

ACTIVITY REPORT **2015**



CARBIOS
Reinvent Polymers Lifecycle



To the shareholders:

2015 marked a decisive milestone in the fight against global warming through a remarkable collective effort by most of the world's nations. COP21, led by France, resulted in a global consensus on concrete measures aimed at limiting the harmful effects of the economic development model in place since the end of World War II. This economic model is based on the excessive use of the planet's resources, rampant consumption of non-durable goods and an unsustainable generation of greenhouse gas emissions.

We are proud to say that our Company has been closely linked to COP21 with a constant presence at the conference via the CARBIOS stand in the Galerie du Bourget, where our team was able to raise awareness regarding the need to biodegrade and bio-recycle plastics and to explain our technological solutions. Also very encouraging for us was that our Company received the Europe 1 Environment Trophy in the category of "Eco-Innovating Start-Ups", an award that distinguishes us as an emerging player in the green economy.

This involvement underscores the relevance of our work and the progress of our collaborative project for the development of bioprocesses, carried out with our private sector partners (Limagrain, Barbier and Deino) and with our public institution partners (Toulouse White Biotech, INRA and CNRS). We have reached a new stage in our development, in line with the expectations as outlined at inception. The year 2016 promises to be fruitful and decisive in the advancement of our program toward the phases of industrialization and commercialization.

Within this framework, the time is right for me to hand over the position of Chairman of the Board at CARBIOS to an executive seasoned in the areas of green chemistry, enzymatic processes and industrial development. I am very pleased that Jean Falgoux has agreed to take on the role of Chairman of the Board. He brings to the role his vast and high level experience in the areas mentioned above, acquired during his work with some of the world's international industrial leaders in the field.

It is a tremendous satisfaction for me to have been able to incubate and to preside over CARBIOS' initial steps. As a new phase of the Company's life begins, CARBIOS' shareholders can count on my continued commitment and dedication as an active member of the Board. My support will continue as the Company progresses toward its goal of becoming a meaningful contributor to the sustainable protection of our environment.

Alain Chevallier
Chairman of the Board of Directors



KEY FIGURES AT YEAR-END 2015

CARBIOS' KEY FIGURES

17

CARBIOS
EMPLOYEES

60

SCIENTIFIC RESEARCHERS
WORKING EXCLUSIVELY ON
THE THANAPLAST™ PROJECT

3

INNOVATIVE BIOPROCESSES
DEVELOPED BY CARBIOS

- Production of plastics that self-destruct
- Biological recycling of plastic waste
- Production of PLA via a biological process

1 PROPRIETARY PLATFORM
FOR THE DEVELOPMENT OF
BIOLOGICAL PROCESSES

1 PLATFORM FOR THE
DEVELOPMENT OF
PLASTICS

1

PRE-INDUSTRIAL
DEVELOPMENT
LABORATORY

KEY FINANCIAL FIGURES

20,5M€

EQUITY CAPITAL RAISED
AFTER THE COMPANY'S
CREATION

9M€

CASH AT DECEMBER 31, 2015

4M€

SUBSIDIES

2,1M€

OF CASH BURN IN 2015

67%

USED FOR RESEARCH
AND DEVELOPMENT

49M€

MARKET CAP
AT JANUARY 1, 2016

2015 OPERATING HIGHLIGHTS

Over the course of 2015, CARBIOS achieved two milestones in the development of its technologies and has continued to strengthen its organization. The operating highlights of 2015 are the following:

- Regarding intellectual property, CARBIOS' portfolio added four new proprietary patent applications and the acquisition of a patent family in 2015. This brings the total number of patent families to 17 (of which one is an exclusive worldwide license), representing 50 titles, and covering the Company's three axes of development (biodegradation, bio-recycling and bio-production). CARBIOS has thus ensured the ability to provide its future industrial partners with strategic competitive advantages across significant markets.
- At the same time, CARBIOS has pursued its Business Development efforts to put in place strategic industrial partnerships with the aim of initiating in the near term the industrial and commercial development of its bioprocesses.

The scientific and technical developments accomplished in 2015 were as follows:

- **Pre-pilot stage deployment of technology for biodegrading PLA**
CARBIOS offers new applicative possibilities for PLA by rendering it biodegradable on a pre-industrial scale and at ambient temperatures via the inclusion of enzymes in a PLA plastic material. (June 2015)

- **Installation and kick-off of a plastic producing pilot plant**
This new platform, located at CARBIOS' headquarters in Saint-Beauzire (Auvergne, France), enables the production, on a pilot scale, of all of the required steps for the manufacturing of a plastic film. This pilot project includes several modules, from the production of plastic materials by extrusion through the transformation of these materials into flexible films and rigid objects. It also allows for the characterization of all of the properties of the material. (September 2015)

- **Achievement of Milestone 3 in the THANAPLAST™ program**
Bpifrance remittance in the amount of €1.6 million resulting from achieving the third milestone of the collaborative THANAPLAST™ project, led by CARBIOS. This payment was made upon the confirmation of achieving the objectives initially set within the THANAPLAST™ project framework regarding the bioprocesses developed on a pre-industrial scale, specifically biodegradation, bio-recycling and bio-production of PLA through a completely biological process. (November 2015)

- **De-polymerization at 100% of amorphous PET plastic waste**
This process, proprietary to CARBIOS, has enabled a first-time demonstration of the de-polymerization at 100% of amorphous PET-based commercial products into their monomers of origin, namely TPA (terephthalic acid) and

EG (ethylene glycol). This selective de-polymerization applied to PET enabled the regeneration of monomers with physical and chemical qualities and properties equal to the products originally made from petroleum. After separation and purification, these monomers -- produced via enzymatic recycling and refined by CARBIOS -- can be re-utilized for the synthesis of virgin PET, thus eliminating a loss in value of the recycled material. (December 2015)

The highlights during the year regarding CARBIOS' organizational structure were the following:

- **Signature of a strategic partnership with TWB/INRA**
This agreement underscores a close collaboration between CARBIOS, CRITT Bio-Industries, the INSA of Toulouse and TWB (INRA), which now work jointly in a pre-industrial environment in Toulouse on the optimization of the enzymatic processes and common areas of the bioprocesses developed by CARBIOS (through the THANAPLAST™ project). This collaboration enables the production and purification of the enzymes and also ensures the purification of the monomers produced by de-polymerization (bio-recycling process) so that they can be used for the regeneration of the initial monomer. At the end of this work on a pilot scale (300 liters), CARBIOS will be in a position to prove its bioprocesses on an industrial demonstration scale. (May 2015)

- **Appointment of Professor Alain Marty to the position of Chief Scientific Officer:**
Professor Marty has degrees in engineering and a PhD in Biochemical and Alimentary Engineering from the INSA Toulouse. The scope of his position as CSO is to define the Company's scientific strategy, to coordinate the Research and Development teams, and to increase CARBIOS' profile and visibility in the scientific community. Prof. Marty has collaborated with CARBIOS since the beginning of the THANAPLAST™ project within the framework of a partnership between CARBIOS and the TWB/INRA (public/private pre-industrial demonstrator). This close institutional partnership is essential for CARBIOS' development, and is one that Prof. Marty continues to strengthen. Previously, his role at CARBIOS was to coordinate and direct the research teams at LISBP (INRA/INSA). Prof. Marty was also a member of CARBIOS' Scientific Advisory Board. Thus, he has contributed actively to the development of the Company's enzymatic processes. (June 2015)

- **Appointment of Jean Falgoux as Chairman of the Board of Directors:**
Jean Falgoux, member of the board since June 2015, succeeds Alain Chevallier, at the Presidency of the Board of Directors. Jean Falgoux was CEO, then President of Ajinomoto Eurolysine, Vice President of Ajinomoto Europe and Corporate Executive Officer of Ajinomoto Inc., and served as an Executive Committee member of several of Ajinomoto's European affiliates. He developed his 40-year career in three life sciences companies. His fine knowledge of the industry and its strategic vision are strengths that will support the industrialisation of CARBIOS processes (April 2016)





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INTRODUCTION

Founded in 2011, CARBIOS is a green chemistry company specialized in the development of industrial biological processes with the aim of providing value to plastic waste and to the production of biopolymers. Since July 2012, the Company has implemented and managed a collaborative research and development project bringing together renowned academic and private sector experts under the framework of the THANAPLAST™ consortium with the support of Bpifrance. Within the framework of the THANAPLAST™ consortium, which is expected to last five years, the Company has signed agreements for collaborative research activities that enable it to have 60 researchers at its disposal. Initially, the work of these researchers is to identify micro-organisms and/or enzymes that are able to degrade the ten most commonly used polymers in the plastics industry (aromatic and aliphatic polyesters such as PLA, PET, PTT, PBAT; polyolefins such as PE, PP ; and polyamides such as PA6), and then to develop three innovative bioprocesses which will facilitate:

1. The creation of a new generation of biodegradable plastics whose duration is adapted and controlled

- depending on the end use of the material.
2. A biological recycling of plastic waste by a process of de-polymerization/re-polymerization, enabling the production of polymers that are of the same quality as those obtained directly from petroleum or biomass.
3. The production of biopolymers, coupled with the recycling process by de-polymerization/re-polymerization developed by the Company.

Based on these objectives, set within the framework of the THANAPLAST™ project and during CARBIOS' IPO in December 2013, the Company has managed the development of its processes within the indicated timeframe and has met key milestones in the area of biodegradation or bio-recycling. In particular, the Company has achieved many of its objectives by having at its disposal micro-organisms and/or proprietary enzymes that are able to degrade aromatic and aliphatic polyesters. The detail of the stage of development of the processes developed within the framework of THANAPLAST™ is outlined in the following table:

Summary table of CARBIOS' processes, their applications, and their stages of development:

PROCESSES	POLYMERS	APPLICATIONS	STAGE OF DEVELOPMENT
BIODEGRADATION	PCL	Mulching film and bags	Pilot
	PLA	Packaging, mulching film, bags, small packaging, industrial film	Pre-pilot
	PE	All flexible plastics	Concept validation
BIORECYCLAGE	PET	Rigid packaging (bottles, trays, film)	Pre-pilot
	PLA	Packaging and textiles	Pilot
BIOPOLYMÉRISATION	PLA	Packaging and textiles to replace PET	Laboratory

CARBIOS intends to conduct the industrial demonstration of these first bioprocesses in the near future, with key partners in the areas outlined. In order to ensure optimal development potential, the Company plans to deploy these technologies via the granting of licenses to industrial players in the sector and/or through licensing agreements within the framework of co-industrialization.

The development of the processes related to polymers other than those outlined above (polyamides, other polyolefins, other polyesters, etc.) could be carried out within the context of the continuation of the R&D work conducted outside the confines of THANAPLAST™.

CARBIOS has been listed on the Alternext market of Euronext Paris since December 19, 2013.

The following acronyms are used throughout this chapter to indicate the different types of polymers:

PLA: polylactic acid
PHA: polyhydroxyalkanoate
PET: polyethylene terephthalate
PCL: polycaprolactone
PE: polyethylene



GREEN CHEMISTRY: A REVOLUTION IN THE WORLD OF PLASTICS

CARBIOS' processes are based on the use of enzymes produced by natural micro-organisms, selected for their capacity to degrade the polymers that make up plastic materials. The extraordinary properties of enzymes, never before used in the world of plastics, offer a high-performing alternative. Organized around a central enzyme production Business Unit, these enzymes will serve the three central activity areas at CARBIOS, namely:

- **Enzymatic biodegradation** with the creation of a new generation of biodegradable plastics whose life span is controlled and adapted according to their end use;
- **Enzymatic bio-recycling** of plastic waste, enabling the production of new plastics of the same quality as the original (recycled) plastic;
- **Enzymatic bio-polymerization**, a process that is complementary to bio-recycling, and that opens an alternative and more competitive option to currently existing ones for the production of PLA.

In 2014, 311 million tons¹ of plastic were produced worldwide. This level of production generated more than 125 million tons² of plastic waste, of which roughly 9 million tons³ end up discarded in nature, particularly in the seas and oceans. The collection of plastic waste, when it exists at all, constitutes a considerable deposit of material that has not yet been properly valued.

Additionally, the drastic environmental consequences caused by the omnipresence of plastics in our daily lives and the difficulties in establishing a better end-of-life for them, call for a change in the way that plastics are produced and consumed in order to ensure a more environmentally sustainable society for future generations.

CARBIOS aims to develop a circular economy model⁴ in order to change this environmental threat into a true opportunity for society and for industry by enabling plastic waste to become the renewable raw material of the chemistry of tomorrow.

THE COMPANY AND ITS STRATEGY

The mission of CARBIOS, a leading player in the field of green chemistry, is to rethink the life cycle of polymers. The Company's industrial bioprocesses are based on the use of enzymes as natural biological catalyzers that play a central role in the development of CARBIOS' innovation. They put competitive raw materials to work, whether these are plastic materials at the end of their life cycle or undeveloped renewable resources (agro-alimentary or agricultural industrial waste). The Company's biological processes for bio-recycling, biodegradation and the production of bio-polymers open a path for the development of a true circular economy for raw materials.

The introduction of enzymes to the value chain of the plastics industry is a global innovation introduced by CARBIOS. The Company's technological advances in the sector have enabled it to ensure a unique know-how, leading to the Company's objective to become a leading player in the global plastics and recycling markets. At year-end 2015, CARBIOS' intellectual property portfolio encompassed 17 families of patents, of which two are exclusive licenses globally. CARBIOS thus ensured for its future industrial partners a strategic competitive advantage across considerable markets.

CARBIOS' economic development model is based on the industrialization and commercialization of its products, enzymes, technologies, and bioprocesses via the concession of development licenses. The Company will license its know-how and its intellectual property directly or via joint ventures to major industrial players in the sectors that can make use of the Company's innovative technologies. The licenses granted will generate revenue in the form of upfront payments, royalties and/or dividends.

¹ Source: PlasticsEurope in 2015
² Source: 7th Continent Association in 2015 and Jenna Jambeck in 2015
³ Source: 7th Continent Association in 2015 and Jenna Jambeck in 2015
⁴ The idea of a circular economy was made public in France during the Grenelle Environment Roundtable in 2007, and is inspired by the « Cradle to cradle » theory, posited by M. Braungart and W. McDonough in 2002.



THE OBJECTIVE OF CARBIOS TO RETHINK THE LIFE CYCLE OF POLYMERS

A MARKET OPPORTUNITY

A symbol of the consumer society, plastic material has invaded our daily lives and has become essential to us.

The global production of plastic, which is currently concentrated primarily in Asia (49%) and particularly in China⁵, generates a huge amount of waste that has not yet been adequately valued as a raw material. In fact, around 40%⁶ of this plastic waste around the world is still sent to landfills.

The largest producers, importers and exporters of waste, made up of the European Union, the United States, Japan, India and China are estimated to produce roughly 125 million tons⁷ of plastic waste per year, or approximately 40% of the global annual production⁸.

It should be noted that the pollution of the seas and the oceans represents some 10 million tons of waste per year⁹ of which 90%, or around 9 million tons¹⁰ are plastic (bags, water bottles, plastic waste coming from agriculture, fishing, etc.) which mostly come from the continents.

Given this situation, new and stricter regulations are being established in many countries. Specifically in the case of France, the law of energy transition calls for the prohibition of plastic single use shopping bags starting on July 1, 2016, and starting in January 2017, a ban on all single use plastic bags that are not compostable in home composting or made wholly or in part from bio-sourced materials.

The law also sets ambitious objective of reducing by half the amount of non-dangerous, non-inert waste placed in landfills by 2025.

These provisions, which should trigger the evolution of European regulation, echo the global trend that seeks to optimize the life cycle of plastic materials and to lead to a commitment of transitioning toward more sustainable solutions. These solutions constitute a significant support for the development of innovation in the sectors of recycling and biodegradation that are at the heart of the bioprocesses developed by CARBIOS.

Currently, the management of plastic waste represents a significant issue for society due to its environmental impact and because of the need to develop solutions to manage the flow of waste. The establishment of a true circular economy would limit the use of fossil fuel resources and also avoid the loss of a highly value-added part of the value chain.

