



FLASH NEWS

No. 43-2020 – THE BIOTECH INDUSTRY INTELLIGENCE REPORT

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1. FRACTIONATION & CONVERSION

3360 - A new, cheaper process to produce second-generation cellulosic ethanol, and the classification of seven novel enzyme classes

To develop a novel enzyme cocktail that breaks down carbohydrates in biomass into fermentable sugars, researchers at the Brazilian Center for Research in Energy and Materials ([CNPEM](#)) introduced six genetic modifications into RUT-C30, a publicly available strain of the fungus *Trichoderma reesei*. Using the CRISPR/Cas9 gene-editing technique, they modified the transcription factors to regulate the expression of genes associated with the enzymes, deleted proteases that caused problems with the stability of the enzyme cocktail, and added important enzymes the fungus lacks in nature. This new bioprocess, which enabled the researchers to produce 80 grams of enzymes per litre, has already been tested in a semi-industrial production environment and scaled up for a pilot plant to assess its economic feasibility. Although the researchers focused on producing cellulosic ethanol from sugarcane residues, this bioprocess could also be used to break down other types of biomass which could then be used to produce plastics and intermediate chemical products.

Publication: Rational engineering of the *Trichoderma reesei* RUT-C30 strain into an industrially relevant platform for cellulase production. Journal: *Biotechnology for Biofuels*. DOI: 10.1186/s13068-020-01732-.

In another study funded by the São Paulo Research Foundation ([FAPESP](#)), the researchers revealed seven novel enzyme classes present chiefly in fungi and bacteria. These novel enzymes, which belong to the glycoside hydrolase (GH) family, have significant potential for applications not just in the field of biofuels but also in medicine, food processing and textiles, among others.

Publication: Structural insights into β -1,3-glucan cleavage by a glycoside hydrolase family. Journal: *Nature Chemical Biology*. DOI: 10.1038/s41589-020-0554-5.

Professor Paul Walton, Chair of Bioinorganic Chemistry at the University of York (United Kingdom), described the glycoside hydrolase study as a “*biochemical tour de force*” for its innovative approach and praised its “*tremendous insights*”.

Publication: Enzymes knuckle down to the job. *Nature Chemical Biology*. DOI: 10.1038/s41589-020-0585-.

More information: [Sci Tech Daily.com](#)

3361 - A new, more versatile and modular process to break down lignocellulosic biomass

A team of scientists at Bern University of Applied Sciences (BFH), the University of Cambridge and the Ecole Polytechnique Fédérale de Lausanne (EPFL) has developed a ‘lactate platform’, which is essentially a spatially segregated bioreactor that allows multiple different microorganisms to co-exist, each performing one of the three steps of lignocellulose processing. The platform consists of a tubular membrane through which a defined quantity of oxygen can travel. The fungus that consumes all the oxygen that passes through the membrane, and provides the enzymes that will break up cellulose into sugars, is grown on the tube’s surface. Further away from the membrane, and therefore in an atmosphere without oxygen, grow the bacteria that will break up the sugars and turn them into lactic acid.

The microorganisms in the final step of lactic acid processing can easily be replaced, meaning researchers can produce a whole range of useful chemicals.

The work demonstrates the benefits of mixed microbial cultures in lignocellulose biomass processing: modularity and the ability to convert complex substrates into valuable chemicals on the platform.

Publication: A heterogeneous microbial consortium producing short-chain fatty acids from lignocellulose. Journal: *Science*. DOI: 10.1126/science.abb1214.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

3362 - Manganese-eating bacteria discovered

Microbiologists at California Institute of Technology ([Caltech](#)) have discovered bacteria that feed on manganese and use the metal as a source of energy. Their research also led to the discovery that these bacteria can use manganese to convert carbon dioxide into biomass.

[Publication](#): Bacterial chemolithoautotrophy via manganese oxidation. Journal: Nature. DOI: 10.1038/s41586-020-2468-5.

More information: [Press release](#)

2. BIOMASS & BIOMOLECULES

3. RESEARCH PROJECTS & PROGRAMMES

Calls for proposals

3363 - Launch of the third Trophées de la bioéconomie competition

Organised by the French Ministry of Agriculture and Food, this competition will reward projects in the sector that promote the various ways bioresources can replace their fossil-based carbon counterparts. The Trophées will focus on three categories of biobased products: biofuels, biobased materials and plant chemistry. The 2020-2021 Trophées de la bioéconomie has the following objectives:

- Promote the sector's actions by showcasing projects that create value, from the farmer to the processor,
- Increase the general public's awareness of the bioeconomy. The public have a role to play as citizen and consumer: by buying biobased products, they can contribute to significantly reducing the use of fossil-based carbon and promoting the performance of new, innovative products.
- Demonstrate that the bioeconomy is a market reality: the awards celebrate mature biobased solutions that meet market requirements. They show that by converting biomass, we can provide actual solutions for people to use in their day-to-day lives, which also have impressive technical features.

Proposals can be submitted at regional level until 15 November 2020, and the judging process will run until 7 March 2021.

En savoir plus : [Communiqué de presse](#)

3364 - Vegopolys Valley launches its fifth competition

Organised by the competitiveness cluster [Vegopolys Valley](#), the [competition](#) is open to French companies that are less than 18 months old or still being set up and which concentrate on plants. To win one of the four prizes – €10,000 to €15,000 as well as strategic and operational support – the companies must explore seven areas of innovation:

- Varietal innovation and performance of seeds and plants,
- Plant health,
- New technologies and practices for production systems,
- Plants for human and animal consumption,
- Nutrition, prevention and healthcare, for well-being, health and cosmetics,
- Agricultural materials and the biotransformation of plant matter,
- Plants in urban environments.

Applications can be submitted until 10 November 2020 and the prizes will be awarded on 4 December 2020.

Project launches

3365 - The French National Research Agency (ANR) unveils its 2021 Action Plan and its 2021 Generic Call for Proposals (AAPG)

The ANR published its [2021 Action Plan](#), which presents the actions and calls for proposals planned for the coming year. Intended for all scientific communities and public and private actors involved in French research, it aims to provide an overview of the funding offered by the Agency. The ANR's 2021 Action Plan follows on from the 2020 Action Plan. It is divided into four cross-disciplinary components that each have a separate budget and their own funding instruments, calls for proposals and programmes, the aims of which are described in the document.

All the research themes of the 2020 [AAPG](#), the ANR's main call, have been extended. The text and/or keywords used to present some of the themes have however been amended to better describe their scientific scopes. In addition, the 'Energy' theme has been separated into two areas: 'Basic energy sciences' and 'Sustainable, clean, safe and efficient energy'. The AAPG's 37 research themes span seven disciplinary fields, and there are 13 themes covering cross-disciplinary or inter-disciplinary challenges. Each theme has its own Scientific Evaluation Panel.

Info: AAPG 2021 eligibility and selection criteria remain the same as in 2020.

