30 million loan, was subject to approval at an Extraordinary Meeting of Carbios Shareholders held on February 2, 2022, the delegation of appropriate powers to Carbios' Board of Directors and subsequent resolution of the Board of Directors exercising these powers.

Based on the current cash position and projected operating expenses, Carbios considers that it can cover its financial needs beyond the next 12 months.

- [Strengthening governance](#)

Change in the Board of Directors

At the Annual Ordinary and Extraordinary Shareholders' Meeting of June 22, 2022, the appointments of **Philippe Pouletty** as Chairman of the Board and Director and of **Emmanuel Ladent** as Director were ratified.

In June 2022²⁸, Carbios also announced the strengthening of its Board with the appointments of **Isabelle Parize** (Chairman of the Supervisory Board of Delsey) and **Juan de Pablo** (Executive Vice-President at the University of Chicago) as independent Directors.

In February 2023²⁹, Carbios also announced the cooptation, within its Board of Directors, of **Prof. Karine Auclair**, professor of Chemistry at McGill University, **Mateus Schreiner Garcez Lopes**, Global Director for Energy Transition and Investments at Raizen, **Amandine De Souza**, General Manager of leboncoin and **Sandrine Conseiller**, former CEO of Aigle, as independent members of Carbios' Board of Directors.

To date, the Company has seven independent Directors, i.e. 63.64% of the total number of Directors, and considers that they have complied with recommendation n°3 of the Middledenext code since their appointment.

Evolution of the Executive Committee

In May 2022³⁰, **Lionel Arras**, Industrial Development Director, and **Mathieu Berthoud**, Sourcing and Public Affairs Director, were appointed to Carbios' Executive Committee. In September 2022³¹, the Company's Executive Committee was joined by **Pascal Bricout**, as Chief Strategy and Financial Officer, then by **Stephane Ferreira** as Chief Business Officer in October 2022, followed by **Martine Brisset** as General Manager of the Biodegradation Division and Senior Vice-President of Carbios Group and **Delphine Denoize** as Director of Innovation Programs Funding, Regulation and LCA in January 2023³². To date, the Executive Committee is composed of 9 members.

- [Strengthening of Intellectual Property](#)

During 2022, 3 new patent families enhanced the Group's portfolio. The new applications filed relate to its enzymatic recycling process and to new compositions of PLA-based biodegradable plastics.

As of December 31, 2022, **Carbios' Intellectual Property portfolio included 53 patent families** (including one under an exclusive worldwide license with the CNRS and University of Poitiers), representing 336 titles filed across the world's key regions and which covers the Company's various areas of development (biodiversity, enzymatic recycling process, biodegradable plastic production process and bioproduction). Of these 53 families, 11 patent families belong to the

²⁸ Cf. June 30, 2022 press release

²⁹ Cf. February 7, 2023 press release

³⁰ Cf. May 30, 2022 press release

³¹ Cf. September 1, 2022 press release

³² Cf. January 26, 2023 press release

subsidiary Carbiolice and are directly related to manufacturing biodegradable plastics, and more particularly those incorporating enzymes.

In 2022, 29 new patents were granted in all the Group's fields of activity in various countries or regions of the world (including the United States, the United Kingdom, Canada, Brazil, China, India, Malaysia, South Korea, Indonesia, Japan and Europe), bringing to 79 the number of patents granted out of the 336 titles in the Group's portfolio. Of the 53 patent families in the portfolio, 28 families have at least one patent granted out of the titles filed in different countries or regions of the world.

About Carbios

Established in 2011 by Truffle Capital, Carbios is a green biotech company, developing biological and innovative processes. Through its unique approach of combining enzymes and plastics, Carbios aims to address new consumer expectations and the challenges of a broad ecological transition by taking up a major challenge of our time: plastic and textile pollution. Carbios deconstructs any type of PET (the dominant polymer in bottles, trays, textiles made of polyester) into its basic components which can then be reused to produce new PET plastics with equivalent quality to virgin ones. This PET innovation, the first of its kind in the world, was recently recognized in a scientific paper published in front cover of the prestigious journal Nature. Carbios successfully started up its demonstration plant in Clermont-Ferrand in 2021. It has now taken another key step towards the industrialization of its process with the construction of a first-of-a-kind unit in partnership with Indorama Ventures.

In 2017, Carbios and L'Oréal co-founded a consortium to contribute to the industrialization of its proprietary recycling technology. Committed to developing innovative solutions for sustainable development, Nestlé Waters, PepsiCo and Suntory Beverage & Food Europe joined this consortium in April 2019. In 2022, Carbios signed an agreement with On, Patagonia, PUMA, and Salomon, to develop solutions promoting the recyclability and circularity of their products. PVH Corp. joined this consortium in January 2023.

The Company has also developed an enzymatic biodegradation technology for PLA-based (a bio sourced polymer) single-use plastics. This technology can create a new generation of plastics that are 100% compostable at ambient temperatures, even in domestic conditions, integrating enzymes at the heart of the plastic product.

For more information, please visit carbiosa.com / Twitter: [Carbios](https://twitter.com/Carbios) / LinkedIn: [Carbios](https://www.linkedin.com/company/carbios) / Instagram: [insidecarbiosa](https://www.instagram.com/insidecarbiosa)



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

Melissa Flauraud

Press Relations

melissa.flauraud@carbiosa.com

Benjamin Audebert

Investor Relations

contact@carbiosa.com

+33 (0)4 73 86 51 76

Press Relations (Europe)

Iconic

Marie-Virginie Klein

mvk@iconic-conseil.com

+33 (0)1 44 14 99 96

Press Relations (U.S.)

Rooney Partners

Kate L. Barrette

kbarrette@rooneyco.com

+1 212 223 0561

Press Relations (DACH)

MC Services

Anne Hennecke

carbiosa@mc-services.eu

+49 (0)211 529 252 22

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