⁵ Source: PlasticsEurope in 2015

⁶ Source: PlasticsEurope in 2015, Plastic Waste Management Institute Japan in 2012, International Solid Waste Association in 2014 and Plastics Recycling Committee in 2014

⁷ Source: PlasticsEurope in 2015, Environmental Protection Agency in 2013, Plastic Waste Management Institute Japan in 2012, Central Pollution Control Board in 2013, Mc Kinsey & Ocean Conservancy in 2015, 7th Continent Association in 2015, Jenna Jambeck in 2015 and Ademe in 2012

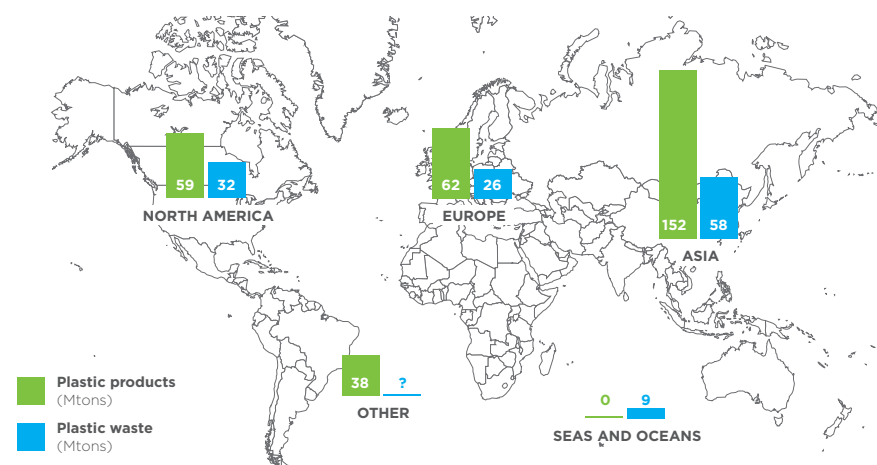
⁸ Source: PlasticsEurope in 2015

⁹ Source: 7th Continent Expedition Association in 2015 and Jenna Jambeck in 2015

¹⁰ Source: Ademe in 2012

GEOGRAPHICAL DISTRIBUTION OF PLASTIC PRODUCTION AND PLASTIC WASTE IN 2014

311 Mtons¹ and 125 Mtons²



¹ Source : PlasticsEurope in 2015

² Source : PlasticsEurope in 2015, Environmental Protection Agency in 2013, Plastic Waste Management Institute Japan en 2012, Central Pollution Control Board in 2013, Mc Kinsey & Ocean Conservancy in 2015, Association 7^{ème} continent in 2015, Jenna Jambeck in 2015 et Ademe in 2012



Various actions aiming to address or decrease this waste are currently under development:

- Upstream prevention strategies (decrease in packaging during production, responsible purchasing by consumers, stricter regulation, etc.);
- Strategies to promote the reuse of products (example: reusable bags);
- Downstream strategies in the use of products, currently consisting primarily of sending discarded materials to landfills or for incineration, but these should also include recycling and enabling possible solutions for the further use or development of discarded materials.

The establishment of an improved collection mechanism and an optimized system for treating plastic waste would enable a more optimal routing of the flows of waste toward recycling, whenever possible, or toward biodegradation in the case of plastic waste for which entry to the post-use collection systems (packaging, single-use bags, etc.) would be less likely. These improvements would also strengthen the use and competitiveness of the collection and recycling/biodegradation chain while at the same time establishing the bases for supply and demand between the various players.

Based on these dynamics, CARBIOS has set as its mission to rethink the life cycle of polymers while developing industrial bioprocesses that offer alternative competitive routes for giving value to plastic materials at the end of their life cycles. CARBIOS aims to do this by developing industrial bioprocesses that: 1) offer alternative competitive routes to give value to plastic materials at the end of their life cycle; and 2) are capable of producing new, high value-added, renewable raw materials for the plastics industry. To accomplish this, CARBIOS creates new biodegradable plastics with a programmed life cycle that are adapted to the end use of the plastic material and do not generate any waste or require any specific composting conditions. In the domain of recycling, CARBIOS develops bioprocesses that enable the re-valuation of plastic waste to produce new plastics with identical levels of performance to those from which they originated, thus opening a route to recycling plastic materials to infinity.

Green chemistry: an industrial sector of the future

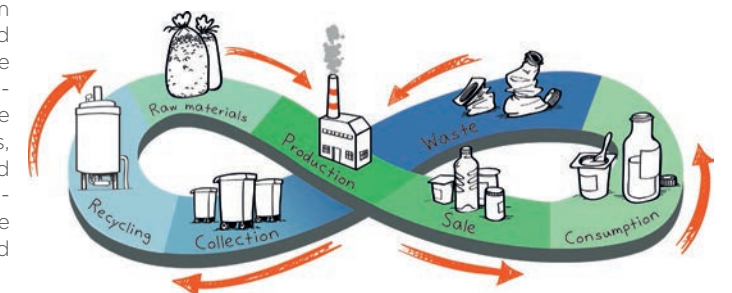
According to the European Commission, in 2012 the green chemistry sector as a whole had annual sales revenue of €2 billion, more than 22 million employees and roughly 9% of the workforce. Additionally, the Commission estimate that the direct financing for research in this sector (without taking into account indirect public and private investment) would enable the creation of 130,000 jobs and €45 billion in added value through 2025. Green chemistry is the future backbone of the European economy to guarantee a more secure, clean, healthy and sustainable future.

The circular economy: a strategic objective

The circular economy refers to an economic concept understood within the framework of sustainable development, with the objective of producing goods and services while limiting the consumption and waste of raw materials and sources of energy. It is the implementation of a new economy that is not linear, but rather circular, based on the principle of "closing the life cycle" of products, services, materials and energy.

The development of the circular economy aims particularly at limiting the use of fossil fuel-based resources, at reducing the production of waste (or recycling it), and at reducing energy consumption. The circular economy naturally becomes an axis of the strategic development of green chemistry.

CARBIOS falls completely within the objectives of a circular economy. The biological processes developed by CARBIOS constitute a major technological and industrial disruption, an innovative chemical approach based on the use of enzymes to rethink the life cycle of plastics.



PLASTIC: AN ISSUE FOR A CIRCULAR ECONOMY, AT THE CROSSROADS OF CHALLENGE AND OPPORTUNITY

Faced with the environmental consequences of a growing global demand for plastic materials, and with the difficulty our societies have displayed in addressing the end of life of these materials via conventional processes, transforming plastic waste into resources is essential and currently constitutes a significant element of a circular economy.

To meet these objectives, the plastics industry must engage in a profound change within the context of new challenges that create industrial opportunities.

An environmental challenge: addressing the end of life of plastic materials

Plastic materials, which are currently primarily made from fossil fuels, take 200 to 400 years to degrade under natural conditions. With the development of our industrial societies, the generation of plastic waste growth has not abated and has led to an accumulation of plastic in the environment, leading to a host of problems. Landfills are used to capacity, the soil is polluted, and the seas, rivers, and surrounding areas are largely affected by this pollution.

Based on an awareness of these problems, a legislative framework has been established demanding that industrial players develop solutions to better address the end of life of plastic materials. As an example, the European Union has called for a common objective, to be met by the year 2030¹², of requiring that 75% of packaging waste be recycled. Some countries have also prohibited placing their waste in landfills. In many instances, waste is rendered valuable via incineration for energy production.

¹² Source: European Commission in 2015

**An industrial and economic opportunity: the search for new methods to produce and recycle plastics**

In light of a substantially reduced supply of “virgin raw materials” in Europe during 2015, low oil prices notwithstanding, the economic equilibrium of industrial producers has been disturbed, and plastics producers are faced with uncertainty regarding their raw material supply. The long-term visibility into their energy costs, the consolidation of the supply chain, and the development of processes requiring low levels of energy consumption become crucial in order to maintain their competitiveness.

In the battle for competitiveness that is being fought by the participants in the sector, value is created by the innovation and development of new ways to produce and recycle plastics. This implies the development of alternatives to the usual processes employed to improve the quality of the recycled raw materials and to enable their use in applications with high added value. The creation of high-performing secondary raw materials thus constitutes a significant industrial area of concern that current techniques do not fully address.

Legislation in France and Europe is being updated on a continuous basis. The plastics industry is committed to the development of the sector to comply with the new provisions and to offer more environmentally friendly and responsible solutions while controlling costs. This implies procuring sources of renewable raw materials, and particularly, bio-sourced raw materials. However, the use of these bio-sourced raw materials raises several issues:

- The biomass currently used for the production of bio-sourced plastic materials is primarily derived from grains, in direct competition with the agri-food industry, thus requiring the identification of a source of biomass destined specifically for the plastics industry;
- The volumes to be supplied are large in order to meet the demand of a global market, and should assume a cost basis that is at least equal to plastic materials derived from oil, implying the need for large and available volumes of biomass, as well as highly performing transformation processes;
- The biopolymers coming from bio-sourced raw materials are different from those derived from oil. If these are to replace petro-plastics in the long-term, they should be compatible with current industrial installations and should deliver technical performances that are adapted to the needs of the market.

In summary, to succeed in an ecological and industrial transition, industrial producers of plastic should be able to demonstrate their capacity to create value while controlling the end of life of plastic materials and while establishing a new supply chain based on the development of renewable raw materials whose performance can meet the needs of the market.

The bioprocesses developed by CARBIOS aim at providing a technological disruption that can address the environmental issues as well as provide economic and industrial opportunities to the sector.

THE BIOPROCESSES DEVELOPED BY CARBIOS AND THEIR IMPORTANCE

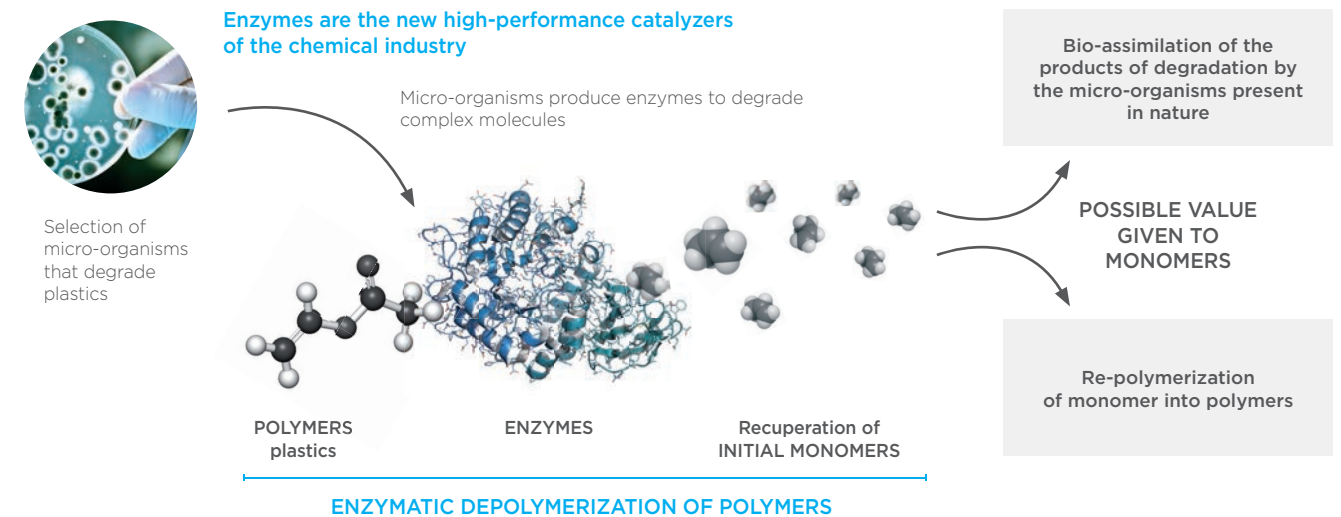
In nature, micro-organisms degrade more or less complex compounds that are present in their immediate environment, which they then use as a source of carbon for their own growth. When the sources of carbon present are primarily in the form of plastic materials, the only micro-organisms capable of surviving in complex environments are those that have developed the ability to degrade and assimilate the polymers that constitute these plastic materials.

To degrade these complex materials, the micro-organisms produce bio-catalyzers, known as enzymes, which behave like scissors that act specifically on the matter they are degrading.

Applied to industrial processes, the enzymes enable very complex chemical reactions. These same reactions are much more difficult to achieve using the tools of classical chemistry. By developing the potential of the enzymes, industrial producers can accelerate the production processes under easier and less expensive energy conditions than chemical processes, and with a selectivity that limits the undesirable by-products. A number of industrial sectors such as detergents, food and starch, among others, with market sizes in the billions of dollars, use enzymes as a production tool. However, enzymes have never before been applied to polymers, which make up plastic materials. The enzymes that are used industrially are currently either supplied by enzyme producers such as Novozyme, DuPont (via Genencor), ABF Ingredients (Via AB Enzymes), and DSM among others, or produced on site to be directly integrated into the industrial production processes.

CARBIOS has chosen to develop industrial processes by using the extraordinary properties of enzymes, which act as catalytic tools. CARBIOS has thus selected, in the bio-diversity of nature, micro-organisms that present the capacity to degrade the polymers that are most commonly used in the industrial production of plastics (polyesters, polyamides and polyolefins) and those that are likely to be used. CARBIOS has identified within these micro-organisms the enzymes tasked with the degradation of polymers, and has optimized their production process in order to produce them in quantities large enough to satisfy the needs of the targeted industrial applications.

The green chemistry implemented by CARBIOS thus benefits from the maturity developed within several industrial sectors that already employ enzymatic processes. CARBIOS has introduced globally relevant innovations such as including enzymes in the value chain of the plastics industry and ascribing value to plastics at the end of their life cycles. These innovations have the potential for development in the targeted markets, as evidenced in the already obtained results.

**The 3 axes of development of the CARBIOS bioprocesses and their main competitive advantages:**

- **BIODEGRADATION:** Inclusion of enzymes in a plastic material, either fossil fuel-based or bio-sourced, in order to render it biodegradable. It entails the creation of a new generation of biodegradable plastics with a life cycle that is controlled and adapted to the end-use of the material.
- **BIO-RECYCLING:** Enzymatic process that enables the recycling of plastic waste to be reconverted into the initial monomers. The monomers obtained through this process, which are identical to the virgin monomers, are re-polymerized to produce new plastics of the same quality.
- **BIO-POLYMERIZATION:** Process that is complementary to bio-recycling, enabling re-polymerization via a biological method, from monomers to polymers that can be used industrially. This process provides an alternative method of production for PLA that is more competitive than the currently used chemical process from lactic acid, produced either from enzymatic recycling or by fermentation.

CARBIOS presents competitive advantages in each one of these processes.

• BIODEGRADATION :

CARBIOS offers an innovative alternative that provides a positive response to some of the drawbacks of the biodegradable plastics developed currently:

- (i) the development of new biodegradable plastics that produce materials with a true capacity to biodegrade in nature, unlike the majority of so-called

biodegradable products available currently which only biodegrade under industrial composting conditions (at temperatures above 50°C).

(ii) the development of new plastics with a programmed life cycle that is adapted to the needs of the required application.

(iii) new plastics that are competitive with currently available materials, and that can substitute for the most common fossil fuel-based polymers.

• BIO-RECYCLING:

The enzymatic bioprocess for recycling developed by CARBIOS aims to eliminate the constraints encountered by current processes, by taking advantage of the extraordinary specificity of the enzymes which allows for:

- (i) recycling plastics without the need for sophisticated sorting, and in particular with the possibility of recycling multi-layered plastics;
- (ii) the possibility of recycling to infinity, via the recovery of purified monomers that can then be re-polymerized into plastic polymers of a quality equal to the original polymer (no loss in value, as compared to mechanical recycling)
- (iii) no correlation to the cost of the original oil-based raw material

• BIO-POLYMERIZATION :

CARBIOS offers a new production process that is more efficient and less costly than currently used methods. The process employed consists of a one-step enzymatic polymerization of lactic acid (compared to current methods which require two steps) and which is able to produce a PLA homo-polymer of high molecular weight. CARBIOS' process should lead to greater market penetration by offering a more competitive PLA as compared to polymers that are produced from petroleum.



AN ORIGINAL AND DYNAMIC INNOVATION ORIENTED TO INDUSTRIAL VALUE CREATION

AN INNOVATIVE INDUSTRIAL CONCEPT

Since its creation, CARBIO has established a pragmatic innovation model, based on industrial value creation, by offering industrial producers “turn-key” biological processes that meet the needs of specific areas of application.

In order to advance all of its developments through to the industrialization of the bioprocesses, CARBIO has built its model from the upstream, early stage research phase by bringing together the best public and private sector experts into the collaborative research and development consortium known as THANAPLAST™. The development of the applications issuing from the bioprocesses is then managed directly by CARBIO up until the pre-industrial stage. CARBIO thus ensures the technological know-how for the bioprocesses and defines the unit process books for each of the applications provided.

With the results already obtained in the areas of biodegradation and bio-recycling, CARBIO foresees the near-term industrial demonstration of its bioprocesses with key partners in the targeted areas. In order to ensure the best development potential, the Company will deploy its technologies via license concessions to industrial players in the sector or via licensing agreements within the framework of co-industrialization.

SELECTION OF ENZYMES Milligrams



EARLY-STAGE OUTSOURCED RESEARCH

Acquisition of technical assets and research collaboration with public and private institutions (experts in the relevant fields)

LABORATORY BIOPROCESS Grams



PRE-PILOT BIOPROCESS Kilograms



DEVELOPMENT AT CARBIO

In-house development of bioprocesses up to the delivery of the unit process books

PILOT BIOPROCESS Tons



INDUSTRIAL DEMONSTRATION Thousands of tons



INDUSTRIAL PARTNERSHIPS

Granting of licenses for bioprocesses to key industrial players to ensure industrialization and development

INDUSTRIAL PRODUCTION Tens of thousands of tons



Applied research

Development of the process

Industrialization

Agreements with industrial players in targeted markets

COLLECTIVE EARLY-STAGE RESEARCH: FROM CONCEPT TO LABORATORY PROCESS

The bioprocesses developed by CARBIO rely on the unique association between biotechnology and the chemistry of plastics. These innovative technologies encompass several areas of technical expertise such as microbiology, enzymology, chemistry of polymers, plastic production and process engineering.

Since its creation, CARBIO tapped into more than ten years of experience in Research and Development (patents, results, know-how) available at several academic libraries.

In order to accelerate the development of its innovative technologies and to increase their chances of success, since 2012 CARBIO has entered into research collaboration agreements with the best teams of academic experts (National Institute of Agronomic Research or INRA, Toulouse White Biotechnology Center of Excellence or TWB, Toulouse National Institute of Applied Science or INSA, the National Center for Scientific Research or CNRS, and the University of Poitiers) and private companies (Limagrain, Groupe Barbier, Deinove) in the targeted areas. CARBIO has grouped these collaborations within the THANAPLAST™ project and holds global exclusivity rights on the results obtained through these collaborations.