En savoir plus : [ANR.fr](https://www.anr.fr)

3366 - A new international coalition to accelerate the energy transition in transport and logistics

This coalition, which is expected to grow in the future, counts AWS, Carrefour Group, CMA CGM Group, Cluster Maritime Français, Crédit Agricole Corporate and Investment Bank, Engie, Faurecia, Michelin, Schneider Electric, Total and Wärtsilä among its members. It aims to accelerate the development of energies and technologies that help address the challenges posed by sustainable mobility in the transport and logistics industry by reducing emissions, fighting global warming and protecting biodiversity. Over the past few months, nine working groups have been established to devise nine concrete projects that will help shape the energy sources of the future:

- Develop green hydrogen procurement solutions for the transport sector,
- Develop biofuels for the various modes of transport,
- Expand the use of biogas and synthetic gases in transport,
- Replace fossil fuels with green energy across the supply chain,
- Launch zero-emission vehicle pilot projects by the end of 2021,
- Create a digital door-to-door route planning system that calculates the option with the lowest environmental impact,
- Optimise operational management and loading to step up the energy efficiency of each ton carried,
- Make multimodal platforms more environmentally friendly for logistics applications,
- Consolidate methods used to measure the impact of energy transition projects in transport and logistics.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [Zone Bourse.com](https://www.zonebourse.com), [Connaissance des Energies.org](https://www.connaissance-energies.org), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

3367 - Sustainable Composites: developing the next generation of sustainable composite materials

Led by the National Composites Centre ([NCC](#)) and the Centre for Process Innovation ([CPI](#)), Sustainable Composites is a partnership between industry, academia and the UK government. It aims to use research and cutting-edge composite technology development capabilities to develop the next generation of sustainable composite materials. Sustainable Composites will also bring together the UK's expertise in this field to quickly

transform research breakthroughs into industrial applications. It also aims to accelerate the development of new recycling technologies in the UK while simultaneously creating new sustainable composites made from biobased materials including vegetable waste, corn, nutshells and algae.

More information: [Press release](#), [You Tube.com](#), [Bio Market Insights.com](#), [nccuk.com](#)

Inaugurations

3368 - Inauguration of a device to improve urban air quality

Inaugurated to mark the UN's International Day of Clean Air for Blue Skies and as part of the Innovons pour l'air dans les bâtiments publics (let's innovate to improve air quality in public buildings) call for proposals launched by the Île-de-France region, this innovative solution, developed by the SUEZ Group in partnership with Fermentalg, was installed in the playground of Victor Hugo primary school in Poissy (Yvelines, France). The device, which is strategically located, creates a clean-air zone by eliminating particulate matter and other toxic emissions (primarily PM 10, PM 2.5, NO2 and VOCs) that mainly come from road traffic and district heating systems. By combining several cutting-edge technologies, including the one developed and patented by Fermentalg using microalgae, this system represents a considerable breakthrough in the fight against urban air pollution, which is responsible for numerous illnesses, particularly in young children.

This experiment is expected to continue for a year to confirm the performance and radius of action of the device in real-world conditions.

En savoir plus : [Formule Verte.com](#)

Ongoing projects

3369 - Amoéba's biological pest control solution works on grapevine downy mildew and several major wheat diseases

The producer of biological biocides announced the publication of a first peer-reviewed scientific article on its biocontrol application to combat grapevine downy mildew. The article presents a major innovation in the biocontrol field involving a natural product made from an amoeba, *Willaertia magna* C2c Maky, to the international scientific community for the first time. The article also presents scientific data demonstrating the dual mode of action of the lysate to control grapevine downy mildew:

- the indirect effect via the stimulation of the plant's natural defences,
- the direct anti-germinative effect against the pathogen responsible for grapevine downy mildew, *Plasmopara viticola*.

Data collected during trials carried out by independent service providers that demonstrate effectiveness in greenhouses and in the field (2019 season) have also been published.

Publication: A New Active Substance Derived from Lyzed *Willaertia magna* C2c Maky Cells to Fight Grapevine Downy Mildew. Journal: Plants. DOI: 10.3390/plants9081013.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

The results of the second field trial campaign have confirmed, for the second year in a row, that Amoéba's biocontrol solution does effectively combat grapevine downy mildew. These trials were conducted either under natural conditions or, more often, with artificial contamination to trigger the disease and a misting system to maintain the wet conditions favourable to downy mildew growth, even during dry periods. Three experimental products containing Amoéba's bio-fungicidal active substance (lysate of the amoeba *Willaertia magna* C2c Maky) were tested: a wettable powder with 60% active ingredient and two liquid suspension concentrates with 20% active ingredient. Generally, the efficacy of Amoéba's experimental products on leaves is, on average, superior to the

efficacy of the biocontrol reference product (an approved product). Concerning bunch protection, the 2020 results confirm the 2019 observations, with particularly impressive protection for a biocontrol product (regularly above 50% efficacy (35-85%) even when under aggressive attack from the disease).

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

In the first quarter of 2020, the producer of biological biocides used a lysate of the amoeba *Williaertia magna* C2c Maky to treat yellow rust, which attacks wheat and barley, and brown wheat rust. The results of these first tests demonstrated an “*unprecedented level of protection for a bio-fungicide, ranging from 70% to 90%, against these two pathogens. At effective doses, symptom expression was reduced and sporulation was delayed.*” Based on these promising results, Amoéba launched a test campaign in the field in May, in real-world conditions. According to Jean-Luc Souche, Plant Protection Business Developer at Amoéba: “*This first year of field experimentation has provided Amoéba with new, very positive data, and confirms the potential seen in the laboratory. This is a major breakthrough in the development of biocontrol on field crops, with the aim of reducing the use of conventional fungicides, and in the fight against resistance of pathogens to the major chemical families present on the market.*”

Next steps: confirm these results under different conditions, in particular on wheat varieties with different susceptibilities. Measure efficacy on specific diseases of barley. Optimise effective doses.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

3370 - Deinove: Phase II clinical trial of the DNV3837 candidate antibiotic continues in the United States

Despite the situation caused by the Covid-19 pandemic, the French biotechnology company announced that it would pursue the Phase II clinical trial of its candidate antibiotic DNV3837 in the United States. Deinove thanked the clinicians for their commitment to this trial while they contend with the unprecedented health crisis. Several of the investigation centres have maintained their clinical research activities and continue to screen and enrol patients.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

3371 - TWB: ‘Industrial integrator’ label for bioproduction, 2012-2019 review, and a stronger position in biocontrol and biostimulation

The ‘industrial integrator’ label for bioproduction in the health field means TWB is now one of the six French technology platforms of the ‘Biopharmacy’ Grand Défi [big challenge] launched by the French general secretariat for investment (SGPI). The purpose of the Grand Défi is to improve yields and control production costs for proteins and drugs used in innovative treatments and establish France as a leader in these fast-growing markets. The label, awarded to TWB with its partners, the CRITT Bio-Industries (INSA Toulouse) and TBI (INSA/INRAE/CNRS), under the name Toulouse Industrial Biotechnology for Health (TIBH), will enable TWB to share its experience conducting industrial biotechnology R&D projects with the healthcare industry. TWB is now able to support innovative projects to produce biopharmaceuticals (proteins, therapeutic antibodies). TIBH will carry out several missions to create an environment that is favourable to the deployment of new biopharmaceutical production sites. It will provide the skills (synthetic biology, metabolic and enzymatic engineering, fermentation, purification) and biological tools (microorganisms, enzymes) required to produce proteins and therapeutic antibodies to project managers looking to develop technologies to produce innovative therapies. It will also place its high-tech bioproduction technology at their disposal, as well as an ecosystem, as much academic as it is industrial, to foster the emergence of innovations and entrepreneurship.

En savoir plus : [Communiqué de presse](#)

TWB looked back on its eight years in existence with its 2012-2019 review. The gamble – which has paid off – was to develop an original and effective model in the field of industrial biotechnology with a public/private interface.

En savoir plus : Toulouse White Biotechnology.com, [Bilan 2012-2019](#)

TWB would like to strengthen its contribution to the development of biocontrol and biostimulation solutions that can replace chemical inputs. TWB has already entered into partnerships with the De Sangosse group (Agronutriton), the start-up Micropep, and Amoéba, and is working with two competitiveness clusters: Agri Sud-Ouest Innovation and IAR. TWB would now like to expand its in-house skills as well as strengthen its relationships with pioneering laboratories in the field. Its ambition is to address the complex challenges presented by the market and promote industrial biotechnology as a source of eco-friendly solutions.

En savoir plus : [Communiqué de presse](#)

3372 - Carbiolice and the Barbier Group plan to develop a new biodegradable mulch film with Evanesto® inside

The joint venture between Carbios and Limagrain and the French leader in the manufacture of agricultural films want to develop a brand new type of biodegradable mulch film with a higher PLA content, containing the enzymatic additive Evanesto®, designed to enable PLA to biodegrade at ambient temperature. The originality of these 'new generation' biodegradable mulch films lies in their PLA content: with Evanesto® inside, they can contain up to 20% PLA. Following validation of the mechanical properties and the residual enzymatic activity of the films produced at pilot facilities at the start of the year, in May 2020 the two partners extruded over 1,000m² of mulch film to be tested in real-world conditions out in the field. Physical resistance and biodegradability testing of these mulch films took place at several experimental horticultural stations. At the end of the test period, a comparison will be carried out between a standard polyethylene film, a biodegradable mulch film available on the market that does not contain Evanesto®, and mulch films containing Evanesto® inside.

The full results of the tests should be published in May 2021.

En savoir plus : [Biotech Info.fr](#), [Enviscope.com](#)

3373 - The Biofuture Platform announces five voluntary principles to develop the bioeconomy post-Covid

Further to consultations with policymakers, industry experts and international organisations such as the International Energy Agency (IEA), the International Renewable Energy Agency (IRENA) and the Global Bioenergy Partnership (GBEP), the multi-stakeholder [Biofuture Platform](#) initiative presented five voluntary [principles](#). These principles, which are non-binding and non-prescriptive, have been designed to provide advice to governments and policymakers all over the world on the importance of promoting a sustainable bioeconomy, both with emergency short-term plans and broader post-Covid recovery programmes. Member countries are urged to implement them in accordance with broader sustainability initiatives and economic recovery programmes. According to the Biofuture Platform, which has 20 member countries, *"a number of countries have already implemented or are considering new policies in line with the principles."*

More information: IEA.org

4. STRATEGIC INTELLIGENCE: BUSINESSES & MARKETS

3374 - Association Chimie du Végétal (ACDV)

The ACDV, a plant-based chemistry association, announced that it had welcomed the French cleaning products industry association [AFISE](#) as a new member. AFISE is a professional association that brings together 80% of

France's manufacturers of cleaning products and disinfectants for domestic and professional use. It implements sustainable development policies to reduce the environmental impact of these products. Such actions usually involve the use of renewable feedstocks.

En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

3375 - Amyris

The American industrial biotechnology company announced that it had successfully scaled up its commercial production of cannabigerol (CBG) using its patented industrial sugar-cane fermentation process. This technology, which makes it possible to obtain cannabinoids without having to extract them from cannabis plants or synthesise them, can be used to produce high-purity CBG (without THC) at a lower cost.

Info: CBG is the precursor from which all other cannabinoids (CBD) are synthesised. This non-psychoactive molecule has significant therapeutic potential, making it a subject of great interest for researchers.

More information: [Press release](#)
En savoir plus : [Formule Verte.com](#)

3376 - Carbios

The French company announced that it had started building its industrial demonstration plant for the enzymatic recycling of PET plastic waste. Located near Lyon on the KEM ONE site, in the Vallée de la Chimie, this demonstrator aims to generate enough technical data to define the key parameters of each step of the process on a sufficient scale to plan the operation of future industrial units. Entry into service is scheduled for the second quarter of 2021 and will enable Carbios to establish the complete engineering documents for the process, from waste to monomers, for the construction and implementation of the first industrial unit by a licensee (estimated capacity between 50 and 100 kt per year).

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

3377 - Demeta

The French green chemistry company, which develops new-generation catalysts for the production and marketing of materials and molecules with high added value, announced that it had obtained funding of up to €4.8 million through the first call for proposals issued by the European Innovation Council (EIC) Accelerator Pilot (formerly SME instrument phase 2), the European public support programme for breakthrough innovations. This funding includes a grant of €2.4 million and an equity contribution of up to €2.4 million. The terms of the equity investment are expected to be finalised in the second quarter of 2020. Demeta will also receive custom support in the form of strategic and operational advice, as well as privileged access to the EIC's networks of European industrial companies.

This funding will enable Demeta to accelerate the qualification, industrialisation and commercialisation of NexTene™, a high-performance material with a small carbon footprint, in strategic energy markets.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

3378 - Danimer Scientific

The American producer of biodegradable materials announced that it had received a grant from the United States Department of Energy (DOE) to support a project to accelerate the commercialisation of polyhydroxyalkanoate (PHA). To carry out the work, Danimer Scientific will work closely with research teams at the National Renewable Energy Laboratory in Golden Colorado and Pacific Northwest National Laboratory in Richland. With access to state-of-the-art facilities and expertise provided by the DOE programme, Danimer Scientific will produce tunable combinations of PHA with different chain lengths, enabling the creation of new biodegradable plastics for a wider range of applications.

Info: Danimer Scientific is one of eight organisations, and the only one specialising in the manufacture of biodegradable plastics, selected by the DOE to receive a total of nearly \$5.7 million in support to conduct research and development projects within the biomanufacturing industry.

More information: [Press release](#)

3379 - Ingénierie de Procédés pour les Sucres et les Biotechnologies (IPSB)

As part of the construction of the first experimental biorefinery in South-East Asia, the French engineering specialist has been chosen by the government of Thailand to provide its expertise in industrial biotechnologies to Thailand's National Science and Technology Development Agency (NSTDA). The future biorefinery should make it possible to transform lignocellulosic biomass and co-products from the Thai agricultural industry into biobased products for green chemistry and the market of ingredients and complements for human and animal consumption. The NSTDA has invested over \$110 million (€92.8 million) in this future unit, which will be built in a new innovation complex located in Rayong Valley, in southern Thailand. The new complex, named Eastern Economic Corridor of Innovation (EECi), is expected to open its doors in 2021.

En savoir plus : [Formule Verte.com](#)

3380 - Locus Fermentation Solutions

In order to expand its patented technology into the Consumer Packaged Goods (CPG) market, [Locus Fermentation Solutions](#) announced the launch of the company [Locus Performance Ingredients™](#) (Locus PI). The start-up's aims include maximising product sustainability and replacing petrochemical and palm-oil based ingredients. To do so, it will develop high-performance biobased, biodegradable, natural, GMO-free surfactants that will have at least a 37% lower carbon footprint and 5 to 25 times better performance. These new products will be for the personal care and home care markets, as well as industrial formulations.

More information: [Press release](#)

3381 - METabolic Explorer (METEX)

In connection with the Covid-19 pandemic, the industrial biotechnology company announced that construction of the Metex Nøøvista plant, on the Chemiesis platform in Carling-Saint-Avold (Moselle), had been "*held up because only one construction firm was allowed to work on-site between 16 March and 20 April.*" Although now "*staff of all companies involved are back on site, they are less productive because they have to apply exceptional health and safety measures linked to the health crisis.*" Consequently, production of 1,3 propanediol (PDO) and butyric acid (BA), initially planned for late 2020, is expected to begin in the second quarter of 2021.

En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

3382 - NatureWorks

To address the growing demand for its Ingeo™ biopolymer (PLA), the American specialist in renewably sourced polymers and chemicals announced a new lactide monomer purification technology. Installation is currently underway at the NatureWorks plant in Blair (United States). The projects should be completed by the end of 2021.

More information: [Press release](#)

3383 - IAR cluster

The competitiveness cluster welcomed some new members:

- The [Arkema](#) Group, which specialises in speciality chemicals and performance materials.
- [CEVA](#), which has a cross-disciplinary position in the innovation ecosystem and provides services (R&D, consulting, industry intelligence, training, auditing, etc.) adapted to the requirements of stakeholders and professionals. It performs applied research on microalgae, macroalgae and marine biotechnology, and transfers scientific knowledge and technology to the industrial world to encourage the development of new markets.