At the same time, CARBIO strengthens its Research and Development programs by monitoring the sector, strategically and on an ongoing basis, in order to identify the work, expertise and upcoming patents in the areas of interest so as to consider them in the Company's development work, or to acquire them.

CARBIO thus continues to mobilize significant scientific and technical resources from the early research (“upstream”) phase in order to ensure the highest chances of success for the development of its bioprocesses.

THE APPLICATIVE DEVELOPMENT OF BIOPROCESSES: FROM THE PRE-PILOT PHASE TO INDUSTRIAL DEMONSTRATION

CARBIO carries out on its own premises the development of the bioprocesses at a pre-pilot scale up through the pre-industrial phase, including production of the unit process books and the demonstration of industrial feasibility.

In 2015, CARBIO established its process development platform, which includes fermentation capacity for enzyme production and a plastic production pilot plant. The aim of this platform is to perfect the formulations developed and to ensure the successful pre-production of plastic materials. These installations strengthen the development and results already obtained by CARBIO, and meet the application objectives while fine-tuning the products and processes to meet the specification manuals of the industrial players in the sector. The platform also enables CARBIO to strengthen the Company's intellectual property and its unique know-how.



At this stage in its development, CARBIO also works in collaboration with technical engineering centers in order to optimize the performance and economics of the bioprocesses it has developed.

The development of bioprocesses consists of three successive stages:

1. To test and confirm the results obtained on a laboratory scale (in grams) by reproducing the bioprocess on a pre-pilot scale (in kilograms). This stage allows for the modeling of industrial performance and for specification of the parameters for the process book.
2. To optimize and consolidate the bioprocess on a pre-pilot scale in order to improve its industrial and economic performance. This stage also enables the setting of the parameters to meet the requirements of the targeted applications.
3. To validate the bioprocess on a pilot scale and to produce a pre-series that demonstrates the ability to match the required industrial specifications for the targeted applications. This stage also enables the establishment of a process book, which is the guide for executing the bioprocess on an industrial scale, as required by the industrial partner.

CARBIO concentrates its efforts on this phase of pre-industrial development in order to ensure that all of the parameters of the bioprocess and the relevant know-how have been mastered. This enables the company to transfer to its industrial partners, or co-develop with them, a completely proven applicative bioprocess for industrial use.

THE INDUSTRIALIZATION OF THE BIOPROCESSES

The industrialization of a bioprocess developed by CARBIO is put into execution by:

- The granting of a development license to an industrial partner for a specific area of activity, in which the partner will ensure the industrial production and commercialization; or
- A licensing agreement within an industrial co-development project for a specific area in which CARBIO and the partner will ensure industrial production and commercialization.

This phase of industrialization consists of two successive stages:

- To carry out an industrial demonstration (a few thousand tons), if possible with a commercial application, in order to confirm under real conditions the performance of the bioprocess and the profitability of its industrial development. CARBIO's dedicated personnel, qualified to operate industrial machinery, will carry out this phase of industrial demonstration to ensure the successful transfer of technology and know-how to the industrial partner.
- To carry out industrial production (several tens of thousands of tons) and the commercialization of the final product. CARBIO develops processes that are designed to be incorporated into existing industrial installations.

**INDUSTRIAL AGREEMENTS AND BUSINESS MODEL**

At each stage of its development, CARBIOS seeks to sign agreements with industrial partners that enable the consolidation of its innovative bioprocesses and that ensure their future use.

Since 2012, CARBIOS has engaged in a number of discussions with different players in all of the relevant industrial areas such as plastics producers, agro-industry companies, waste management companies, and industrial enzyme producers.

These discussions have enabled, in particular, an understanding of the specific needs of each of these sub-sectors, the definition of the value chains in which CARBIOS' bioprocesses can be included, and the players that are best-positioned for the use and development of these technologies.

In particular, CARBIOS maintains close ties to various large industrial groups which are global leaders in their sectors. These companies have already expressed a strong strategic interest in the bioprocesses developed by CARBIOS, thus strengthening the outlook for the targeted areas of value creation.

INTELLECTUAL PROPERTY

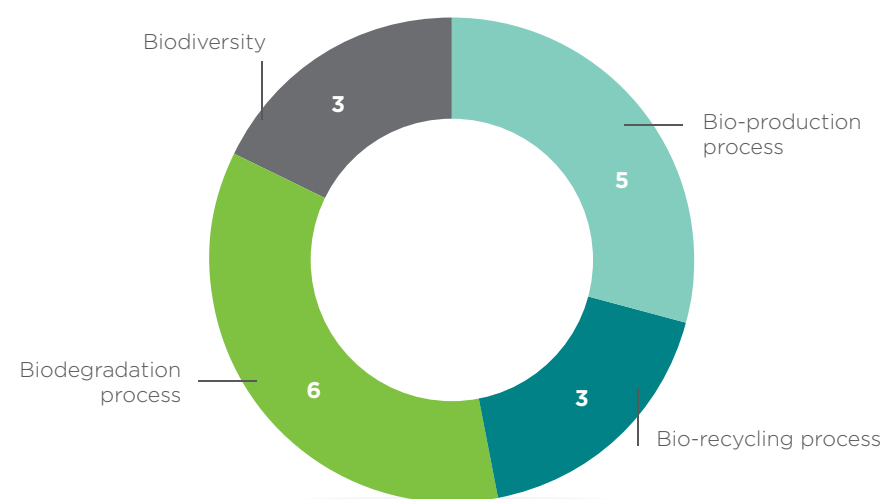
In order to guarantee the future use of the results of its Research & Development, since its inception CARBIOS has pursued an active policy of securing and strengthening its innovation. This has resulted in the protection of

its upstream or early-stage research, which is then further developed, and is often complemented by the acquisition of know-how and third-party rights that will prove necessary for the industrial implementation of the developed innovation.

During 2015, CARBIOS' intellectual property portfolio was enhanced by four new proprietary patent applications and by the acquisition of a patent application that was previously owned by the company SETUP Performances. These new patent applications relate primarily to the process for producing biodegradable plastics.

Moreover, during 2015, CARBIOS has also acquired the exclusive licensing option on two patent applications, one submitted by the CNRS (National Center for Scientific Research) and the University of Poitiers, and the other one submitted by the CNRS, the University of Poitiers, and Valagro. CARBIOS now has an exclusive global license for these two families of patents, which is essential for the industrialization of the production of biodegradable plastics. The two patent applications for these two families have already been approved in France.

At year-end 2015, CARBIOS' intellectual property portfolio contained 17 families of patents (of which two are licenses with global exclusivity), representing 50 titles that cover the Company's three axes of development (biodegradation, bio-recycling and bio-production). CARBIOS has thus ensured its ability to provide its future industrial partners a strategic competitive advantage in large markets.

DEVELOPMENT AREAS COVERED BY THE PATENTS

THANAPLAST™: A FIRST PROJECT AND FRAMEWORK

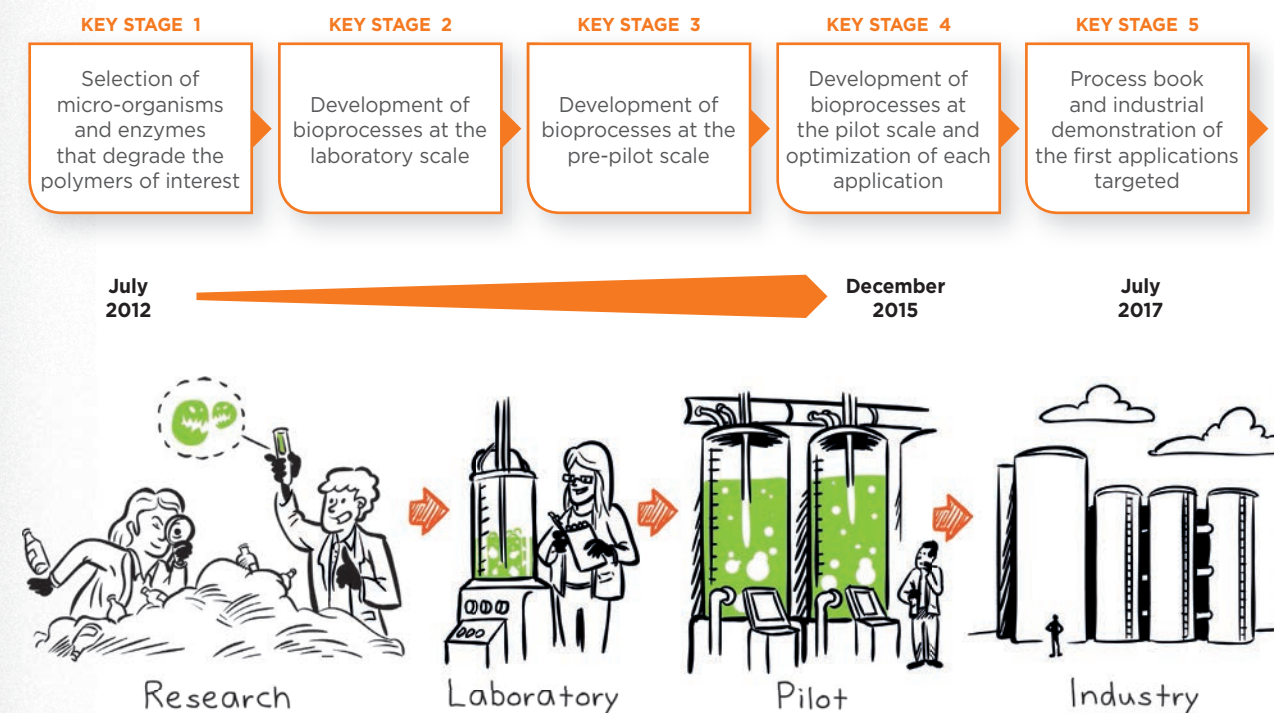
A COLLABORATIVE RESEARCH AND DEVELOPMENT MODEL

THANAPLAST™ is a collaborative Research and Development project, conceived and managed by CARBIOS and supported by Bpifrance within the context of an ISI (Framework-providing Industrial Innovation) project assistance program. As the leader of its sector, CARBIOS has brought together five partners within this project, specifically academic partners with INRA/TWB/Toulouse INSA, CNRS/University of Poitiers, and industrial partners Deinove (biotech), Limagrain (compounder and producer of Biolice®) and the Barbier Group (plastics producer).

PROGRESS AND ISSUES IN THE THANAPLAST™ PROJECT

This first project began on July 1, 2012, and will be carried out over five years, ending in July 2017. The THANAPLAST™ project encompasses all of the Research and Development activities from the upstream or early research phase through the validation of the bioprocesses at the pilot scale. Since 2012, almost 60 researchers have been working exclusively on the bioprocesses developed by CARBIOS.

The THANAPLAST™ project is based on five key stages:



The THANAPLAST™ project has a total budget of €22 million over five years, of which €14.3 million has been allocated directly to CARBIOS. The Company has taken on multi-year financial commitments with the partners and service providers that collaborate on this project.

The financing of the project and the commitments with the consortium partners is covered by:

- CARBIOS' shareholders' equity, representing €16.4 million, before recognition of losses since inception, for a net total of €8.1 million in shareholders' equity that remained available at December 31, 2015;

- The aid to innovation granted by Bpifrance for a total of €6.8 million (of which €5.35 million had been paid as of December 31, 2015).

Through the collaboration agreements signed with its academic and scientific partners and agreements for research services, CARBIOS owns the exclusive global rights to the use of the results obtained in the THANAPLAST™ project and ownership or co-ownership of title to the intellectual property from those results.



THE BIODEGRADATION OF PLASTICS AT END OF LIFE

CONTEXT AND REGULATION

With the development of plastics increasingly sourced from renewable resources, the plastics industry decidedly remains a sector of the future.

But regulatory and social pressure for improved management of the life cycle of plastics will also increase, especially for single-use plastics or those with a short useful life.

After use, this plastic waste is primarily buried in landfills (40% including the European Union, Japan and China) or incinerated (33% including the European Union, Japan and China)¹³. This waste also constitutes a significant part of the 9 million tons¹⁴ of plastic waste that is found spread in nature each year and that generates long-term pollution in the oceans.

In light of these facts and the need to address them, the European Commission has recently adopted an ambitious new package of measures to set a binding target to reduce the waste placed in landfills to 10% by 2030¹⁵. Many countries, regions and cities have already established a strict regulatory framework, ranging from banning the use of non-biodegradable single-use plastic bags (as in Italy, for example) to a tax surcharge for plastic bags (as in England, for example).

France has also very recently established a law of energy transition that legislates the use of non-biodegradable plastic bags. This law fosters the emergence of innovative and alternative technologies such as the bioprocesses developed by CARBIO.

In order to address these new provisions and the need to develop alternative solutions, the role of biodegradable plastics takes on a larger importance as a possible means to ensure that the aforementioned plastics are entirely assimilated by microbial populations in a short period of time.

However, despite the fact that they have been commercially available for more than two decades, biodegradable plastics still remain relatively insignificant market players. In 2014 they represented less than 1% of the world demand for plastics, with an estimated production of 663,000 tons¹⁶ (including starch-based plastics, polylactic acid, PHAS, PCL and PBS-based plastics). Plastics that are both bio-sourced and biodegradable represent 65% of the total production of biodegradable plastics¹⁷.

Several constraints explain this:

- (i) high prices for biodegradable polymers as compared to traditional oil-based plastics;

- (ii) the fact that they cannot be substituted for all of the most common fossil fuel-based polymers; and especially
- (iii) the low real capacity to biodegrade in nature of the so-called biodegradable products.

Currently, the vast majority of materials available in the market as biodegradable only degrade under specific conditions, such as industrial composting (at temperatures greater than 50°C) that require special infrastructure. This enables them to meet the requirements of Standard EN13432 or of the label "OK Compost" (Vincotte) label.

However, a small number of these plastics are biodegradable under environmental or domestic conditions, at temperatures between 20°C and 30°C, which enables them to meet the requirements of Standard T51-800 or of the "Home Compost" (Vincotte) label.

Nevertheless, the growing demand for alternative solutions and the increasingly strict environmental standards are among the factors that should continue to foster the growth of the biodegradable polymer industry over the coming years. The global growth of biodegradable plastics is estimated at between 10% and 20% per year¹⁸ and could reach 1.3 million tons in 2018¹⁹.

CARBIO seeks to offer an innovative alternative through the development of new plastics with programmed life spans, for which biodegradability does not require specific conditions and can take place under domestic or environmental conditions.

¹³ Source: PlasticsEurope in 2015, Plastic Waste Management Institute Japan in 2012, International Solid Waste Association in 2014 and Plastics Recycling Committee in 2014

¹⁴ Source: Association Expédition 7ème Continent, Jenna Jambeck in 2015 and Ademe in 2012

¹⁵ Source: European Commission in 2015

¹⁶ Source: IFBB in 2015 and European Bioplastics in 2015

¹⁷ Source: IFBB in 2015 and European Bioplastics in 2015

¹⁸ Source: Reportlinker in 2011 and Research and Markets in 2014

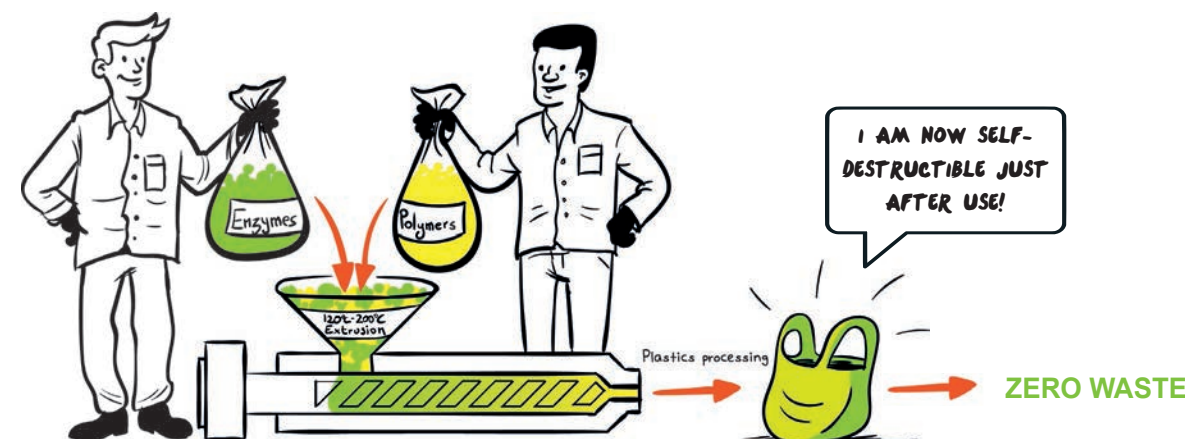
¹⁹ Source: IFBB in 2015 and European Bioplastics in 2015



CARBIO'S INNOVATION: PLASTICS THAT SELF-DESTRUCT AFTER USE

The innovation of the biodegradation process developed by CARBIO consists of embedding biological catalyzers into plastic materials, thus enabling them to biodegrade.

Biodegradable under natural conditions in the environment, plastics with a programmed life span as produced by CARBIO are meant primarily for the single-use plastics market or for products with a short useful life (plastic bags, packaging, conditioning, mulching film for agriculture, etc.).



CARBIO's enzymes, which are embedded in the polymers from their conception, degrade plastic materials -- after use or while the plastics are scattered in the environment -- into base molecules that can be assimilated by the micro-organisms in nature.