- [Deasyl](#), a technology supplier, uses process innovations to open up new perspectives in inorganic and organic chemistry, while observing green chemistry principles.
- [ECO-MOBILIER](#), a producer responsibility organisation that processes furniture at the end of its life. Its role is to organise the sector responsible for collecting and repurposing second-hand furniture, so it can be reused or recycled, or as a source of energy. It aims to improve the environmental performance of the sector and, more broadly, reduce the environmental footprint of furniture throughout its life cycle.
- The start-up [e-Zyvec](#), which specialises in genetic engineering. It provides an integrated service for the design and production of tailor-made DNA vectors.
- [Fibre Excellence](#), which focuses on developing forestry resources and wants to expand the paper pulp activities of the St Gaudens plant into biobased blends for the food, chemistry and textile industries.
- [iNex Circular](#), which has created the first technology to identify and qualify waste for recyclers and manufacturers.
- [NaturePlast](#) and its subsidiary BiopolyNov, which specialise in providing support for manufacturers that want to develop products using bioplastic materials. It has the largest portfolio of bioplastic materials in Europe.
- [VDN H2](#), which designs and ensures the technical and economic feasibility of each of its hydrogen projects in line with local requirements.

En savoir plus : [IAR pôle.com](http://IAR.pole.com)

The cluster, which has over 400 members, is celebrating its 15th anniversary this year. The cluster has supported over 330 projects since 2005, representing a total investment of over €2 billion in France. For its anniversary, the cluster presented its strategic vision for 2025, which aims to mobilise its expertise and its network to facilitate and accelerate growth through the innovation of stakeholders in biobased solutions. To do so, the cluster intends to:

- Mobilise, band together and organise the stakeholders to create synergies,
- Encourage and facilitate research, training, development and industrialisation of innovative solutions,
- Provide a regulatory and legislative framework that is favourable to the development of the bioeconomy,
- Promote France's bioeconomy.

En savoir plus : [Formule Verte.com](http://FormuleVerte.com)

Licensing agreement

3384 - Clariant & Eta Bio

The Swiss group and the Bulgarian group announced that they had signed a licensing agreement for Clairant's sunliquid® technology (used to produce ethanol from agricultural residues), technical services, and enzyme and yeast starter cultures. This agreement will enable Eta Bio to build and operate a commercial plant in north-east Bulgaria capable of converting 250,000 tons of wheat straw into 50,000 litres of ethanol.

More information: [Press release](#)
En savoir plus : [Zone Bourse.com](http://ZoneBourse.com)

Acquisition

3385 - Novozymes & PrecisionBiotics Group

In order to move into the field of biological solutions for human oral and gut health, the Danish biotechnology company specialising in enzymes announced the acquisition of the Irish company [PrecisionBiotics Group](#), which produces probiotics for human gut health. According to Ester Baiget, President and CEO of Novozymes, *"PrecisionBiotics Group brings in complementary technologies, a similar science-based approach and a matching culture. With our unique expertise within discovery and enzymes and PrecisionBiotics' strong capabilities and*

network within probiotics for human health, we will be in a unique position.” The purchase, part of its ‘Better Business with Biology’ strategy, cost the Danish company 600 million Danish kroner (€80 million).

More information: [Press release](#)
En savoir plus : [Formule Verte.com](#)

Commercial launches

3386 - BASF

The German chemicals company announced the launch of Duravel® – a new biobased bactericide and fungicide for fruit and vegetables – onto the Brazilian market. Produced from the bacteria *Bacillus amyloliquefaciens*, it is effective on diseases that attack leaves and roots, including bacterial speck of tomato, rot (caused by *Rhizoctonia*) of potato, perennial canker of apple, and botrytis of grape.

More information: [Press release](#)

3387 - Diageo

The maker of Johnnie Walker, Smirnoff and Guinness announced that it had developed the first 100% PET-free spirits bottle, made entirely from sustainably sourced wood. The new bottle will be fully recyclable in standard waste streams and is expected to appear on shelves in early 2021 under the Johnnie Walker label. This announcement follows the signature of a new partnership with [Pilot Lite](#), a British venture-management company, which led to the launch of [Pulpex Limited](#), a new sustainable packaging technology company. To develop and commercialise this technology, Pulpex Limited has formed a consortium of multinationals specialising in fast-moving consumer goods in non-competing sectors, including the Unilever and PepsiCo groups. The current members plan to launch paper bottles made using Pulpex technology for some of their brands in 2021, while waiting for new members to join the consortium.

More information: [Press release](#)
En savoir plus : [Agro Media.fr](#)

3388 - Dow & Thong Guan

The American chemicals company and the Malaysian [group](#), a major producer of plastic stretch cling films, presented Nano Bio, a new range of biobased polyethylene (bio-PE) that will be commercialised in Asia-Pacific. This new range will be produced by Thong Guan using Dow’s biobased resin obtained from tall oil, a residue of paper production, from sustainably managed forests.

More information: [Press release](#)

3389 - DSM & METEX NØØVISTA

The Dutch chemicals company announced the launch of TILAMAR® PDO with NØØVISTA™, a multifunctional ingredient suitable for all cosmetic applications and 100% bio-sourced from non-GMO feedstocks. Testing has demonstrated TILAMAR® PDO with NØØVISTA™’s benefits and performance as a sensory enhancer, solvent, humectant and preservative booster. The ingredient also respects the balance of the skin’s microbiome: it has been certified ‘Microbiome-friendly’ by the industry-recognised MyMicrobiome test for dry and oily skin areas.

[Info] TILAMAR® PDO with NØØVISTA™ will be produced in Carling Saint Avold (France) on the new production site of METEX NØØVISTA, the industrial subsidiary of METabolic EXplorer.

More information: [Press release](#)
En savoir plus : [Communiqué de presse](#)

3390 - DuPont Nutrition & Biosciences

The subsidiary of the American chemicals group announced the launch of [SPEZYME® HN](#), a new alpha-amylase blend for ethanol production, designed to provide high performance in harsh liquefaction conditions. Part of the SPEZYME® range, which provides numerous advantages for ethanol producers, including robust liquefaction and significant viscosity reduction across a variety of temperatures and pH levels, this new blend combines an alpha-amylase with a thermostable phytase so exceptional liquefaction can be obtained under harsh conditions.

More information: [Press release](#)

3391 - LANXESS

The German speciality chemicals company announced the launch of Adiprene Green, a new range of MDI polyether prepolymers containing renewable, bio-based raw materials. This new range, which contains between 30 and 90% bio-based raw materials (depending on the targeted system hardness), was designed as an alternative to fossil-based prepolymers used to make polyurethane (PU) elastomers. Adiprene Green reduces CO₂ emissions by 20 to 30%, mainly because it uses starch-based polyether polyols.

The products of this new range can be used in roll covers, wheels, press sleeves and even non-pneumatic tyres.

More information: [Press release](#)
En savoir plus : [Formule Verte.com](#)

3392 - Locus Performance Ingredients

The start-up (see article 3382 of this issue) announced the launch of a new range of products to replace chemical surfactants in personal care formulations. Marketed under the Ferma™ brand, the Sophorolipid series of biosurfactants provides safer and more sustainable ingredient options with 5 to 25 times better performance and a carbon footprint reduction of a minimum of 37%.

More information: [Press release](#)

3393 - Novozymes

The Danish biotechnology company specialising in enzymes announced the launch of its [Fiberex®](#) platform. Fiberex® is a technology based on novel enzymes and yeast strains that can convert corn fibre into ethanol. Fiberex® therefore enables biofuel producers to convert more raw material. To mark the announcement, Novozymes presented the first Fiberex® products:

- Fiberex® R1, a technology specifically designed to provide maximum ethanol in separate fibre-to-ethanol processes,
- Fiberex® F1, a cellulase enzyme designed to provide fibre conversion for in-process technologies.

These products are undergoing proof-of-concept trials and are expected to be commercialised in 2021.

More information: [Press release](#)
En savoir plus : [Formule Verte.com](#)

Fundraising

3394 - Carbios

The company specialising in the enzymatic recycling of plastics announced the resounding success of its capital increase without shareholders' preferential subscription rights of a final amount of €27 million through an offering to qualified investors, both French and international, by way of accelerated bookbuilding. During this operation, the asset management company Truffle Capital and Holding Incubatrice Série 1 transferred 380,952 existing shares representing €10 million and the strategic shareholders L'Oréal, via its BOLD Business Opportunities for L'Oréal Development private equity fund, and Michelin Ventures, both subscribed for a total amount of €3.9 million. Carbios will use the funds raised to finance:

- The second phase of construction of the industrial demonstration plant for recycling through enzyme treatment of PET plastic waste, which is expected to be commissioned in the second quarter of 2021,
- The Company's operating expenses, including those relating to the industrial demonstration plant up to the end of 2022,
- Participation in a capital increase of Carbiolice, a joint venture created by Carbios, Limagrain Ingrédients and the 'Sociétés de Projets Industriels' fund operated by Bpifrance, to support the commercial launch of the EVANESTO technology, expected during 2020.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

3395 - Chromologics

The Danish biotechnology [company](#), a spin-out of the Technical University of Denmark which has developed a fermentation-based platform to produce new natural food colourings, announced that it had raised €1.9 million in seed money. The operation, which was managed by [Novo Seeds](#) and supported by [Nordic FoodTech VC](#) and [Vækstfonden](#), will enable Chromologics to accelerate the development and regulatory approval of [ChromoRed](#), its flagship food colouring.

More information: [Finsmes.com](#)

3396 - DNA Script

Fifteen months after having completed a second fundraising round for €34.5 million, the French biotechnology [company](#) announced that it had finished a new series B fundraising round for €46 million. This operation was conducted by [Casdin Capital](#), a New York-based hedge fund specialising in life sciences, with the participation of the Chinese CRO [WuXi AppTec](#), [Danaher Life Sciences](#) and [Agilent Technologies](#), as well as existing shareholders [Merck Ventures](#), [Life Sciences Partners](#), [Illumina Ventures](#) and Bpifrance. The funds will go towards financing the industrialisation and commercialisation of its first on-demand DNA synthesiser, Syntax. This molecular 3D printer is capable of developing a bespoke DNA sequence using cartridges that contain natural enzymes.

In the longer term, this fundraising round should mean it can improve its Syntax technology, deploy it via new products and strengthen its commercial and manufacturing abilities.

More information: [Press release](#)

En savoir plus : [L'Usine Digitale.fr](#), [Maddyness.com](#), [Les Echos.fr](#)

3397 - Global Bioenergies

The industrial biotechnology company announced that it had established an equity line with Kepler Chevreux, an investment firm acting as a financial intermediary. This equity line will involve the issue of 1,500,000 share subscription warrants, each equating to the issue of one new share if exercised. Under the terms of the agreement, Kepler Chevreux will exercise all or some of the subscription warrants over a maximum period of 24 months, in several draws and at its own initiative, provided that the contractual terms and conditions are fulfilled, until the target of €6 million is reached. The purpose of this operation is to strengthen the financial structure of the company and increase share liquidity. The funds will finance the production and commercialisation, in the cosmetics field, of sustainable isobutene derivatives produced by Global Bioenergies.

En savoir plus : [Communiqué de presse](#)

3398 - Phytolon

The Israeli [start-up](#), which makes plant-based food colouring using a fermentation-based technology patented by the Weizmann Institute of Science, secured funding of \$4.1 million.

Phytolon has recently conducted proof-of-concept trials to study the performance of its products on the production lines of the main food industry stakeholders.

More information: [Finsmes.com](https://www.finsmes.com)

New investments

3399 - Amazon

As part of The Climate Pledge, Amazon's project to become net zero carbon by 2040, the American online distribution and IT-services giant announced the creation of the Climate Pledge Fund. This \$2 billion investment fund will be used to finance companies "from around the world of all sizes and stages" whose products and services will facilitate the transition to a zero-carbon economy. According to Amazon, "the Climate Pledge Fund will invest in companies in multiple industries, including transportation and logistics, energy generation, storage and utilization, manufacturing and materials, the circular economy, and food and agriculture."

More information: [Press release](#)

En savoir plus : [Challenges.fr](https://www.challenges.fr), [Trading Sat.com](https://www.trading-sat.com), [Le Figaro.fr](https://www.lefigaro.fr), [Novethic.fr](https://www.novethic.fr), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

3400 - Lego

The Danish toy maker announced that it would invest \$400 million (€336 million) over three years to accelerate research and development into more sustainable materials, produced using sustainable and recycled resources, for its products and packaging, as well as to support the implementation of these changes. As early as 2021 the group also plans to replace the plastic bags that contain the bricks with recyclable bags made from paper from sustainably managed forests, to reduce its environmental impact. The group also wants to increase the proportion of bricks made from sugarcane-based biopolyethylene (which currently account for almost 2% of its element portfolio). Lego also repeated that it was aiming for:

- Carbon neutrality for manufacturing operations by late 2022,
- 100% sustainable packaging by late 2025,
- 100% sustainable products in 2030.

More information: [Press release](#)

En savoir plus : [LSA Conso.fr](https://www.lsa-conso.fr), [Emballages Magazine.com](https://www.emballages-magazine.com), [Paris Match.com](https://www.parismatch.com), [Sciences et Avenir.fr](https://www.sciences-et-avenir.fr), [Ze Green Web.com](https://www.ze-green-web.com)

3401 - Unilever

The Anglo-Dutch multinational announced plans to invest €1 billion to replace all compounds made from fossil fuels contained in its cleaning and laundry products with chemical components 100% sourced from renewable or recycled carbon within the next ten years. This investment will fund several R&D projects in the biotechnology field, including the use of CO₂ and waste as well as chemical processes with low carbon emissions. To achieve its goal, Unilever is targeting the use of purple carbon (using captured and stored CO₂ emissions), blue carbon (extracted from marine materials such as algae), grey carbon (recycled from waste) and green carbon (extracted from plants and biological resources). The chemical compounds in surfactants will receive the most attention, but the group is also targeting the fragrance ingredients and petroleum-based polymers used in formulations. These funds will also be used to create biodegradable product formulations that use less water and to reduce the use of virgin plastic by 50% by 2025. The financed projects may be either in-house R&D programmes or collaborations both current and future with technology partners or suppliers. Unilever also wants to help its partners fund the development of "promising new technologies that need investment to become commercially viable."

The group is aiming for carbon neutrality for its entire activity by 2040.

More information: [Press release](#)

En savoir plus : [Le Monde.fr](https://www.lemonde.fr), [Les Echos.fr](https://www.lesechos.fr), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

New partnerships

3402 - Agrauxine & InTerra Pro

[Agrauxine](#) by Lesaffre and the purchasing centre [InTerra Pro](#), which specialises in purchasing and procuring phytosanitary products, fertilizer and agricultural equipment and registering the suppliers of such products, have entered into a partnership to distribute Nexy®, the first biological pest control solution approved for use on apples and pears post-harvest. Nexy®, which was designed and developed by Agrauxine, is an innovative solution made from natural yeast. Approved for use on conventional and organic farms, it prevents the development of pathogenic fungi (*Botrytis* and *Penicillium spp*) responsible for rot post-harvest. As it does not have a Maximum Residue Limit, Nexy® slots perfectly into the 'zero residue' approach and addresses societal and environmental expectations.