Biodegradation is complete within three months (compared to 200 to 400 years for an ordinary plastic). CARBIO's enzymed compounds²⁰ are suitable for industrial plastic-producing equipment and under normal extrusion conditions. They do not affect industrial performance or the use properties of polymers.

This technology is applied to both bio-sourced plastics, which -- although they are not yet a large part of the industry -- are growing rapidly, and to polymers made from materials sourced from hydrocarbons. CARBIO upstream or early stage research identifies on an ongoing basis new enzyme/polymer couplings to broaden the application range of its technology. At the same time, CARBIO's plastics development platform defines optimal formulations for the industrial production of films and objects with the kinetics for programmed post-use biodegradation.

STATE OF DEVELOPMENT OF THE TECHNOLOGY

The biodegradation processes developed by CARBIO have progressed from the laboratory stage in 2013 to the pilot stage during 2015, thus surpassing the objectives set during the IPO process, which called for attaining a pre-pilot stage at year-end 2015.

These developments, which target the near-term industrialization of the CARBIO bioprocesses, were confirmed via the following achievements:

In July 2014, CARBIO attained a milestone in the development of its technology to produce biodegradable

plastics with a controlled life span. With its partner Valagro, **CARBIO produced a plastic material which was completely biodegradable under domestic conditions via the action of the enzyme embedded in the material.** This first material, produced from polycaprolactone (PCL), an industrial polymer of fossil fuel origin, and an enzyme, is characterized by a 50% loss of mass in 15 days, and complete biodegradation in less than three months. With this result, CARBIO has demonstrated that its technology provides a relevant industrial response to the regulatory changes pertaining to the end of life of single-use and/or short useful life plastic materials.

The success of the results obtained in July 2014 with the complete biodegradation in less than three months of a plastic made of a polymer of fossil fuel origin (PCL) and then in June 2015 of a second bio-sourced polymer (PLA) confirms the performance and the feasibility of the production of a range of biodegradable materials with varying degradation kinetics.

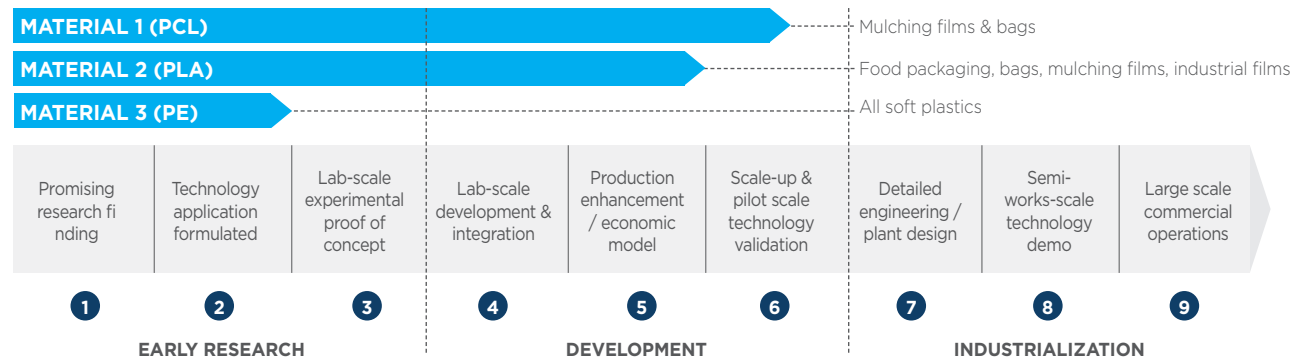
Bpifrance's validation of these results has confirmed the achievement of stage three of the THANAPLASTTM project, which entails industrial pre-pilot scale production of plastic materials based on biodegradable formulations with the mastery of a biodegradation kinetic. CARBIO is working currently to define the best applications for these materials, in light of the technical properties of these plastics and of their respective biodegradability.

²⁰ Composite material ready for form-setting in the plastic production process



Stage of development of the technologies

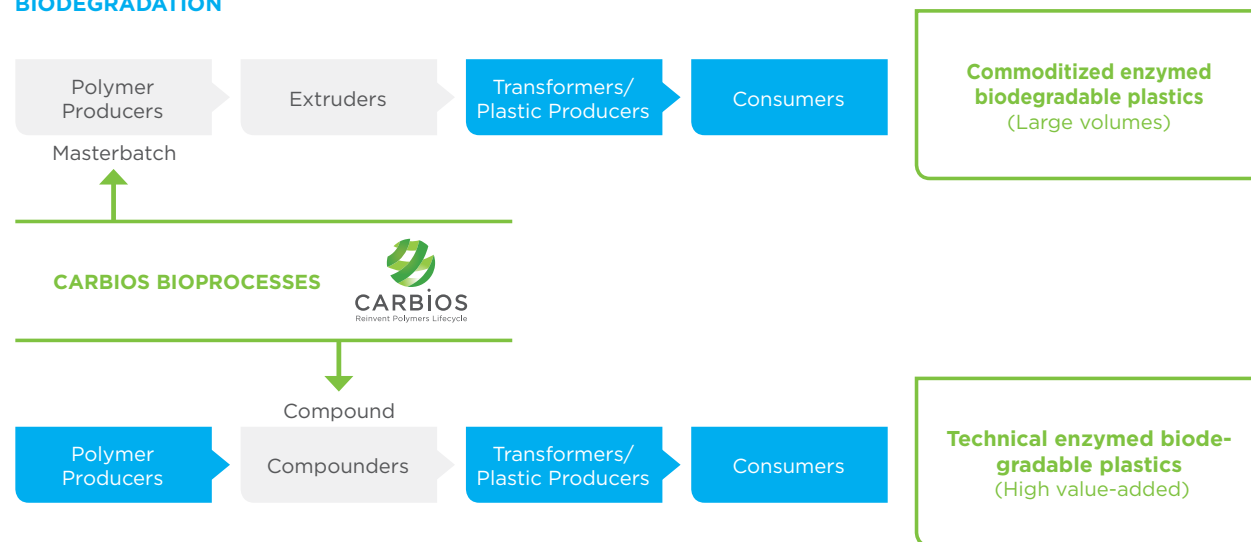
ENZYMATED BIODEGRADABLE PLASTICS



The Company's development strategy for the targeted product markets (mulching films, bags, sacks, industrial films, etc.) consists of developing innovative and competitive bioprocesses that will be put into operation via agreements with industrial groups and large players capable of taking significant global market share or market share in specific geographies (Europe, US, Asia).

Inclusion of CARBIO'S bioprocesses in the production value chain of biodegradable plastics:

BIODEGRADATION



CARBIO'S bioprocesses are designed to be included in existing industrial installations at different levels.

For the most commonly available plastics on the market, CARBIO will address the needs of polymer producers and extruders with the production of semi-finished enzymed plastics (master batches) that can be combined with the desired polymer to obtain large volumes of finished product.

At year-end 2015, CARBIO'S intellectual property portfolio included six families of patents for the biodegradation process, in addition to three families of patents concerning biodiversity. In line with its objectives, CARBIO maintains its goal of applying this technology at the industrial level beginning in 2017.



PRIORITY MARKETS AND APPLICATIONS TARGETED

The market for biodegradable plastics and polymers focuses primarily on products with a short useful life or on products that are difficult to recycle, such as agricultural mulching films and plastic bags.

The size of targeted markets

SECTOR	MARKET DESCRIPTION	PRODUCTION		GLOBAL GROWTH RATE
APPLICATIONS TARGETED BY THE THANAPLAST™ PROGRAM		World	Europe	
Agriculture	Agricultural mulching films	2MT (2013) ¹	210 KT (2013) ²	5% ³
Bags and sacks	Carrier bags and industrial sacks	15 to 20 MT (2012) ⁴	4,1 MT (2011) ⁵	
Rigid packaging	Plastic cups, disposable plates, trays...		800 KT (2013) ⁶	
OTHER SEGMENTS OF APPLICATIONS FOR CARBIO'S PROPRIETARY TECHNOLOGIES				
Packaging	Other packaging (bags, films, sheets...) requiring biodegradability			
Textiles	Making textile fibers functional by incorporating biological agents (Polyesters)			

¹ Source : Grand View Research in 2014 and Transparency Market Research in 2014, ² Source : Grand View Research in 2014, ³ Source : Grand View Research in 2014, ⁴ Source : European Commission in 2011, Environmental Protection Agency in 2010 and Reportlinker in 2014, ⁵ Source : Commission Européenne in 2011, ⁶ Source : Plastics Recyclers Europe in 2014

Agricultural mulching films

The global market for mulching films was estimated at two million tons as of 2013²¹. The major growth drivers of this market (5% per year)²² are the increase in world population and the need to improve the agricultural yields per hectare of land.

Mulching films in use at present are either:

- Non-degradable and require removal after use to be sent to recycling (which means an additional cost for the agricultural producer); or
- Oxo-degradable, with incomplete biodegradation of the film, leading to a fragmentation into tiny pieces of plastic, whose effect on the eco-system is not yet fully known.

The market for mulching films faces a number of constraints, such as: exceedingly high cost, constraints regarding specific soil preparations, and an inadequate length of time for biodegradation (either too fast or too slow).

Moreover, the difficulty in managing the end of life of traditional films (cumbersome collection processes and

early decomposition of the films), as well as the establishment of new regulations and taxes, should be additional drivers in the growing market share captured by biodegradable mulching films (+10% per year in Europe²³). Within this context, CARBIO develops a competitive technology which would enable not only complete degradation of mulching film -- in other words its complete assimilation to the soil, thus avoiding the risk of oxo-additives and the cost of plastic removal -- but also a control of the kinetics of this biodegradation process to adapt it to the specific type of crops. As a result of CARBIO'S central role in THANAPLAST™, along with Limagrain, the third largest seed producer globally, this segment is one of the first targets selected by CARBIO for utilization of its technology.

²¹ Source: Grand View Research in 2014 and Transparency Market Research in 2014

²² Source: Grand View Research in 2014

²³ Source: AMI Plastics in 2014

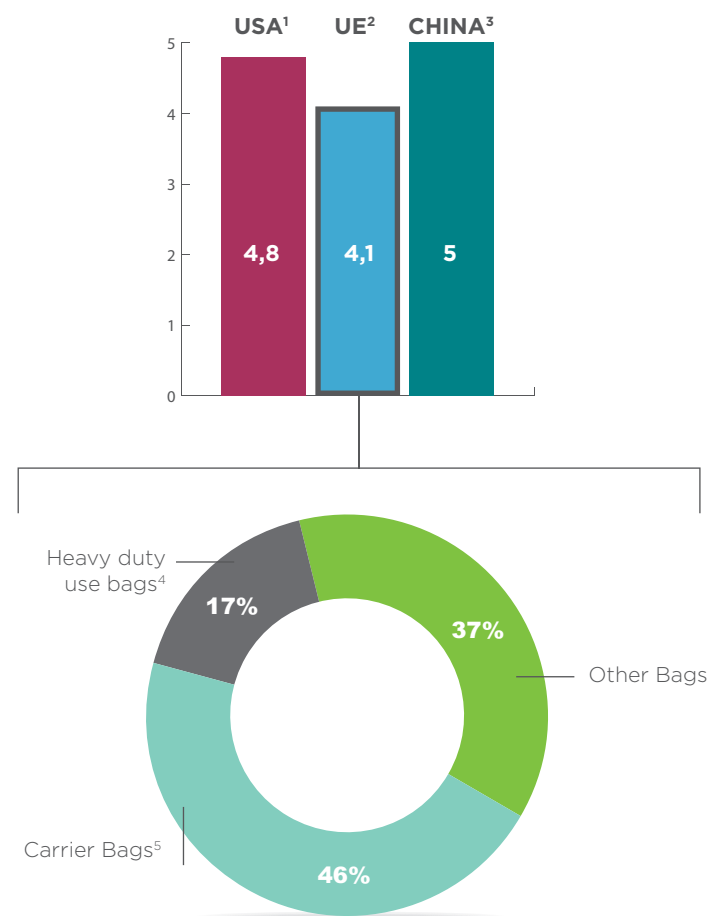


Packaging: bags and sacks

In 2012, consumption was estimated at between 500 trillion and 1,000 trillion bags globally²⁴, equivalent to an estimated market volume size of 15 to 20 million tons²⁵.

In the European market, the consumption of plastic bags is 4.1 million tons, or 20 to 27% of the world market.²⁶

WORLD MARKET FOR BAGS IN 2012
(IN MTONS)



¹ Source : Environmental Protection Agency in 2010

² Source : European Commission in 2011

³ Source : Reportlinker in 2014

⁴ Source : Applied Market Information in 2012

⁵ Source : European Commission in 2011

This market breaks down as follows:

- 1.9 million tons are “carrier bags”²⁷;
- 0.7 million tons are “heavy duty” use bags²⁸;
- 1.5 million tons are garbage and other bags.

At present, the dissemination of plastic waste in nature (either on land or in the ocean) is a growing problem, especially for products such as plastic bags given their ubiquity and lightness. Therefore, there is significant interest in production of biodegradable plastic bags whose life span can be shortened and tailored as compared to the 200 to 400 years it takes for traditional plastic bags to biodegrade.

The large volume of these products whose useful life is short, but which produce large amounts of problematic waste, have driven many countries to tighten their regulations regarding the disposal of plastics. These regulations are moving toward taxation and even total bans on non-biodegradable bags.

On April 29, 2015, the European Commission adopted Directive (UE) 2015/720, which aims to reduce the use of plastic bags in the European Union by forcing the member states to adopt measures that seek to reduce the consumption of light plastic bags. These measures, the adoption of which is left to the individual member states, could take the form of a tax or could be expressed as a national objective for reducing plastic bag consumption, or a ban on the use of plastic bags.

France has also taken on significant commitments as regards the reduction in the use of plastics, in the form of the law of energy transition. Beginning on July 1, 2016, this law will end the provision of single-use plastic shopping bags (regardless of whether they are provided for free or for sale). This law also contemplates, from January 1, 2017 onward, the ban on single-use plastic bags used for packaging of goods (other than small shopping bags) if they are not compostable under domestic conditions, and if they are not made at least partially from bio-sourced materials.

²⁴ Source: Consoglobe and Florida Sierra Club

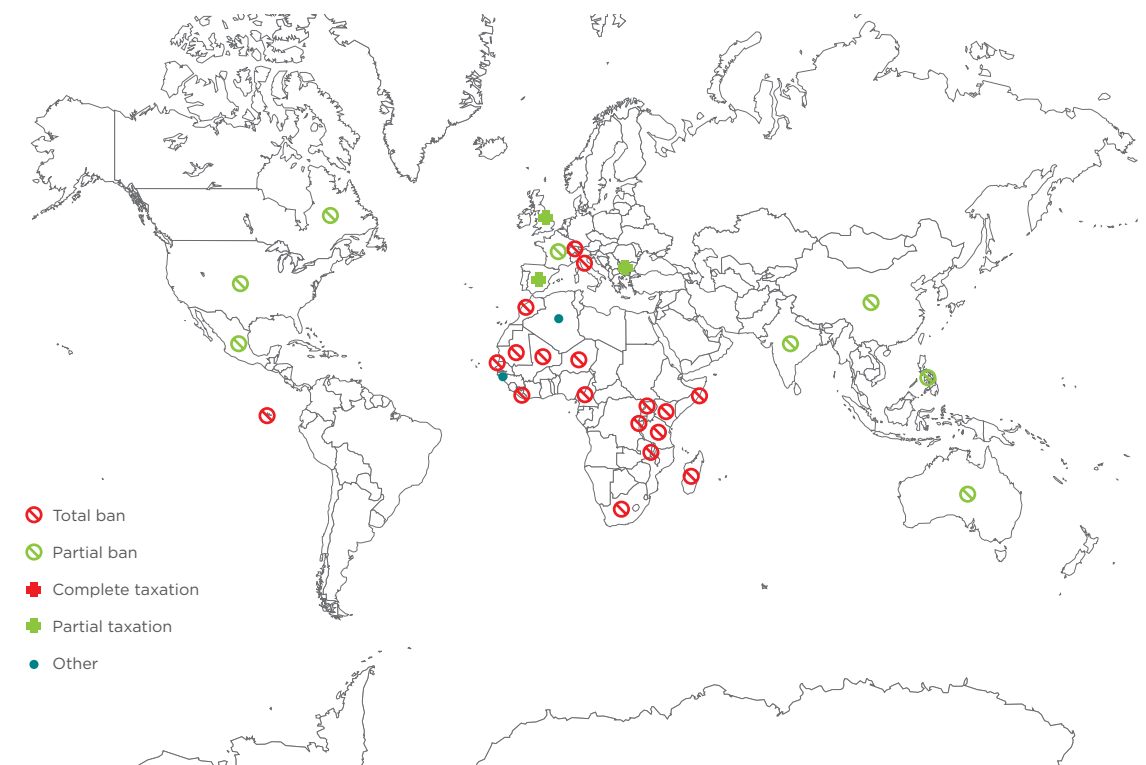
²⁵ Source: European Commission in 2011, Environmental Protection Agency in 2010 and Reportlinker in 2014

²⁶ Source: European Commission in 2011

²⁷ Source: European Commission in 2011

²⁸ Source: Applied Market Information in 2012

LEGISLATION CONCERNING PLASTIC BAGS BY GEOGRAPHICAL REGION



CARBIOS is developing a technology that shortens the actual life span of a plastic bag such that, if it is discarded in nature, it will biodegrade and be assimilated into the soil or in water over a short period of time, while ensuring the usefulness of the bag until it is discarded. Through its products, CARBIOS also intends to meet the requirements of new legislation, especially in the European Union, and specifically in France.