En savoir plus : [Communiqué de presse](#), [Formule Verte.com](#)

3403 - Axens, IFP Energies Nouvelles and JEPLAN

The three partners signed an agreement to develop, demonstrate and commercialise an innovative process to recycle PET via depolymerisation for all types of PET-based waste, including bottles, films, trays and textiles (polyester). This new process, Rewind™ PET, involves the optimized depolymerisation of PET by glycolysis together with specific purification steps to remove all organic and inorganic compounds present in waste PET. The product is a purified BHET (Bis (2-HydroxyEthyl) Terephthalate) monomer, ready for use in a PET plant to produce any type of PET once again, from fibres to food-grade resins. JEPLAN, Axens and IFPEN will use JEPLAN's 2 kTA demonstration plant to accelerate the development and demonstration of their shared process. Thanks to work carried out on the IFPEN facilities in Lyon and the demonstration unit, the partners are aiming for the exclusive commercialisation of the Rewind™ PET process by Axens globally by late 2022.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#), [Actu Environnement.com](#), [L'Usine Nouvelle.com](#)

3404 - Clariant & Chemtex Global Corporation

Following the signature of a licensing agreement last January, the two companies entered into a strategic partnership for the promotion and commercialisation of the sunliquid® process developed by Clairant. Under the terms of the agreement, the Swiss speciality chemicals company will provide technology licenses, technical services and enzyme and yeast starter cultures while Chemtex will handle the engineering, procurement and construction aspects. The financial terms of this partnership, which also includes services and supplies for the production sites, have not been released.

More information: [Press release](#)

En savoir plus : [Formule Verte.com](#)

3405 - Fermentalg & DDW

The French microalgae specialist announced that it had signed an industrial, commercial and technological development agreement with the American group [DDW](#), a world leader in the field of natural food colouring. This strategic agreement will accelerate the development and commercial launch of BLUE ORIGINS, a new natural colouring that performs better than spirulina extracts, and therefore create a new standard in the agri-food industry, especially in the drinks segment.

In connexion with this new partnership, Fermentalg also announced:

- The issue of convertible bonds to which are attached share subscription warrants without shareholders' preferential subscription rights for a minimum of €7 million via an offer addressed exclusively to qualified investors,
- The free allocation of share subscription warrants to all company shareholders on 1 June,
- The establishment of an equity line with Kepler Cheuvreux for €12 million over two years.

These actions will enable it to "secure at least €19 million to finance the industrial and commercial deployment of the product portfolio until the end of 2022."

En savoir plus : [Boursier.com](#), [Le Figaro.fr](#), [Formule Verte.com](#), [Le Journal des Entreprises.com](#)

3406 - GranBio & NextChem

The Brazilian industrial biotechnology company and the subsidiary of the Marie Tecnimont group, which specialises in green chemistry and energy transition technology, entered into a strategic partnership, the purpose of which is to become a world leader in the granting of GranBio's patented 2G Ethanol technology to produce cellulosic ethanol. Under the terms of the agreement, NextChem will provide integrated services, feasibility studies, integration projects and engineering services, and build production plants across the world.

More information: [Press release](#)
En savoir plus : [Le Léopard.com](#), [Formule Verte.com](#)

3407 - Photanol BV & Renolit SE

The Dutch company [Photanol](#) and the German [manufacturer](#) of high-quality thermoplastic films announced that they had formed a strategic partnership to develop polymers from CO₂ absorbed directly from the air. To do so, the pair will draw on the technology developed by Photanol, which uses light and CO₂ to produce monomers by employing cyanobacteria to carry out photosynthesis. These monomers will then be used by RENOLIT Healthcare as well as some of the group's other applications.

More information: [Bioplastics Magazine.com](#)

3408 - Praj Industries

The Indian [company](#) and the American [company](#) **Lygos**, both of which specialise in biotechnology, announced that they had signed a memorandum of understanding for the co-development of the yeast patented by Lygos to produce lactic acid. Under this MoU, Lygos will provide its proprietary yeast platform LP1 Ultra™ to Praj so they can work together to develop various solutions for commercial applications.

More information: [Press release](#)

The Indian engineering specialist and the **Automotive Research Association of India (ARAI)** signed a memorandum of understanding to jointly drive application development of advanced biofuels for use in industry and transportation. To do so, Praj will contribute its expertise in the development and deployment of biofuel technology solutions through its TEMPO business model (technology, engineering, manufacturing, project management, operations). For its part, ARAI will provide its experience in the field of alternative fuels and green and sustainable mobility. The two partners will work together on alternative fuels such as compressed natural gas (CNG) and bioCNG, liquefied petroleum gas (LPG), liquefied natural gas (LNG), biofuel technology, hydrogen, ethanol, dimethyl ether (DME) and methanol.

The collaboration should also strengthen India's position as a technology leader in the global biofuels industry.

More information: [Press release](#), [Bioenergy International.com](#)

3409 - P2 Science & ADM

Following the signature of a memorandum of understanding last January, [P2 Science](#) and [ADM](#) announced that they had concluded a new joint development agreement to commercialise an initial set of plant-based products. The first products covered by the agreement include, but are not limited to, renewable terpene monomers and polymers, mid-chain fatty alcohols and acids, polyesters, polyamides, plasticizers and surfactants. The target markets for these products include cosmetics, skincare, paints and coatings, the automotive industry, construction, apparel, and home, personal care & industrial cleaning, among others.

[Info:] ADM has a portfolio of plant-based products, including carbohydrates, vegetable oils and terpenes, as well as advanced processes and fermentation technology. P2 Science has complementary patented green chemistry process technologies, including PiOz® (Process Intensified Ozonolysis) and PiOx® (Process Intensified Oxidation)

and PiCE (Process Intensified Continuous Etherification) that are used in the production of several P2 commercial offerings for the cosmetics, skincare and fragrance markets.

More information: [Press release](#)

Human resources

3410 - Carbios

The company, which specialises in using enzymes to recycle plastics, announced the appointment of Kader Hidra as Chief Financial Officer and member of the Executive Committee. Mr Hidra has an engineering degree from the Grenoble Institute of Technology (France) and an MBA from Duke's Fuqua School of Business (United States), and was previously the Chief Executive Officer of Citégestion (a digital start-up of the EDF Group) and Investor and Markets Director for the EDF Group. He has also held various positions in the finance field, including at investment banks in London (Morgan Stanley, Berenberg Bank). As Chief Financial Officer of Carbios, Mr Hidra will play an important part in the industrialisation of Carbios' processes. He will manage and organise Carbios' finance department, reinforcing a team that is already skilled in investor relations, financial communication and financial monitoring.

More information: [Press release](#)

En savoir plus : [Communiqué de presse](#)

3411 - Genopole

Gilles Lasserre was appointed to the position of Chief Executive Officer of the Genopole public interest group at its most recent general meeting. He started the job on 1 September. He replaces Anne Jouvenceau, deputy CEO, who had held the position temporarily following the departure of Jean-Marc Grognet last February. A graduate of ESSEC business school and President of Xantial, Gilles Lasserre's role will be to establish sustainable and profitable organisations by developing business models for companies that are developing drugs and innovative medical devices, primarily in cancerology, immunology, and cell and gene therapies.

En savoir plus : [Communiqué de presse](#)

3412 - Global Bioenergies

The industrial biotechnology company announced that Nicolas Cordier, former Chief Executive Officer of Make Up For Ever (a subsidiary of the LVMH Group), had joined its Board of Directors. He replaces Philippe Marlière, the company's co-founder, who left the Board of Directors at the end of his term of office to pursue other activities.

Corinne Granger, who had been co-opted by the Board of Directors at the start of the year, had her term of office ratified at the general meeting.

Marc Delcourt, the company's co-founder and CEO, had his term of office as board member renewed for six years. On the occasion of these announcements, Marc Delcourt said: *"the challenge in the short-term is to successfully complete the phase dedicated to toxicological studies of the ingredients that we plan to commercialise from 2021, via various channels that we have been exploring for some time now already. These studies are underway, and their purpose is to check our products are safe for all the targeted applications."*

En savoir plus : [Communiqué de presse](#)

3413 - Ingénierie de Procédés pour les Sucres et les Biotechnologies (IPSB)

The French engineering specialist announced the appointment of Jean-Manuel Morant, the company's former managing director and head of the Agro-Industry department, to the position of President. He replaces Franck Launay, who retired at the end of June.

IPSB also announced the appointment of Hazem Bouzrara, former deputy managing director and head of the Bio-Industry department, to the position of managing director.

Mr Morant and Mr Bouzrara are now also partners of the Canadian group Laporte & Associés, further to the merger between the two companies, which began at the end of last November.

En savoir plus : [Formule Verte.com](https://www.formuleverte.com)

3414 - Plant Advanced Technologies (PAT)

The specialist in rare plant-based biomolecules announced that it was reinforcing its governance structure with the appointment of Clairant, represented by Catherine Breffa, as a board member. A graduate of the ECPM in Strasbourg and holder of an Executive MBA from ESCP Business School (Paris), Catherine Breffa has held positions in R&D and Key Account Management in the cosmetic and detergent sectors. She has been responsible for the development of new raw materials for cosmetics at Clairant since 2017.

PAT announced that Michael Donabédian would be taking Jean-Yves Ravinet's place as Vetoquinol's representative on the Board of Directors, following Mr Ravinet's retirement. After graduating from Lyon veterinary school in 1994, Mr Donabédian specialised in equine medicine before practising as a self-employed veterinarian in the speciality until 2002. After a stint at the INRA in Theix, he joined the Vetoquinol group in 2006 as a scientific expert. Since 2011, following an Executive Masters at HEC (Paris), he has been managing the scientific operations linked to product innovation.

En savoir plus : [Communiqué de presse](#), [Formule Verte.com](https://www.formuleverte.com)

MARKETS

In France

3415 - Biological pest control products: report on 2019 sales and the sector's future prospects

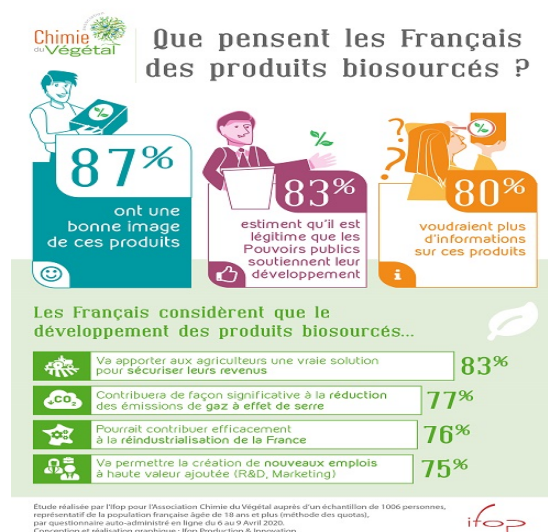
According to the barometer published by the French biocontrol manufacturers association [IBMA France](https://www.ibmafrance.com), 2019 sales of biocontrol products hit €217 million (an increase of 8.5%). There are currently 487 biocontrol products available on the French market (there were 313 three years ago). Biocontrol solutions, which require less investment than mechanical solutions and slot into the development of precision agriculture, therefore represent almost 11% of the plant protection market. According to Céline Barthet, President of IBMA France, *"this latest increase confirms that biocontrol is here to stay as a key element in the development of technical pathways to protect plants."* For IBMA France, *"biocontrol is shaping up to be a real future alternative to limit the use of conventional solutions. We hope to account for over 30% of the plant protection market by 2030, with two biocontrol solutions with complementary action methods for the majority of uses. This ambition is in step with the objectives of the French (national strategy for the deployment of biocontrol and 2025 productivity pact) and European (Farm to Fork strategy, which is aiming to reduce the use of phytopharmaceutical products by 50% and increase organically farmed land to 25% by 2030) authorities."* The future of the sector also lies in its *"huge potential for improvement, in particular in field crops, where innovations are expected to cover more uses."*

En savoir plus : [Communiqué de presse](#), [Terre Net.fr](https://www.terre-net.fr), [La France Agricole.fr](https://www.lafranceagricole.fr), [L'Usine Nouvelle.com](https://www.usine-nouvelle.com)

3416 - Opinion poll: What do French citizens think of biobased products?

According to a poll of 1,006 people carried out by the IFOP, France's public opinion institute, and published by the Association Chimie du Végétal (ACDV), 87% of people consulted have a positive perception of biobased products. Although 80% of them would like more information about these products, which are made from renewable raw materials, they have a good understanding of the environmental and economic benefits (worrying issues that have become even more concerning since the health crisis) of this industrial sector. Consequently, 83% of them think it is legitimate for public authorities to support these developments.

En savoir plus : [Communiqué de presse, Chimie Du Végétal.com](#), [Formule Verte.com](#)



In Europe

3417 - How did the bioeconomy sector do in 2017?

According to a report by the German consultancy firm Nova Institute, commissioned by the Bio-based Industries Consortium (BIC), the bioeconomy in Europe was worth €2.4 trillion in 2017 (€50 million more than in 2016). Figures for the biobased chemical industry (including plastics) alone reveal a turnover of €60 billion and an increase of the biobased share to 15%, up from 7.5% in 2008. The 2017 data also reveal that the European bioeconomy employed 18.5 million people in total (compared to 18.6 million in 2016). This decrease is mainly attributed to increases in production efficiency.

More information: [Press release](#)
En savoir plus : [Info Chimie.fr](#)

3418 - The CEFIC launches a sector group for biobased chemistry

In response to the growing importance of biobased renewable raw materials, manufacturers of biomass-derived chemicals created a new sector group within the European Chemical Industry Council ([Cefic](#)): Biomass-derived Chemicals Europe ([BioChem Europe](#)).

According to the newly elected chair, Ylwa Alwarsdotter, from Sekab, "With this new sector group, we aim to establish a close dialogue with the European Union authorities and raise awareness about the benefits of plant-based chemistry for society, for the environment and for the economy."

More information: [Press release](#)

3419 - Open letter calling for stronger recognition of the bioeconomy in the European green recovery

Sixty-three leaders representing stakeholders in the bioeconomy and members of the Bio-Based Industries Consortium (BIC) signed an open letter addressed to European Union (EU) commissioners calling for stronger recognition of the bio-based products sector in Europe's green recovery.

The BIC also published a document on the EU's green recovery: [Biconsortium.eu](#).

More information: [Biconsortium.eu](#).

Outside Europe

3420 - Publication of the Biofuels Dashboard 2020

The report, published by IFP Energies Nouvelles, gives a detailed presentation of the global biofuels market: global energy consumption in the road transport sector, evolution of global biofuel consumption in the road transport sector, ethanol fuel production movements by zone (in billions of litres), annual ethanol price changes by zone (US\$/t), biodiesel (FAME and HVO) production movements by zone (in billions of litres), and annual biodiesel price changes by zone (US\$/t). IFP Energies Nouvelles also studied the biomethane markets for NGV powertrains, biofuels in air transport, and movements in market shares of gasolines consumed in France in thousands of m³ and by % volume for SP95-E10. The report ends with a look at the effects of the Covid-19 epidemic on the sector and the expected investments.