Other areas of application:

Biodegradable polymers and plastics have other applications in the realm of rigid or flexible packaging (e.g. disposable plates, disposable food trays, bags, films, etc.), agriculture (e.g. horticultural pots), and to a lesser degree, for medicine²⁹. These markets could also constitute a future area of development for CARBIOS' technologies.

COMPETITIVE ADVANTAGES OF THE BIODEGRADABLE PLASTICS WITH A CONTROLLED LIFE SPAN DEVELOPED BY CARBIOS

The success of the THANAPLAST™ project's research program should enable it to provide the market with plastic products containing controlled biodegradation properties and a guaranteed useful life span. Within this context, associating durability and biodegradation is one of the larger challenges that THANAPLAST™ faces. These new plastic materials must ensure a significant competi-

tive advantage compared to the currently commercially available biodegradable plastics (for which life span is not controlled) and this should enable them to capture a significant share of the relevant markets.

The other innovative aspect of this process regards the mastery of the life span of the plastic material as a function of the use it will be given. In the case of mulching films, for example (layers of plastic protection on soil or on crops, used in agriculture and/or in gardening), the life span can vary along with the type of crop, from a few weeks to several months. To ensure the mastery of the life span of these materials, CARBIOS works on the kinetics (speed of the chemical reaction) of the degradation caused by the enzymes, in order to be able to select the most suitable catalyzers for each application.

²⁹ Research and Markets in 2014



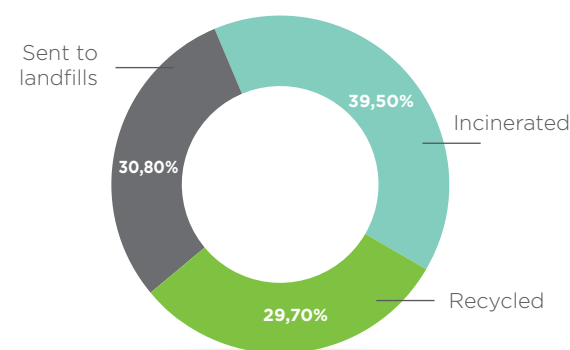
BIO-RECYCLING PLASTICS AT THE END OF THEIR LIFE

MARKET CONTEXT

Of the 125 million tons³⁰ of plastic waste each year, the portion that is recycled is still quite limited. Much of the waste is sent to landfills or used for its energy value via incineration.

In Europe for example, of the 25.8 million tons of plastic waste collected in 2014, only 7.7 million tons were recycled, and around 10.2 million were incinerated. The balance continues to go into landfills, as still allowed by the legislation in place in some European countries³¹.

IN 2014, LESS THAN ONE-THIRD OF PLASTIC WASTE IN EUROPE WAS RECYCLED¹



¹ Source : PlasticsEurope in 2015

The valuing of plastic waste is a growing trend, in evidence over the past few years, but is not yet significant. With a plastics recycling rate of almost 30% in 2014³², Europe is relatively well-placed in this regard as compared to the United States (8.8%³³), or even Japan (23%³⁴). Nevertheless, the rate of progress of waste recycling remains significant, as an alternative to landfills or to incineration. Regulation is being established that aims to increase the portion of plastic waste sent to recycling. The European Commission has recently announced a common objective for the Union as regards recycling, calling for the recycling of 75% of packaging by 2030³⁵.

Nevertheless, the treatment processes used at present to recycle plastics face a number of limitations that could lead to a mediocre quality of recycled plastics. The processes used currently are primarily mechanical. They treat plastics that come from selective collection of household waste via successive stages of sorting, grinding, and washing, followed by a regeneration of plastic via granulation and transformation into byproducts.

These processes are limited by four significant factors:

- Grinding breaks down the structure of the polymers and diminishes the properties of the regenerated plastic;
- The sensitivity of contamination by other polymers and/or impurities, thus requiring the need for a very homogeneous material, which in turn calls for an increasingly sophisticated and costly sorting process;
- The presence of contaminants and/or additives (e.g. colors) that remain in the recycled plastic and affect its quality; and
- The presence of complex plastics in the recycling flow, which combine several layers of polymers, rendering the material difficult to recycle.

These processes degrade the properties of the plastic material and only allow for the reutilization of the recycled material in small proportions and to be used only in the original applications (as an addition to virgin polymers) or for so-called secondary applications (e.g. production of textile fibers from plastic bottles). Thus, for example in France in 2013, only 27% of recycled PET coming from jars or bottles was transformed into bottles and jars, 18% of recycled PET was transformed into films and sheets, while most of it, 52%, was made into fibers³⁶.

Consequently, a recycling process such as the one developed by CARBIO, which enables the successive de-polymerization of the targeted polymers that are contained in the plastic waste represents a means of addressing on one hand the objectives of increasing the portion of recycled plastic waste, while limiting the amount of waste incinerated and sent to landfills, and on the other hand, decreasing the portion of recycled plastics used for secondary applications. Additionally, there are considerable advantages in energy savings and the reduction of greenhouse gas emissions as a consequence of an increase in the portion of recycled plastic waste. The enzymatic recycling bioprocess developed by CARBIO aims to remove the constraints from currently used processes by taking advantage of the extraordinary specificity of the enzymes. The Company intends to grow the total portion of valued waste by significantly increasing the portion of recycling and thus provide a new source for supplying polymers to resin producers.

³⁰ Source : PlasticsEurope in 2015, Environmental Protection Agency in 2013, Plastic Waste Management Institute Japan in 2012, Central Pollution Control Board in 2013, Mc Kinsey & Ocean Conservancy in 2015, Association 7ème continent in 2015, Jenna Jambeck in 2015 and Ademe in 2012

³¹ Source : PlasticsEurope in 2015

³² Source : PlasticsEurope in 2015

³³ Source : Environmental Protection Agency in 2013

³⁴ Source : Plastic Waste Management Institute Japan in 2012

³⁵ Source : European Commission in 2015

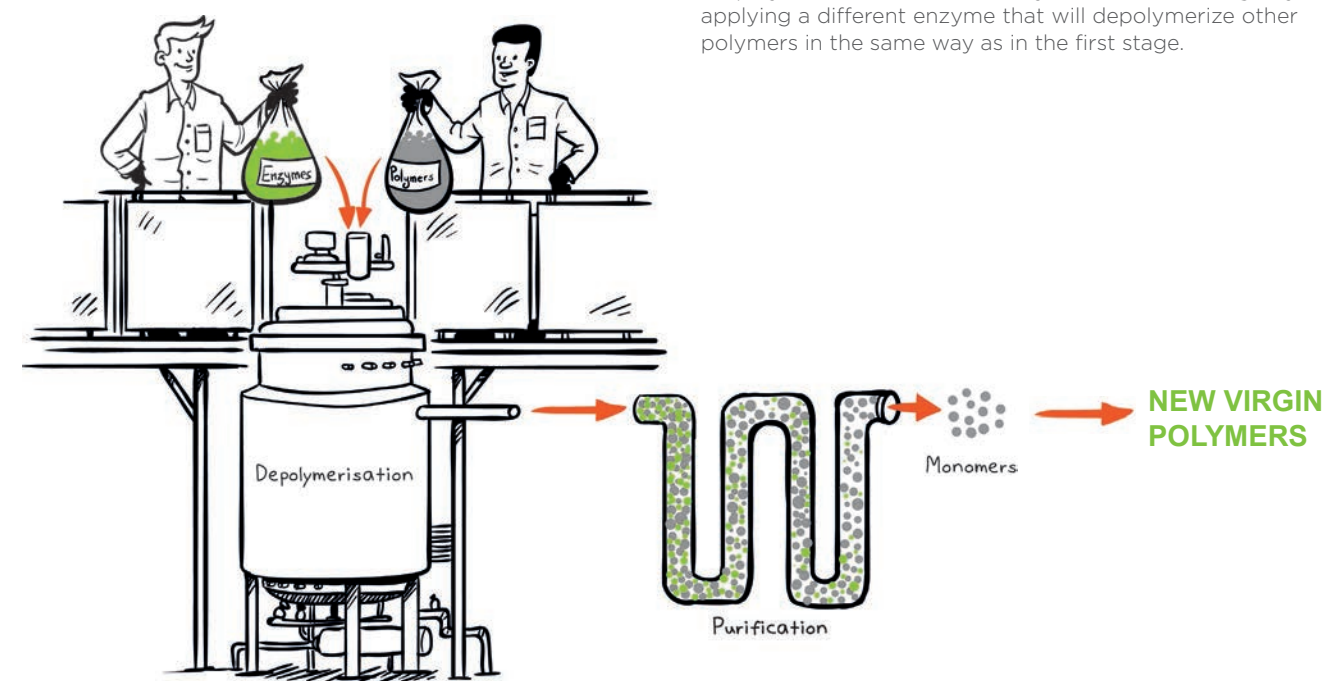
³⁶ Source : Valorplast in 2013



CARBIO'S INNOVATION: RECYCLING TO INFINITY, RECYCLING WITHOUT SORTING

Unlike currently used plastics recycling processes, which are primarily thermo-mechanical, the recycling process developed by CARBIO is a biological process.

This bioprocess can be operated independently or by an iterative process. In the first stage, an enzyme is applied to enable the specific de-polymerization of a single polymer contained among the various plastics to be recycled. At the end of this stage, the monomer or monomers resulting from the de-polymerization process will be purified, with the objective to re-polymerize them, thus enabling a recycling process to infinity. Eventually, the plastic residues not degraded during the first stage will be de-polymerized in the same way in the second stage by applying a different enzyme that will depolymerize other polymers in the same way as in the first stage.



For the first time in the history of the plastics industry, it is possible to recycle plastic waste to infinity in order to create new plastic materials, and to accomplish this without the requirement of a preliminary sophisticated sorting process.

CARBIO'S recycling bioprocesses for plastics provide the means to:

- Recycle plastics to infinity by returning to the original monomers which can be used in all applications in which the original material was used;
- Recover in the recycled materials the same level of performance displayed by the original materials.

This differs substantially from current processes, which diminish the properties and the quality of the regenerated plastic, and therefore also negatively affect the use of the regenerated materials for products with primary application requirements.

In a mix of plastic waste, each of the enzymes used in CARBIO'S bioprocesses acts only on the type of plastic for which it is specified, whether this is in a heterogeneous mix of plastic waste or in complex plastics. The

enzyme releases the elementary constituents of plastic, the monomers.

These recycled monomers have the same properties as those that come from petrochemicals or from bio-refineries. They can be re-utilized in the same applications without suffering performance losses, and can thus be recycled to infinity.

Among plastic waste, CARBIO is particularly interested in polyesters (PET, PLA, etc.) and polyamides. These polymers have the characteristic of chains of monomers that are easily identifiable by the enzymes, and are thus easier to de-polymerize. CARBIO has opted to focus first and foremost on polyesters, and in particular on PET and PLA (which are at the heart of the THANAPLAST™ project).

In order to increase the value of these monomers, CARBIO also develops innovative *in vivo* bio-polymerization processes to reduce the production costs of certain plastics, especially those that are bio-sourced and tend to be quite expensive. This is the case for the production of PLA from its monomer of origin, lactic acid.

STATE OF PROGRESS OF THE TECHNOLOGY

In keeping with the objectives of the THANAPLAST™ project, CARBIOS has focused on perfecting the bio-recycling process of two polymers: **PLA and PET**.

The bio-recycling processes under development have gone from the collaborative research stage in 2013 to the pre-pilot stage in 2015, in line with the objectives set at the time of the Company's IPO.

These developments, which aim at the near-term industrialization of these bioprocesses, demonstrated the following progress:

In December 2015, CARBIOS achieved a new milestone in the development of its PET bio-recycling technology by succeeding, via the use of its enzymatic process, to depolymerize at 100%, commercial products made from amorphous PET into the original monomers: TPA (terephthalic acid) and EG (ethylene glycol). With this result, CARBIOS has opened a new path for the recycling of PET and has demonstrated that its technology constitutes a significant industrial opportunity.

In addition to this demonstration of the capacity of enzymes to depolymerize amorphous PET plastics, conclusive results have also been obtained for the bio-recycling of PLA. Since September 2013, CARBIO has demonstrated its capacity to depolymerize PLA to obtain lactic acid. These results were further strengthened in November 2014 with the success of the 90% de-polymerization of PLA in 48 hours, at a level of performance that

is compatible with the requirements of an industrial process. The catalytic activity of the enzyme used was proven on commercial objects made from PLA (flexible and rigid packaging) whose semi-crystallized state could have caused the enzyme difficult access. This demonstration provided evidence that a significant difficulty in the development of the enzymatic process for recycling have been overcome.

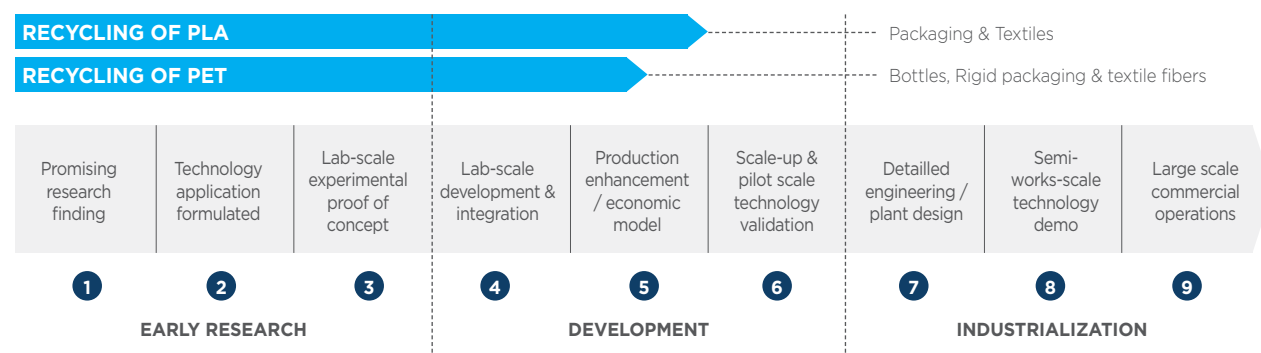
The validation by Bpifrance of the results for the bio-recycling of PLA has marked the successful achievement of milestone 3 of the THANAPLAST™ project, in line with the provisional timetable.

The next step in the recycling of PLA will consist of the demonstration of the circularity of the process, in other words, the re-polymerization of the lactic acid monomers obtained after the enzymatic bio-recycling of PLA, and finally, the optimization of the process in advance of the scale-up during the industrial pilot phase, in keeping with the objectives outlined in the THANAPLAST™ program. In the case of PET, the next stage will consist of expanding the process to crystalline PET and to optimize the performance of the process in advance of the scale-up to the industrial pilot phase.

On the basis of these results, the modeling of the costs of these enzymatic bio-recycling processes for PLA and PET leads to the assumption of industrially competitive recycling processes.

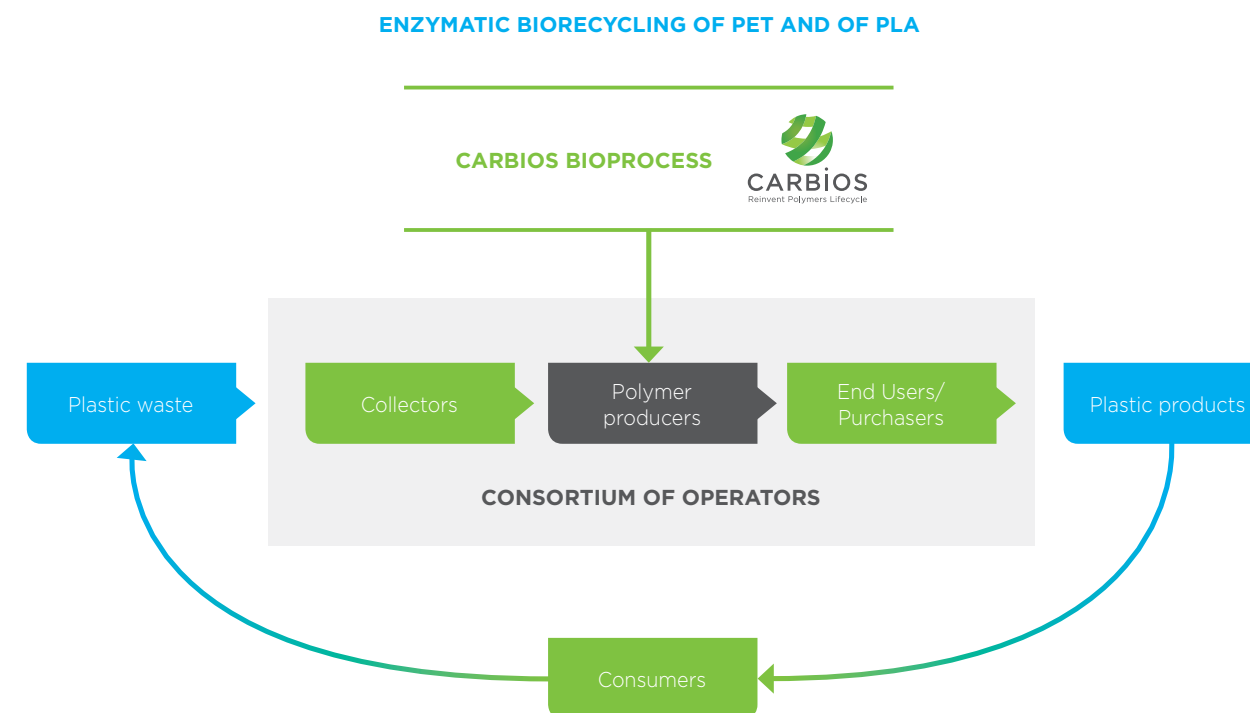
Maturity level of the technologies

BIORECYCLING OF PLASTIC WASTE



The Company's development strategy for the targeted markets (recycling of PET and recycling of PLA) consists of developing the innovative and competitive bioprocesses that will be used via licensing agreements, enabling the consortium of industrial producers (polymer producers, plastic material producers, and collectors), large-scale players that have the capacity to take significant market share at a global level or in specific geographic zones. Lastly, this technology -- exclusive to CARBIOS -- provides France the opportunity to reposition itself as a polyester producer, and Europe the opportunity to strengthen its competitive position vis-à-vis Asian producers.