En savoir plus : [IFP Energies Nouvelles.fr](https://www.ifpenergiesnouvelles.fr)

5. ETHICS & MONITORING SOCIAL CHANGE

6. PUBLIC POLICIES & REGULATIONS

In France

3421 - Fourth PIA investments for the future programme: €20 billion for innovation, with more than half earmarked for the economic recovery

At the presentation of the #FranceRelance plan and French Government's new investment priorities, Prime Minister Jean Castex announced a fourth PIA investment programme, which will in part boost the innovation effort of France Relance. With €20 billion invested over five years, this new PIA investment programme, unlike the first three programmes, focuses on agility and simplicity so the French State can decide on priority investment strategies over the course of the programme and adapt them in time to address challenges of which we are probably not yet aware. The new PIA will combine two intervention logics to accelerate innovation in all sectors – strategic and priority investments, and long-term funding for higher education, research and innovation – while making policy instruments and funding easier to understand.

Of the €20 billion, €11 billion will be spent by 2022 to support the economic recovery and will be divided into four areas:

- Development of green technology and innovation: €3.4 billion will be mobilised to support the development of 'green' sectors or technologies, such as decarbonised energy sources (hydrogen, in particular), recycling, biobased products and industrial biotechnologies, the ability of towns and cities to cope with climate and health risks, sustainable food sources, and agricultural machines that contribute to the ecological transition,
- Economic independence and resilience (€2.6 billion),
- Support for the higher education, research and innovation ecosystems (€2.55 billion),
- Assistance for innovative companies at each stage in their development (€1.95 billion).

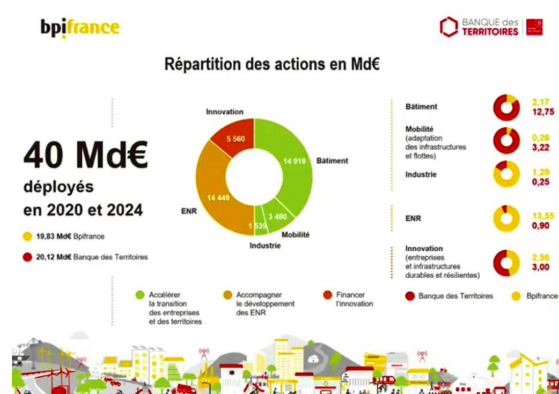
En savoir plus : [Gouvernement.fr](https://www.gouvernement.fr), [Dossier de presse #France Relance](https://www.gouvernement.fr/dossier-de-presse-france-relance)

3422 - New €40 billion climate plan to speed up the ecological transition

Launched jointly by La Banque des Territoires and Bpifrance, France's new climate plan, which covers the 2020-2024 period, will benefit both businesses (by targeting innovative greentech start-ups and SMEs) and local authorities and communities. For instance, €10 billion has been set aside for energy-efficiency improvements for social housing and €2.7 billion for improvements to the insulation of public buildings. The climate plan aims to kick-start investment and employment and therefore contribute to the recovery, and “trigger investment in the energy and ecological transition” on a local level. The plan has three pillars:

- Acceleration of the transition of businesses and local communities (€20 billion),
- Doubling of funding earmarked for renewable energy (€14.5 billion),

- Funding for innovation in ‘greentechs’ (€5.5 billion).



En savoir plus : [Communiqué de presse](#), [Boursorama.com](#), [Le Figaro.fr](#), [L'Usine Nouvelle.com](#)

3423 - End of the public consultation on the draft decree concerning a ban on certain single-use plastics

Launched by the French Ministry of Ecological Transition, this consultation concerned a draft [decree](#) on a ban on the sale of certain single-use plastics (cups, plates, drinking straws, etc.). The text aims to “clarify the scope and timetable of the entry into force of the bans adopted by law.”

It is still possible to consult the draft text but the deadline for comments was 13 July 2020. According to the Ministry, “the final version will take public opinion into account.”

En savoir plus : [Développement Durable.gouv.fr](#), [Plastiques & Caoutchoucs Magazine.com](#), [Capital.fr](#), [Actu Environnement.com](#)

In Europe

3424 - Launch of a public consultation on sustainable aviation fuel

The European Commission launched a [public consultation](#) on measures to reduce greenhouse gas emissions in the aviation sector. The initiative, named ReFuelAviation, gives citizens as well as interested parties from industry and society the opportunity to share their views and ideas on draft policy measures and policy options to decarbonise the sector. The consultation will also collect data on the expected costs and benefits of the policy measures. It should also help in identifying gaps in the intervention logic or areas requiring further attention. Commissioner for Transport, Adina Vălean, said: “The objective of our ReFuelEU Aviation initiative is to use the recovery as an opportunity for aviation to become greener and help to reach the EU's climate targets by boosting the largely untapped potential of sustainable aviation fuels.” The consultation will be open until 28 October 2020.

[Info:] To decarbonise the sector, the Commission could set quotas obliging airlines to use a certain share of sustainable fuel, as well as force manufacturers to produce a minimum amount. The Commission could also set up a European exchange system for ‘fuel’ carbon credits, European calls for proposals for the production of sustainable fuels, or a new ‘green airline’ accreditation system.

More information: [Europa.eu](#)

En savoir plus : [News 24.fr](#), [Ze Green Web.com](#)

3425 - New tax on non-recycled plastic packaging waste and a carbon adjustment mechanism

To fund the economic recovery plan further to the Covid-19 health crisis, the European Council has created a tax on non-recycled plastic packaging waste at a rate of €0.80 per kilogram. This tax, which should come into force on 1 January 2021, will be accompanied by “a mechanism to avoid excessively regressive impact on national contributions” to keep the cost down for poorer countries.

The European Commission is also expected to propose a carbon adjustment mechanism at EU borders during the first quarter of 2021, which should enter into force at the latest on 1 January 2023.

Info: At European level, 59.2% of packaging waste (9.8Mt) would be taxed, equating to an annual bill of €7.8 billion. France is considered to be an “average performer when it comes to plastic recycling” and could expect to receive a bill for between €1.3 and €1.4 billion.

More information: [Plastics Today.com](#), [Packaging Gateway.com](#), [ICIS.com](#)

En savoir plus : [Emballages Magazine.com](#), [Journal de l'Environnement.net](#), [L'Info Durable.fr](#), [Les Echos.fr](#)

7. AWARDS & EVENTS

AWARDS

EVENTS

OCTOBER 2020

European Forum for Industrial Biotechnology and the Bioeconomy (EFIB)

5-9 October 2020. Online.

More information: [Website](#)

3BCAR Research & Industry forum 2020: biomolecules

15 October 2020 Online.

En savoir plus : [Site internet](#)

Annual Biocontrol Industry Meeting - ABIM

19-21 October 2020. Online.

More information: [Website](#)

iGEM 2020 Giant Jamboree

28 October-2 November 2020. Webinar.

More information: [Website](#)

NOVEMBER 2020

5th Green and Sustainable Chemistry Conference

10-11 November 2020. Online.

More information: [Website](#)

Les rendez-vous Carnot 2020

18-19 November 2020. Lyon (France) or online.

En savoir plus : [Site web](#)

23rd International Conference on Green Chemistry and Technology

22-23 November 2020. Online.

More information: [Website](#)

DECEMBER 2020

9th Biofit

7-8 December 2020. Lille (France).

More information: [Website](#)

JANUARY 2021

7th NutrEvent

26-27 January 2021. Lille (France).

More information: [Website](#)

FEBRUARY 2021

TWB START-UP DAY

2-3 February 2021. Online.

More information: [Website](#)

MARCH 2021

BIOKET

16-18 March 2021. Lille (France).

More information: [Website](#)