Inclusion of CARBIOS' bioprocesses into the value chain of the recycling of plastics:



At present, the world's large industrial groups have a growing need to offer the market products derived from recycling. However, they are confronted with the technical limitations of the currently available processes that do not allow for a complete solution to this unmet need. The enzymatic recycling bioprocesses developed by CARBIO, enabling a recovery of the initial monomers and ultimately the production of new plastics that are of equal quality to the original products, thus provide a first-rate solution to satisfy the needs of the market and the expectations of industrial producers, who are the clients of polymer producers, who in turn will utilize CARBIO's bioprocesses.

In keeping with the objectives set forth in the THANAPLAST™ project, and given the results already obtained, CARBIOS' short-term goal is to develop its enzymatic recycling bioprocess at the industrial stage.

This industrialization will be rolled out in four successive phases, as follows:

- Modular pilot project: validation of the stage for each production module (pre-treatment, enzymatic hydrolyzation, purification);
- Unit pilot project: validation of the entire chain of modules in flow management;
- Industrial demonstration: validation under real efficiency conditions; and
- Industrial utilization.

The technologies that are under development by CARBIOs are based on the use of strong intellectual property, representing more than ten years of research (work carried out by the CNRS, technologies developed by INRA, technologies developed by the University of Turin, technologies and enzymes from the Austrian Center for Biotechnology or ACIB, Valagro's biodegradation process, Deinove's library of strain samples, etc.).

At year-end 2015, CARBIOS had secured unique know-how, grouping six families of patents regarding the recycling process and biodiversity screening.



PRIORITY APPLICATIONS TARGETED

Through the THANAPLAST™ program, CARBIOS has chosen to focus first on the recycling of PET and the recycling of PLA, which are accessible growth markets.

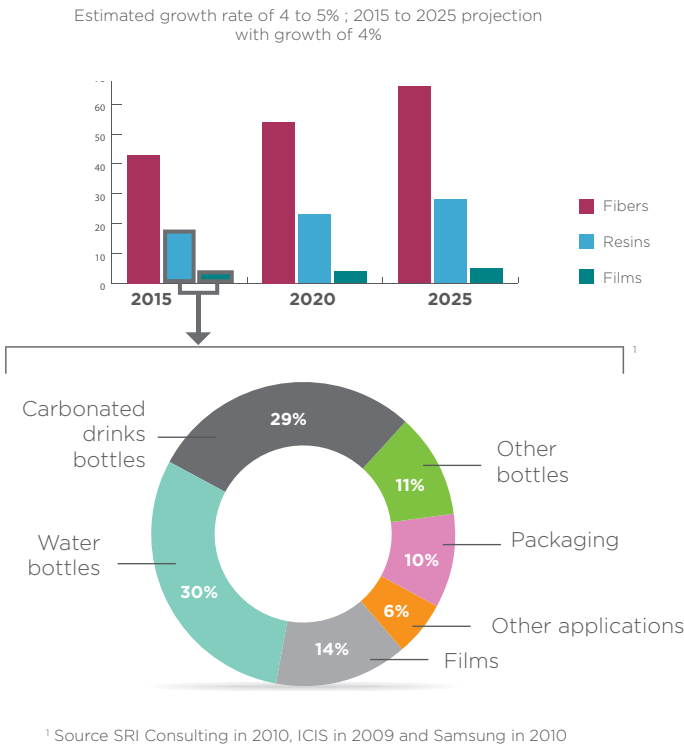
Volume size of the targeted markets

PROCESS	MARKET DESCRIPTION	PRODUCTION		GROWTH RATE	TARGETED MARKETS (WASTE)	
APPLICATIONS TARGETED BY THE THANAPLAST™ PROGRAM		World	Europe		World	Europe
Recycling of PET (plastics)	PET Packaging (bottles, trays and other containers)	21 MT (2014) ¹	3,3 MT (2014) ²	4 to 5% (Worldwide) ³	21 MT (2014) ⁴	3,3 MT (2014) ⁵
Recycling of PLA (plastics)	PLA Packaging	114 KT (2014) ⁶	4 to 5 KT	10 to 28% ⁷	240 KT (2020) ⁸	16 KT (2020)
OTHER SEGMENTS OF APPLICATIONS FOR CARBIOS' PROPRIETARY TECHNOLOGIES :						
Recycling of polyester fibers (PET, PLA, PTT...) and of polyamides	Textiles supply chain that could require specific collection systems to enable recycling					

¹ Source : SRI Consulting in 2010, ICIS in 2009 and Samsung in 2010
² Source : PlasticsEurope in 2015
³ Source : Smithers Pira in 2014, Icis in 2009 and Pira International in 2012
⁴ Source : SRI Consulting in 2010, ICIS in 2009 and Samsung in 2010
⁵ Source : PlasticsEurope in 2015, Bio by Deloitte in 2015 and European Commission in 2011
⁶ Source : Nova Institute in 2011, European Bioplastics in 2011 and Markets and Markets in 2013
⁷ Source : Ceresana Research in 2011 and Research and Markets in 2013
⁸ Source : Ceresana Research in 2011 and Research and Markets in 2013



EVOLUTION OF THE WORLDWIDE PET MARKET BETWEEN 2015 AND 2025 (IN MTONS)



PET recycling

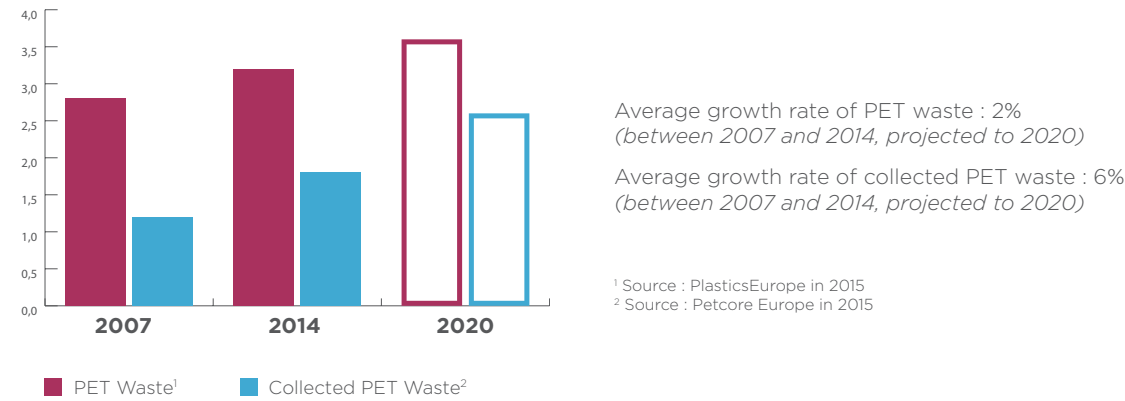
The size of the PET resins and films market (bottles and packaging), originating from fossil fuel-based polyester, the most commonly used material in the plastics industry, was 21 million tons of plastic produced globally in 2014³⁷, with an annual growth rate of 4% to 5%³⁸. This market could thus reach more than 26 million tons by 2020.

Virtually all PET resin and film put on the market is transformed into waste, equivalent to 21 million tons³⁹ per year worldwide. Consequently, PET constitutes a priority target for recycling. However, the recycling rate for PET-based heterogeneous waste, complex plastics or decomposed plastics is very limited given the limitations of currently available techniques.

In Europe, the demand for PET-like virgin plastics was estimated at 3.3 million tons in 2014⁴⁰ and the portion of PET waste that is collected and recycled is equivalent to 1.8 million tons, or a little less than 55%⁴¹.

³⁷ Source: SRI Consulting in 2010, ICIS in 2009 and Samsung in 2010
³⁸ Source: Smithers Pira in 2014, Icis in 2009 and Pira International in 2012
³⁹ Source: SRI Consulting in 2010, ICIS in 2009 and Samsung in 2010
⁴⁰ Source: PlasticsEurope in 2015
⁴¹ Source: Petcore Europe in 2015

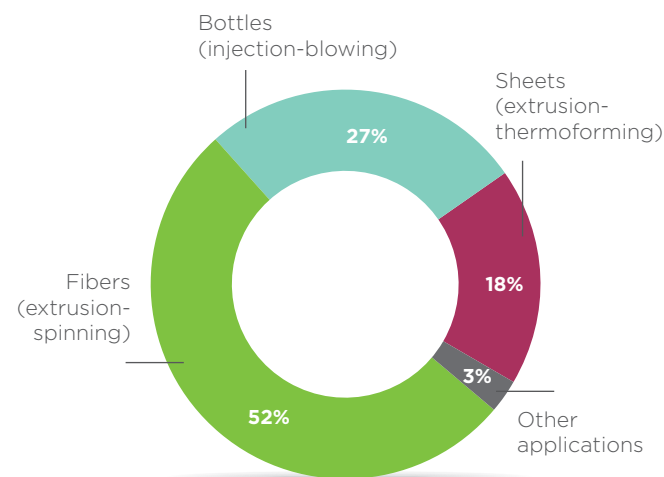
EVOLUTION OF THE VOLUME OF PET WASTE (RESINS & FILMS) PRODUCED AND COLLECTED ACROSS THE EUROPEAN UNION (IN MTONS)



CARBIOS' process for bio-recycling PET would enable the treatment of 100% of PET waste, equivalent to an additional 1.5 million ton landfill deposit per year in Europe, where PET is currently incinerated or buried as it cannot to be recycled. Such recycling would enable saving the equivalent of 4.58 tons of additional CO₂⁴², thus contributing to a reduction of greenhouse gas emissions.

CARBIOS' process for bio-recycling would also enable an increase in the volume of bottles and jars produced from recycled PET, and thus also reduce the portion of secondary applications (such as fibers) which is where recycled PET ends up today.

⁴² Source SICTOM et Eco-emballages in 2015

APPLICATION OF RECYCLED PET IN FRANCE¹¹ Source : Valorplast in 2016

The market for PET plastics, and more specifically the market for bottles, is both accessible and particularly attractive given its significant volume and because the collection systems are already well established and increasingly efficient. Therefore, CARBIO plans to offer the market – subject to the results of research – a competitive bioprocess as compared to the currently used recycling process, and thus enable the reintroduction of the monomers produced from recycled PET, namely terephthalic acid and ethylene glycol in the production chain of PET. In addition to this first large market, the potential of this bioprocess could be substantially larger. The technology and the know-how acquired by CARBIO on the enzymatic bio-recycling of PET plastics within the framework of the THANAPLAST™ program could be applied to the recycling of PET fibers, an area that accounted for 43 million tons in 2014⁴³ and in which there is currently very little recycling.

Finally, the results obtained to-date on PET should enable the transposition of the process to the recycling of PTT (polytrimethylene terephthalate) given its structure, which is similar to that of PET.

The results obtained from CARBIO's enzymatic recycling bioprocess for PET constitute a true technological disruption, which leads the Company to expect a rapid utilization of its technology in a high value-added market.

Recycling of PLA

Although it is the least present material among plastic waste with an estimated annual production volume of 190,000 tons⁴⁴ in 2011, PLA (polylactic acid) represents the highest growth rate, currently estimated at an annual rate of 10% to 28% through 2018⁴⁵.

The estimates of producers such as NatureWorks and of analysts lead to the assumption that PLA could be a significant part of the plastics market in the future. PLA is currently primarily used in products with a short life, such as packaging (equivalent to 60% or 114,000 tons) and fibers (39%)⁴⁶. The number of applications could increase

significantly given the development currently being pursued by producers in this area.

With the development of bio-sourced plastics, and considering the extraordinary physical and chemical properties of PLA, leading it to be the main substitute for PET, it is expected that the amount of PLA plastic waste will increase significantly in the coming years. This polymer is consequently an important target for the deployment of CARBIO's technologies

Other targeted segments

In addition to PET markets (resins, films and fibers), PTT and PLA, CARBIO could also focus its efforts on recycling other polymers such as polyamides or polyurethanes, materials that are widely used in the automobile industry.

Despite the increase in sorting, so-called flexible packaging remains difficult to recycle. These materials account for a growing share of the plastics currently on the market. Through the use of the technologies supplied by CARBIO, these plastics which are more difficult to recycle could find a more efficient end of life. The bioprocess currently being developed by CARBIO could also be applied to these plastic materials. They could thus also be valued via the return to the original monomers, rather than ending up in landfills or incinerators.

COMPETITIVE ADVANTAGES OF THE PLASTIC WASTE RECYCLING PROCESSES DEVELOPED BY CARBIO

The recycling that is carried out at present does not provide a satisfactory solution to the needs of the market, either in terms of the volumes treated or of the value attributed to them. By enabling plastic materials to be recycled without the need for a sophisticated sorting process, and by recovering separately the purified monomers from each polymer present in the material, the recycling processes under development by the THANAPLAST™ program -- unpredictability of research results notwithstanding -- will provide a clear competitive advantage as compared to the customary techniques used in recycling. While it is virtually impossible to recover a polymer of an equal quality to the initial polymer via currently used recycling processes, the processes developed by CARBIO should enable, as a secondary application, an identical end-use with an equivalent quality to the polymer of origin. Moreover, by using plastic waste as a raw material, CARBIO's recycling bioprocesses are not dependent on the price of the original oil-based raw material. The value of the waste on which these recycling technologies will be developed will be related to the supply and demand equation for the plastic waste itself.

⁴³ Source: Tecnon in 2013 and IHS in 2014⁴⁴ Source: Nova Institute in 2011 and European Bioplastics in 2011⁴⁵ Source: Ceresana Research in 2011 and Research and Markets in 2013⁴⁶ Source: Markets and Markets in 2013

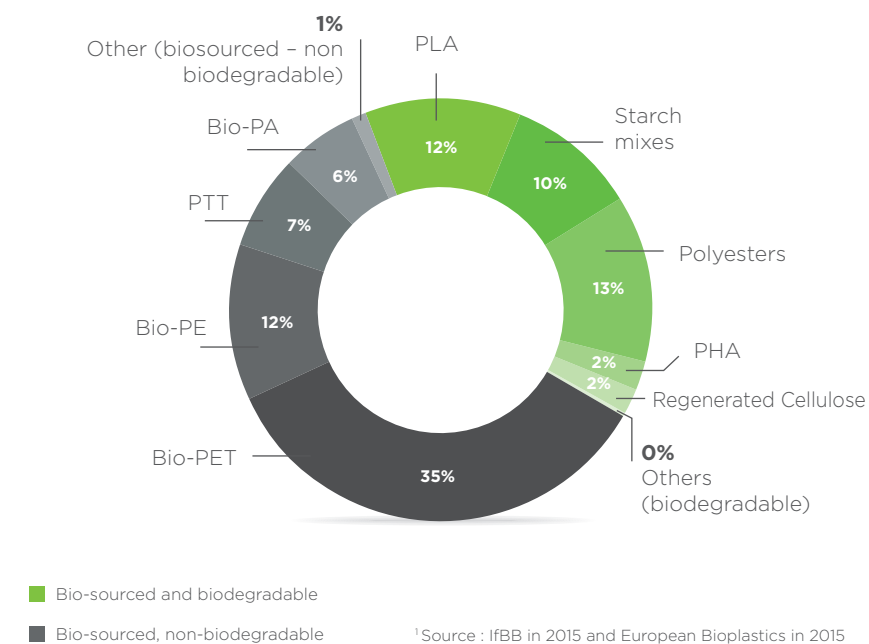
THE PRODUCTION OF BIO-POLYMERS

MARKET LANDSCAPE

The development of bio-sourced plastics began in the year 2000 as a result of the development of vegetable chemistry. A need was identified to supply the market with products made from renewable resources as an alternative to petrochemical products given: (i) the depletion of oil-based resources; (ii) the issue of greenhouse gas emissions; and (iii) environmental preservation.

While they have existed for a long time, bio-sourced plastics are still at an early stage in their development. In 2014, they accounted for less than 1% of the world production of plastics⁴⁷. Nevertheless, their growth outlook is very strong. As of 2014, the size of the bio-plastics market was around 1.7 million tons⁴⁸ and it is expected to reach 7.8 million tons in 2019⁴⁹.

It should be noted that a biodegradable plastic is not necessarily bio-sourced, and that a bio-sourced plastic is not necessarily biodegradable.

DEMAND FOR BIO-PLASTIC IN 2014, BY TYPE OF POLYMER¹

The factors contributing to the growth of the market are, in particular: (i) the product innovation that will enable the expansion of the use of bio-sourced plastics to new areas of application, to grow the competitiveness of bio-sourced polymers with regard to conventional polymers and to add industrial production capacity; (ii) the enactment of new legislative frameworks; and (iii) increasing consumer awareness regarding environmental issues.

Among these factors, price remains an important consideration for market penetration. Bio-sourced polymers are two to three times more expensive than conventional polymers produced from oil. The cost reduction of bio-

sourced polymers will result from economies of scale across the value chain, the improvement of production process, and the optimization of the resource supply chain. Other factors will also affect the competitiveness of bio-sourced polymers, especially the added value supported by regulatory changes and directives on "green products".

Given their broad range of properties, bio-sourced polymers are now in competition with conventional fossil fuel-based polymers in different sectors (packaging, the automobile industry, textiles, the bio-medical field, etc.).

Among these bio-polymers, polylactic acid (PLA) is currently one of the most promising given its remarkable properties, as it meets the requirements of a broad range of applications. While it is still relatively expensive, it is closer in cost to petro-polymers than to other bio-sourced polymers.

CARBIO has selected initially to focus on the development of a new way of producing PLA directly from lactic acid in order to increase its competitiveness in a high growth market. PLA represents the highest volume of 100% bio-sourced polymers (as bio-PET is only bio-sourced at 30%)⁵⁰.

⁴⁷ Source: PlasticsEurope in 2015, IfBB in 2015 and European Bioplastics in 2015⁴⁸ Source: IfBB in 2015 and European Bioplastics in 2015⁴⁹ Source: IfBB in 2015 and European Bioplastics in 2015⁵⁰ Source : Agrobiobase in 2016



CARBIOS' INNOVATION: DIRECT ENZYMATIC POLYMERIZATION

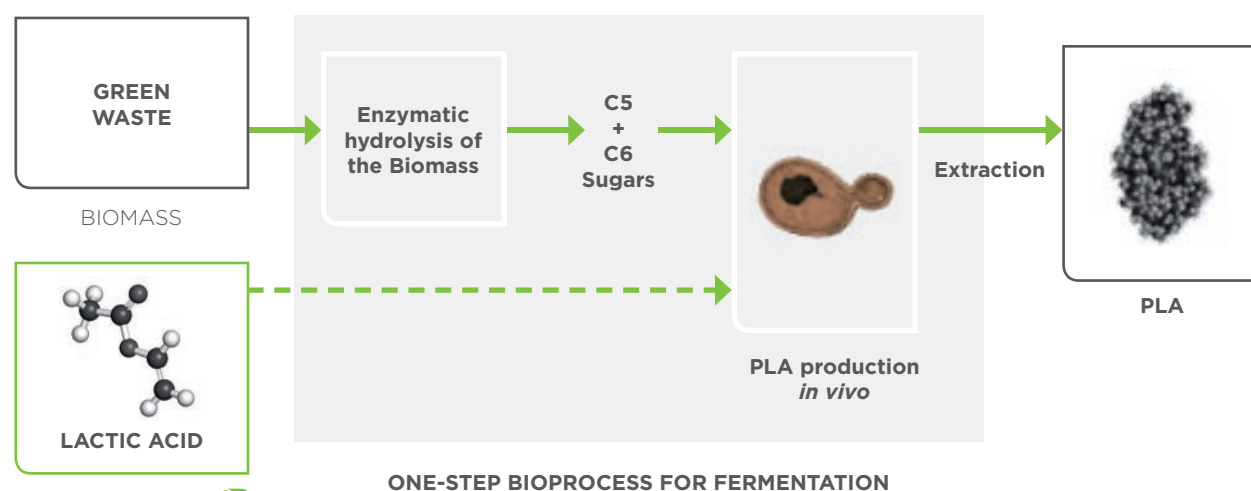
Current industrial processes for producing PLA require four successive stages:

1. A bio-refining stage in order to obtain fermentable sugars (glucose, sucrose) from different biomasses;
2. A sugar fermentation stage to produce lactic acid;
3. A chemical stage to condense lactic acid to obtain lactide; and
4. A chemical polymerization stage to obtain PLA.

CARBIOS intends to develop more efficient production methods that are less costly than those currently used. The process to be utilized consists of the direct enzymatic polymerization of lactic acid to obtain a PLA homo-polymer of high molecular weight.

The final bioprocess, which ideally will include CARBIOS' major innovations, will encompass in one single step the production of PLA from lactic acid, combinable with the biological recycling of PLA.

ONE-STEP BIOPROCESS FOR PLA PRODUCTION



GENERATED FROM PLA BIO-RECYCLING (CARBIOS)



ONE-STEP BIOPROCESS FOR FERMENTATION

STATE OF PROGRESS OF THE TECHNOLOGY

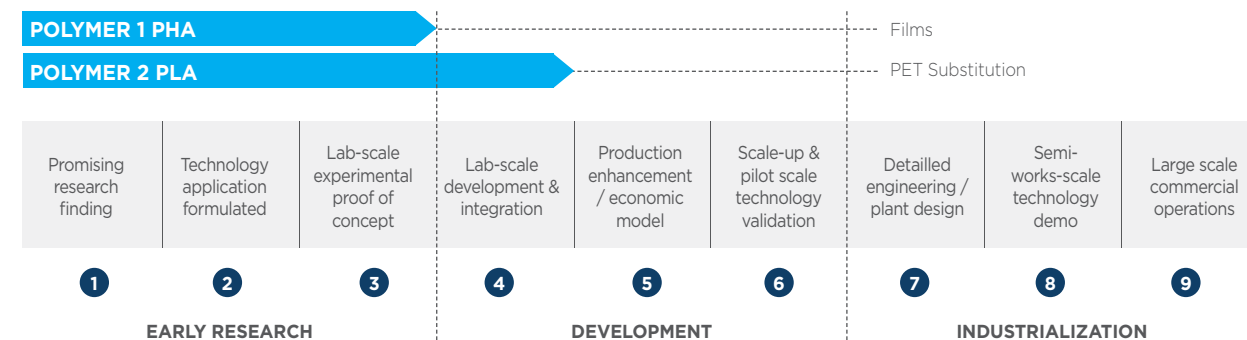
CARBIOS intends to demonstrate, along with its partner INRA/TWB, the feasibility of polymerizing PLA *in vivo*. This process is an important addition to the PLA bio-recycling technology, and will enable the reproduction of PLA from recycled monomers while skipping the currently necessary chemical polymerization step, which is complex and costly.

This PLA bio-production process, which was still at the early research stage in 2013, has seen its development progress in line with objectives set during the Company's IPO, which called for reaching the pre-pilot stage at year-end 2016.

The very positive results on the enzymatic polymerization of lactic acid of PLA lead CARBIOS to be confident regarding the ongoing development of the process after completing the bio-recycling process for PLA. This means of biological production is currently prioritized by the Company in order to address the high growth in the world market for PLA.

The next step will consist of taking the development of the process to the pre-pilot stage in order to validate the technology's industrial feasibility.

BIOPRODUCTION OF POLYMERS



At year-end 2015, CARBIOS' intellectual property portfolio included five families of patents regarding the bioprocess for the biological production of the polymers.

PRIORITY APPLICATION TARGETS

Within the framework of the THANAPLAST™ program, CARBIOS has chosen to focus on producing PLA from lactic acid. The technologies under development within THANAPLAST™, applied to the production of PLA, should be transferable and applicable to the production of other bio-polymers, particularly polyesters such as polyhydroxyalkanoates (PHAs) or PHBs.

PROCESSES	MARKET DESCRIPTION	PRODUCTION		WORLDWIDE GROWTH RATE
APPLICATIONS TARGETED BY THE THANAPLAST™ PROGRAM		World	Europe	
PLA Production	Today's PLA applications: Medical, textile, packaging... PLA is expected to become a good substitute for PET, PE, PS and PA ¹	190 KT (2014) ²	7 to 9 KT	10 to 28% ³
Other segments of applications for CARBIOS' proprietary technologies:				
PHA production	PHAs are expected to address the needs of the packaging and mulching film markets (vs PE, PP and PVC) ⁴			

¹ Source : PRO-BIP 2009 : Products overview and market projection of emerging biobased plastics - European Bioplastics

² Source : Nova Institute in 2011 and European Bioplastics in 2011

³ Source : Ceresana Research in 2011 and Research and Markets in 2013

⁴ Source : Markets and Markets, 2013



The PLA Market

With worldwide production capacity of more than 190,000 tons per year in 2014⁵¹, high growth rates and increasing demand are expected to continue in the coming years. With producers such as NatureWorks expecting to have a capacity of 150,000 tons, and Corbion 75,000 tons, total production capacity could reach 400,000 tons in 2020, equivalent to an average annual growth rate of 15%⁵². Other sources estimate an even higher worldwide growth, on the order of 28% per year through 2016⁵³.

Although 75% of the world's PLA production capacity is located in the United States, and comes from one single producer (NatureWorks), the greatest demand for PLA is in Europe. The largest growth in the PLA market is expected to be in Asia, particularly in Japan, China, India and Thailand.

Currently, market size is still small compared to traditional polymers in light of the following constraints:

- There is limited supply given the small number of PLA suppliers;
- The price of PLA remains higher than the price of fossil fuel-based polymers;
- There is an ongoing debate regarding the amount of energy used for the production of corn-based PLA and more generally on the use of food resources for the production of plastics; and
- For some applications such as packaging, PLA can entail additional constraints if it enters into the traditional recycling chain alongside other types of plastics.

In spite of a market that continues to be limited, the anticipated growth in demand for PLA is nevertheless certain, and this demand will be supported by the following factors:

- The increase in production capacity and the correlated decrease in price, primarily in Asia where it will be possible to find abundant raw materials at a lower cost (sugar cane, beet root, tapioca) for the production of lactic acid;
- The development of technologies based on second generation materials (agri-food waste and third generation materials, use of CO₂);
- The improvement in the properties of PLA such as resistance to heat that will enable an expansion in the targeted applications;
- The growing awareness of sustainable development issues and the environmental consequences of conventional plastics;
- A need to reduce dependance on oil-based products;
- Price increases in fossil fuel-based materials, leading to a narrowing of the price gap between PLA and traditional plastics.

The largest application of PLA is packaging, which in 2013 accounted for nearly 60% of the worldwide PLA market⁵⁴, or 114,000 tons, primarily in the food packaging industry (frozen foods, prepared foods, and covers). The second largest application was in textiles and fibers (39% or 74,000 tons)⁵⁵. PLA is also present, although in smaller proportions, in the electronics industries and in medical applications (sutures, fasteners, drug administration devices, etc.). These sectors should increase the size of their demand alongside the improvement in the technical aspects of PLA production.

The PHA Market

This product currently represents a low production volume of approximately 10,000 tons and an estimated growth rate of 28% through 2018. It provides solutions to the same set of issues as PLA: to produce a bio-plastic from gross biomass on competitive terms regarding cost and performance compared to conventional plastics, and limiting the use of fossil and food resources.

COMPETITIVE ADVANTAGES OF THE PLA PRODUCTION PROCESSES DEVELOPED BY CARBIOS

Producers of PLA have thus far concentrated their efforts on the plastic property of the material, developing different types of PLA according to the required thermo-stability. However, aside from the technical properties of the polymer, the market penetration of PLA is largely a consequence of its competitiveness vis-à-vis oil-based polymers. If PLA were priced at parity with conventional polymers, the processes currently under development within the THANAPLAST™ project would enable the significant growth of plastic production of this polymer, thus expanding its market potential.

⁵¹ Source: Nova Institute in 2011 and European Bioplastics in 2011
⁵² Source: Ceresana Research in 2011 and Research and Markets in 2013
⁵³ Source: Ceresana Research in 2011 and Research and Markets in 2013
⁵⁴ Source: Markets and Markets in 2013, Nova Institute in 2011 and European Bioplastics in 2011
⁵⁵ Source: Markets and Markets in 2013, Nova Institute in 2011 and European Bioplastics in 2011
⁵⁶ Source : Markets and Markets in 2013

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FINANCIAL HIGHLIGHTS

(in thousands of euros)	2014	2015
TOTAL OPERATING REVENUES	664	837
TOTAL OPERATING EXPENSES	4 028	4 899
Of which research and development	2 869	3 261
Of which general and administrative	1 159	1 638
OPERATING INCOME	-3 364	-4 062
FINANCIAL INCOME	48	78
PRE-TAX PROFIT	-3 316	-3 984
EXTRAORDINARY INCOME	15	-23
Income tax (Research Tax Credit)	-1 091	-936
NET INCOME/LOSS (FOR THE PERIOD)	-2 210	-3 071
NET FINANCIAL POSITION	9 152	6 002
Marketable securities	2 854	0
Term accounts	8 000	8 407
Cash on hand	245	603
Deduction of reimbursable advances	-1 947	-3 008
TOTAL ASSETS	13 733	12 042
Net tangible assets	783	1 258
TOTAL EQUITY	11 116	8 125
Share capital	11 116	8 125
(excluding conditional advances)	1 947	3 008



STATEMENT OF RESULTS FOR FOR THE FISCAL YEAR 2015

The Company's accounts were prepared according to current accounting standards for French companies.

OPERATING REVENUES

The projects carried out by the Company do not yet generate licensing revenue. The operating revenues are attributable primarily to development grants registered at the close of each financial year.

- At December 31, 2015: €550,000 was recognized from the grant awarded by Bpifrance, for the completion of the third milestone (€271,000) and for the launch of the fourth milestone (€279,000) of the THANAPLAST™ project, and €130,000 from the grant awarded by the AUVERGNE REGION (Auvergne Sustainable Investment Fund, FIAD), primarily for the recruitment of staff for the THANAPLAST™ project.

The Company has also invoiced one of its partners for the amount of €144,000 for the provision of staff.

Regarding the aid granted by OSEO within the context of the THANAPLAST™ project, it should be noted that the research work was related primarily to Industrial Research at the beginning of the project, and that it has progressively evolved toward Experimental Development.

The expenditures on Experimental Development are part of a reimbursable advance and are not a grant, which explains the progressive decrease in the amount of the grant in the income statement.

OPERATING EXPENSES

(in thousands of euros)	2014	2015
EXTERNAL AND OTHER EXPENSES		
External studies, sub-contracts and scientific consultancies	1 827	2 069
Consumables	33	53
Supplies	30	48
Rent & maintenance expenses	143	136
Fees and expenses related to intellectual property	108	52
Professional fees	623	562
Travel expenses	91	143
Miscellaneous expenses	58	82
TOTAL EXTERNAL AND OTHER EXPENSES	2 912	3 145
Taxes	13	18
Wages & Salaries	736	1 098
Social charges	220	374
Depreciation and amortization	81	166
Other expenses	66	98
TOTAL OPERATING EXPENSES	4 028	4 899



During 2015, CARBIOS spent €4.899 million on operating activities, of which 67% was spent on research. This effort is concentrated on the advancement of the THANAPLAST™ project.

External R&D expenses increased 13% compared to 2014, due primarily to the establishment of the research contract with the CRITT/TWB (please refer to Chapter 22 – Important Contracts in the Registration Document) and of an increase in the analytical services sub-contracted to outside suppliers. Moreover, salary expense increased significantly (+49%) on the back of the recruitment of five additional employees in 2015, including a Chief Scientific Officer (Alain MARTY) and an Investor Relations Manager.

In general, R&D expenses encompass activities related to:

- External studies that are the subject of collaborative activities with the Company's academic partners and the technological sub-contracting of certain activities to its partners, seeking to develop processes for the end of life of plastic materials;
- Research staff expenses, including salaries, wages, and social benefits, as well as workplace infrastructure and travel expenses;
- Scientific consulting contracts with consultants and scientific experts who assist the Company in the design and supervision of its R&D programs;
- Fees and expenses related to intellectual property;
- Expenses related to the Company's R&D organization.

NET FINANCIAL INCOME

The Company's net financial income is derived from the interest on its cash, time deposits and other short-term investments. The Company's cash is always placed in secure, risk-free monetary instruments. The Company does not incur financial charges as it does not take out bank loans, and the reimbursable advances granted by Bpifrance do not carry interest.

Net Financial Income (in thousands of euros)	2014	2015
Financial income	48	78
Financial expenses		
NET FINANCIAL INCOME	48	78

In 2014 and 2015 net financial income was made up only of financial products corresponding to the interest on CARBIOS' available cash.

NET INCOME

Net Income (in thousands of euros)	2014	2015
Profit / Loss before tax	-3 316	-3 984
EXTRAORDINARY INCOME	15	-23
Income tax (tax credit)	-1 091	-936
NET INCOME OR LOSS	-2 210	-3 071

The negative extraordinary loss of €23,000 is attributable primarily to expenses from previous years in the amount of €20,000. CARBIOS has earned a research tax credit of €936,000 calculated on the basis of eligible Research and Development expenses incurred by the Company during 2015.



BALANCE SHEET

(in thousands of euros)	2014	2015		2014	2015
NON-CURRENT ASSETS			SHARE EQUITY		
Intangible assets	130	231	Paid-in capital	2 627	2 645
Concessions, patents, licenses, software	130	231	Share, premium account	13 654	13 698
Tangible assets	740	1 248	Retained earnings	-2 959	-5 168
Office and IT equipment	68	54	Investment grant / Subsidy	3	22
Laboratory equipment and furnishings	653	1 162	Net income or loss	-2 210	-3 071
Installations & fittings	19	32	TOTAL EQUITY	11 116	8 125
Down payments on tangible assets	43	10			
Financial assets	178	176			
Deposits in guarantee	20	20	OTHER EQUITY		
Liquidity contract	88	33	Conditional advances	1 947	3 008
Treasury shares	70	123			
TOTAL NON-CURRENT ASSETS	1 091	1 664			
CURRENT ASSETS			CURRENT LIABILITIES		
State receivables	1 325	1 200	Loans	152	222
Grants receivable	77	20	Accounts payable	196	337
Laboratory raw material	20	12	Social and tax liabilities	258	323
Other receivables	1	3	Other debt	64	27
Cash and cash equivalents	11 099	9 011	Grants received in advance		
Pre-paid expenses	119	131			
TOTAL CURRENT ASSETS	12 642	10 378	TOTAL CURRENT LIABILITIES	670	909
TOTAL ASSETS	13 733	12 042	TOTAL LIABILITIES	13 733	12 042

Working capital was a positive €9.690 million, a decrease of €2.434 million compared to 2014, due to the following differences:

- The year's resources of €1.215 million, attributable to advances and loans obtained for a total of €1.153 million and capital increases totaling €62,000; and
- The Company's cash needs of €3.649 million, made up of gross investments carried out in the amount of €746,000 and self-funding for the year stood at €2.903 million. Investments were primarily made up of:
 - Establishment of a development laboratory (primarily for the production of plastics) for a cost of €580,000;
 - Intellectual property rights totaling €142,000; and
 - Installations and fittings totaling €16,000.

Working capital requirement was a positive €679,000 (net cash requirement), and is attributable primarily to the receivable from the research tax credit for 2015, to be received during the first half of 2016.

Considering available working capital of €9.690 million and a need for working capital of €679,000, the Company's cash position was a positive €9.011 million at December 31, 2015.



3. ANNUAL ACCOUNTS

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BALANCE SHEET

ASSETS (in thousands of euros)	2014	2015
NON-CURRENT ASSETS		
Intangible assets	130	231
Concessions, patents, licenses, software	130	231
Tangible assets	740	1 248
Office and IT equipment	68	54
Laboratory equipment	653	1 162
Installations and fittings	19	32
Down payment on tangible assets	43	10
Financial assets	178	176
Deposits in guarantee	20	20
Liquidity contract	88	33
Treasury Shares	70	123
TOTAL LONG-TERM ASSETS	1 091	1 664
CURRENT ASSETS		
State receivables	1 325	1 200
Grants receivable	77	20
Laboratory raw material	20	12
Other receivables	1	3
Cash and cash equivalents	11 099	9 011
Pre-paid expenses	119	131
TOTAL CURRENT ASSETS	12 642	10 378
TOTAL ASSETS	13 733	12 042



LIABILITIES AND EQUITY (in thousands of euros)	2014	2015
SHAREHOLDERS' EQUITY		
Share capital	2 627	2 645
Share, premium account	13 654	13 698
Retained earnings	- 2 959	-5 168
Investment grant / Subsidy	3	22
Profit/Loss for the Year	- 2 210	-3 071
TOTAL SHAREHOLDERS' EQUITY	11 116	8 125
OTHER EQUITY		
Conditional advances	1 947	3 008
LIABILITIES		
Loans	152	222
Accounts payable	196	337
Social and tax liabilities	258	323
Debt on fixed assets	61	22
Other liabilities	3	5
TOTAL LIABILITIES	670	909
TOTAL LIABILITIES AND EQUITY	13 733	12 042



INCOME STATEMENT

INCOME STATEMENT (in thousands of euros)	2014	2015
Operating Revenues	664	837
Operating expenses	664	837
Other purchases and external expenses	2 912	3 145
Taxes	13	18
Wages & Salaries	736	1 098
Social benefit charges	220	374
Depreciation and amortization	81	166
Other expenses	66	98
Total operating expenses	4 028	4 899
OPERATING INCOME	-3 364	-4 062
Financial income	48	78
Financial expense	0	0
NET FINANCIAL INCOME	48	78
PRE-TAX INCOME / LOSS	-3 316	-3 984
Extraordinary income	16	5
Extraordinary expenses	0	28
NET EXTRAORDINARY INCOME/EXPENSE	15	-23
Income tax	-1 090	-936
NET INCOME/LOSS	-2 210	-3 071



CASH FLOW STATEMENT

(in thousands of euros)	2014	2015
NET CASH FROM OPERATING ACTIVITIES		
Net income/loss for the year	-2 210	-3 071
Amortization and depreciation (including investment grants)	73	169
Change in working capital	-1 361	385
Net cash from operating activities	- 3 498	-2 517
NET CASH FROM INVESTMENT ACTIVITIES		
Acquisition of fixed assets	-908	-749
Acquisition of financial assets	-20	2
Change in financial liabilities	61	-39
Net cash used in investment activities	-867	-786
NET CASH FROM FINANCING ACTIVITIES		
Net resources from the issuance of shares and BSA (warrants)	168	62
Proceeds from borrowings	152	70
Proceeds from payable advances and investment grant	546	1 083
Net cash from financing activities	866	1 215
Change in cash and cash equivalents	-3 499	-2 088
Cash and cash equivalents at the beginning of the period	14 598	11 099
CASH AND CASH EQUIVALENTS AT THE END OF THE PERIOD	11 099	9 011

STATEMENT OF CHANGES IN EQUITY

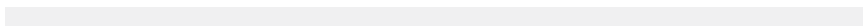
(in euros)	Share Capital	Share premium account	Warrants	Investment grant (net)	Income/ Loss for the period	Retained earnings	Total equity
31/12/14	2 627 221	13 644 244	9 508	3 125	-2 209 848	-2 958 599	11 115 652
Income / Loss allocation N-1					2 209 848	-2 209 848	
Capital increase/ decrease and share premium	17 500	20 220					17 500
BSA/BCE subscription (warrants)			24 260				24 260
Quasi equity				22 500			22 500
Income/Loss 2015				-3 875	-3 071 328		-3 075 203
31/12/15	2 644 721	13 664 464	33 768	21 750	-3 071 328	-5 168 446	8 124 929

All of the regulated information as outlined in the General Regulations of the AMF is available in the 2015 Reference Document, available on CARBIOS' website (www.CARBIOS.fr) and in printed form at the Company's headquarters, Bio-pôle Clermont-Limagne, 3 rue Emile Duclaux - 63360 Saint-Beauzire.



4. COMPLEMENTARY INFORMATION

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SHAREHOLDER
STRUCTURE

At December 31, 2015, the Company's share capital was made up of 3,753,173 ordinary shares with a nominal value of €0.70 euro per share, completely subscribed and paid-in. The articles of association give double voting rights to shares that are entirely subscribed and paid, and that are held in bearer form (nominative) for at least two years, in the name of the same shareholder. At December

31, 2015, the 1,485,447 shares held by the Green Chemistry Incubator Holding Company, the 75,555 shares held by the scientific partners, one share held by Mr. Lumaret, and one share held by Mr. Chevallier, in addition to 8,401 shares in bearer form included in the free-floating shares, were in this category.

Distribution of shares at December 31, 2015, on a non-diluted basis:

Shareholders	Number of shares	Percentage of shares	Number of voting rights	Percentage of voting rights
Green Chemistry Incubator Holding Company	1 485 447	39,32 %	2 970 894	55,56 %
Funds managed by Truffle Capital	1 362 880	36,07 %	1 362 880	25,49 %
Deinove	75 555	2,00 %	151 110	2,82 %
Management and members of the Board of Directors	1 502	0,04 %	1 504	0,03 %
Treasury shares	10 123	0,27 %	10 123	0,19 %
Free float	842 666	22,30 %	850 986	15,91 %
TOTAL	3 778 173	100 %	5 347 497	100 %

CARBIOS' main shareholders included the following:

- Truffle Capital, a large and independent venture capital investor in the European market. Truffle Capital's objective is to build and support companies with high potential to develop disruptive technologies in two sectors: the Life Sciences and Information Technology. Truffle Capital currently manages €720 million through investment vehicles for individual investors (FCPI, management mandates, holding companies) as well as institutional investment funds (FPCI). Truffle Capital

has built a solid portfolio of fast-growing innovative enterprises.

- The Green Chemistry Incubator Holding Company, created by Truffle Capital. The Green Chemistry Incubator is a participant in the venture capital area, investing in innovative companies that are developing promising technologies around green chemistry, and particularly in projects that create ecological value around biomass, with significant industrial potential in the area of bio-fuels.



MANAGEMENT
AND GOVERNANCE

BOARD OF DIRECTORS

Chairman: Jean FALGOUX

Board members: Jean-Claude LUMARET
Alain PHILIPPART
Grégoire BERTHE
Jacqueline LECOURTIER
Eric ARNOULT
(dit Erik ORSENNA)
Truffle Capital, represented by Dr. Philippe POULETTY
Dominique EVEN
Pascal JUERY
Alain CHEVALLIER

- Identification of new research subjects likely to enable the Company to move forward with its development;

- Proposals of potential public or private partners or suppliers with the required skills to carry out the work required by the Company within the framework of its research projects.

The Scientific Advisory Board meets three times per year, at the request of its Chairman or of the Board of Directors. The decisions made by the Scientific Advisory Board are adopted based on majority vote by the members attending a meeting. A member of the SAB cannot be represented by another member, and the deliberations of the Scientific Advisory Board are documented in written minutes.

Audit Committee

The Audit Committee is a specific consultative committee whose general mission is to assist the Board of Directors regarding the truthfulness of the financial statements, the quality of internal controls, the quality and relevance of information supplied, and the quality of the work carried out by the financial auditors as regards their duty to give opinions, suggestions and recommendations. **The Audit Committee has the following responsibilities:**

- To verify that the Company has established and makes use of an appropriate organizational structure and has the resources to ensure that it provides the shareholders and the market with accurate financial information;

- To ensure the existence and respect of the procedures that are chosen by the financial auditors and the follow-up to the recommendations of the auditors;

- To ensure that the elements of financial communication accurately reflect the company's financial statements;

- To examine the responses given by Management to the questions asked by financial analysts and stock market authorities;

- To ensure the existence of the proper application of procedures to identify, qualify and fully understand the risks taken by the company; and

- To evaluate the existence and the relevance of processes for financial control and internal audit.

The members of the Audit Committee are appointed by the Board of Directors, with the understanding that the Board of Directors may at any time end the functions of the members of the Audit Committee without the need for indemnification, advance notice or justification. Dominique EVEN is a member of the Audit Committee. The Audit Committee is chaired by Alain PHILIPPART. The Audit Committee meets two or three times per year at the request of its Chairman or of the Board of Directors.

The decisions of the Audit Committee are adopted by the vote of a majority of members present at a meeting. A member of the committee may not be represented by another member. The Audit Committee's deliberations are documented in written minutes.

EXECUTIVE COMMITTEE

Chief Executive Officer : Jean-Claude LUMARET

Director of Strategy and Development : Emmanuel MAILLE

Chief Scientific Officer : Alain MARTY

SPECIALIZED COMMITTEES

Scientific Advisory Board

The Scientific Advisory Board (or SAB) is a consultative scientific committee with the general mandate to assist the Board of Directors in all scientific matters, by providing its opinion, suggestions, and recommendations. It provides reports on its work to the Board of Directors on a regular basis.

The members of the Scientific Advisory Board are appointed by the Board of Directors and are chosen among experts outside of the Company for their skills and their status as renowned scientists or among the researchers working with the Company, for a fixed period of time as defined at the time of their nomination. The Board of Directors may choose at any time to end the term of membership to the SAB, without the need for indemnification, notice period, or justification. Four members currently comprise the Scientific Advisory Board: Jacqueline LECOURTIER, Rolf SCHMID, Philippe DUBOIS and Henri CRAMAIL.

The Chairperson of the Scientific Advisory Board is Jacqueline LECOURTIER.

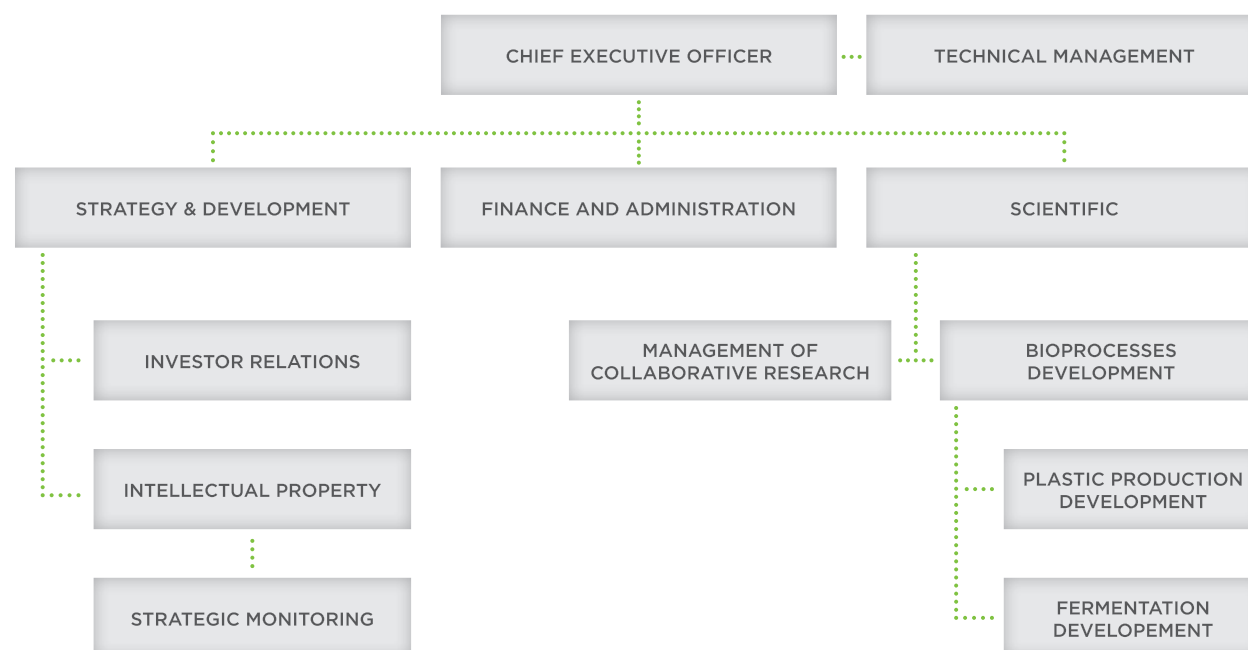
The duties of the Scientific Advisory Board are the following:

- Scientific supervision of ongoing research projects carried out by the Company: analysis of scientific and technological obstacles encountered by the Company and research strategy suggestions to overcome them;

- Scientific and technological monitoring in the different areas of the SAB's areas of expertise: the SAB informs the Company on recent progress made at the international level in each of its areas of expertise;



ORGANIZATIONAL CHART AT DECEMBER 31, 2015



At December 31, 2015, employees were divided primarily between Management and three departments:

- General management (two employees);
- Strategy and Development (four employees);
- Finance and Administration (three employees);
- Scientific department (eight employees).

In addition to the staff members above, more than 60 researchers work in the THANAPLAST™ project, where they will be employed through 2017.



FINANCIAL COMMUNICATION

SHAREHOLDER'S NOTEBOOK

CARBIOS shares are listed on Alternext – Paris

ISIN Code: FR0011648716

Ticker symbol: ALCRB

CARBIOS is part of the indices Alternext – All-share and Alternext Bpifrance innovation

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

STOCK MARKET DATA	2015
Opening Price on January 4, 2016	13,00
Closing Price on December 31, 2015	13,08
Highest share price	13,96
Lowest share price	10,80
Closing average share price	12,36
Average daily volume traded (in shares)	1 297
Average daily volume traded (in €)	16 200
Number of shares at December 31, 2015	3 753 173
Market cap at December 31, 2015 (in M€)	49,1

RELATIONS WITH THE FINANCIAL COMMUNITY

CARBIOS meets the financial community on a regular basis.

In 2015, an analyst and investor meeting was organized by the Company to present its 2014 Annual Results (in collaboration with the French Financial Analyst Association, SFAF). In addition, regular meetings are organized with financial analysts and investors through roadshows and individual meetings. These various events offer the financial community the opportunity to talk with the Company about its strategy, its scientific and financial results and perspectives.

The information published by CARBIOS is available on the company's website www.carbios.fr

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FINANCIAL CALENDAR	2016
Annual shareholders meeting	Friday, June 17
Half-year liquidity contract report	Tuesday, July 5
2016 first-half results	Friday, September 30
Publication of the interim financial report	Friday, September 30

This schedule is indicative and subject to change



GLOSSARY

- **Biodegradation**

Process by which organic substances are decomposed by micro-organisms (mainly aerobic bacteria) into simpler substances such as carbon dioxide, water and ammonia.

- **Bioprocess**

Biological production process based on the use of enzyme or microorganisms.

- **Depolymerization**

Degradation of a polymer into its constitutive monomers

- **Enzyme**

A substance produced by a living organism that acts as a catalyst to bring about a specific biochemical reaction.

- **Microorganism**

Microscopic organism, especially a bacterium, virus, or fungus.

- **Monomer**

Molecule (base unit) that can be bonded to other molecules to form a polymer.

- **Polymer**

Molecular structure built up chiefly or completely from a large number of similar or mixed monomers bonded together.

- **Polimerization**

Conversion process forming chains from a monomer or a mix of monomers into polymer.

- **PLA (PolyLactic Acid)**

Bio-sourced and biodegradable plastic polymer according to the label EN13432 (in industrial composting conditions). In addition, this polymer is bioabsorbable.

- **PET**

Thermoplastic polymer made by copolymerizing ethylene glycol and terephthalic acid, widely used to make water bottles, food containers and fibers for clothing.

- **Process book**

Guide defining the entire data, parameters and equipment required to produce at an industrial scale a product from raw material.





Corporate Headquarters

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www.carbios.fr

Société anonyme au capital de 2 658 721,10 euros
SIRET 531 530 228 00042 RCS de Clermont-Ferrand